

NEH Application Cover Sheet

Digital Projects for the Public

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INSTITUTION

University of Southern California
Los Angeles, CA USA

APPLICATION INFORMATION

Title: *Walden, a game*

Grant period: From 1/1/2015 to 12/31/2015

Project field(s): American Literature; U.S. History

Description of project: Prototype for a unique video game based on the writings the American author Henry David Thoreau at Walden Pond. Designed and directed by game designer Tracy Fullerton, Walden, a game, will simulate the experiment in living made by Thoreau at Walden Pond in 1845-47, allowing players to walk in his virtual footsteps, attend to the tasks of living a self-reliant existence, discover in the beauty of a virtual landscape the ideas and writings of this unique philosopher, and cultivate through the game play their own thoughts and responses to the concepts discovered there. The humanities content of the game will focus on an interactive translation of Thoreau's writings and will also include references to the historical context of those writings. The game takes place in the environment of 1845 New England, when new technologies such as the railroad, the telegraph were first being seen and were part of the changes to pace of life that Thoreau so articulately resisted in critiques of society.

BUDGET

Outright Request	100,000.00	Cost Sharing	37,292.00
Matching Request	0.00	Total Budget	137,292.00
Total NEH	100,000.00		

GRANT ADMINISTRATOR

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Proposal for NEH Digital Projects for the Public: Walden, a game

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Jeffrey S. Cramer, Thoreau Institute
William Deverell, Chair, USC History Dept.
Daniel Lewis, Chief Curator of Manuscripts, The Huntington Library
Susan Foster Jones, Director of Education, Concord Museum
Pablo Fasconi, Film Director, *The Light at Walden*
Michael Sweet, Berklee College of Music

Resumes for Media Team:

Tracy Fullerton, Game Director
Todd Furmanski, Lead Programmer
Kurosh ValaNejad, Art Director
Lucas Peterson, 3D Artist
Michael Sweet, Audio Director and Composer
Alex Matthew, Designer/Programmer
Logan Ver Hoef, Designer/Programmer

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Application Narrative for *Walden, a game*

A) Nature of the request

The Game Innovation Lab at the University of Southern California is seeking support for a prototype of a unique video game based on the writings Henry David Thoreau at Walden Pond. Directed by Tracy Fullerton, *Walden, a game*, will simulate the experiment in living made by Thoreau at Walden Pond in 1845-47, allowing players to walk in his virtual footsteps, attend to the tasks of living a self-reliant existence, discover in the beauty of a virtual landscape the ideas and writings of this unique philosopher, and cultivate through the game play their own thoughts and responses to the concepts discovered there. The humanities content of the game will focus on a translation of Thoreau's writings, however, will also include references to the historical context of those writings, as the game takes place in the environment of 1845 New England, when new technologies such as the railroad, the telegraph were first being seen and were part of the changes to pace of life that Thoreau resisted in his experiment.

The game will be released for home and school use on a PC and Macintosh with six hours of narrative play following Thoreau's experiences over the course of the first year of the experiment, and then unlimited post-game sandbox play in the open environment of the game. We are also hoping to release the game on commercial consoles, such as the PlayStation 4 and Xbox One, subsequent to the PC/Mac release. Also, we are experimenting with the use of Virtual Reality platforms such as the Oculus Rift, which we believe will bring a new level of immersion to this fully realized simulation of Walden Pond and the surrounding woods.

Over the course of the last several years, we have received \$40,000 from the NEA and \$25,000 from the USC Advancing Scholarship in the Humanities and Social Sciences for this project, which has gone into the development of the underlying simulation and world design. We are requesting a grant of \$100,000 from the NEH to support our work on the humanities content for this prototype. This will cover a significant portion of the media team's costs as we work with our team of historical advisors and curators of Thoreau's writings to integrate his words and ideas into this interactive environment. We have already been working with several of these advisors, and with our media team, on a volunteer basis, and have found ways to make great progress as such. However a grant from the NEH at this time could make all the difference in our ability to fully realize this innovative project, particularly in the ability to keep key personnel available.

B) Humanities content:

The project proposes to create a fully immersive 3D game world of Walden Pond and its surroundings circa 1845, including a section of Concord, the Fitchburg Railroad, Emerson's house and library and, of course, Thoreau's cabin and bean field. The virtual environment is filled with the plants and animals that Thoreau discusses in his writings, determined by a detailed indexing of the text, and created as 3D elements in the world that change from season to season. More than this, the game creates a sense of place, and reflects the subtle nature of Walden as described by Thoreau. The 3D environment is meant to enhance and support this sense of place, echoing Thoreau's work that is so richly imbued with a sense of locale. His own attention to the details of region and of nature are carefully integrated into the game's environment; the contemplative practice he models in his writing structures the play of the game. Thus, the project is rooted in a careful attention to Thoreau's writing and to scholarship on Thoreau. It also represents a significant engagement with and advancement of the aesthetic

dimensions of video games, as it deploys this aesthetic of romantic realism in order to encourage stillness and reflection rather than competition or aggression.

Tracy Fullerton and the team at the Game Innovation Lab have been working on bringing this immersive game that invites players into a rich, contemplative experience based on Thoreau's classic book to life for the past several years. The team has consulted with leading literary scholars and historians in the field and has visited the Pond many times to document it in various seasons throughout these years. We have an ongoing relationship with The Thoreau Institute at Walden Woods and have initiated a relationship with the Huntington Museum here in Los Angeles, where the first seven drafts of the manuscript of *Walden* are on display. We have plans to be part of a Thoreau conference at the Huntington in the fall of 2016, just prior to the anniversary of Thoreau's birth.

Our game proves to be a unique contribution to the study of Thoreau, and to the advancement of the field of digital humanities overall. While there have been adaptations of some works of literature to games – *The Lord of the Rings*, *Dante's Inferno* – these have always been focused on the combat moments within those books and not on the larger themes of the works. With *Walden*, a game, we engage directly with the themes of the piece: self-reliance, a relationship with nature, breaking away from material culture, and the progress of spiritual growth. We have created a simulation that focuses on the basic and material needs of survival – as Thoreau describes them: food, fuel, shelter and clothing. Counter to this we have created a vibrant and expressive natural environment that will lure the player away from basic survival to exploration of the virtual woods. It is only in finding a balance between the two that the player can truly excel. Unlike most games, gaining more items or “leveling up” is not always the best path to follow. As Thoreau quips, “these things are more easily acquired than got rid of.”

To give you some idea of the potential impact of this project, here is a description of the game experience as intended. When the game begins, it is summer of 1845, and you enter in a clearing of wildflowers behind the frame of Thoreau's unfinished cabin. As you explore, you see a glimmer of an arrowhead ahead. Upon picking up the artifact, the kind Thoreau was famous for finding in his native Concord, you hear his voice explaining, in his own words, why he has come to the woods and how he intends to live there. His experiment is now your experiment. You can choose to finish his shelter, clearing and farming the bean field behind the cabin, and get to work providing yourself with the basic necessities of life, or, you can wander the woods in search of inspiration.

You are not alone in the woods, as you soon find out. You are surrounded by wildlife, Thoreau's “brute neighbors,” who, if followed, will lead you to find special areas and rewards. The woods are filled, not only with more arrowheads of Thoreau's thoughts, but also with the library of ideas that he was inspired by while there. You may even stumble on Emerson taking a walk and musing upon nature. There are the faraway sounds of society that were the focal point of Thoreau's many critiques of his fellow townspeople – the wagons on the road, the train whistle, the incessant chopping of trees, culling away the very nature he was seeking to understand. The game activities are based in Thoreau's exacting descriptions of his time at Walden and break ground in terms of how a game can express ideas through its mechanics. Environmental author Bill McKibben calls Thoreau “a Buddha with a receipt from the hardware store” and the game models these twin impulses of the philosophical and the practical in its structure. Players must build their cabin to protect them from the elements, but they are also encouraged to wander

the woods during a spring rainstorm. The meaning of a game lies between what players must do and what they can do. In *Walden, a game*, this dialectic forms a place of discovery that will allow players to find their own answer to Thoreau's primary question: "How much is enough?"

During the summer, it is easy to live off of the land, picking berries, fishing, chopping wood, etc. But if a player does not think ahead, the winter will become a trying time. As the seasons progress, so hopefully, does the player's ability to balance these basic needs with the urge to explore and play in the woods, chasing the rabbits, squirrels, or partridges, or following a blue jay along its path. The various animals will lead players to "solitude" spots, places of great natural beauty, and "reading rocks," places where the texts that Thoreau himself was inspired by, can be found and browsed. Players can row across the Pond to Emerson's Cliff and take in the view that Thoreau found so inspiring, or they can walk along the Concord road to the town itself. Here, the player can visit the Thoreau family home and pick up some mended laundry, possibly partake of a homemade pie from the windowsill. In town, there is a general store, and, if the player has money (from odd jobs that are available), they can also purchase supplies that they may be short on. There are many expensive items here, however, and once a player gets into the habit of buying what they need, rather than making or finding things in the woods, there is a danger here. In the post office, letters can be picked up from correspondents including Louis Agassiz, for whom Thoreau provided unique specimens of the wildlife at Walden Pond. Also, letters from friends, family, and other poets and authors provide an ongoing narrative of life in America at this time. It is even possible that the player may find themselves in the town jail cell, should they choose to protest the collection of taxes.

The seasons of the game pass in a loose narrative, as they do in the book, following an arc of discovery from summer through fall and the deep solitude of winter, culminating in the coming of spring and the reaffirmation of faith in humankind and nature alike. At the end of the game year, the player is invited to continue on in an open play mode. As Thoreau says at the end of his narrative, "Thus was my first year's life in the woods completed; and the second was similar to it."

The experience of playing *Walden*, a game is one that will embody and express the themes of Thoreau's work, bringing it to life in the game medium in a such a way as never has been possible before. The game will also offer a new lens into the possibility of video games as an expressive form for the digital humanities, advancing our understanding of their mechanics and narrative form. We ask you to support this effort, which breaks new ground, even as it revalues and explores the rich terrain of inner life at Walden Pond that Thoreau so ably preserved for us.

C) Project format:

The prototype is being created for PC/Mac in the Unity3D game engine. It will later be ported to PlayStation or Xbox, also using the Unity3D engine, and concurrently, adapted for use in Oculus Rift.

Game features:

The underlying mechanics of the game are a "survival" simulation based in Thoreau's writing. As he states in *Economy*, the first chapter of "Walden," "the necessities of life for man in this climate may, accurately enough, be distributed under the several heads of Food, Shelter, Clothing, and Fuel; for not till we have secured these are we prepared to entertain the true problems of life with freedom and a prospect of success." Using this as a starting point, we will

create a game simulation that allows the player to care take these “necessaries of life” in a number of ways. They can fill their food stores in the woods by picking berries, finding other edible plants, growing beans or fishing. Or, they can go to the general store in Concord and purchase food stores – if they have the money. They can find fuel in the driftwood along the shore of the pond, chop wood, or again, visit Concord to purchase fuel in the store. There are similar options for all of these basic needs, each of which has their own pros and cons. For example, finding food might be easy at first, but as the months progress, and winter approaches, berries won’t be as plentiful and this becomes more of a challenge. Similarly, in the winter, more fuel is required to maintain what Thoreau calls “the vital heat.” Vital heat, or energy, will revive over time, but if the player uses too much too fast, they may faint from over exertion.

These basic necessities of life are countered in the game by the more ephemeral needs fulfilled by activities that Thoreau describes throughout the rest of the book: reading, listening to the sounds of the woods and of society just off his horizon, enjoying solitude as well as the company of a few visitors and his “brute neighbors,” the various animals sharing his sojourn at the pond. These activities all add to what we call “inspiration” in the game, or the sense of self as connected to the natural world, and the world of ideas. In *Walden*, a game, unlike other videogames, maintaining this sense of connection to the world is as important as maintaining ones energy levels. Players will need to rethink their strategy of play in order to fully realize Thoreau’s experiment.

The core mechanics of the game are:

- Exploration of the woods (walking, running, rowing boat)
- Finding/growing/buying food
- Finding/cutting/buying fuel
- Repairing/finding/buying clothes
- Building/repairing/upgrading shelter
- Listening to sounds of woods, life in the distance
- Enjoying solitude at stone cairns in the remote sections of the woods
- Reading sections of books scattered throughout the woods
- Interacting with animals and other visitors, such as Ralph Waldo Emerson

Throughout the game players will receive notes and letters from various game characters including Emerson, scientist Louis Agassiz, friends and family that will send them on quests and offer them opportunities for special interactions that form the emergent narrative opportunities of the game.

Game levels:

As already noted, the game begins in summer of 1845, when Thoreau first went down to the woods to live. Although he lived there for 2 years, 2 months and 2 days, the book of *Walden* only describes the first year, season by season, of his experiment and so that is the structure of the game as well. This list of levels describes the intent of each season of the game as it relates to player narrative and flow of the game. Each player will, of course, experience a different narrative, depending on how they spend their time, but this gives a general sense of the possibilities available in each level of the game.

Game level	Playing time	Experience goal of season
Summer	90 minutes	Players learn how to survive by picking berries, gathering driftwood. They may borrow an axe and chop wood, find a fishing pole and fish, find a boat and traverse the pond. Life is simple and easy.
Late summer	90 minutes	In late summer they begin to learn about inspiration, how to find it in the woods, how ephemeral it is if they do not care take it as well as their basic needs.
Fall	90 minutes	In the fall, life is still fairly simple, but the berries are growing thin. If they have planted beans, they will need to nurture them to keep the weeds and the woodchucks away. If they take on odd jobs, they may have more money, but find themselves spending more and more time away from the woods. Letters from friends speak of topical issues in America of 1845, such as the anti-slavery movement. Peers write of their work.
Late fall	90 minutes	The leaves are changing and if they have kept a good balance between their basic and needs and inspiration, the woods will be glorious. If not, they may find themselves experiencing fall in dullness and drudgery. Scientist Louis Agassiz writes in request of specimens from the pond, which players can search for if they like.
Winter	90 minutes	With winter comes the hardest challenge of the game. There are higher needs for food and fuel. The shelter and clothes need repair to keep the player warm. But, if they have been able to balance their needs, they will find winter to be full of a fragile grace, stillness and opportunities for solitude as well as joyful activity.
Late Winter	90 minutes	The pond is frozen; the town is quiet. If the player is full of energy, they can skate across the pond on clear days. They may forage out the few edible berries and plants in winter, or they may live off their store of beans. If they have not prepared well, late winter may find them taking refuge in the Thoreau house in town, where Henry's mother often leaves mended clothes and possibly a homemade pie.
Spring	90 minutes	As the pond breaks up and the first signs of life return to the woods, there is again the potential for great joy for the player to experience, especially as life becomes easier again and there is more potential to focus on raising inspiration rather than survival.
Late Spring	90 minutes	The return of full spring was a powerful metaphor for Thoreau, and as well for the game. As life blooms in fresh and bright greens, there is a largeness and lushness to the environment if players can maintain that balance they have learned. Walking in the twilight with Emerson as he muses on his epic essay Nature we hope

		that players will take away from this game experience a sense of the “dawn in me” of which Thoreau speaks.
Sandbox play	Unlimited	“And so the seasons went rolling on into summer, as one rambles into higher and higher grass. Thus was my first year's life in the woods completed; and the second year was similar to it.” After the main year is complete, players are able to engage in unlimited sandbox play in the world of Walden, which will still be filled with experiences to be had and secrets to be explored.

As mentioned, the game is being designed first as a 3D PC/Mac experience that will be downloadable and playable at home or in schools. We are also planning to port the game to the Sony PlayStation and to the Oculus Rift once the major work on the PC/Mac version is complete. The Oculus Rift version will likely be focused on use in museum exhibits or art game installations, until there is a significant player base with the technology available at home.

This game is perhaps one of the most ambitious independent experimental games attempted to date, but the team has a high potential for success given our experience in developing and distributing independent projects. See the next section for a discussion of the potential reach of this project.

D) Audience and distribution:

The intended audience for *Walden, a game* is both broad and deep. We have designed the game to be playable by a very broad audience of players, from those who have never played a 3D first person game, to those who are experienced, long time game players. For new players, they will find the simple control scheme, using the keyboard to move and mouse to click on items of interest and activate game features, simple and intuitive. We have made simple adjustments in expected game tropes to help lesser experienced players with the game, such as making sure the horizon is always visible so that players don't become confused, a common problem for those new to 3D environments. We are also working on making the user interface for the game as simple as possible, while still communicating the information needed to play. All of this is to say that we intend this game for a broad reach – from old to young, from gamers to non-gamers.

In addition to making sure the game is accessible for a broad audience in terms of playability, we also intend for it to have a deep relationship to the content on which it is based. As such, there will be over 350 textual references to Walden, Thoreau's journals, and his other writings. These will be direct quotes found in various aspects of the game, from the voice over that forms the narrative through line, to the annotations on each of the various trees, plants, animals, objects and people that fill the woods and the town. As these are found or experienced, they will fill the player's own game journal with a procedural version of Walden. The experience is intended to communicate the themes of the book in a deeply meaningful way, and with great rigor as to its textual roots. In this way, we feel that the game has potential audiences that range from players of experimental games, to students of history and literature, to scholars of Thoreau, Concord history and Transcendentalism.

It is a critical time in the evolution of digital games as well as digital humanities; one where we hope that games will grow to become an important form of creative expression for several

generations of artists raised on participatory media. Along with other innovative games that can be found at festivals or conferences such as Indiecade and Games for Change, *Walden, a game* stakes out new ground in this evolutionary process. We have found through the release of a number of our prior independent game projects, that online distribution is a very effective way to reach a mass audience of players interested in these types of experimental games. Previous projects which we have released online have had downloads exceeding several millions and have garnered international audiences and awards. We are of the hope that this game, with its innovative and expressive mechanics, will also find its audience online.

Our goals with this grant are both to complete a prototype of the game and to partner with as many avenues of distribution and engagement as possible for *Walden, a game*. We will present the game at academic and industry conferences, art exhibitions including galleries and museums. We have already been approached by the store at Walden Pond about carrying the game for visitors to the site. And, we would like to make the game available to students and teachers via download from the web along with supporting curricular materials. As we develop further partnerships for distribution, we will create a full plan for following through on our goals of both broad and deep reach for the game.

Following the official release of the game we will be able to quantify the success of engagement through download statistics, embedded play metrics (see below for details), You Tube hits, Twitter and Facebook followers, among other social network statistics. Our experiences in utilizing online marketplaces we will help to open up these venues for *Walden, a game*, as well as other potential humanities based games in the future.

E) Project evaluation:

The Game Innovation Lab uses an iterative, playcentric approach to designing our games. This means that we involve players and player feedback at each level of our design process, from the earliest days when we are working with concepts and paper prototypes, to our first digital prototypes and on through our digital development. For a project such as *Walden*, we have brought in game players and non-players alike, to get a sense of how the game will be approached by a range of players. As we progress with the prototype, we will continue to iterate using this method of design. We have found that only by involving playtesters throughout the process can we understand where our innovative designs are working and where they need clarification.

As part of our process, we will work in the Game Innovation Lab's state of the art user research labs, run by Professor Dennis Wixon, who was formerly the founding manager of the Microsoft Games User Research Lab. Dr. Wixon is now a full time faculty member at USC and the Microsoft Endowed Professor in User Experience. He will assist us in evaluating the way in which the game is reaching our goals for overall player experience, usability and depth of understanding of the content.

In addition to evaluating the overall player experience of the game, we will also track metrics of how players interact with the game environment: how many of the textual references they encounter, where they go, what they do, their success rates for using the game features, etc. These will all be tracked during the alpha and beta periods in order to optimize the game for the best experience. And later, in order to understand how the game is performing as it reaches a wider public. We are very familiar with using these types of metrics in gameplay and will be able

generate daily, weekly and monthly reports of our game metrics for internal use. We will not distribute these metrics beyond our team and advisory board, however, and no personal information from players will be tracked.

In terms of quality assurance, we will use a custom bug-tracking database in the lab to organize our efforts. The game will be distributed to a small community of players to create a test bed—likely students and graduates of the game program at USC. These players will be able to submit bug reports to the team for resolution. Our back-end metrics can help with this as well, as it will track machine and operating system information, as well as crashing instances so that we can find patterns of errors. With twenty years of experience leading game development teams, Tracy Fullerton, along with the team at the Game Innovation Lab, will strive to produce a deployable version of the game with no crashing or limiting bugs present.

F) Rights, permissions, and licensing:

The text of *Walden* by Henry David Thoreau is in public domain. The Unity game engine is used as per our professional licenses. We have a SAG waiver in place for the voice over performance for Thoreau, as the well-known actor we have chosen (not yet announced) is a member of that union. All other material is original and copyrights are owned by the Game Innovation Lab at the University of Southern California.

G) Humanities advisers:

Jeffrey S. Cramer, M.L.S., has been an advisor to the project for a number of years. Cramer is Curator of Collections at the Thoreau Institute at Walden Woods. He is the author of several internationally known works on Thoreau, including “I to Myself: An Annotated Selection from the Journal of Henry D. Thoreau” and “*Walden: A Fully Annotated Edition*.” His input and advice on Thoreau, his writing, his life and habits, has given the team validation and excellent new directions over the years of the project and we see him continuing in this vital role.

William Deverell, Ph.D., is Professor and Chair of the History Department at USC. He received his undergraduate degree in American Studies from Stanford and his MA and PhD degrees in American history from Princeton, where he was a student of James M. McPherson. He has written books on political, social, ethnic and environmental history and will be teaching a course on Thoreau and *Walden* during the course of this project. We will engage Professor Deverell and his class in our iterative process, seeking input into how the game might be used to inform the study of Thoreau, and how a digital humanities project such as this might extend or layer the classroom experience around historical literature.

