

Narrative Section and Design Document of a Successful Application

The attached document contains the grant narrative and design document of a previously funded grant application. It is not intended to serve as a model, but to give you a sense of how a successful application may be crafted. Every successful application is different, and each applicant is urged to prepare a proposal that reflects its unique project and aspirations. Prospective applicants should consult the Public Programs application guidelines at <http://www.neh.gov/grants/public/digital-projects-the-public> for instructions. Applicants are also strongly encouraged to consult with the NEH Division of Public Programs staff well before a grant deadline.

Note: The attachment only contains the grant narrative and design document, not the entire funded application. In addition, certain portions may have been redacted to protect the privacy interests of an individual and/or to protect confidential commercial and financial information and/or to protect copyrighted materials.

Project Title: Mission US

Institution: WNET

Project Director: Sandra Sheppard

Grant Program: Media Projects: Production (This sample narrative and design document will be helpful to applicants to the new Digital Projects for the Public program.)

Mission America: Project Narrative

To see a game demo and a collection of project materials, go to:

www.efsprojects.com/demos/missionamerica



A. PROGRAM DESCRIPTION

THIRTEEN (WNET.ORG) requests support for *Mission America (w.t.)*, a ground-breaking multi-media initiative to help young people ages 9 to 13 learn American history. Chosen as the launch project for the Corporation for Public Broadcasting's American History and Civics Initiative, *Mission America* centers on **five free online games** set in different eras in U.S. history. Games will be housed on a Web site with extensive support materials. Through outreach with the National Council for the Social Studies, American Library Association and PBS stations nationwide, and a planned public/private partnership (b) (4), the project has the potential to reach over nine million young people over ten years. We request (b) (4) to support production of Missions 2 to 4, for which the total budget is (b) (4).

The content and design of *Mission America* were crafted by a team of historians, researchers, writers, education and technology specialists, and video game producers. Key partners are: **American Social History Project**, a research center that has pioneered use of new media for teaching history; **Electric Funstuff**, an award-winning developer of educational software; and **Education Development Center's** Center for Children and Technology, a leader in educational research with experience in history education. This team spent a year developing and testing a prototype – “For Crown or Colony?” – that has proved tremendously successful in motivating young people to explore key themes in U.S. history and develop historical thinking skills.

Mission America will advance humanities education by a sophisticated use of interactive media to engage students in learning and analyzing U.S. history. Adapting the most popular emerging technology in young people's lives – gaming – it will immerse students in the dramatic struggles of Americans from the Revolutionary era through the 20th century.

B. CONTENT AND CREATIVE APPROACH

These are trying times for teaching history... The lack of resources, the pressures of teaching to the test, and the unavailability of engaging material convinces many students that history is about dates and places rather than arguments about the past... Mission America promises a point of engagement for many students. It is substantive and imaginative and a way to reinvigorate history pedagogy. – Historian Ira Berlin, project advisor

Why Teach History with a Digital Game? Too many young people lack knowledge of the fundamentals of American history. In the most recent National Assessment of Educational Progress – The Nation’s Report Card – only 17% of eighth graders performed at or above the proficient level in U.S. history. The story for under-served youngsters is even worse. Whether the fault lies in textbooks, teacher preparation and methods, or the national focus on reading and math, getting students to learn and care about history is a challenge that is still unmet.

Coordinated use of new media and innovative pedagogy has the potential to reach today’s youth where they live. In 2008, the Pew Internet & American Life Project found that 97% of boys *and* girls age 12-17 play digital games. Indeed, the majority of younger teens (12-14) play them *daily*. Most teens play a range of game genres, from action and adventure to role-playing and strategy. A 2008 study by the MacArthur Foundation’s Digital Youth Project found that digital games are even affecting *how* children learn, and that “learning today is becoming increasingly peer-based and networked.” As young people become absorbed by this technology, educational leaders, including the NEH, are increasingly interested in turning it to educational use.

A game format can provide learners with a rich and highly interactive environment in which to explore crucial events, conflicts and perspectives in American history. In *Mission America*, players assume the roles of a young apprentice in pre-Revolutionary Boston, a runaway slave, an assistant in the race to complete the transcontinental railroad, a muckraking journalist in turn-of-the-century New York, and a young Oklahoman whose family migrates to California in the Great Depression. Through innovative game play, they navigate historic settings, interact with key figures, investigate primary documents, witness pivotal events, and ultimately decide their fate in the face of history.

Recent research by Alan Stoskopf and Angela Bermudez at Northeastern University has found that “the ethical and emotional dimensions of students’ learning also can play an important role in enhancing student interest and their intellectual understanding of history.” A role-playing game can encourage students to think more deeply about the choices and challenges faced by past generations of Americans. *Mission America* blends authentic history in a developmentally appropriate narrative with dramatic elements – new romance, changing family relationships, the struggle for identity – that are emotionally compelling for young teens.

In sum, *Mission America* will bring something new and fresh to the classroom, providing students with an experience not offered by any textbook, or indeed any existing educational software – the ability to travel into the past, step into a character’s shoes, and grapple with a multiplicity of perspectives on historical issues. The project offers:

- **An Innovative Format.** *Mission America* combines the conventions of popular video games with sophisticated