Daniel Lewis, Ph.D., is Chief Curator of Manuscripts and Dibner Senior Curator of the History of Science & Technology at the Huntington Library, where Thoreau’s original manuscripts of *Walden* are part of the collection. Lewis’ most recent exhibit at the Huntington was entitled *Beautiful Science: Ideas that Changed the World*, which won the American Association of Museums’ Grand Prize for Excellence in Exhibitions. The Huntington has plans to create a conference around Thoreau in the fall of 2016, of which *Walden, a game*, would be a central part.

Susan Foster Jones is Director of Education at the Concord Museum, where she is in charge of developing curriculum around the many collections of the Museum, including the Henry David

Thoreau Collection, the world's largest collection of objects related to the author. The collection holds over 250 artifacts, including the desk and chair from Thoreau's house at Walden, his flute, pencils from his family's business, and much more. As the Director of Education, Jones will develop ways to use the Walden video game as part of the outreach that she does with many audiences including students, families and general visitors. The Concord Museum's annual visitation exceeds 40,000 visitors including 8000 students.

Pablo Frasconi is an independent filmmaker and professor at USC's School of Cinematic Arts. Frasconi's films *Survival of a Small City*, *Towards The Memory of a Revolution* and *The Woodcuts of Antonio Frasconi* have been broadcast on PBS and are distributed by the Museum of Modern Art, The American Federation of Arts and Filmmakers' Library. His films are in the collections of the Smithsonian Institution, the Museum of Modern Art, the New York Public Library and the Virginia Museum of Arts. He is currently working on a film about the work of Thoreau entitled "The Light at Walden," involving extension research of Thoreau's experiment and the environment at Walden and his insights on the topic have proven extremely useful to the team.

H) Digital media team:

Tracy Fullerton, M.F.A., is the lead game designer and director of *Walden*, a game. She is the Electronic Arts Endowed Chair of USC's Interactive Media and Games Division and the Director of USC Games, ranked the #1 ranked games program by the Princeton Review. She is an experienced game designer with over 20 years in the industry and academia making games for companies including Microsoft, Sony, MTV, among many others. Prior to joining USC, she was president and founder to the multiplayer game developer, Spiderdance. Her textbook, "Game Design Workshop," is used in game programs worldwide. Her long career in game design and influence on the independent games community was recently acknowledged by the IndieCade Trailblazer Award. She holds a BA in Theater Arts and English Literature from University of California, Santa Cruz and an MFA in Cinema-Television from USC.

Todd Furmanski, Ph.D. candidate, is the lead programmer for *Walden, a game*. He is a researcher at the University of Southern California School of Cinematic Arts, working towards his Ph.D. in Media Arts and Practice. His research interests include virtual reality, emergent algorithms and their use in procedural content generation, and the history of digital media. He recently completed his examinations in the spring of 2014, and is now focused on a variety of research projects with both the Game Innovation Lab and the World Building Media Lab, including *Walden, a game* and the *Leviathan* project.

Kurosh ValaNejad, M.F.A. candidate, is the Art Director of the Game Innovation Lab and *Walden, a game*. During the last 20 years, he has worked with artists and scientists in a variety of disciplines including: Land Planning, Architecture, Publishing, Fine Art, Animation, Virtual Reality, Artificial Intelligence and now Video Games. He has managed to remain an amateur by continually changing the field to which he applies his 3D computer-graphics skills and the resulting works are evidence of the synergistic value of collaboration. Prior game projects at the Game Innovation Lab include *The Night Journey* and *The Redistricting Game*.

Lucas Peterson, B.A., is the 3D environment and character artist, as well as a level designer for *Walden, a game*. He graduated from the USC Roski School of Fine Arts in May of 2010 with a Bachelor of Fine Arts degree and an emphasis in drawing and design. Throughout his time at

USC, Lucas has supported a multitude of graduate and undergraduate video game projects as a 2D and 3D all-purpose artist. Other projects at the Game Innovation lab include the *FutureBound* college access games and the *Chrono Cards* WWI history games. His interest in video games stems from a long history of gaming and a passion for entertainment and the interactive experience.

Michael Sweet, B.A., is the audio designer and composer for *Walden, a game*. He is an award winning composer and sound designer including a BDA Promax Award for Best Sound for a Network Package, Best Audio Award at GDC Independent Games Festival, and nominations for multiple Game Audio Network Guild awards. His work has been featured in games from Cartoon Network, Sesame Workshop, Shockwave, RealArcade, iWin, PlayFirst, Pogo, Microsoft, Lego, AOL, and MTV, as well as network identities for HBO, VH1, Comedy Central, CNN, General Motors, and NASDAQ. He has collaborated with Tracy Fullerton on many projects, including *The Night Journey* project with Bill Viola. Michael is currently an associate professor at Berklee College of music, of which he is an alumnus, and where he has led the development of their video game scoring curriculum.

Alex Matthew, M.F.A. candidate, is a programmer and systems designer for *Walden, a game*. He is currently a graduate student in the USC Interactive Media & Games division studying game design and development. Prior to coming to USC, he graduated from UC Santa Cruz with a degree in computer science, emphasizing games. He has worked on a number of student projects and has been working as a graduate research assistant in the Game Innovation Lab for the past year, focusing on *Walden, a game*.

Logan Ver Hoef, M.F.A. is a programmer and level designer for *Walden, a game*. He recently graduated from the USC Interactive Media & Games division, where he has been a graduate research assistant in the Game Innovation Lab for the past three years focusing on *Walden, a game*. His MFA thesis project, *The Observatory*, is an exploration of environmental storytelling.

I) State of the project:

Walden, a game is perhaps one of the most ambitious independent games ever attempted. The design calls for a richly realized immersive 3D simulation of Walden Pond, the surrounding woods and a section of Concord, including the Fitchburg Railroad. Each of these areas are simulated in eight seasons – the four main seasons and transitional seasons between. Thousands of trees, plants and ground details all must change season to season in this dynamic game environment.

Additionally, there are over 350 textual references, 250 of which are connected to “arrowhead moments,” which are special moments in the game that bring ideas, themes and special aspects of the book to life. And, there are approximately 100 species of trees, plants and animals that inhabit the world, many of which are animated and require artificial intelligence to control their behavior.

Uniting all of these elements is a procedural sound scape and musical score that will change with the time of day, season and location in the world. The music will react to the state of the player’s inspiration, falling away to a thin accompaniment when the player is uninspired, and rising in level of orchestration as they find more inspiration in the world.

Currently, we have a preliminary proof of concept that contains quite a lot of these elements, but none of them are complete. We are planning to submit a rough build of the first season, summer, to a festival this June, and hope to get quite a bit of feedback on this preliminary proof of concept that will help us move forward.

In addition to completing the elements described above, our major task over the next year and a half is to integrate the narrative and humanities elements of the game – the letters and notes and visits that form a through line of activity for the player and will contextualize much of the gameplay from an historical context. Most of our effort to date has been on building the underlying simulation and the 3D assets, now we are focused on the content, the story and the overall emotional arc of play.

From the early days of building the cabin, to the dry days of fall when the summer berries begin to fade, and to the fragile grace of winter when living becomes a hardship, but a beautiful one, and final to the lush beauty of spring, which so inspired Thoreau, our game needs a great deal of work to accomplish the level of articulation we seek. We want players to not only understand Thoreau's experiment, but to feel it's arc, the fragments of narrative that Thoreau strung like jewels in his descriptions of his first year at the Pond.

As already mentioned, we have received an NEA grant for \$40,000 and a \$25,000 grant from USC's Advancing Scholarship in the Humanities and Social Sciences. We have also applied for a Sundance Storytelling Lab that could help provide consultation in building out the narrative, and we also intend to reapply to the NEA this year in hopes of receiving a follow-on grant. However, the scope of this project remains ambitious and support from the NEH could be the real turning point for the project and make it possible for us to enrich our effort with the input of a stellar advisory board and the ability to keep key personnel, including our lead programmer, artists, and sound designer/composer.

J) Work plan:

Our overall schedule, team permitting, is as follows, with the underlined portions of the scheduling falling under this proposal:

- June 15, 2014: Submit festival build of summer season.
- June/August 2014: Test and iterate on summer narrative components.
- Sept/December 2014: Begin planning narrative components for fall season of game
 - Informal advisory meetings.
- **January 2015: First Formal Advisory meeting**
- Jan/March 2015: Test and iterate on fall narrative components
 - Playtest with scholars and students of Thoreau.
 - Playtest with Advisory board.
- April/June 2015: Add narrative components for winter and spring of game, revise summer and fall as necessary to address full emotional and historical arc of game experience.
- **July 2015: Second Formal Advisory meeting**
- July/Sept 2015: Wide scale beta testing and iteration of narrative experience using backend metrics and player focus groups
 - Informal/one-on-one advisory meetings continue.

- Oct/Nov 2015: Final bug resolution.
- December 2015: Launch of PC/Mac game.
- Jan/Aug 2016: Development of PlayStation and Oculus Rift versions.
- Sept/Dec 2016: Testing/Debugging of PlayStation and Oculus Rift versions.
- December 2016: Launch of PlayStation and Oculus Rift versions.

Full advisory meetings would be held twice during the grant period, with one-on-one meetings with individual advisors on an ongoing basis. The two full meetings would be in months one and seven – January 2015 and July 2015 – at the Game Innovation Lab in Los Angeles. Since three of our advisors are local, we will also plan to meet with them at the lab on a monthly basis as they are available. Jeffrey S. Cramer will be provided travel for the meetings in Los Angeles, but is also available via Skype and the team is well used to collaborating with him in this fashion.

K) Organization profile:

The Game Innovation Lab is the premier center for experimental game design and research at USC. Founded in 2004, the lab is directed by Professor Tracy Fullerton. The mission of the lab is to pursue experimental design of games in cultural realms including art, science, politics and learning. The international success of games that have emerged from the lab, including *Cloud*, *fIOW*, *Darfur is Dying*, *The Cat and the Coup* and *The Night Journey*, have made it a hub for indie and experimental games culture in Los Angeles. Our Playthink Salons attract speakers and participants from across the city and across disciplinary boundaries.

Associated faculty include award winning game designers Richard Lemarchand (*Uncharted* series) and Peter Brinson (*Waco*, *The Cat and the Coup*) as well as pioneering games user researcher Dennis Wixon. Research staff include up and coming game designers Elizabeth Swensen and Sean Bouchard, as well as the talented digital media artists Kurosh ValaNejad, Todd Furmanski and Lucas Peterson. Graduate student researchers in the lab have gone on to stellar careers at Microsoft, Electronic Arts, Zynga and more.

The lab has a strong history of collaboration with cross-disciplinary experts in many fields, including education and technology. Our commitment to an iterative, participatory process brings users, stakeholders and designers into constant dialogue. Current projects, such as the *Collegeology* suite of games *Walden*, *a game*, and the *Chrono Cards* History games are supported by Microsoft Research, The Gates Foundation, The National Endowment for the Arts, The Gilbert Foundation, and The Department of Education.

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Don Henley
Founder and President

Kathi Anderson
Executive Director

June 5, 2014

To Whom It May Concern:

I am writing in regard to The Game Innovation Lab's grant application for funding to continue production of *Walden, A Game*.

I first heard about the project, and have been involved with it, since Tracy Fullerton came to the Thoreau Institute in 2007 to discuss *Walden, A Game*. What first intrigued me about the proposal was the concept of using gaming as a way of introducing people to the philosophy of one of America's greatest writers, Henry David Thoreau. Although at first it may appear to be antithetical to use electronic gaming as an interpretive media to the philosophical ideals of Thoreau, I do not believe this to be so. Thoreau's publishers were the best of his day, using the best methods to bring his words to a reading public. This is one of the ways to bring Thoreau's work to a younger audience.

I have found The Game Innovation Lab's proposal to show a profound understanding of the life Thoreau was living during his brief tenure at Walden Pond. Not a one-dimensional adaptation of a stay in the woods, *Walden, A Game* incorporates the concepts of simplicity, deliberation and personal growth.

As a Thoreau scholar and editor, and as Curator of Collections at the Thoreau Institute at Walden Woods where I have been since 2000, I am in the center of Thoreau studies and am often in the position of assessing not only past work on Thoreau but many works-in-progress also. I have published several internationally-known works (a CV is attached) for Yale University Press, Princeton University Press and Viking Penguin, among others.

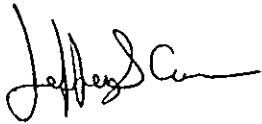
As one who often talks with people about Thoreau's *Walden*, I know the difficulty in getting a modern audience to appreciate the relevancy and importance of Thoreau's work. I find that the *Walden Game* utilizes a media with which many people today are comfortable and conversant. Like theatre and film, *Walden, A Game* uses a different media to interpret and present the written word.

I am committed to continuing my work with The Game Innovation Lab, providing my expertise as a Thoreau scholar as well as providing the resources of the Thoreau Institute library. Any help I can offer to further is at the disposal of Ms. Fullerton and her team.

What particularly struck me is The Game Innovation Lab's keen ability to use gaming, usually thought of as fast-paced and hyperactive, in a slower and more calming context. Having looked at the accomplishments of Ms. Fullerton and her team, I have no doubt about their ability to bring this project to fruition. Their previous work had already introduced gamers to a new and gentler game.

In my estimation, The Game Innovation Lab's work in this area is a vital avenue for bringing an initial understanding of Thoreau's work to those who may not yet be ready or willing to read this American classic. I hope that they will find the support they need to continue this work, allowing Ms. Fullerton and her team to fulfill their vision.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffrey S. Cramer". The signature is fluid and cursive, with a long horizontal stroke at the end.

Jeffrey S. Cramer, Curator of Collections

June 6, 2014

Tracy Fullerton, Director
Game Innovation Lab
University of Southern California
3470 McClintock Avenue #301
Los Angeles, CA 900089

Dear Professor Fullerton:

I am writing this letter to support the University of Southern California's grant proposal to develop *Walden, a game*. I am a Professor of History and Chair of the History Department at the University of Southern California. As an American historian with a focus on the nineteenth and twentieth century American West, I have written works on political, social, ethnic, and environmental history and I am currently at work on a book exploring the history of the post-Civil War American West.

This project and my current research have many exciting intersections. Especially relevant, I believe, is the course I am preparing to teach for the first time in the fall term of 2014. This is a class for our top freshmen (in our Thematic Option honors track) entitled "American Nature." Henry David Thoreau and his circle are a major focus in this course (and we expect to see the *seven* longhand versions of his *Walden* which are housed at the Huntington Library). In addition, I am deepening my involvement in the digital humanities, having developed "Form and Landscape" an online exploration of imagery of the built landscape of Southern California in the period 1940-1990 (ptsp-edison.com).

As such, feel both privileged and positioned to lend my support to *Walden, a game*. The subject matter of the game is of real interest to me, and I am interested in the possibility of involving my students in the development and use of the prototype. I expect to learn a great deal from my involvement, and I hope that I can help provide helpful content information in the process.

The designers coming from the University of Southern California's Game Innovation Lab have deep expertise in designing games that explore a reflective player experience, which will be critical for translating Thoreau's work to a game. Their team includes leading game designers respected in both the experimental and commercial game communities. They utilize a highly collaborative and responsive design process, which leads to engaging and innovative experiences. *Walden, a game* seems certain to be an innovative exploration of humanities content in the form of a video game that may expose players who are new to Thoreau to his work, and may give those who are already familiar with his writing a new form in which to explore his core ideas.

As an historian and an educator, I give the proposed project my fullest support. I am committed to support the development of the game by lending my guidance as an advisor to the project, contributing my expertise on the subject matter, and working with the media team to ensure that the game's content is accurate and appropriate.

Sincerely,

William Deverell





THE HUNTINGTON

Library, Art Collections, and Botanical Gardens

Daniel Lewis, Ph.D.

Chief Curator of Manuscripts

Tracy Fullerton, Director
Game Innovation Lab
University of Southern California
3470 McClintock Avenue #301
Los Angeles, CA 900089

Dear Professor Fullerton:

As the Chief Curator of Manuscripts and Dibner Senior Curator of the History of Science & Technology at the Huntington Library, I am pleased to support the USC Game Innovation Lab's grant proposal to develop *Walden, a game*. The Huntington Library is home to the first seven manuscript drafts of Thoreau's *Walden*, or "Life in the Woods," and the Library is in the planning stages of an exciting conference on Thoreau and his work, which we hope to hold in fall of 2016, just prior to the 100th anniversary of the author's birth. It is our hope to incorporate the final version of *Walden, a game* in the conference, along with other creative works inspired by Thoreau's legacy.

As an historian with a focus on the history of science, American history, Latin American history and environmental history, I have strong expertise in several areas of relevance for the project and am extremely interested in the prospect of aiding the team in their quest to create an experience that is historically accurate and has fidelity to the intent of the original text. One certain way that I am able to assist the team is by allowing them research access to the original manuscript. Additionally, I am able to give informed feedback on the humanities content within the game, such as the historical and textual references.

In meeting with the media team for *Walden, a game*, it is clear that they are deeply experienced in creating innovative game designs that integrate humanities content. I am happy to serve as an advisor to the team as they advance their project to adapt this classic text to an interactive experience.

As an historian, educator and curator, I give the proposed project my fullest support. I am committed to support the development of the game by lending my guidance as an advisor to the project, contributing my expertise on the subject matter, and working with the media team to ensure that the game's content is accurate and appropriate.

Sincerely,

Daniel Lewis, Ph.D.
Research Associate Professor of History
Claremont Graduate University

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National Endowment for the Humanities
400 7th Street SW
Washington, DC 20506

June 9, 2014

To Whom it May Concern:

As the Director of Education at the Concord Museum, I am in charge of developing curriculum around the many collections of the Museum, including our Henry David Thoreau Collection, the world's largest collection of objects related to the author – over 250 artifacts such the desk and chair from his house at Walden, his flute, pencils from his family's business, and much more. We also have on permanent loan the Emerson study, an exact reproduction of the room in which Emerson worked and entertained many of the luminaries of American Literature.

I met Tracy Fullerton last year when she visited the Museum on a research trip for her video game and we discussed the artifacts that interested her in our collection. Since then, her team at Game Innovation Lab has created a striking 3D replication of the furniture at Thoreau's house at Walden. The contents of Thoreau's house are central to the game and we are eager for more people to know about this collection at the Concord Museum. It appears to me that the Game Innovation Lab team is seeking to be historically accurate in their representations as they bring Thoreau's experience to life in the Walden game.

As the Director of Education, I would be pleased to use the Walden video game as part of the outreach that we do with many audiences including students, families, and general visitors. The Concord Museum's annual visitation exceeds 40,000 visitors including 8,000 students. Beyond this, we have many teachers who access our website for material related to Thoreau and Emerson. Currently, we have a small game on our site related to Thoreau, but it would be a great gift to be able to offer this fully immersive, deep historical game to our visitors.

As the Director of Education at the Concord Museum and as a game advisor, I give the proposed project my full support. I look forward to contributing my expertise on the subject matter and working with the media team to consider how the game might be used in learning situations such as our Museum.

Sincerely,

Susan Foster Jones
Director of Education
Concord Museum

June 5, 2014

Tracy Fullerton, Director
Game Innovation Lab
University of Southern California
3470 McClintock Avenue #301
Los Angeles, CA 900089

Dear Professor Fullerton:

It is my pleasure to support your game project, *Walden*, and to offer my insight to your team as they develop this interactive piece. As you know, I am currently completing my own project around the writings and philosophy of Henry David Thoreau, *The Light at Walden* –which includes my own experience as a war resister during the U.S. /Vietnam War.

I have been able to complete this project with support from The Park Foundation (NY), The Center for Independent Documentary, Inc. (Mass.), and USC: *Advancing Scholarship in the Humanities and Social Sciences*. The film is based on Thoreau's "Walden" and "Civil Disobedience," as well as my experiences on a wilderness island in Nova Scotia, where I built a cabin (much like Thoreau's) and attempted to live sustainably. How one relates Thoreau's philosophy to our own lived experience is a topic I am extremely interested in, and am fascinated to see how you integrate these themes into your own project.

My own films have been supported by grants from the National Endowment for the Arts, The National Endowment for the Humanities, and the American Film Institute. They have been broadcast nationally on PBS and distributed by the Museum of Modern Art, The American Federation of Arts, and Filmmakers' Library. They are in the collections of the Smithsonian Institution, MOMA, the NY Public Library, the Virginia Museum of Arts, and hundreds of institutions and libraries. Given my long history with experimental and documentary media, I am very happy to share my expertise with your team.

I give the proposed project my fullest support and look forward to working with you as an advisor to the project.

Sincerely,



Pablo Frasconi
Professor of the Practice of Cinematic Arts
USC School of Cinematic Arts

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FILM SCORING DEPARTMENT

June 5, 2014

NEH Digital Projects for the Public

To Whom It May Concern:

As an audio director and composer with a long history of collaboration with the Game Innovation Lab, I am pleased to continue that collaboration as part of the media team for *Walden, a game*. Over my past two decades in music, I have worked on more than 100 award winning video games, including *The Night Journey* project with Tracy Fullerton and Bill Viola, which was a breakthrough art video game that focused on creating a reflective, emotional experience for players. *Walden* also is a game that focuses on creating an emotional experience, of which sound and music are so much a part. My experience in breaking boundaries with interactive sound design and music are completely aligned with the goals and aesthetics of this project, and I have spent many years working on the ways in which we can create more emotionally immersive experiences in games.

One of the ways in which I am looking forward to contributing to the *Walden* project is through on-site recordings of the local birds, insects and ambience around the pond. Since I live very close to Walden Pond, I am able to do these recordings throughout the year and I am developing a procedural soundscape for the game that changes based on time of year, time of day, and the player's proximity to types of trees, plants and grasses. This level of authenticity creates an emotional resonance for players, whether they realize it or not. The game feels rich with the life of the pond, and that life changes as the sun rises and sets, and the seasons move forward.

Additionally, I am creating an interactive musical score that reflects the player's level of inspiration – or how much time they are spending on the more ephemeral exploration of the game rather than the grinding daily tasks of survival. Together, this interactive sound scape and musical score will provide a deeply emotional set of cues for the arc of the player experience.

My experience working with Tracy Fullerton and the rest of the team at the Game Innovation Lab has proved that they are a very special group of creative media makers: dedicated to the art of game design, thorough in their research of their subject matter, and experienced in bringing innovative designs to life. I give this proposed project my fullest support and look forward to working with the media team on this unique video game.

Sincerely,



Michael Sweet, mobile (b) (6)
Artistic Director Video Game Scoring, Film Scoring Department
Berklee College of Music

CURRICULUM VITAE
Jeffrey S. Cramer

Thoreau Institute at Walden Woods
44 Baker Farm
Lincoln, MA 01773-3004

Phone: 781.259.4730
E-mail: jeff.cramer@walden.org

(b) (6)

A large black rectangular redaction box covering several lines of text.

Website: www.jeffreyscramer.com

EDUCATION:

M.L.S. SUNY-Albany, 1978
Major: Library and Information Science

B.A. University of Massachusetts, Amherst, 1977
Major: English

PROFESSIONAL EXPERIENCE:

2000-present Thoreau Institute at Walden Woods
Curator of Collections

1978-1999 Boston Public Library
Various positions, including Head of Copy Cataloging; Assistant
Head of Circulation; and Head of Circulation

HONORS:

For *The Quotable Thoreau*: Umhoefer Prize for Achievement in Humanities
(Minnesota Arts & Humanities Foundation, 2012)

For *The Maine Woods: A Fully-Annotated Edition*: Honorable Mention in
Compilations/ Anthologies Category at the 2010 New England Book Festival

For *I to Myself: An Annotated Selection from the Journal of Henry D. Thoreau*:
Selected as a 2008 AAUP University Press Book for Public and Secondary School Libraries

For *Walden* (Yale *Nota Bene* paperback): Received rating of "Outstanding" from 2007 University Press Books Committee, Association of American University Presses (AAUP)

For *Walden: A Fully-Annotated Edition*:

- NOBA (National Outdoor Book Award) in the Outdoor Classic category, 2004
- Short listed for "The Best of the Best of the University Presses: Books You Should Know About" by the Association of American University Presses
- Co-winner of the 2005 Julia Ward Howe Special Award sponsored by the Boston Authors Club
- Received rating of "Outstanding" from 2005 University Press Books Committee, Association of American University Presses (AAUP)

INTERVIEWS: PRINT, RADIO, TELEVISION:

Archivist in the Forest: *Fine Books & Collections* (January 2010)

The Maine Woods: WUMB Commonwealth Journal (14 December 2009)

A Conversation with Jeffrey S. Cramer: *The Concord Journal* (5 November 2009)

Henry David Thoreau on Food: Worldview (2 June 2009)

150 Years of *Walden*: NPR: On Point with Tom Ashbrook (on panel with Lawrence Buell and David Gessner) (6 August 2006)

Walden Revisited: *UMass Magazine* (Fall 2004)

Walden: C-SPAN Book-TV (Talk at the Concord Bookshop, 26 September 2004)

PUBLICATIONS:

BOOKS:

The Portable Emerson (PenguinUSA, forthcoming 2014)

Essays of Henry D. Thoreau: A Fully Annotated Edition (Yale University Press, 2013)

The Portable Thoreau (PenguinUSA, 2012)

The Quotable Thoreau (Princeton University Press, 2011)

The Maine Woods: A Fully Annotated Edition by Henry D. Thoreau (Yale University Press, 2009)

I to Myself: An Annotated Selection from the Journal of Henry D. Thoreau (Yale University Press, 2007. Paperback edition: forthcoming Fall 2012)

Walden by Henry D. Thoreau (Yale University Press, 2006. Yale Nota Bene paperback)

Walden: A Fully Annotated Edition by Henry D. Thoreau (Yale University Press, 2004)

Thoreau on Freedom: Attending to Man: Selected Writings of Henry David Thoreau (Fulcrum Publishing, 2003)

Robert Frost Among His Poems: A Literary Companion to the Poet's Own Biographical Contexts and Associations (McFarland and Co., 1996. Paperback edition: 2007)

SHORT PIECES:

The Toad Not Taken (expanded essay) in *Companions in Wonder: Children and Adults Exploring Nature Together*, edited by Julie Dunlap and Stephen R. Kellert (The MIT Press, 2012)

Foreword: *Excursions* by Henry D. Thoreau (London: Anthem Press, 2007)

Some Thoughts on Walden, liner notes to the CD: *Walden: The Earth Song Collection* by Michael Johnathon (Poet Man Records, 2007)

Foreword: *A Journey into the Transcendentalists' New England* by R. Todd Felton (Roaring Forties Press, 2006)

On Migration and the Migratory Instinct from the Journals of Henry D. Thoreau (compilation) in *Ecotone* (issue 2, 2006) pp. 179-181

Conserving Nature, Preserving Ourselves in *Philanthropy World* (volume 9, issue 5, 2006) p. 66

Long Love and Constant Spirits: An Interview with Richard and Charlee Wilbur in *The Literary Review* (Summer 2002 "The Secret Life of Writers" issue) pp. 762-776

Collaboration: An Interview with Marge Piercy and Ira Wood in *Kestrel* 17 (Fall 2001 [March 2002]) pp. 28-45

Peaceable Island: A Conversation with Maxine Kumin and Victor Kumin in *New Letters* (vol. 66, no. 3, 2001) pp. 60-79

A Different Education in *Paths of Learning* (Autumn 2000) pp. 20-24.

- Reprinted in *Journal for Living* ("The Myths of Education" issue, no. 23, 2001)

Entries in: *The Robert Frost Encyclopedia* (Greenwood Press, 2000):

- *A Boy's Will*
- "The Discovery of the Madeiras"
- *In the Clearing*
- "In Neglect"
- *Mountain Interval*
- "Precaution"
- "Sycamore"
- *Twilight*
- Uncollected Poetry

The Long White House That Holds Love and Work Together: An Interview with Donald Hall at Eagle Pond Farm in *Meridian* (no. 4, Fall 1999) pp. 42-66

With Jane and Without: An Interview with Donald Hall in *The Massachusetts Review* (vol. 39, no. 4, Winter 1989-1999) pp. 493-510.

- Reprinted in *Contemporary Literary Criticism* vol. 151 (The Gale group, 2002)

Weaning: One Man's Story in *The Reality of Breastfeeding* edited by Amy Benson Brown and Kathryn Read McPherson (Bergin and Garvey, c1998) pp. 139-143

Catching the Garter in *Baybury Review* (vol. 2) pp. 9-11

Alone, Like Ice (poem) in *Troubador, A Journal of Lyric Poetry* (vol. 2, no. 1, Fall/Winter 1998) p. 24

Fly Me to the Moon in *Princeton Arts Review* (Fall 1997) pp. 33-34

The Toad Not Taken in *Endangerspeak* (Fall/Winter 1997) pp. 6-7, 10-11, 15

The Vas Difference in *Your Health Magazine* (29 April 1997) pp. 64-67

Mountaineer (poem) in *The Formalist* (vol. 8 [1997], no. 2) p. 115

Heaven in *The Boston Parents' Paper* (June 1996) pp. 33-34.

- Reprinted in *Genesee Valley Parent Magazine* (June 1998)
- Reprinted in *Syracuse Parent* (June 1999)

The Twenty-Dollar Starling in *Snowy Egret* (Summer 1995 [1996]) pp 20-21

Praying for Mantises in *The Boston Parents' Paper* (August 1995) p. 44.

- Reprinted in *The Parents' Paper* [Florence, SC] (April 1998)
- Reprinted in *Genesee Valley Parent Paper* (July 1998)

Worcester Tree in *Worcester Magazine* (21-27 June 1995) p. 46

How Many in a Bed? in *The Boston Parents' Paper*, May 1994) p. 44.

- Reprinted in *Atlanta Baby* as "The Family Bed" (September/October 1997)
- Reprinted in *The Parents' Paper* [Florence, SC] (January 1998)
- Reprinted by Family Publishing Group in *Connecticut Family*, *Westchester Family*, and *New York Family* (March 1998)

Forgotten Frost: A Study of the Uncollected and Unpublished Poetry of Robert Frost: Part Two in *The Robert Frost Review* (1993) pp. 1-23

Forgotten Frost: A Study of the Uncollected and Unpublished Poetry of Robert Frost: Part One in *The Robert Frost Review* (1992) pp. 1-27

"The Spectre of the Real" by Thomas Hardy and Florence Henniker, edited with notes, in *The Thomas Hardy Yearbook* (vol. 13, 1996) pp. 6-24

Caedmon's Hymn, translated from the Anglo-Saxon, in *The Christian Science Monitor* (13 April 1982) p. 21

The Grotesque in Thomas Hardy's *The Woodlanders* in *The Thomas Hardy Yearbook* (vol. 8, 1980) pp. 25-29

Hardy, Henniker and "The Spectre of the Real" in *The Thomas Hardy Society Review* (1977) pp. 89-91

Abridged
November 2013
William Deverell
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History Department
University of Southern California
Los Angeles, CA 90089
213-821-1062

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1151 Oxford Road
San Marino, CA 91108
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Education

Ph.D., Princeton University, 1989
M.A., Princeton University, 1985
A.B., Honors and Distinction, Stanford University, 1983

Academic Experience

University of Southern California
Chair, Department of History, Fall 2012 –
Director, Huntington-USC Institute on California and the West, 2004- (www.usc.edu/icw)
Professor of History, 2004-
Professor of Environmental Studies, 2012-
California Institute of Technology
Associate Professor of History, 1996-2004
Faculty Coordinator, Mellon Foundation Minority Undergraduate Fellowship Program, 1999-2003
Chair, Caltech-Huntington Library Committee for the Humanities, 1998-2004
University of California, San Diego
Adjunct Associate Professor, 1996-
Associate Professor, History and Program in Urban Studies, 1994-96
Director, California History/Social Science Project, 1993-95
Co-Director, Organized Research Project, The American Southwest, 1994-1996
Chair, Environmental Studies, 1993-95
Assistant Professor, History and Urban Studies, 1990-94
California Institute of Technology/Huntington Library
Postdoctoral Instructor in American History, 1988-90

Other Appointments

Board Member, *California History*, 2013-
Founding Director, Los Angeles Service Academy, 2011-
Board Member, California Council for the Humanities, 2011-
Founding Editor, "Western Histories," University of California Press/Huntington Library Press, 2008-
Frederick W. Beinecke Senior Fellow, Beinecke Library and Lamar Center, Yale University, 2009-2010
Fletcher Jones Fellow, Huntington Library, 2007-2008
Board Member, National Association of Olmsted Parks, 2006-2008
Research Associate, Los Angeles County Museum of Natural History, 2004-
Chair, California Council for the Humanities, 2002-2004
Fellow, Los Angeles Institute for the Humanities, 2002-
Faculty Fellow, John Randolph Haynes and Dora Haynes Foundation, 2002-2003
Faculty advisor, Environmental Studies Program, Prescott College, 2000-2002
Fellow, Center for Advanced Study in the Behavioral Sciences, 1998-1999
Visiting Scholar, Getty Research Institute, 1996-1997
Fellow, Clark Library, 1993-1994

Visiting Scholar, UCLA, 1993-1994

Visiting Professor, California Institute of Technology, 1992-1993

Recent Grants and Fellowships

Discretionary Fund, History Department Chair, \$25,000, 2013

P.I., Los Angeles Aqueduct Centennial program grant, Metabolic Studios/Annenberg Fdn, \$45,000, 2013

Co-P.I., Pacific Standard Times Presents, Los Angeles Infrastructure [photo exhibit], \$100,000, 2012

P.I., Institute on California and the West K-12 programs, Rose Hills Foundation, \$200,000, 2011

Co-PI, California Literary Conferences, SF and LA, William R. Hearst III, \$75,000, 2011

P.I., Visions and Voices Program, USC; Woody Guthrie's Los Angeles, \$25,000, 2011

P.I., WHH Foundation, Los Angeles, to launch "Los Angeles Service Academy" \$300,000, 2011

Salvatori Fund, \$7500, USC, for Concept of the Frontier workshop , 2011

Salvatori Fund, \$6000, USC, for "Railroaded" Panel/Publication event, 2011

Haynes Foundation, Board Discretionary Funds, \$10,000, 2010

Beinecke Fellow/Lamar Fellow, Yale University, 2009

Co-P.I., Northrop Grumman Foundation, Aerospace History Project, \$250,000, 2009

Co-P.I., NSF Grant, Aerospace History Project, Huntington Library, \$371,000, 2009

Co-P.I., NEH Matching Grant and "We the People" fund, \$350,000 , 2008

Grant recipient, \$25,000 Salvatori Fund, USC (Institute on California and the West programs), 2007

Haynes Foundation, \$15,000 (aerospace conference), 2007

Grant recipient, USC Provost's office, \$10,150 (Institute on California and the West programs), 2007

Grant recipient, USC Provost's office, \$16,000 (innovative publications in the humanities), 2006

Grant recipient (Institute on California and the West), anonymous source, \$50,000, 2006

Grant recipient (Institute on California and the West), anonymous source, \$200,000, 2006

Internal USC Grant, \$6000, Casden Institute, "Jews in the West" project

Internal USC Grant, \$15,000, Salvatori Fund [Institute on California and the West programs]

Haynes Foundation, \$49,500 for lecture series on Los Angeles, with Zócalo L.A.

Haynes Foundation, \$29,000 for essay collection on Los Angeles history

Haynes Foundation, Board of Trustees grant, \$10,000 for the Banning Family History Project

USC, 125th anniversary research grant, "USC and the City of Angels,"

Co-Director, National Endowment for the Humanities, Summer Institute, \$196,000.

Haynes Foundation, Board of Trustees grant (\$20,000) for environmental symposium

Co-P.I., Arthur Vining Davis Foundations for undergraduate research at the Huntington Library, \$197,000.

Co-P.I., Andrew W. Mellon Foundation for Interpretive Seminars in the Humanities, \$360,000.

Co-P.I., Andrew W. Mellon Foundation for postdoctoral app'ts in the Humanities, Caltech 440,000.

Books

To Bind Up the Nation's Wounds: The American West After the Civil War, in preparation and under contract, Bloomsbury Press.

Little Girl Lost: Kathy Fiscus and Modern America, in preparation.

Woody Guthrie's Los Angeles, edited volume, with Darryl Holter, in preparation.

Co-editor with Greg Hise, *The Blackwell Companion to Los Angeles*, Blackwell-Wiley, 2010.

Co-editor with David Igler, *The Blackwell Companion to California*, Blackwell-Wiley, 2008.

Co-editor with Greg Hise, *Land of Sunshine: The Environmental History of Metropolitan Los Angeles*, University of Pittsburgh Press, 2005; paperback edition 2006.

Co-author with Deborah Gray White, *Call to Freedom* (8th grade United States history text), Holt Rinehart & Winston, 2005

Whitewashed Adobe: The Rise of Los Angeles and the Remaking of Its Mexican Past, University of California Press, 2004; paperback edition 2005.

Editor, *The Blackwell Companion to the American West*, Blackwell Publishers, 2004; paperback edition 2007.

Co-editor with Tom Sitton, *Metropolis in the Making: Los Angeles in the 1920s*, University of California Press, 2001; paperback simultaneous.

Co-author with Greg Hise, *Eden by Design: The 1930 Olmsted / Bartholomew Plan for Los Angeles*, University of California Press, 2000; paperback simultaneous.

Co-author with Anne Hyde, *The West in the History of the Nation*, 2 vols., Bedford/St. Martin's Press, 2000.

Railroad Crossing: Californians and the Railroad, 1850-1910, University of California Press, 1994; paperback edition, 1996.

Co-editor with Tom Sitton, *California Progressivism Revisited*, University of California Press; simultaneous paperback, hardback editions, 1994.

Series Editor: Western Histories, University of California Press and Huntington Library Press

Tamara Venit, *A Squatter's Republic: Land and the Politics of Monopoly in California, 1850-1900*, 2013

Joshua Paddison, *American Heathens: Religion, Race, and Reconstruction in California*, 2012

Volker Janssen, ed., *Where Minds and Matter Meet: Technology in California and the West*, 2012

Peter Westwick, ed., *Blue Sky Metropolis: The Aerospace Century in Southern California*, 2012

Joshua Sides, ed., *Post-Ghetto: Reimagining South Los Angeles*, 2012

Louise Pubols, *The Father of All: The de la Guerra Family, Power and Patriarchy in Mexican California*, 2010, winner of the Ray Allen Billington Prize, Organization of American Historians and the William P. Clements Prize, Clements Center for Southwest Studies, SMU

Steven Hackel, ed., *Alta California: Peoples in Motion, Identities in Formation*, 2010

Journal Articles/Editions

"Bricks, Seeds, Culture, and History," *California History*, v. 91, no. 1, 2014.

"Forget it Jake, It's Chinatown," with Tom Sitton, *Boom*, Fall 2013

"What is this Railroad to do for us?" introductory essay to special edition, *California History*, Fall 2011

Co-author with Greg Hise, "Los Angeles: 1910," in "Beyond Britain" special issue, *Victorian Review*, Spring 2011

Guest editor, *Casden Annual* (special 2010 issue: Jews of California); Casden Center, USC.

"Claims and Reclaims in Western History," *Reviews in American History*, September 2010.

"The Farther West: Mormons, California, and the Coming of the Civil War," *Journal of Mormon History*, 2008.

"California and the Coming of the Civil War," *Southern California Quarterly*, 2008

"Redemptive California?: Re-thinking the Post-Civil War," *Rethinking History*, 2007

Co-author with Bryant Simon, "Come Back, Tom Joad," *California History*, Winter 2001, 180-191.

Co-author with David Igler, "The Abattoir of the Prairie," in *Rethinking History*, Fall 1999, 321-323.
Reprinted in Robert Rosenstone and Alun Maslow, eds., *Experiments in Rethinking History*, Routledge Publishers 2004.

Co-author with Douglas Flamming, co-authors, "Race and Regional Identity: Boosting Los Angeles, 1880-1930," in John Findlay and Richard White, eds., *Power and Place in the American West*, University of Washington Press, 1999, 117-143.

"Plague in Los Angeles, 1924: Ethnicity and Typicality," in Blake Allmendinger and Valerie Matsumoto, eds., *Over the Edge: Mapping the Contours of Western Experience*, University of California Press, 1998, 172-200.

"Privileging the Mission Over the Mexican: The Rise of Regional Consciousness in Southern California, 1880-1940," in David Wrobel and Michael Steiner, eds., *Many Wests: Regional Consciousness in the American West*, University Press of Kansas, 1997, 235-258.

"The Los Angeles Free Harbor Fight," *California History* 70 (Spring 1991), 12-29.

"To Loosen the Safety-Valve: Eastern Workers and Western Lands," *Western Historical Quarterly* 19 (August 1988), 269-85.

Recent Articles in Collections

"Dreams Deferred: Parks and Open Space," forthcoming in *Overdrive: Los Angeles Constructs the Future, 1940-1990* [Los Angeles: Getty Museum, 2013].

"The Afterlife of a Master Plan," [with Greg Hise], in David Sloane, ed., *Planning Los Angeles* (Chicago: American Planning Association, 2012).

"Politics in the Twentieth Century American West," in Deverell, ed., *The Blackwell Companion to the American West*, 442-459.

"Congress and the American West, 1865-1900," in *The American Congress: The Building of Democracy*, Houghton Mifflin, 2003.

Co-author with Greg Hise and David Sloane, *Orange Empires: Miami and Los Angeles*, special issue, *Pacific Historical Review*, May 1999.

"The Southern Pacific Railroad Survives the Pullman Strike of 1894," in S. Chan and S. Olin, eds., *Major Problems in California History*, DC Heath, 1997.

"Fighting Words: The Significance of the American West in United States History," in *A New Significance: Re-Envisioning the History of the American West*, Oxford University Press, 1996 and *Western Historical Quarterly*, Autumn 1994.

"Church-State Issues in the Period of the Civil War," in John F. Wilson, ed., *Church and State in America*, vol. 2 (NY, 1987), 1-32.

Daniel Lewis

HOME:

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WORK:

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San Marino, CA 91108
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dlewis@huntington.org

Education:

1997: Ph.D., History, University of California, Riverside, CA

Fellowships:

2003: Post-doctoral fellowship, Oxford University, England
2005: Post-doctoral fellowship, Smithsonian Institution Archives, Washington, DC
2006: Kenneth E. and Dorothy V. Hill Fellow, Huntington Library, San Marino, CA
2011: Fellow, Salzburg Global Seminar, Salzburg, Austria

Public History Experience:

2006 - present

**The Huntington Library
San Marino, CA**

Dibner Senior Curator for the History of Science & Technology. Responsible for the Huntington's history of science, technology, and medicine holdings, consisting of rare books and manuscript materials. Oversee a complex range of programmatic undertakings, collection development, supervisory work, and collection description and arrangement.

2010 - present

The Huntington Library

Chief Curator of Manuscripts. Responsible for the supervision, management and overall direction of the Manuscripts Department and its 18 full-time employees. While retaining my history of science duties and Dibner title, I have also been assigned these substantial administrative duties.

May 1994 - November 1995

**Los Angeles Times
Los Angeles, CA**

Company Historian & Corporate Archivist. Responsible for overall direction and administration of *Times*' History Center. Served as both interpretive historian and corporate archivist for The Times and its parent corporation, The Times Mirror Company.

August 1989 - July 1992

**Environmental Systems Research Institute
Redlands, CA**

Staff Writer/Editor. Responsible for writing and editing a variety of publications at this computer mapping company, including *ARC News*, a monthly publication with a circulation of 50,000.

Teaching Experience:	<p>Research Associate Professor, History Department, Claremont Graduate University, Claremont, CA.</p> <p>As well as teaching courses in the history of science, and in archival theory and practice, I oversee the History Department's archival internship program, evaluate comprehensive written exams for doctoral students, sit on doctoral oral qualifying exam committees, direct independent studies, teach practica, and advise students.</p> <p>Adjunct Associate Professor of Biological Sciences, Integrative & Evolutionary Biology Department, University of Southern California, Los Angeles, CA, 2009</p> <p>Adjunct Associate Professor of History, History Department, University of Southern California, Los Angeles, CA, 2009</p> <p>Instructor, California Rare Book School, UCLA, Los Angeles, CA, 2012-present</p>
Publications (Books): [List of articles, blogs and other writings available on request]	<p><i>The Feathery Tribe: Robert Ridgway and the Modern Study of Birds</i>, Yale University Press, April 2012 (also available as Kindle e-book and other e-formats; audio book also available from audible.com, as narrated by actor Alfred Gingold).</p> <p><i>Bones and Four Feathers: An Environmental History of Hawaiian Birds</i> [in process]</p> <p><i>The Book Everybody Read: A Census of Every Surviving Copy of Darwin's Origin of Species</i> [in process]</p> <p><i>Iron Horse Imperialism: The Southern Pacific of Mexico, 1880-1951</i>, University of Arizona Press, May 2007 (and issued in paperback Oct. 2008)</p> <p><i>Star Struck: One Thousand Years of the Art & Science of Astronomy</i> (co-authored with Ronald Brashear), Huntington Library Press/University of Washington Press, Winter 2000</p>
Professional Memberships:	<p>American Society for Environmental History, 2002-present - Alice Hamilton Prize Committee, 2006-2007 The Biodiversity Group, Board of Directors, 2014-16 Cooper Ornithological Society, Life Member Grolier Club, 2012-present Hawai'i Audubon Society, 2012-present History of Science Research Group (USC and the Huntington), co-chairman, 2004-present History of Science Society, 1998 – present Los Angeles History Research Group, 1997 – present Pasadena Audubon Society, 1999- present; Board of Directors, 2004-06. Society for Avian Paleontology and Evolution, 2012 – present Society for the History of Authorship, Reading and Printing, 2011 – present Society for the History of Natural History, 2004 – present Society for the History of Technology, 1998 – present Society of American Archivists, 1984 – present - Science & Technology Roundtable, Committee Member, 2002 - present Society of California Archivists, 1984 – present - President, 2006-2007 (elective office)</p>

SUSAN FOSTER JONES

Director of Education, Concord Museum
200 Lexington Road
Concord, MA 01742
978-369-9763
sfoster@concordmuseum.org

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A large black rectangular redaction box covers the right side of the page, starting below the contact information and extending down to the top of the Professional Experience section.**PROFESSIONAL EXPERIENCE:**

Director of Education, Concord Museum, Concord, MA (September 2009 – present)

- Responsible for developing, implementing and managing all educational programming for the Museum including school programs, public programs, family programs;
- Member of the Exhibition Planning Committee helping to plan exhibitions in temporary and permanent exhibit spaces and overseeing interpretation for all visitors;
- Manage Visitor Services and Museum Interpretive staff including guided tours, front desk services and overall museum experience;
- Collaborate with public schools, community colleges and local institutions to train teachers in Concord's history and the use of the Museum's collections in the classroom;
- Develop and expand curricula for school programs using object-based approaches and public school guidelines to keep programming current and engaging;
- Oversee Museum Educators related to school programs as well as their professional development and training;
- Supervise the Manager of Student, Group, and Family Learning who schedules all school programs and groups tours, customizes tours and school trips, and assists with all public programs;
- Supervise the Public Programs Coordinator who assists in the development and implementation of the museum's active public program offerings;
- Build relationships in the community and fosters fruitful outside collaborations.

Lead Educator, Commonwealth Museum and Massachusetts Archives, Boston, MA (2008 – 2009)

Education Coordinator, Commonwealth Museum and Massachusetts Archives, Boston, MA (2002 – 2008)

- Instruct daily museum field trip tours for large school groups;
- Lead adult, college student, and senior citizen tours through current exhibitions;
- Teach dynamic lessons in the museum classroom using primary source documents;
- Develop strong relationships with teachers and principals as part of organizing and scheduling in-school and on-site programs;
- Arrange use of traveling exhibits to local cultural centers, libraries, and town halls;
- Write, edit, and distribute museum publications and marketing materials to teachers;
- Designed and implemented curricula in the museum classroom specifically relating to the museum's collections and revised existing curricula;
- Collaborated on the creation and design of a classroom curriculum for state-wide distribution on John Adams and the Massachusetts Constitution;

- Developing and overseeing the creation of all programs for the new exhibition including in-museum educational kits, dynamic classroom programs, as well as guided tours.

Assistant Museum Director, Commonwealth Museum, Boston, MA (2008 – 2009) (additional position)

- Supervise museum staff members on projects and duties in the education department, special events, and the gift shop;
- Hire and supervise 6-month co-op interns from Northeastern University;
- Manage relationships with teachers and schools as well as coordinate all field trip groups and tours;
- Manage the budget for the new exhibition project including processing all invoices and assisting in the creation of contracts;
- Assist with applying for grants, presenting to funders, and creating fundraising materials.

PROFESSIONAL PRESENTATIONS:

- “Who cares about global warming...?”, New England Museum Association Annual Meeting, Fall 2013;
- “An Observant Eye; Thoreau through his Artifacts.” Northeast Regional Conference on Social Studies, April 2013.
- “Citizen Curation: Crowdsourcing, Community, and Content,” New England Museum Association Annual Meeting, Fall 2012;
- Encouraging Reflective Teaching Practice, New England Museum Association Annual Meeting, Fall 2011

PROFESSIONAL ASSOCIATIONS:

- Steering Committee Member, Greater Boston Museum Educators’ Roundtable (2005 – present)
- Co-Chair, Concord Historical Collaborative (2010 – 2014)
- Advisory Committee, Step Into Art, Inc., Newton, MA (2008 – present)

EDUCATION:

- Ed.M., Arts in Education, Harvard University Graduate School of Education
- B.A., Art History, Minor in Education, Magna Cum Laude, Mount Holyoke College

Pablo Frascioni
Bio 6/2014
www.pablofrascioni.net

Pablo Frascioni has made documentary films since 1969 when, at age 17, he won the National Newsweek-Bolex Documentary Film Contest with his film, *Redevelopment*. Since then he has made films about the U.S. bicentennial, urban gentrification, childhood literacy, artists, public art, civil liberties, and poetry. He has received 18 grants and fellowships from national, regional, and state entities including the National Endowment for the Arts, The National Endowment for The Humanities, and the American Film Institute.

His films, including *The Woodcuts of Antonio Frascioni*, *Towards the Memory of a Revolution*, *Survival of a Small City*, and *The Longing*, have been screened throughout the world, including the Festival Dei Popoli, Firenze, Italy; National PBS Broadcast; the Smithsonian Institution; The Museum of Modern Art; and The Margaret Mead Film Festival in New York, and received awards at the American Film Festival, the International Festival of Films on Art and Architecture, and the Black Maria Film Festival. He has worked as a cinematographer and editor for the American Civil Liberties Union, The Metropolitan Museum of Art, Asia Society, and Weston Woods Studios. He is currently completing *The Light at Walden*, based on Henry David Thoreau's *Civil Disobedience* and *Walden*, funded by The Park Foundation, and a grant from USC: Advancing Scholarship in the Humanities and Social Sciences; sponsored by the Center for Independent Documentary, Inc., in Massachusetts.

He is currently a Professor of Practice in the Production Division of the School of Cinematic Arts at USC, where he teaches editing; *Creating Poetic Cinema*; *Nature, Design and Media* (in the new Media Arts + Practice Division); and coordinates the first year of the graduate M.F.A. production program. He recently designed and taught the *USC-YouTube Creator Institute*; the *USC/Disney Studios Producing and Directing Class*; a seminar in *World Building* with Alex McDowell; a workshop at the USC Center for Excellence in Teaching on *Contemplative Pedagogies*; and was invited by the USC Provost to conduct seminars in *Transmedia and Political Engagement*, and, *Mindfulness, Mediation, and Guided Visualizations*. He has also taught at The New School; the State University of New York College at Purchase; Occidental College; the University of Hawaii; Cinecitta, Rome, Italy; the Communication University of China, Beijing; and the Beijing Film Academy.

His films have been distributed by: El Museo del Barrio, NYC, The American Federation of Arts, NYC; The Museum of Modern Art, NYC; and Filmmakers' Library, NYC.

Tracy Fullerton, M.F.A.
Associate Professor, Interactive Media, School of Cinematic Arts, USC

Education

1991 M.F.A (Cinema-Television Production), University of Southern California, Los Angeles, CA
1988 B.A. (Theater Arts/English Literature), University of California, Santa Cruz, CA

Appointments

2009 Electronic Arts Endowed Chair in Interactive Entertainment
2008 Associate Professor, School of Cinematic Arts, Interactive Media Division
Director, USC Game Innovation Lab
2005 Assistant Professor, School of Cinematic Arts, Interactive Media Division
Co-Director, USC Game Innovation Lab
2004 Visiting Assistant Professor, School of Cinematic Arts, Interactive Media Division
Co-Director, Electronic Arts Game Innovation Lab
1999 Adjunct Professor, School of Cinematic Arts, Interactive Media Division
1998 President and Founder, Spiderdance, Los Angeles, CA
1995 Creative Director, R/GA Interactive, New York, NY
1993 Creative Director, Interfilm, Inc., New York, NY
1991 Interactive Designer, Synapse Technologies, Los Angeles, CA

Selected Publications

Fullerton, Tracy, “What Games Do Well: Mastering Concepts in Play” in Postsecondary play: The role of games and social media in higher education. Tierney, W. G., Corwin, Z. B., Ragusa, G., & Fullerton, T. (Eds.). John Hopkins Press, forthcoming
Fullerton, T. (2014) Game Design Workshop: A Playcentric Approach to Creating Innovative Games, 3rd Edition. CRC Press, February 2014.
Fullerton, T., Malamed, L., Sharkasi, N., Vigil, J. (2009) Designing History: The Path to Participation Nation. ACM SIGGRAPH Video Game Symposium, New Orleans, LA, August 2009.
Fullerton, T. Fron, J. Pearce, C. Morie, J. (2008) Getting Girls Into the Game: Towards a ‘Virtuous Cycle’ Beyond Barbie and Mortal Kombat Yasmin Kafai, Carrie Heeter, Jen Sun & Jill Denner (eds), MIT Press, September 2008, pp.137-149.
Fullerton, T. (2008) Documentary Games: Putting the Player in the Path of History Playing the Past: Nostalgia in Video Games and Electronic Literature, Zach Whalen & Laurie Taylor (eds), Vanderbilt University Press, September 2008.

Selected Professional Activities

2012 Member of White House Office of Science and Technology Consortium on Games for Impact
2010 – 2012 Advisory board for Games for Change
2010 – 2012 Advisory board for NSF-funded project “Computer Game Design: An Interdisciplinary Approach to Addressing Underrepresentation in Computing”
2007 – 2009 Advisory board for NSF-funded Values@Play research project; test site for VAP curriculum
2006 – 2007 Director of International Game Developers Association Education SIG Curriculum Committee

Selected Projects

Collegeology – suite of games to improve college knowledge in underserved youth
Participation Nation – cross-media game to teach U.S. Constitutional history
The Night Journey – art game about the spiritual journey in collaboration with Bill Viola
Cloud – experimental game focusing on meditative and non-violent play

Selected Honors

Indiecade 2012 winner: category “Impact” (Reality Ends Here)
Indiecade 2011 finalist: category “Impact” (Application Crunch)
Indiecade 2008 award winner: category “Sublime Experience” – for the most emotional or social impact and profound theme (The Night Journey)
Nominated for a Rockefeller Renew Media Arts Fellowship 2008

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<http://interactive.usc.edu/members/todd>

Todd Furmanski

E-mail: (b) (6)

Summary:

I am a researcher at the University of Southern California School of Cinematic Arts, working towards my PhD in Media Arts and Practice. My research interests include virtual reality, emergent algorithms and their use in procedural content generation, and the history of digital media. I recently completed my examinations in the spring of 2014, and currently spend my time on a variety of research projects with both the Game Innovation Lab and the World Building Media Lab while laying the groundwork for my dissertation.

Education:

USC Media Arts + Practice, PhD Candidate
USC School of Cinema-Television, MFA Interactive Media
Pomona College, BA Media Studies

Academic History:

2013-Present: Research Associate, World Building Media Lab USC
2007-Present: Research Associate, Game Innovation Lab USC
2004-2005: Research Assistant for Immersive/Virtual Reality lab at USC School of Cinema-Television
2001: Taught course in 3-D modeling and animation at Pomona College
1997: Taught 7th and 8th graders computer programming during high school.

Research Projects:

- 2014 **Walden, A Game: Programmer**
-Developed underlying codebase for adaption of Thoreau's classic work
-Game encourages user to explore a recreation of Walden Pond in 1845
-Integrated XML notation with Unity3D to allow changes in seasons and weather
- 2013 **Leviathan Project: Programmer**
-Intel-funded project based on award-winning young adult "Leviathan" series
-Augmented reality demonstration at CES
-Integrated pathfinding script system for multiple agent-shared story space
- 2013 **Body Scrub: Programmer**
-Performance installation using Microsoft Kinect
-Depth-based animations easily crafted, system useable by non-programmers
- 2012 **World By Frame: Designer/Programmer**
-Stereoptic installation rendering virtual space in discrete frames
- 2012 **Myriad: Designer/Programmer**
-Swarm-based motion-captured interactive visualization
- 2011 **Wu Xing, Five Processes: Designer/Programmer**
-Simulated Cellular Automata driving multiple geologic forces in realtime 3D.

- 2008 **Wide5 Head-Mounted Display Virtual Spaces: Programmer**
 -Integrated Polhemus magnetic tracker with experimental wide-angle HMD.
- 2006 **Night Journey: Programmer**
 -A dynamic interactive space directed by media artist Bill Viola
 -Combined video with navigable virtual space
- 2005 **Artificial Life Models in Software, Adamatzky & Komosinski (eds)**
 -Contributed to book chapter on simulated ecosystems and structures
- 2005 **Biota/DigitalSpaces: Designer**
 -Participated in direction of a Life Simulator shared over the internet
 -Responsible for design of Artificial Life architecture
- 2005 **Here Be Dragons: Programmer/Designer**
 -Graduate Thesis involving Procedural world, city, and life generation
 -Combined artificial life algorithms with environmental structures
 -Virtual Reality stereoptic interface
- 2005 **Dyadin: Designer**
 -Showcased at the 2005 Game Developers Conference
 -Independent Game Festival Student Showcase winner
 -Worked on a team of 6, developed complete game in four months
- 2004 **Chojo: Designer/Artist**
 -Mobile Augmented Reality System
 -Combination of GPS, 3D Environments, and Cellular Automata
- 2003 **Panopticon: Designer/Artist/Programmer**
 -Expressionist Computer Game using hand-drawn graphics

Technical Skills:

Programming Languages and Systems: C, C++, C#, OpenGL, JAVA, Lingo, HTML
Software Applications: Unity3D, Microsoft Visual Studio, 3D Studio Max, Adobe Photoshop, Alias Wavefront Maya, Microsoft Visual Studio, Processing

Best Paper, SIGGRAPH Video Game Symposium 2007 (“Journey of Discovery: The Night Journey Project as Video/Game Art”)
Slamdance Finalist (fIOW)
Slamdance Design Philosophy Award 2006 (Cloud)

Selected Lectures

“Finer Fruits: Experiments in Life and Play at Walden” Chicago Humanities Festival, November 2012.
“Walden, a game” 5D: the City and the Book at USC, Los Angeles, CA, September 2012.
“Case Study: Reality Ends Here” Games for Change, New York, NY, June 2012.
“Provocations in Play: Experimental Designs from the USC Game Innovation Lab” Clash of Realities, Koln, Germany, May 2012.
“Provocations in Play: Experimental Designs from the USC Game Innovation Lab” Sarah Lawrence College, February 2012.
“Serious Play: Meaningful Video Games” Chicago Humanities Festival, October 2011.
“Granularity, a Consideration of the Textures of Games and Cinema” UC Santa Cruz Inventing the Future of Games Symposium, April 2011.
“Reflections on The Night Journey” 3G Summit Columbia College, Chicago IL, August 2010.
“Experimental Game Design: Process, Provocation and Play” Irvine Center for Computer Games and Virtual Worlds Lecture Series, UC Irvine, June 2010.
“Documentary Games: Playing with Reality” Korea Serious Games Conference, September 2009.
“Participation Nation: Designing Games that Engage Students in History and their Own Futures” Microsoft Research, August 2009.
“How We Play: Game Innovation and the Significance of Play” Digital Humanities Lecture Series, Dartmouth, Hanover, NH, April 2009.

KUROSH VALANEJAD

(b) (6)

EMPLOYMENT

2006-present

University of Southern California, School of Cinematic Arts, Interactive Media Division,

Game Innovation Laboratory, Los Angeles, California

Art Director and Research Artist

Walden, a game, learn to live like Henry David Thoreau while at Walden Pond, Director/Developer: Tracy Fullerton

The Body Scrub Device, a virtual fun-house mirror

The Cat and the Coup, a non-fiction videogame about Dr. Mohammad Mossadegh, Collaborator: Peter Brinson

The Night Journey, an art game about spiritual enlightenment, Director/Collaborator: Bill Viola

ReImagining California, simulates congressional redistricting in a web-based video game, Director: Chris Swain

Immune Attack, next-generation biology education, Collaborator: Federation of American Scientist

2001-2006

University of Southern California, Institute for Creative Technologies, Marina del Rey, California

Principal Investigator

Using Machinima to Rapidly Create Interactive Training Movies

Art Director, Interactive and Immersive 3D Environments

Leaders: Leadership Training using a branching narrative

SASO: Natural and Body Language Research and Development Research

Common Projects Modeler, Interactive and Immersive 3D Environments

SEE: Sensory Environments Evaluation, including Olfactory & Infrasound

1993-2006

MaNose Studios, Aspen, Colorado

Computer Graphics Component of a Fine-Arts Collaborative

The Kneeler, Multi-Sensory Interactive Installation

WKRPinc., Erotic Wallpaper and Silks

1999-2000

Sony Pictures' Imageworks, Culver City, California

Maya Instructor and Senior Production Services Technician

Hollowman, Feature Film

1989-96

Design Workshop, Inc., Land Planners, Aspen, Colorado

Virtual Model Builder

1988-89

Ohio State University, Instructional Design and Technology Department, Columbus Ohio

HyperCard Programmer

SELECTED COURSES, LECTURES AND WORKSHOPS

Used *The Cat and the Coup* videogame to teach Mossadegh-era history in Modern Iran History courses (2014)

University of California, Irvine; Professor Roxanne Varzi

University of California, Santa Barbara; Professor Janet Afary

University of Southern California; Professor Hani Khafipour

“Creative Responses to Personal and Sociopolitical Catastrophe”, California College of the Arts, Oakland

Course: Creative Responses to Catastrophe, Instructor Anita AmirRezvani (2013)

“On Collaboration, and the Importance of Experimentation” San Jose State University, College of Humanities and the Arts, Instructor: James Morgan (2013)

“Decoding The Cat and the Coup”, Dr. Martin Luther King Jr. Library at San Jose State University, Persian Studies Program, Director/Organizer: Dr. Persis Karim (2013)

“The Narrative Architecture of Learning Games” University of Southern California, Los Angeles, ENG 620: Literature and Interdisciplinary Studies, Professor Alice Gambrell, (2012)

“Deconstruction The Cat and the Coup” Singapore-MIT GAMBIT Game Lab, Massachusetts Institute of Technology, IAP – Unpacking *Super Serious* Serious Games. Instructors: Konstantin Mitgutsh and Narda Alvarado, Cambridge, MA via Skype (2012)

4 week workshop on Additive Manufacturing in CNTV602: *Practice and Media Arts*, with Instructor: Andreas Kratky, University of Southern California (2011)

Visions & Voices; *Get Your Hands Dirty with the Arts: From Computer File to Object*, Co-taught with Ann Page, University of Southern California (2011)

Co-presented “The Night Journey” with Bill Viola, Summer Lecture Series, Anderson Ranch Arts Center, Snowmass Village, Colorado (2010)

FA436: *Art and Technology*, Co-taught with Ann Page and Skip Rizzo, USC Roski School of Fine Art, (2008)

EDUCATION

2013- present

MFA Candidate, USC School of Cinematic Arts, Digital Art and Animation Dept., Los Angeles, CA

1996-99

Self-Designed Curriculum in Computer Animation at Los Angeles-Area Schools

Gnomon School of Visual Effects, Hollywood, CA

Santa Monica College Academy of Art and Design, Santa Monica CA

American Film Institute, Hollywood, CA

Art Center College of Design, Pasadena, CA

Los Angeles Macintosh Group, Santa Monica, CA

Silicon Studios, Santa Monica, CA

1987-88

Continuing Education in Computer Graphics, Ohio State University, Columbus

1983-87

Bachelor of Science, Computer Science, University of Oklahoma, Norman

BIOGRAPHY

Kurosh ValaNejad is a research artist living in Los Angeles, California and working as the art director of the USC Game Innovation Lab. Since 2001 at USC, he has helped develop a wide range of well-meaning computer applications on topics including Immunology, Gerrymandering, Sexual Harassment, Cultural Sensitivity, Democracy, and Spiritual Enlightenment; with funding by the National Science Foundation, the National Endowment of the Arts, and USC’s Annenberg Center and the Advancing Scholarship for the Humanities and Social Science.

Kurosh has managed to remain an [amateur](#) by continually changing the field to which he applies his computer-graphics skills. During the last 25 years, he has worked with artists and scientists in a variety of disciplines; including land-planning, architecture, installation, animation, virtual reality, artificial intelligence, and now computer games. The resulting works are evidence of the synergistic value of collaboration.

Lucas Peterson

GAME LAB ARTIST

PERSONAL SUMMARY AND GOALS

Graduated with a Bachelor's Degree from the USC Roski School of Fine Arts, with an emphasis in traditional 2D Drawing and Graphic Design. Transitioned into a 2D/3D Generalist Artist to meet the needs of projects developed by the Game Innovation Lab within the USC Interactive Media & Games Division.

Goals - Achieving a strong proficiency with the Unity game engine, improved research skills, attend academic and games industry events, expanded artistic and game design skillsets.

RESEARCH PROJECTS (March 2012-June 2014)

Game Innovation Lab, *Walden, a game (Ongoing)*

Roles - 3D Modeler, 2D Texturer, Animator, Set Dresser, Historical Researcher

Goals - Achieve an optimized, polished visual experience. Share a new type of game with the world, a virtual Walden in which one can reflect on life through the eyes of Thoreau.

FutureBound Games, *FutureBound!*

Roles - 3D Modeler, Animator

Goals - Provide a fun, learning experience for young students that can engage them with the idea of turning their passions into careers, even when faced with fears and self-doubt.

FutureBound Games, *Graduate Strike Force*

Roles - Concept Artist, 3D Modeler, 2D Texturer, Animator

Goals - Provide a fun experience for young students that can also engage them with the realities of paying for higher education and the implications of their decisions years into the future.

Microsoft Research/ChronoZoom, *Chrono Scouts (Ongoing)*

Roles - Prototyping, 2D Artist, Graphic Designer

Goals - Create a polished card game that engages players in a game of combining fragments of WWI history into a compelling story about the great war.

NASA/NSF, *Life Underground (Ongoing)*

Roles - Prototyping, Researcher

Goals - Craft a rich, compelling experience in which players explore extreme environments in search of extreme life forms, using scientific tools to make profound discoveries.

Michael Sweet

Composer, Sound Designer, Educator

Mobile (b) (6)

SUMMARY BIO

Over the past two decades in music, Michael is an accomplished audio composer and has been the audio director for more than 100 award winning video games. His work can be heard on the X-Box 360 logo and on award winning games from Cartoon Network, Sesame Workshop, PlayFirst, iWin, Gamelab, Shockwave, RealArcade, Pogo, Microsoft, Lego, AOL, and MTV, among others. He has won the Best Audio Award at the Independent Games Festival, the BDA Promax Gold Award for Best Sound Design, and has been nominated four Game Audio Network Guild (GANG) awards.

Over the last 6 years, Michael Sweet has led the development of video game scoring curriculum at Berklee College of Music. He has developed curriculum for nine classes that teach the art of video game composition, and helped establish the Minor in Video Game Scoring at the college. Michael is also a contributor to organizations that pioneer the advancement of standards for interactive music and sound design including the IASIG and GANG. As a teacher and communicator Michael has lectured at many universities and prominent conferences in interactive music and sound design including NYU, SVA, Game Developers Conference, Audio Engineering Society, and Parsons The New School of Design.

Before Berklee, Michael was the co-founder and creative director of Audiobrain, a company dedicated to breaking boundaries with interactive sound design and music. Michael's creative vision for 7 years had led Audiobrain to develop many emotionally immersive award-winning experiences for games (i.e. Xbox 360, Diner Dash), broadcast (i.e. NBC Sports and Olympics) and sonic branding. Audiobrain continues to be successful, and Michael consults on many of their projects. In broadcast Michael's work can be heard in many network identities including HBO, VH1, Comedy Central, CNN, General Motors, and NASDAQ. In addition Michael's digital artistry has led him to ground breaking work in the creation of interactive scores for digital design installations that have traveled the world.

PROFESSIONAL EXPERIENCE

- | | |
|----------------|--|
| 2008 – Present | Berklee College of Music
Artistic Director Video Game Scoring, Film Scoring Department
Directed and developed the video game scoring curriculum through the Film Scoring department. Taught the next generation of video game composers. Established collaborative relationships for video game classes with USC, SCAD, MIT, SPSU, Emerson and Georgia Tech. Frequent guest on NPR and other news organizations, and interviewed about his expertise about education of music in video games. Helped bring many prominent video game composers to Berklee. Persuaded Sony and others to donate hardware and software to the college. |
| 2001 – 2008 | Audiobrain LLC, New York City
Co-Founder, Creative Director
Directed and led team of composers to create award winning music and sound design for games, Internet, interactive applications and television. In addition, coordinated business development, technology and production internship programs. |
| 1997 - 2001 | Blister Media LLC, New York City
Co-Founder, Creative Director
Duties Included: Music Production, Composition, Sound Design, Business Development, Technology Development
Wrote and directed award winning music and sound design for the Internet, games, film and television. Oversaw development of software for delivery of music and sound design. Projects included many games for Shockwave.com, SesameWorkshop, Lego, and award winning HBO Zone broadcast packaging

Projects Included: HBO, Sesame Workshop, NASDAQ Marketplace, Kodak, Shockwave, CNN, TCI, VH1, American Express, Millennium Dome |
| 1990 - 1996 | Elias Associates, New York City
Last Position Held: Creative Director for New Media
Elias earned 'Best Music Production House' three times voted by Backstage Shoot Magazine while employed there. Composed and directed music and sound design for the interactive division for award winning games, CD-ROMs and Internet applications. Duties also included |

recording and mixing commercials, album work, commercial and film recording and mix engineer.

PROFESSIONAL SPEAKING

- Multiple 2005-2014 Game Designer's Conference, San Francisco
2014 Panel: IASIG Game Audio Legends Panel
2014 Session: Teaching Games with Games: 7 Exercises in Play
2013 Roundtable: Game Audio Education
2011 Session: Game Audio Education: A Case Study
2011 Session: Collaboration Across Disciplines and Programs Panel
2005 Session: Audio Innovation in Downloadable Games
- Multiple 2005-2013 Audio Engineering Society Conference (AES), London, New York, San Francisco
2013 - Game Audio: A Primer and Educational Resources
2013 - Professional Game Audio—Opportunities In The Mobile Space
2012, 2010 - Careers in Game Audio Panel
2011 – Balancing Foundational Aesthetic and Technical Education in Game Audio
2011, 2009 - Education in Game Audio Panel
2005 - State of the Art in Game Sound Panelist
- 2004-2011 IASIG Annual GDC Meeting
Introduced and Presented the Interactive Audio Education Developments as Co-Chair
- 2008, 2007 Berklee College of Music
Guest lectured in Game Audio – Adaptive techniques, Toolsets, and Working with Game Developers
- 2006, 2004 Film Music Network, NYC
Music for Video Games Panelist
- 2005 Montreal Game Summit
Session: Innovation in Game Music and Sound, Where is it?
- 2004 International Game Developers Association / Siggraph, NYC
Debate Panel: "Hi Rez Vs. Lo Rez"

BOOKS, ARTICLES, AND PUBLICATIONS

- 2014, Writing Interactive Music for Video Games: A Composer's Guide by Michael Sweet, Expected Release 10/6/14. Addison-Wesley Professional, ISBN: 0321961587
- 2014, Game Design Workshop: A Playcentric Approach to Creating Innovative Games, Third Edition by Tracy Fullerton ISBN: 1482217163 Sidebar "Using Audio as a Game Feedback Device" - pp. 369-371 by Michael Sweet
- 2006-2012, IASIG Game Audio Education Initiative, Co-Chair (2004-2009) and Contributor
- 2002, IASIG Web Audio Report, Contributor
- 2000, Boards Magazine, The 10 Most Common Misconceptions About Audio for the Internet

AWARDS AND HONORS

- 2005 GANG Finalist Best Score for Edutainment Title for Cartoon Network Teen Titans
2004 GANG Finalist Best Interactive Score for Sveerz
2004 GANG Finalist Most Innovative Use of Sound for Sveerz
2004 GANG Finalist Best Score for Edutainment Title for Lego Worldbuilder
2002 RealArcade Best Music for a Game for WordUP
2001 GDC Best Audio Finalist For Shockwave's BLiX
2000 Game Designers Conference Independent Game Festivals Best Audio: For BLiX
1998 NY Festivals Gold Award For the Partnership for a Drug Free America Radio Campaign

Curriculum Vitae

Alexander Mathew

(b) (6)

Education

University of Southern California, Interactive Media and Games Division – Master of Fine Arts in Interactive Media | August 2012 to May 2015 (*Anticipated*)

University of California, Santa Cruz – Bachelor of Science in Computer Science: Computer Game Design | September 2007 to June 2011

Tohoku University – Education Abroad Program | March 2005 to August 2007

Selected Work and Experience

Designer, *Walden, a game* | June 2013 to Present

A digital game adaptation of Henry David Thoreau's *Walden*. Designed and implemented animal pathing and distributed animals throughout the world.

Puzzle and Game Designer, *RIME* | May 2014 to Present

Designed and prototyped puzzles for *RIME*, an upcoming Playstation 4 game, with Spain-based developer Tequila Works.

Designer, *The Observatory* | August 2013 to May 2014

A game about exploration, discovery, environmental narrative, and flight. Designed narrative, mechanical, and environmental elements and translated the game into Japanese.

Designer and Programmer, *Underneath* | September 2013 to December 2013

A procedurally modelled cave exploration game. Designed world, ran playtests, implemented special event system, created art, and created editor tools.

Designer and Programmer, *Homework From Another World* | June 2013 to June 2013

An Oculus Rift based stealth game. Designed and implemented movement mechanics and the AI system.

Teacher, Japanese Exchange and Teaching | August 2011 to July 2012

Taught English on a small island in southern Japan, as well as taught Game Design and Parkour classes.

Creative Director, *Subsist* | August 2010 to May 2011

A game about hunger and morality in a fictional third-world country. Led a team of nine as part of a senior capstone project.

Design Intern, Namco Networks America, Inc. | June 2009 to September 2009

Worked with a team to design a number of unannounced game. Created and prototyped the ingame interface for *Puzzle Quest 2* for iOS.

Undergraduate Researcher, CAIN | September 2008 to June 2009

Developed a Character Affinity and Intentions Network in ABL working under Anne Sullivan and Michael Mateas.

Undergraduate Researcher, Ishiguro Labs | September 2008 to June 2009

Assisted with the design and creation of multiple soft bodied robots and robotic systems of decentralized control working under Koichi Takeda and Akio Ishiguro.

Talks and Panels

"Games and Learning: Scoring Points for Art and Science", STEM and Beyond, USC, April 2014.

"Emotion of Videogames", Edinburgh Game Symposium 2013.

"Game Jams!", Kyushu University, January 2013.

"CAIN and ABL", UC Santa Cruz Undergraduate Research Symposium, May 2010.

Honors and Awards

Selected to present *Homework From Another World* at E3 through IndieCade's Oculus Rift Showcase.

"Best Fictional World" award for *Subsist* at The Sammys 2011.

Curriculum Vitae

Logan Ver Hoef

(b) (6)



Education

University of Southern California, Interactive Media Division – Master of Fine Arts in Interactive Media | August 2011 to May 2014

University of California, Santa Cruz – Bachelor of Science in Computer Science: Computer Game Design | Jan 2008 to April 2010

American River College | August 2005 to December 2007

Selected Work and Experience

Designer, *Walden, a game* | January 2012 to Present

A digital game adaptation of Henry David Thoreau's *Walden*. Designed resource distribution of the game world, world narrative, and other miscellaneous design. Implemented environmental systems and effects.

Director, *The Observatory* | August 2013 to May 2014

A game about exploration, discovery, environmental narrative, and flight. Led team of ten as a director, designed world and narrative, implemented gameplay, environment, and audio, and created 3D art assets.

Feel Engineering Intern, thatgamecompany, LLC | May 2013 to August 2014

Designed mechanics, implemented interactions, ran playtests, and built levels for an unannounced game.

Designer and Programmer, *Deep Blue Sky* | September 2012 to December 2012

An open-world game about the sensation of winged flight. Designed world, ran playtests, implemented flight physics and third person camera, and created editor tools.

Designer and Programmer, *Grasshopper* | January 2012 to May 2012

A platformer about zen and the eightfold path. Designed theme, mechanics, and levels. Programmed platforming mechanics and core game logic.

Engineering Intern, OnLive, Inc. | June 2009 to September 2009

Development and implementation of OnLive's ODK, the platform SDK allowing games to integrate into the OnLive Game Service. Included implementation of APIs, development of game samples, documentation, builds, and debugging.

Creative Director and General Programming, *Project Villain* | September 2008 to June 2009

A video game about the theatricality of supervillainy and the battle for attention and notoriety. Created and prototyped idea, wrote design documents, ran playtests, and led project design. Implemented major subsystems including character navigation, collision resolution, and core game logic.

Design, Programming, and 2D/3D Artist, *The Factory* | January 2008 to September 2008

A puzzle game where you help a robot escape a derelict factory by manipulating the environment. Created for a game design course and then later published on Xbox LIVE Community Games. Co-designed concept, character, mechanics, and level design; wrote collision detection, collision resolution, and character AI; produced 2D and 3D art assets for game.

Exhibitions and Honors

Selected Exhibitor, *Deep Blue Sky* | Edinburgh Game Symposium 2013

Selected to demo game *Deep Blue Sky* at music-focused symposium.

Work samples for Game Innovation Lab

The Game Innovation Lab is the premier center for experimental game design and research at USC. Founded in 2004, the lab is directed by Professor Tracy Fullerton. The mission of the lab is to pursue experimental design of games in cultural realms including art, science, politics and learning. The international success of games that have emerged from the lab, including *Cloud*, *fIOW*, *Darfur is Dying*, *The Cat and the Coup* and *The Night Journey*, have made it a hub for indie and experimental games culture in Los Angeles. Our Playthink Salons attract speakers and participants from across the city and across disciplinary boundaries.

Associated faculty include award winning game designers Richard Lemarchand (*Uncharted* series) and Peter Brinson (*Waco*, *The Cat and the Coup*) as well as pioneering games user researcher Dennis Wixon. Research staff include up and coming game designers Elizabeth Swensen and Sean Bouchard, as well as the talented digital media artists Kurosh ValaNejad, Todd Furmanski and Lucas Peterson. Graduate student researchers in the lab have gone on to stellar careers at Microsoft, Electronic Arts, Zynga and more.

The lab has a strong history of collaboration with cross-disciplinary experts in many fields, including education and technology. Our commitment to an iterative, participatory process brings users, stakeholders and designers into constant dialogue. Current projects, such as the *Collegeology* suite of games *Walden, a game*, and the *Chrono Cards* History games are supported by Microsoft Research, The Gates Foundation, The National Endowment for the Arts, The Gilbert Foundation, and The Department of Education.

Lab Project Reel:

https://www.dropbox.com/s/a74m5guh56ii8v/GILsampler_2min_1280.mov

Individual Project Trailers:

The Night Journey: https://www.youtube.com/watch?v=zL1_twK2NDc

Cloud: https://www.youtube.com/watch?v=qAIN2_ycM4Y

FutureBound: https://www.youtube.com/watch?v=MnzOM0lke_M

Graduate Strike Force: <https://www.youtube.com/watch?v=u1kL1OAK2B8>

Reality Ends Here:

<https://www.youtube.com/watch?v=dN0LOYMa39s&feature=youtu.be>



NATIONAL ENDOWMENT FOR THE

Humanities

Budget Form

OMB No 3136-0134

Expires 7/31/2015

Applicant Institution: USC Game Innovation Lab

Project Director: Tracy Fullerton

Project Grant Period: 01/01/2015 through 12/31/2015

[click for Budget Instructions](#)

	Computational Details/Notes	(notes)	Year 1	(notes)	Year 2	(notes)	Year 3	Project Total
			01/01/2015- 12/31/2015		01/01/2016- 6/31/2016		01/01/20__- 12/31/20__	
1. Salaries & Wages								
Todd Furmanski		25.0%	\$ [REDACTED]	0.0%	\$0	%		\$ [REDACTED]
Kurosh ValaNejad		22.0%	\$ [REDACTED]	0.0%	\$0	%		\$ [REDACTED]
Lucas Peterson		25.0%	\$ [REDACTED]	0.0%	\$0	%		\$ [REDACTED]
						%		\$0
		%		%		%		\$0
		%		%		%		\$0
2. Fringe Benefits								
		32.8%	\$ [REDACTED]	32.8%	\$0			\$ [REDACTED]
								\$0
3. Consultant Fees								
Honorariums for advisors		5@500	\$2,500					\$2,500
4. Travel								
Advisory mtg flight/hotel		1 person	\$ [REDACTED]					\$ [REDACTED]
								\$0
5. Supplies & Materials								
Website hosting			\$500					\$500
6. Services								
Michael Sweet -audio/composer			\$ [REDACTED]					\$ [REDACTED]
7. Other Costs								
Software			\$4,000					\$4,000

8. Total Direct Costs	Per Year		\$83,334		\$0	\$0	\$83,334
9. Total Indirect Costs							
Federal Indirect Rate (cost shared)	Jan 2015 - June 2015	44.5%	\$18,542		\$0	\$0	\$18,542
Federal Indirect Rate (cost shared)	July 2015 - Dec 2016	45.0%	\$18,750	45.0%	\$0		\$18,750
Actual Indirect Cost		20.0%	\$16,667	20.0%	\$0		\$16,667
10. Total Project Costs	(Direct and Indirect costs for entire project)						\$137,292
11. Project Funding	a. Requested from NEH <div> Outright: \$100,000 Federal Matching Funds: \$0 TOTAL REQUESTED FROM NEH: \$100,000 </div> b. Cost Sharing <div> Applicant's Contributions: \$0 Cost shared indirects: \$37,292 Third-Party Contributions: \$0 Project Income: \$0 Other Federal Agencies: \$0 TOTAL COST SHARING: \$37,292 </div>						
12. Total Project Funding							\$137,292

Total Project Costs must be equal to Total Project Funding ----> (\$137,292 = \$137,292 ?)
Third-Party Contributions must be
greater than or equal to Requested Federal Matching Funds ----> (\$0 ≥ \$0 ?)



DEPARTMENT OF HEALTH & HUMAN SERVICES

Program Support Center
Financial Management Service
Division of Cost Allocation

DCA Western Field Office
80 7th Street, Suite 4-800
San Francisco, CA 94103

JUL 09 2012

Robert Johnson
Assoc. Senior V. P., Financial & Business Services
University of Southern California
University Park
Los Angeles, CA 90089-0011

Dear Mr. Johnson:

A copy of an indirect cost/fringe benefits Negotiation Agreement is attached. This Agreement reflects an understanding reached between your organization and a member of my staff concerning the rate(s) that may be used to support your claim for indirect costs on grants and contracts with the Federal Government. Please have the Agreement signed by a duly authorized representative of your organization and return it to me BY FAX, retaining the copy for your files. We will reproduce and distribute the Agreement to the appropriate awarding organizations of the Federal Government for their use.

An indirect cost and fringe benefits rate proposal together with supporting information are required to substantiate your claim for costs under grants and contracts awarded by the Federal Government. Thus, your next indirect cost proposal based on your fiscal year ending 06/30/14 is due in our office by 12/31/15, and your next fringe benefits proposal based on your fiscal year ending 6/30/12 is due by 12/31/12.

Sincerely,

A handwritten signature in black ink, appearing to read "Arif Karim", is written over a horizontal line.

Arif Karim, Director
Division of Cost Allocation

Attachments

PLEASE SIGN AND RETURN THE NEGOTIATION AGREEMENT BY FAX

COLLEGES AND UNIVERSITIES RATE AGREEMENT

EIN:

DATE: 06/26/2012

ORGANIZATION:

FILING REF.: The preceding
agreement was dated
08/19/2011University of Southern California
University Park
Los Angeles, CA 90089-0011

The rates approved in this agreement are for use on grants, contracts and other agreements with the Federal Government, subject to the conditions in Section III.

SECTION I: INDIRECT COST RATES

RATE TYPES: FIXED FINAL PROV. (PROVISIONAL) PRED. (PREDETERMINED)

EFFECTIVE PERIOD

<u>TYPE</u>	<u>FROM</u>	<u>TO</u>	<u>RATE(%)</u>	<u>LOCATION</u>	<u>APPLICABLE TO</u>
PRED.	07/01/2011	06/30/2012	63.00	On-Campus	Organized Res.
PRED.	07/01/2012	06/30/2014	64.00	On-Campus	Organized Res.
PRED.	07/01/2014	06/30/2015	64.50	On-Campus	Organized Res.
PRED.	07/01/2015	06/30/2016	65.00	On-Campus	Organized Res.
PRED.	07/01/2011	06/30/2016	26.00	Off-Campus	Organized Res.
PRED.	07/01/2011	06/30/2016	45.00	On-Campus	Instruction
PRED.	07/01/2011	06/30/2016	26.00	Off-Campus	Instruction
PRED.	07/01/2011	06/30/2016	30.50	On-Campus	Other Spon Act
PRED.	07/01/2011	06/30/2016	26.00	Off-Campus	Other Spon Act
PRED.	07/01/2011	06/30/2016	26.00	Off-Campus	Info Sci Inst
PRED.	07/01/2011	06/30/2016	26.00	Off-Campus	Ctr Creative Tech

<u>TYPE</u>	<u>FROM</u>	<u>TO</u>	<u>RATE (%)</u>	<u>LOCATION</u>	<u>APPLICABLE TO</u>
PROV.	07/01/2016	Until Amended		(1)	

*BASE

(1) Use same rates and conditions as those cited for fiscal year ending June 30, 20116

*BASE: Modified total direct costs, consisting of all salaries and wages, fringe benefits, materials, supplies, services, travel and subgrants and subcontracts up to the first \$25,000 of each subgrant or subcontract (regardless of the periods covered by the subgrant or subcontract). Modified total direct costs shall exclude equipment, capital expenditures, charges for patient care, tuition remission, rental costs of off-site facilities, scholarships, and fellowships as well as the portion of each subgrant and subcontract in excess of \$25,000.

The off-campus base shall exclude facilities rental costs and operations and maintenance expenses from the direct cost items of materials and supplies and services.

ORGANIZATION: University of Southern California

AGREEMENT DATE: 06/26/2012

SECTION I: FRINGE BENEFIT RATES**

<u>TYPE</u>	<u>FROM</u>	<u>TO</u>	<u>RATE(%)</u>	<u>LOCATION</u>	<u>APPLICABLE TO</u>
PRED.	7/1/2012	6/30/2014	32.80 (1)	All	All Employees
FIXED	7/1/2012	6/30/2013	6.00 (2)	All	Info Sci Inst
FIXED	7/1/2012	6/30/2013	6.60 (2)	All	Ctr Creative Tech
FIXED	7/1/2012	6/30/2014	22.50 (3)	All	Post Docs

**** DESCRIPTION OF FRINGE BENEFITS RATE BASE:**

(1) Direct salaries and wages including vacation, holiday, and sick pay of faculty and staff personnel only. Rate does not apply to student employees, Research Assistants or Teaching Assistants.

(2) Direct salaries and wages excluding all fringe benefits.

(3) Direct salaries and wages including vacation, holiday and sick pay. This rate is applicable for post docs who received their hire notification after 7/1/12.

ORGANIZATION: University of Southern California
AGREEMENT DATE: 06/26/2012

SECTION II: SPECIAL REMARKS

TREATMENT OF FRINGE BENEFITS:

This organization uses a fringe benefit rate which is applied to salaries and wages for both budgeting and charging purposes for Federal projects. The following fringe benefits are included in the fringe benefit rate: SOCIAL SECURITY, RETIREMENT PLANS, HEALTH AND DENTAL, UNEMPLOYMENT, WORKERS COMPENSATION, SABBATICAL LEAVE, TUITION REMISSION, LIFE INSURANCE, AND MISCELLANEOUS EMPLOYEES SERVICES. Beginning 07/01/99, the fringe benefit rate includes only employee tuition remission. A separate rate is also applied for the Information sciences Institute and the Centers for Creative Technologies for vacation and personal days off.

TREATMENT OF PAID ABSENCES

Vacation, holiday, sick leave pay and other paid absences are included in salaries and wages and are claimed on grants, contracts and other agreements as part of the normal cost for salaries and wages. Separate claims for the costs of these paid absences are not made except for paid absences that have been earned but not taken when an individual separates from the university prior to the completion of the grant, contract or other agreement.

The cost of vacation and personal days off are included in the Information Sciences Institute and the Centers for Creative Technologies fringe benefit rates. Federal projects must be credited for salaries and wages for periods when employees are on vacation or personal days off. Holiday, sick leave pay, and other paid absences are included in salaries and wages and are charged to Federal projects as part of the normal charge for salaries and wages.

DEFINITION OF OFF-CAMPUS: A project is considered off-campus if the activity is conducted at locations other than in University owned or operated facilities and indirect costs associated with physical plant and library are not considered applicable to the project.

Projects conducted partially on-campus and partially off-campus: Actual costs will be apportioned between on-campus and off-campus sites consistent with where the work is performed and each portion will bear the appropriate on-campus or off-campus rate.

DEFINITION OF EQUIPMENT

Equipment is defined as tangible nonexpendable personal property having a useful life of more than one year and an acquisition cost of \$5,000 or more per unit.

The rates relating to the Information Sciences Institute (ISI) and Centers for Creative Technologies (CCT) are effective for the periods identified in the negotiation agreement provided that the ISI and CCT funding or costing mechanisms now in place remain unchanged.

This rate agreement updates the fringe benefits only.

ORGANIZATION: University of Southern California

AGREEMENT DATE: 06/26/2012

SECTION III: GENERAL**A. LIMITATIONS:**

The rates in this Agreement are subject to any statutory or administrative limitations and apply to a given grant, contract or other agreement only to the extent that funds are available. Acceptance of the rates is subject to the following conditions: (1) Only costs incurred by the organization were included in its facilities and administrative cost pools as finally accepted; such costs are legal obligations of the organization and are allowable under the governing cost principles; (2) The same costs that have been treated as facilities and administrative costs are not claimed as direct costs; (3) Similar types of costs have been recorded consistent accounting treatment; and (4) The information provided by the organization which was used to establish the rates is not later found to be materially incomplete or inaccurate by the Federal Government. In such situations the rate(s) would be subject to renegotiation at the discretion of the Federal Government.

B. ACCOUNTING CHANGES:

This Agreement is based on the accounting system purported by the organization to be in effect during the Agreement period. Changes to the method of accounting for costs which affect the amount of reimbursement resulting from the use of this Agreement require prior approval of the authorized representative of the cognizant agency. Such changes include, but are not limited to, changes in the charging of a particular type of cost from facilities and administrative to direct. Failure to obtain approval may result in cost disallowances.

C. FIXED RATE:

If a fixed rate is in this Agreement, it is based on an estimate of the costs for the period covered by the rate. When the actual costs for this period are determined, an adjustment will be made to a rate of a future year(s) to compensate for the difference between the costs used to establish the fixed rate and actual costs.

D. USE BY OTHER FEDERAL AGENCIES:

The rates in this Agreement were approved in accordance with the authority in Office of Management and Budget Circular A-21 Circular, and should be applied to grants, contracts and other agreements covered by this Circular, subject to any limitations in A above. The organization may provide copies of the Agreement to other Federal Agencies to give them early notification of the Agreement.

E. OTHER:

If any Federal contract, grant or other agreement is reimbursing facilities and administrative costs by a means other than the approved rate(s) in this Agreement, the organization should (1) credit such costs to the affected programs, and (2) apply the approved rate(s) to the appropriate base to identify the proper amount of facilities and administrative costs allocable to these programs.

BY THE INSTITUTION:

University of Southern California

(INSTITUTION)

(SIGNATURE)

Robert Abeles

(NAME)

Senior Vice President, Finance and Chief Financial Officer

(TITLE)

7/9/2012

(DATE)

ON BEHALF OF THE FEDERAL GOVERNMENT:

DEPARTMENT OF HEALTH AND HUMAN SERVICES

(AGENCY)

(SIGNATURE)

Arif Karim

(NAME)

Director, Western Field Office

(TITLE)

6/26/2012

(DATE) 0218

HHS REPRESENTATIVE:

Patrick Smith

Telephone:

(415) 437-7820

Walden, a game: images and other assets

Walden walkthrough video: <http://youtu.be/Y7L7fgZoW4k>

Screenshots of the game (work in progress):



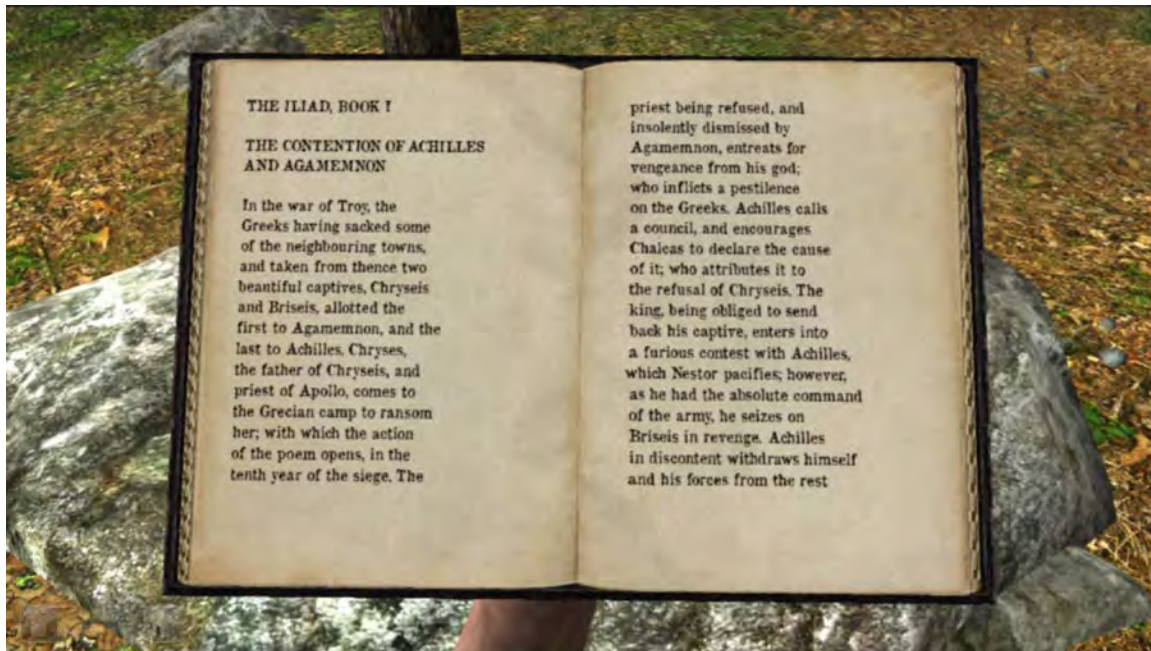














Dear Henry,

Congratulations on the start of your grand adventure!

You have told me yourself that it is difficult to begin anything without borrowing and I know that you can use an axe, so have left one for you on my front step.

Do come by anytime to fetch it. Perhaps we can discuss the new issue of the Dial while you are here.

Your friend,

R.W. Emerson

Design Document for Walden, a game

Updated June 8, 2014



Figure 1 Survey of Walden Pond by Henry David Thoreau.

Executive Summary:

Walden, a game, simulates the experiment in living made by Henry David Thoreau at Walden Pond in 1845-47, allowing players to walk in his virtual footsteps, attend to the tasks of living a self-reliant existence, discover in the beauty of a virtual landscape the ideas and writings of this unique philosopher, and cultivate through game play their own thoughts and responses to the concepts discovered there. The game takes place in a real-time 3D environment, which replicates the geography of Walden Pond and the woods in which Thoreau made his home over the seasonal changes of a year. In the game, you play Thoreau, working to find the balance between pursuing the basic necessities of life and searching out more ephemeral, spiritual experiences and connections.

The goal of the project is to bring to life the philosophy, sensibilities and historical context of Thoreau's experiment in self-reliant living as an interactive experience. This will speak to a broad audience of players who may or may not have previous knowledge of Thoreau's work, but who may find this piece an introduction to the author and his ideas. For example, the game can introduce students in high school or college who are reading Thoreau for the first time to Thoreau's experiment in self-reliant living. The piece will also speak to those already deeply interested in Thoreau, as it situates his writings in a new context, one that can be explored in a reflective and interactive setting. By taking on Thoreau's experiment ourselves, even in a virtual sense, players will find a better understanding of his writings, even if they are already deeply immersed in them.

The humanities content of the game is centered on the writings of Thoreau, specifically "Walden" itself, but not exclusively. The game will contain over 350 textual references to "Walden," Thoreau's journals, and his other writings. These will be direct quotes found in

various aspects of the game; from the voice over that forms the narrative through line, to the annotations on each of the various trees, plants, animals, objects and people that fill the woods and the town. As these are found or experienced, they will fill the player's own game journal with a procedural version of "Walden." The experience is intended to communicate the themes of the book in a deeply meaningful way, and with great rigor as to its textual roots. In this way, we feel that the game has potential audiences that range from players of experimental games, to students of history and literature, to scholars of Thoreau, Concord history and Transcendentalism.

The prototype is being created in the Unity3D game engine and will initially be available for PC and Mac users. We plan to subsequently port it to PlayStation 4 and/or Xbox One, also using the Unity3D engine and, concurrently with this port to consoles, adapt it for use with the Virtual Reality headset, Oculus Rift. The distribution channels for the game will be our own Game Innovation Lab web site, Steam, the store at Walden Pond and other relevant gift stores. Additionally, we have been contacted by a number of curators who hope to include it in upcoming game art exhibits. We see the Oculus Rift VR version being especially suited to these environments.

Game Overview:

When the game begins, it is summer of 1845, and you enter in a clearing of wildflowers behind the frame of Thoreau's unfinished cabin. As you explore, you see a glimmer of an arrowhead ahead. Upon picking up the artifact, the kind Thoreau was famous for finding in his native Concord, you hear his voice explaining, in his own words, why he has come to the woods and how he intends to live there. His experiment is now your experiment. You can choose to finish his shelter, clearing and farming the bean field behind the cabin, and get to work providing yourself with the basic necessities of life, or, you can wander the woods in search of inspiration.



Figure 2 Unfinished cabin at start of game.

You are not alone in the woods, as you soon find out. You are surrounded by wildlife, Thoreau's "brute neighbors," who, if followed, will lead you to find special areas and rewards. The woods are filled, not only with more arrowheads of Thoreau's thoughts, but also with the library of ideas that he was inspired by while there. You may even stumble on Emerson taking a walk and musing upon nature. There are the faraway sounds of society that were the focal point of

Thoreau's many critiques of his fellow townspeople – the wagons on the road, the train whistle, the incessant chopping of trees, culling away the very nature he was seeking to understand. The game activities are based in Thoreau's exacting descriptions of his time at Walden and break ground in terms of how a game can express ideas through its mechanics. Environmental author Bill McKibben calls Thoreau "a Buddha with a receipt from the hardware store" and the game models these twin impulses of the philosophical and the practical in its structure. Players must build their cabin to protect them from the elements, but they are also encouraged to wander the woods during a spring rainstorm. The meaning of a game lies between what players must do and what they can do. In *Walden, a game*, this dialectic forms a place of discovery that will allow players to find their own answer to Thoreau's primary question: "How much is enough?"

During the summer, it is easy to live off of the land, picking berries, fishing, chopping wood, etc. But if a player does not think ahead, the winter will become a trying time. As the seasons progress, so hopefully, does the player's ability to balance these basic needs with the urge to explore and play in the woods, chasing the rabbits, squirrels, or partridges, or following a blue jay along its path. The various animals will lead players to "solitude" spots, places of great natural beauty, and "reading rocks," places where the texts that Thoreau himself was inspired by, can be found and browsed. Players can row across the Pond to Emerson's Cliff and take in the view that Thoreau found so inspiring, or they can walk along the Concord road to the town itself. Here, the player can visit the Thoreau family home and pick up some mended laundry, possibly partake of a homemade pie from the windowsill. In town, there is a general store, and, if the player has money (from odd jobs that are available), they can also purchase supplies that they may be short on. There are many expensive items here, however, and once a player gets into the habit of buying what they need, rather than making or finding things in the woods, there is a danger here. In the post office, letters can be picked up from correspondents including Louis Agassiz, for whom Thoreau provided unique specimens of the wildlife at Walden Pond. Also, letters from friends, family, and other poets and authors provide an ongoing narrative of life in America at this time. It is even possible that the player may find themselves in the town jail cell, should they choose to protest the collection of taxes.



Figure 3 Attending to "necessaries of life." (Temporary interface graphics)

The seasons of the game pass in a loose narrative, as they do in the book, following an arc of discovery from summer through fall and the deep solitude of winter, culminating in the coming of spring and the reaffirmation of faith in humankind and nature alike. At the end of the game year, the player is invited to continue on in an open play mode. As Thoreau says at the end of his narrative, “Thus was my first year’s life in the woods completed; and the second was similar to it.”

The experience of playing *Walden*, a game is one that will embody and express the themes of Thoreau’s work, bringing it to life in the game medium in a such a way as never has been possible before. The game will also offer a new lens into the possibility of video games as an expressive form, advancing our understanding of their mechanics and narrative form. I ask you to support this effort, which breaks new ground, even as it revalues and explores the rich terrain of inner life at Walden Pond that Thoreau so ably preserved for us.

The following sections describe how we plan execute on these goals in specific aspects of the game design.

POV:

The game is experienced from the perspective of author Henry David Thoreau, in a first person view with voice over drawn from Thoreau’s writings – *Walden*, his journal, and several other sources. The following is a character brief intended for inspiration to the game designers and to the actor who will provide Thoreau’s voice in the game.

Henry Thoreau was 28 years old when he went down to Walden woods, only a few miles from his hometown of Concord, Mass, and built a small cabin in which to live. This was an experiment he’d been thinking about for some time; and, unlike many of the other experiments in social living going on at the time, this was a somewhat solitary venture.

Until he started keeping a journal in 1837, there wasn’t much remarkable about Henry Thoreau. He was born in 1817 in Concord, Massachusetts, where he would spend most of his life. His family made pencils, which given Thoreau’s eventual career as a writer, seems somewhat appropriate. He attended Harvard and was a good, but not brilliant student. After graduating he returned home, got a job as a teacher, which he promptly quit because he refused to beat the students. And at that point, he embarked on a career of walking, thinking and getting to know the area of Concord better than anyone has likely ever done. Supported by a series of odd jobs, such as building fences and surveying land, Thoreau was probably best known to his neighbors as “that fool who burned down the woods” because of an unfortunate camping accident. In many ways, Thoreau was the kind of sensitive slacker we’d call “emo” or “hippie” today.

In 1837, though, shortly after befriending Ralph Waldo Emerson, he began keeping a journal – apparently at Emerson’s provocation. This lifelong work included all of his observations about Concord, his environment, the details of the wildlife, the terrain, the ponds, the people and animals of the area. These observations would form the basis for his published writings, including *Walden*, a life in the Woods. Thoreau’s observations are written in a tone of dry humor, he loved word play and double *entendres* and used them often in his writing. Early on, he fancied himself a poet, though we mostly know him for his writings on nature. Far from a

stodgy icon of American literature, this is a somewhat romantic young person prone to seclusion and personal epiphany.

In *Walden*, a game, the player should get a sense of Thoreau's ongoing inner monologue – his introspection, his joyfulness in the adventure he set for himself, his sense of exploration and discovery, and the mindfulness of life that made his such an exemplary one.



Figure 4 Inspecting an arrowhead.

There will be over 350 direct textual quotes from Thoreau included the game. Here are examples of how some of those will be discovered as text when inspecting trees, animals and other objects in the world. Two hundred and fifty of these quotes will be experience as voice over during special “arrowhead moments” that the player may discover. When an arrowhead is found, it cues a special media sequence that may include animations and environmental effects to bring out the meaning of the quote. The full list of selected quotes may be altered while working with our advisory team, but the number of such opportunities will remain essential stable.

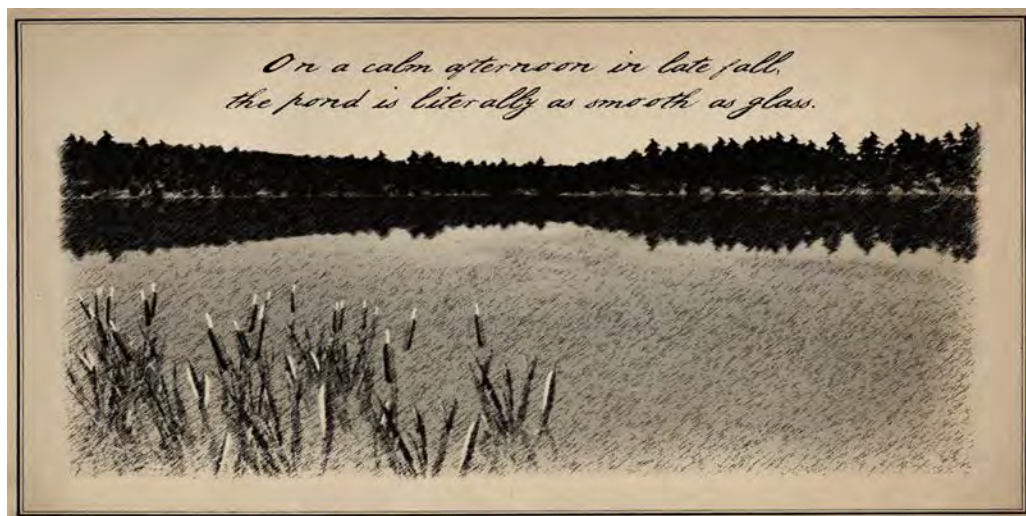


Figure 5 Late fall season card. Each season is introduced with a quote.

A well-known actor, who has agreed to do the performance with a SAG waiver for his fees, will play the voice of Thoreau. The name of this person is not yet announced, but it is assured that the level of professional quality will give a sense of authenticity and depth to the first person experience of the game. This actor has a real interest in the work of Thoreau, and in fact, studied Eastern Religions at Columbia, reading the same texts that Thoreau himself was inspired by during his time at the Pond.

Player agency:

The underlying mechanics of the game are a “survival” simulation based in Thoreau’s writing. As he states in Economy, the first chapter of “Walden,” “the necessities of life for man in this climate may, accurately enough, be distributed under the several heads of Food, Shelter, Clothing, and Fuel; for not till we have secured these are we prepared to entertain the true problems of life with freedom and a prospect of success.” Using this as a starting point, we have created a game simulation that allows the player to care take these “necessaries of life” in a number of ways. They can fill their food stores in the woods by picking berries, finding other edible plants, growing beans or fishing. Or, they can go to the general store in Concord and purchase food stores – if they have the money. They can find fuel in the driftwood along the shore of the pond, chop wood, or again, visit Concord to purchase fuel in the store. There are similar options for all of these basic needs, each of which has their own pros and cons. For example, finding food might be easy at first, but as the months progress, and winter approaches, berries won’t be as plentiful and this becomes more of a challenge. Similarly, in the winter, more fuel is required to maintain what Thoreau calls “the vital heat.” We have translated this concept into game “energy,” as can be seen from the mechanic diagram below. Energy will revive over time, but if the player uses too much too fast, they may faint from over exertion.

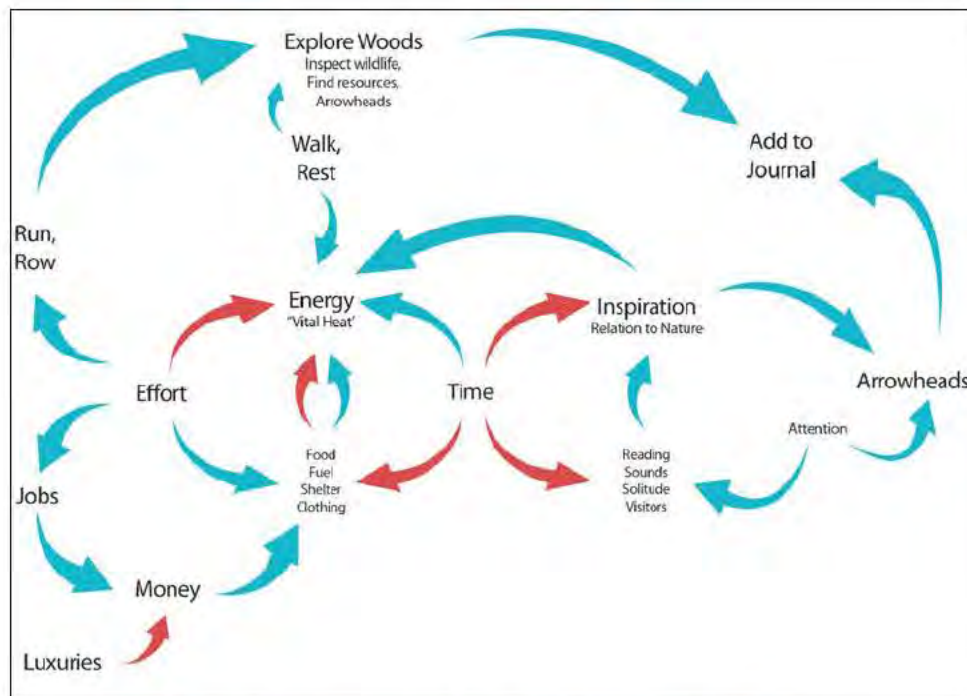


Figure 6 Game resource chart - "vital heat" vs. inspiration.

These basic necessities of life are countered in the game by the more ephemeral needs fulfilled by activities that Thoreau describes throughout the rest of the book: reading, listening to the sounds of the woods and of society just off his horizon, enjoying solitude as well as the company of a few visitors and his “brute neighbors,” the various animals sharing his sojourn at the pond. These activities all add to what we call “inspiration” in the game, or the sense of self as connected to the natural world, and the world of ideas. In *Walden*, a game, unlike other videogames, maintaining this sense of connection to the world is as important as maintaining ones energy levels. Players will need to rethink their strategy of play in order to fully realize Thoreau’s experiment.

The core mechanics of the game are:

- Exploration of the woods (walking, running, rowing boat, skating)
- Finding/growing/buying food
- Finding/cutting/buying fuel
- Repairing/finding/buying clothes
- Building/repairing/upgrading shelter
- Listening to sounds of woods, life in the distance
- Enjoying solitude at stone cairns in the remote sections of the woods
- Reading sections of books scattered throughout the woods
- Interacting with animals and other visitors, such as Ralph Waldo Emerson

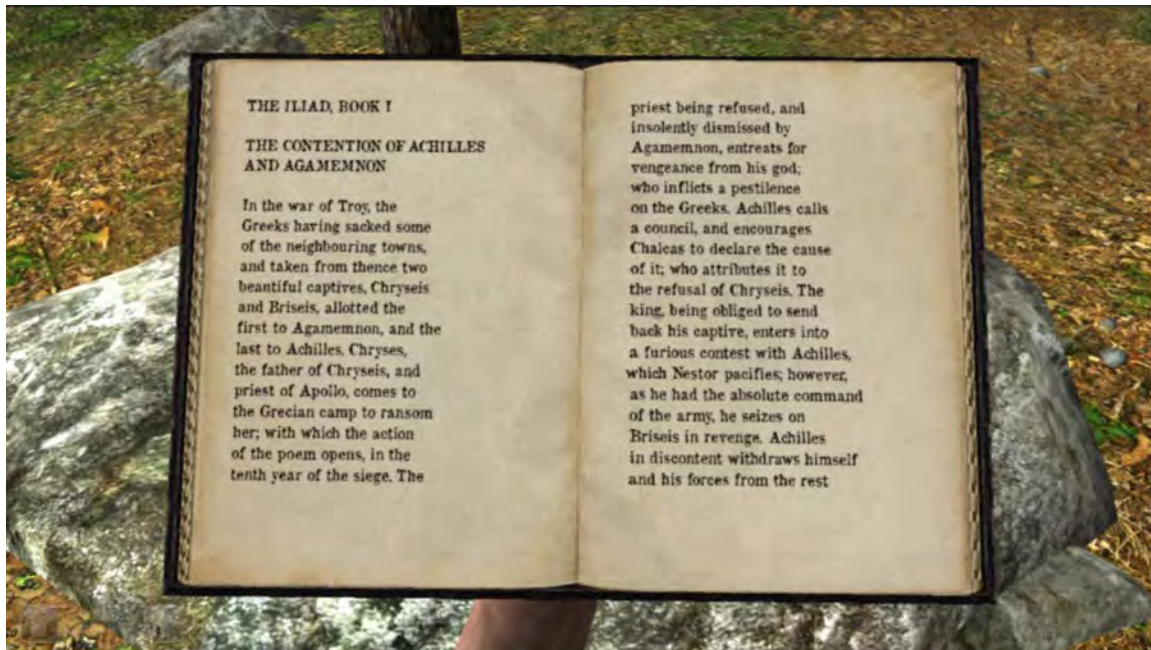


Figure 7 Example of a book found on a reading rock. Reading rocks are found throughout the woods.

Throughout the game players will receive notes and letters from various game characters including Emerson, scientist Louis Agassiz, friends and family that will send them on quests and offer them opportunities for special interactions that form the emergent narrative opportunities of the game.



Figure 8 Letter from Emerson with an example "quest" - to borrow an axe.

Game flow:

As already noted, the game begins in summer of 1845, when Thoreau first went down to the woods to live. Although he lived there for 2 years, 2 months and 2 days, the book of *Walden* only describes the first year, season by season, of his experiment and so that is the structure of the game as well. This abstracted flow describes the intent of each season of the game as it relates to player narrative. Each player will, of course, experience a different narrative, depending on how they spend their time, but this gives a general sense of the possibilities available in each level of the game.

Game level	Playing time	Experience goal of season
Summer	90 minutes	Players learn how to survive by picking berries, gathering driftwood. They may borrow an axe and chop wood, find a fishing pole and fish, find a boat and traverse the pond. Life is simple and easy.
Late summer	90 minutes	In late summer they begin to learn about inspiration, how to find it in the woods, how ephemeral it is if they do not care take it as well as their basic needs.
Fall	90 minutes	In the fall, life is still fairly simple, but the berries are growing thin. If they have planted beans, they will need to nurture them to keep the weeds and the woodchucks away. If they take on odd jobs, they may have more money, but find themselves spending more and more time away from the woods. Letters from friends speak of topical issues in America of 1845, such as the anti-slavery movement. Peers write of their work.

Late fall	90 minutes	The leaves are changing and if they have kept a good balance between their basic and needs and inspiration, the woods will be glorious. If not, they may find themselves experiencing fall in dullness and drudgery. Scientist Louis Agassiz writes in request of specimens from the pond, which players can search for if they like.
Winter	90 minutes	With winter comes the hardest challenge of the game. There are higher needs for food and fuel. The shelter and clothes need repair to keep the player warm. But, if they have been able to balance their needs, they will find winter to be full of a fragile grace, stillness and opportunities for solitude as well as joyful activity.
Late Winter	90 minutes	The pond is frozen; the town is quiet. If the player is full of energy, they can skate across the pond on clear days. They may forage out the few edible berries and plants in winter, or they may live off their store of beans. If they have not prepared well, late winter may find them taking refuge in the Thoreau house in town, where Henry's mother often leaves mended clothes and possibly a homemade pie.
Spring	90 minutes	As the pond breaks up and the first signs of life return to the woods, there is again the potential for great joy for the player to experience, especially as life becomes easier again and there is more potential to focus on raising inspiration rather than survival.
Late Spring	90 minutes	The return of full spring was a powerful metaphor for Thoreau, and as well for the game. As life blooms in fresh and bright greens, there is a largeness and lushness to the environment if players can maintain that balance they have learned. Walking in the twilight with Emerson as he muses on his epic essay Nature we hope that players will take away from this game experience a sense of the "dawn in me" of which Thoreau speaks.
Sandbox play	Unlimited	"And so the seasons went rolling on into summer, as one rambles into higher and higher grass. Thus was my first year's life in the woods completed; and the second year was similar to it." After the main year is complete, players are able to engage in unlimited sandbox play in the world of Walden, which will still be filled with experiences to be had and secrets to be explored.

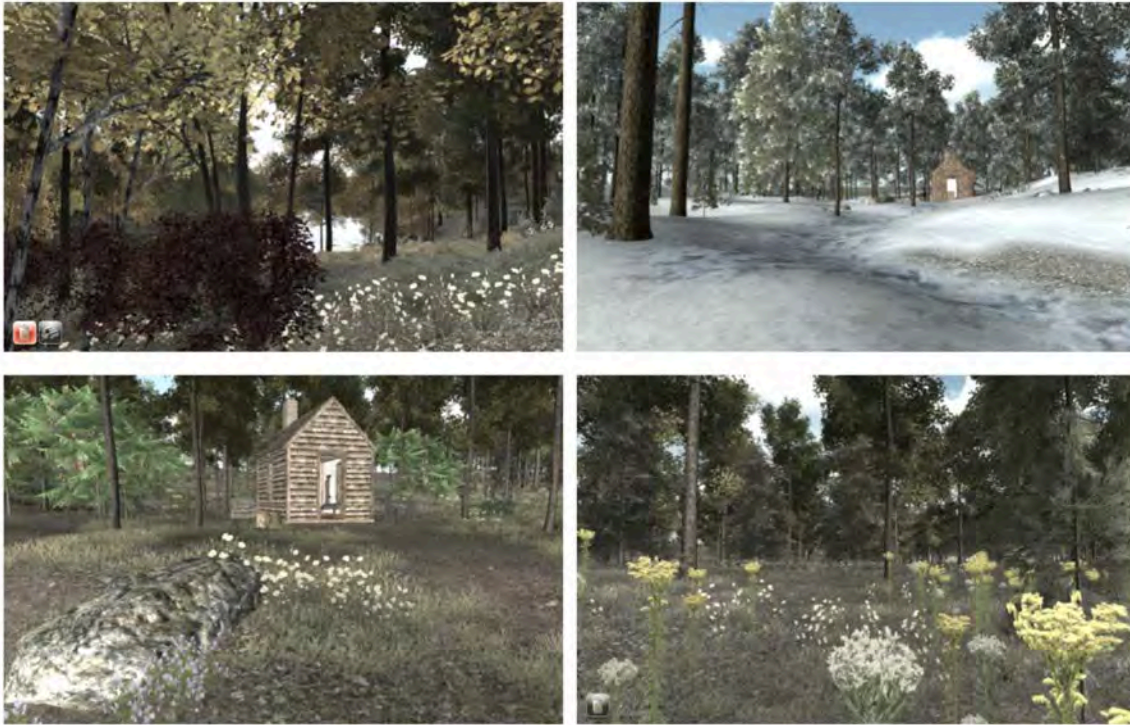


Figure 9 Passage of seasons throughout the game.

Areas of play:

The game levels are each built on the same geographic map, altered for the seasonal changes. The playable area of the map is shown below. It surrounds the Pond, bounded by the Fitchburg Railroad on the west, the Concord Road on the east, ends just below Emerson's cliff on the south and just above Thoreau's bean field on the north. In addition to this area of the woods, the player may also visit a small section of Concord, which contains, the Thoreau family home, a general store, a post office and the jailhouse.

These areas contain a number of paths to guide the player toward interesting encounters, but do not restrict them to these paths. Players may wander freely throughout the map to accomplish their goals. So, if they want to farm beans "early and late," as Thoreau says, they may do so at will. Or, they may go into Concord and buy food instead, spending their time at odd jobs to earn enough money to do so. These types of choices make the experience an extremely emergent one, and let the player be as free and at home in Walden Woods as was Thoreau himself.

Emerson's home: Emerson's home has a vast library of inspiring works that the player can peruse. Reading these books, or the ones scattered throughout the woods, will cause the player's inspiration to rise. The study also holds a fireplace to replenish any lost energy. And, if the player so chooses, they may do odd jobs for Emerson, earning small amounts of money as they do so. Emerson's home, as he said himself, sits at the liminal place between the woods and society. When leaving here, the player has the choice of returning to Walden, or walking into Concord and becoming a "sojourner in civilized life" for a while.



Figure 11 Emerson's study, reference image.



Figure 12 Emerson's study, in game.

Thoreau home: The Thoreau family home in Concord offers some of the creature comforts that the cabin in the woods does not. If the player visits Thoreau's parents home, they may find that his mother has left some laundered and mended clothes for him. Or, if they are lucky, they may find a pie cooling on the windowsill. There is much criticism of Thoreau and his visits to town, as well as his dependence on family for help, but here the player is offered the choice of taking such comforts themselves, or going without. Letters from family and friends may also be found here at the Thoreau house.

General store: The general store is filled with all one might need in the world of the game: various types of food and fuel, upgrades to shelter and clothing, as well as luxuries small and large that may tempt even the most self-reliant player. Elaborate fishing rods, a fancy suit, a cast iron stove, china plates, utensils, and even penny candies. What is really necessary and what is

superfluous? Players may find themselves eager to farm more beans or take on more jobs in order to afford a new coat. But, as Thoreau points out, “beware any enterprise that requires new clothes.”



Figure 13 General store and shopkeeper.

Post office: The post office is where the player will find newspapers of the times, letters from other authors beyond Concord, correspondence from scientists such as Louis Agassiz, and job offers beyond manual labor – such as lectures and articles.

Fitchburg Railroad: The railroad was a strong metaphor for Thoreau of the encroachment of the new pace of life onto nature and civilization. In the game, as in the book, the railroad connects the pond and the town. Players can walk to town along the railroad itself, hearing the dim clicking and hum of the telegraph wires overhead. And, they can listen to the train pass on its appointed schedule from many areas of the town and the woods. These sounds of life just off the horizon were a major part of Thoreau’s sense of the woods, and attending to them will also raise the player’s inspiration.

The bean field: The bean field sits behind Thoreau’s cabin and must be cleared of brush before it can be planted and beans can be grown. Once beans are planted, they must be weeded until they are ready to harvest. Harvesting may give the player food to eat, or, if they have exceeded their storage space, may be sold to earn a small amount of money.

Emerson’s Cliff: The vista from Emerson’s cliff includes a view of the entire Pond and the spires of the churches in Concord. It is the highest point in the game world, and here players will find one of several “solitude cairns.” These cairns mark spots of particular beauty and stillness in the game world, and being in their vicinity will raise the player’s inspiration.

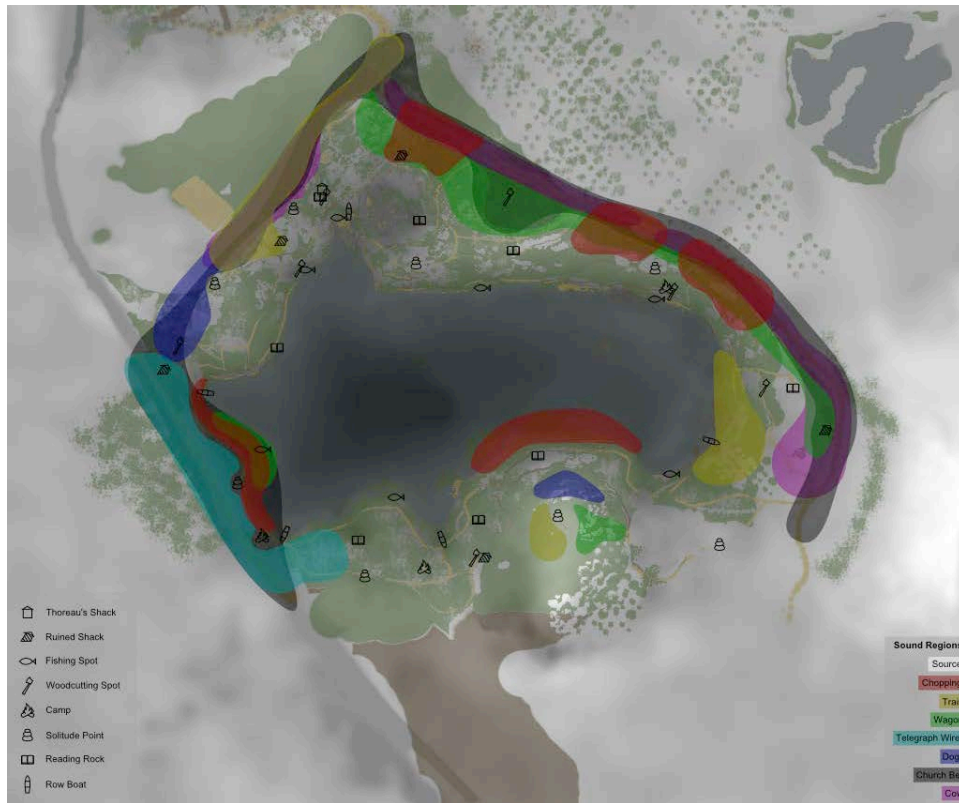


Figure 14 Sound region plan - the sounds of life beyond the horizon raise inspiration.

Campfires: The player may not wish to spend all of their time in the area of the cabin, so, in order to aid in exploration, small campsites are placed around the woods where players can revive their energy, chop wood, mend their clothes and take a short break from travel. These campfires also make good landmarks for players as they move around the Pond.

Resources:

As mentioned, the game levels are season based, and each season will have different resources available, as edible plants go in and out of season. The following diagrams show how these resources will change over the course of the game.

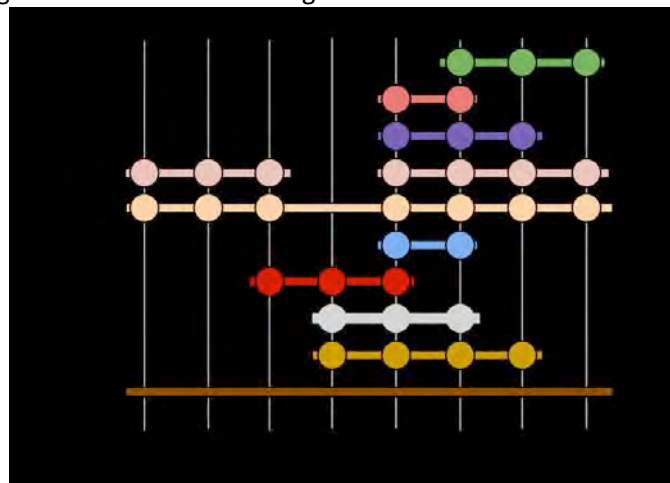


Figure 15 Edible plants by season.

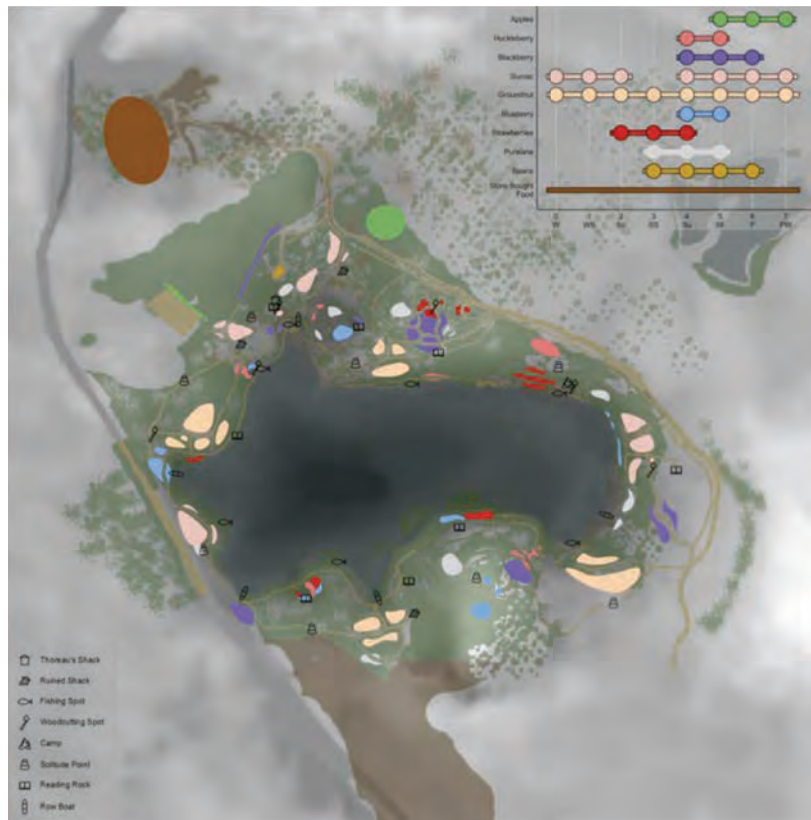


Figure 16 Resource plan for edible plants – all seasons turned on.

Plants and Animals:

There will be approximately 100 species of plants and animals, which have been taken from a detailed coding of the text of *Walden*, as seen in example images below. These serve not only as environmental set dressing, but also as anchor to textual quotes and descriptions that echo Thoreau's precise mapping of the natural world around him. As the player explores the world, inspecting these species closely, each text quote will be added to a play journal. These quotes, along with the ones associated with arrowhead moments, form the basis of the player's own procedural version of "*Walden*" – see the "journal" section of this document.

PLANTS				
<i>Latin</i>				
NAME	LATIN	PAGES	# MENTIONS	TYPE
purslane/pigweed	portulaca oleracea	54, 144	2	food (wild)
sand-cherry	cerasus pumila/prunus pu	16, 101	2	tree
(smooth) sumach	rhus glabra	39, 99, 101, 114, 199, 22	7	tree
blue flag	iris versicolor	178	1	flower
false elm/nettle tree	celtis occidentalis	180, 16	2	tree
ground nut	apios tuberosa	200, 213	2	plant; food (wild)
goldenrod	solidago stricta	101, 229, 274	3	flower
<i>Species</i>				
NAME	LATIN	PAGES	# MENTIONS	TYPE
red huckleberry	vaccinium parvifolium	16	1	shrub; food (wild)
red pine	pinus resinosa	16	1	tree
black ash	fraxinus nigra	16	1	tree
yellow violet	viola pubescens	16	1	flower
white pine	pinus strobus	36, 102, 165, 170, 203, 2	6	tree
blackberry	rubus fruticosus	39, 101, 114, 138, 139	5	shrub; food (wild)
potato	solanum tuberosum	48, 117, 139	3	food (domestic)
(Indian) corn	zea mays	48, 56, 139, 146	4	food (domestic)
turnip	brassica rapa var. rapa	48	1	food (domestic)
rye	secale cereale	56	1	food (domestic)
red maple	acer rubrum	74	1	tree
black birch	betula lenta	179	1	tree
yellow birch	betula alleghaniensis	179, 236	2	tree
pitch pine	pinus rigida	101, 114, 118, 162, 176, 1	14	tree
life-everlasting	hylothelephium telephium	101, 274	2	flower
(st.) johnswort	hypericum perforatum	101, 138, 139, 200, 274	5	flower
white bush bean	phaseolus vulgaris	9, 48, bean field chapter,	many, many	food (domestic)
(eastern/Canadian) hemlock	tsuga canadensis	133, 180	2	tree

Figure 17 Page from plant list - name, Latin name, pages & number of mentions.

Each tree and plant species will change throughout the seasons of the game year, as mentioned above in the section about resources. Many trees and plants will not be edible, but their appearance and associated text quotes will change. An observant player will notice these changes and fill their journal with many different views of these species.

Thoreau's Name	Modern Name	Latin	Quote	Alternate Quote 1
Pond Skater	Water Strider	(<i>Aquarius Antigonae</i>) 378 331	The surface of the lake is literally as smooth as glass, except where the skater insects, at equal intervals scatter over its whole extent, by their motions in the sun produce the finest imaginable sparkle on it.	You can detect a water-bug ceaselessly progressing over the smooth surface of the lake a quarter of a mile off; for they furrow the water slightly, making a conspicuous ripple bounded by two diverging lines, but the skaters glide over it without rippling it perceptibly.
Song Sparrow		(<i>Melospiza Melodia</i>)	I once had a sparrow alight upon my shoulder for a moment while I was hoeing in a village garden, and I felt that I was more distinguished by that circumstance than I should have been by any epaulet I could have worn.	The first sparrow of spring! The year beginning with younger hope than ever! The faint silvery warblings heard over the partially bare and moist fields from the song-sparrow, as if the last flakes of winter tinkled as they fell!
Mink	American Mink	(<i>Neovison Vison</i>)	As I sit at my window this summer afternoon, a mink steals out of the marsh before my door, its belly close to the ground, and seizes a frog by the shore.	
Partridge	Ruffed Grouse	(<i>Bonasa Umbellus</i> , formerly <i>Tetrao Umbellus</i>)	In June the partridge, which is so shy a bird, led her brood past my windows, from the woods in the rear to the front of my house, clucking and calling to them like a hen, and in all her behaviour proving herself the hen of the woods.	The young chicks of a partridge so exactly resemble the dried leaves and twigs of the forest floor that many a traveller has placed his foot in the midst of a brood, and heard the whirr of the old bird as she flew off, or seen her trail her wings to attract his attention, without

Figure 18 Page from animal list - modern name, Latin name, quotes.



Figure 19 Image references for animals and plants.

Animals will roam the woods according to the time of day and season. Some will lead the player to interesting game items, such as the books that can be found throughout the woods, solitude cairns, and ruined shanties that can be poached to repair the player's cabin. Interacting with the animals will raise the player's inspiration as well, with the rare animals, like a fox or mink, offering more inspiration than common ones such as squirrels or hares.



Figure 20 Animal path plans - paths lead players toward areas of interest.

Types of Players:

As our goals for this project are to bridge a great deal of player types – from new player to experienced ones, and from old to young – it is critical that the game have opportunities for them to explore Thoreau’s experiment in many different ways. For example, a young player, who has experience pushing the boundaries with many types of game systems, but little understanding of Thoreau’s message, may opt to play in a way that conforms with most commercial games. This means looking for opportunities to gain more money, buy or collect more items, and generally “level up” in the game world. While this is not the way that Thoreau would have us live, we must as he says “each find our own way,” and so too in this game. A player who looks for such opportunities will find them: in odd jobs, bean farming, letters with quest items, tools to collect, the general store, etc.

Some of the items will in fact, make life in the woods easier, giving the player more time to spend in exploration. But some will only pull the player into the cyclic trap of needing more and more money and spending more and more time up-keeping their luxury items. The following chart shows how each of the basic needs may be attended to, with varying requirements of effort, time, tools and money. In general, the most “Thoreauvian” solutions are the first and second rows, with the bottom row leading to the “trap” of relying too much on society and spending too much time earning money.

	Food	Fuel	Shelter	Clothing
Low effort, in the wild	wild fruits plants	driftwood	camping, abandoned shacks	mend (self)
Tools, more effort & time	fishing, bean farm	chopping wood	building/ repairing	mend (mother)
Money	store bought food	store bought fuel	purchased improvements	dress clothes or sturdy clothes

Figure 21 Walden "tech tree" for basic needs.

The fact that there are many ways to play the game means that players will have many different types of experiences. We will tune the game for several general types, however, and as we do so, are certain to find more as part of our player groups. Early in the game, as players are learning the system, we expect to see a breakdown of their time look something like the chart below, where they are spending the majority of their time caretaking their basic needs (food, fuel, shelter and clothing).

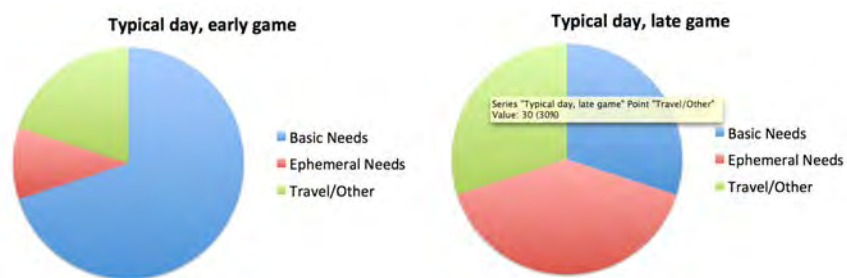


Figure 22 Player activity – out of balance, and in balance.

Later in the game, we hope to see that players are more balanced in their play – making time for both the basic and the more ephemeral “needs” in their virtual life. There will be those, of course, who set their own personal goals, and the game will support this. The charts below show how theoretical players might spend their time if they were to focus on bean farming or earning money through various jobs. (We internally call this the “Walden millionaire” player style, though of course they will be earning pennies for their work, and not millions of dollars.)

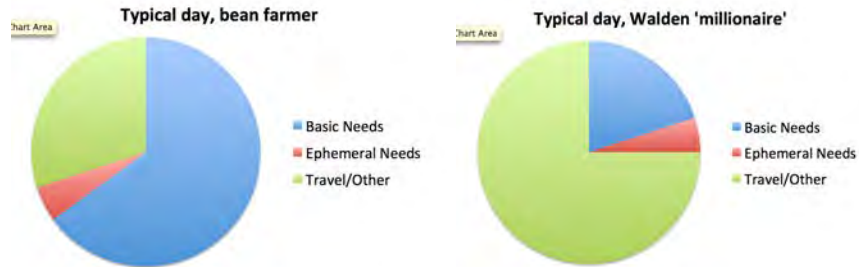


Figure 23 Player activity for alternative play styles - bean farmer and "Walden millionaire."

Player Journal:

How a player plays will ultimately be reflected in their “journal,” a collection of all the textual quotes they find as they explore the world. These quotes are taken from the original text in such a way as to make them reconfigurable in this procedurally generated review of the player’s own “version” of “Walden.” We are considering adding a feature in which this review of the player’s experience can be printed on demand, possibly through a custom book printing solution, but this would be a stretch goal for the team.

As seen in the screenshot below, the journal is organized by season. There will be hotkeys to forward to a particular season, or the player can turn each page of the journal one at a time.

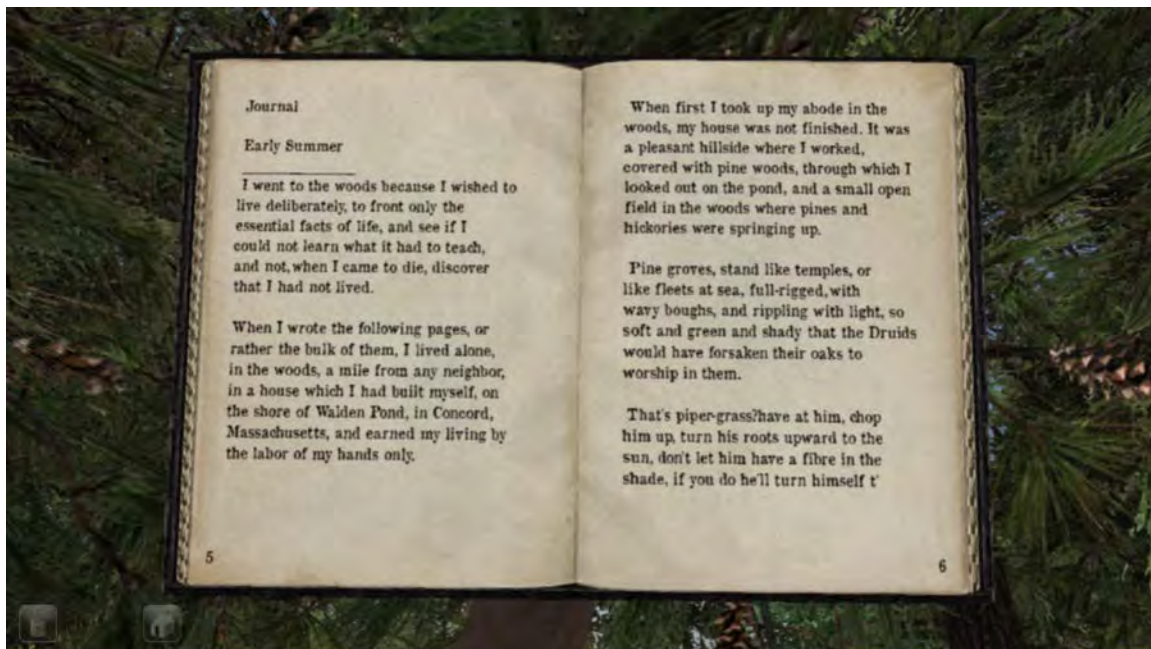


Figure 24 Player journal.

Look and Feel:

The look and feel of the game has been given a tremendous amount of thought. While we so not want the game to look photorealistic, a certain amount of naturalistic realism seems appropriate for the subject matter. We are going for a style of Romantic realism, such as can be seen in the painting below, of Emerson on a camping trip. Here we see the men as small and relatively insignificant next to the large trees, but the woods seem generous, with the soft sunlight breaking through their high branches. Rich, earthy colors, and soft edges make this an inviting natural landscape.



Figure 25 Concord camping trip circa 1840s, courtesy of Thoreau Institute.

We are also interested in the look of auto chrome photography, even though it post-dates the period of the game setting. As the image below shows, the subdued colors, soft grain and blur make it an interesting choice for our moments of low inspiration. As the section on user interface explains, the game will use a subtle feedback system for cuing the player as to their level of inspiration. Since we don't want player "gaming" the system, we are not making this available directly, but rather, will reflect the state in elements of the environment, such as the level of saturation, grain, blur and availability of arrowheads. Our references for look and feel, therefore, go beyond historical accuracy or visual design, but are an integral part of the game system design as well.



Figure 26 Early auto chrome image, subdued colors, soft grain and blur.

This visual processing as part of the feedback system is something we envisioned from the earliest days of the game and it will go hand in hand with the musical score that rises and falls with inspiration. Sound designer and composer Michael Sweet is extremely experienced in designing procedural systems and has coded a system for the music, which responds to the player's actions. If the player spends all of their time working, both the visual feel of the environment and the music will grow dull and thin. A low heartbeat of a piano maintains a presence of music, but all other melody falls away with the color and clarity of the world. As a player increases their inspiration, strains of melody in layers of instrumental voices join in, and the color and lushness of the world return. Both sound and visuals are incremented in ten steps or gradations, so that they are subtle and yet noticeable changes for the player. At the highest levels of inspiration, the world is filled with music, color and opportunities for enlightenment in the form of arrowheads.



Figure 27 Field of flowers – inspired (top) and uninspired (below).

In addition to the interactive changes to the environment, there are also the procedural changes as already discussed. The environment of *Walden* will go through a transformation in each of its eight seasons (four standard, and four transitional). We will control these seasons

through a backend XML that makes it possible for the designers to tweak the selection of sky (clear, clouds of several types, hazy and night), color of light (changes day to night and season to season), atmospheric events (rain, snow, fog, pond frozen) and other game specific variables.



Figure 28 Fall at medium-high inspiration.

Each “season” of *Walden* (summer, late summer, fall, late fall, etc.) will be made up of three in-game days of 15 minutes, making each season 45 minutes, and the full year six hours of play. As already mentioned, after the first year is finished, ending, as does Thoreau’s book in Spring, the player will be free to continue playing in sandbox mode. Given the flexibility of our backend weather system, we may create procedurally generated weather for this mode of the game, but this is a stretch goal.

User Interface:

Even though the simulation of *Walden* has a fairly complex underlying system, we do not want to focus players’ attention on this simulation. Rather, we wish to draw them into a more intuitive, rhythmic play where they learn to balance their basic needs with exploration based on cues from the environment. As such, the user interfaces for *Walden*, are very minimal. There are only a few interface systems that the user must learn to use.

In terms of buttons, here are the keys that are used in the game:

- W, A, S and D keys (for movement)
- Mouse look (for view)
- Left and right mouse buttons (for action and inspection)
- J key (opens journal)
- L key (activates lantern)

In terms of GUI, the first, and most important system is the basic need cues at the bottom left of the screen. These cues only appear when the player needs to pay more attention to one of the four basic needs – food, fuel, shelter or clothing. The screenshot below shows a player with low food stores, who is picking berries to replenish them. When their food stores are full, the icon will glow green briefly and disappear. When a player has sufficient stores of all their needs, they

will not see any icons on the screen, making for a clean interface focused on the immersive experience rather than on “grinding” play common to many role playing and simulation games.



Figure 29 Picking berries to fill food stores.

Another important set of interfaces is the “mini game” interfaces for doing tasks that require some effort, such as sawing, chopping, fishing, rowing and sewing. In these activities, the player follows a simple onscreen guide to make the appropriate gesture for each task. Once the gesture is complete, an animation plays, showing the action and the cycle begins again. Each task has a different gesture, but they are all equally simple to master. The goal of these mini games is not to challenge the player’s skill, but to represent the daily “grind” of fulfilling basic needs.



Figure 30 Sawing mini game interface.

The most complex user interface in the game is the map, shown below. The map helps the

player situate themselves in regards to their cabin and other major landmarks around the pond, including Emerson's house, the Concord road, the Fitchburg Railroad and other game elements that will appear once the player has found them. The map is the first page of the journal, so is easy to access and can be opened at any time.

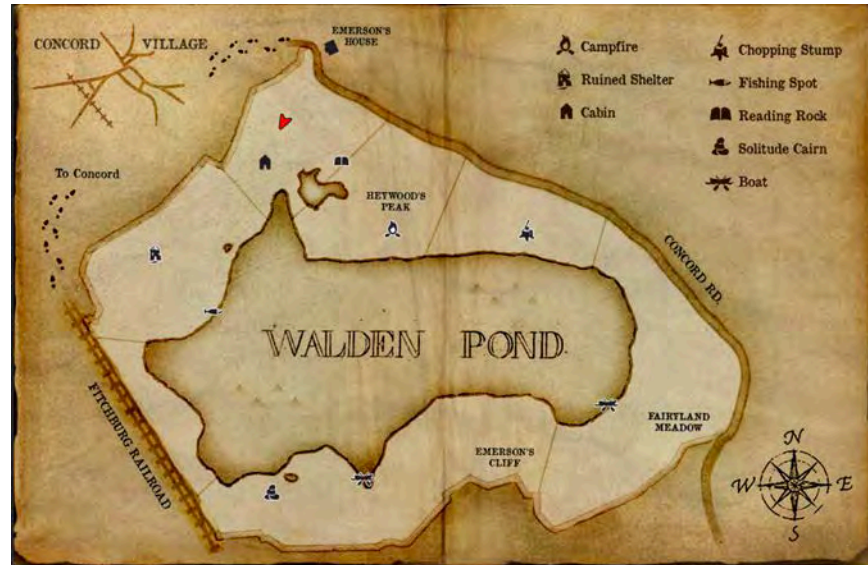


Figure 31 Game map; player location is red triangle at top left.

Letters and Quests:

As already mentioned, the player will sometimes receive letters or notes at the door of the cabin, find them at the Emerson house, their parents' home, or the Post Office. These letters may include narrative content or quests. Narrative content describes the daily life of Thoreau and his peer group at Concord, while quests send the player out to complete odd jobs, to look for specific plant or animal species, or to experience an aspect of the woods. A preliminary lists of quests, which is an area on which we hope to work with our advisors extensively, is here:

Letter/quest:

Borrow an ax
Buy a food jar
Plans for a wood shed
Learn to fish
Upgrade fishing pole
Buy fancy clothes
Buy a stove
Find the boat

Type:

Upgrade quests

Survey a farm
Survey for railroad
Survey along Concord road
Survey across pond

Surveying quests

Find a fox for Agassiz
Find a striped bream
Find a tortoise
Find an eel
Find an owl
Find a frog

Wildlife quests

Invitation to walk w Emerson
Invite to Emerson's library
Invite to parents' house
Letter about reading rocks
Letter about solitude point
Letter about fairyland meadow
Visiting a wildflower
Letter from Hawthorne
Invitation to skate
Letter from Channing about burned land

Letters from friends

Work at Emerson's
Chop trees in clearing
Clear the bean field
Sell extra beans
Work in town

Odd job quests

Lecture at Lyceum
Journal article for Dial
Lecture in Boston
Poem for Dial
Letter to the Liberator

Speaking & writing jobs

It is important that the letters and quests be both clear in terms of game play, but also true to the tone of the time and the historical authors. We will use references to real letters in Thoreau's correspondence to create these narrative components.

Technical Architecture:

The prototype will be built using Unity 3D, which will make it possible to release on PC and Mac simultaneously. The game will be available through download and may also be released via DVD for distribution in museum stores. There is no significant backend architecture to consider, other than our analytics engine, which will track user paths and crashing bugs, allowing us to release patches for any problems that arise. There is no user-generated content to account for, other than the procedurally generated player version of "Walden," which we may add as a stretch goal. Plans for how to address this feature will be made if it becomes feasible.

Future releases of the game are planned for the PlayStation 4 and the Xbox One, which will require further funding and development and are not considered under this schedule or current design document.

Distribution and Sustainability:

As already noted, the game will be distributed online, via our website at <http://www.waldengame.com> (currently a work in progress). We also plan to make the game available via Steam, DVD and through exhibitions. The Game Innovation Lab has a long history of releasing independent games and is fully ready to support the game post-launch with patches and updates as required. Since the game has been created on Unity, we should also be able along with them should new versions of the PC and Mac operating systems make that necessary. Updating for currency is normal part of a digital game's lifecycle and we assume that we will continue to do so as long as there is interest in the game.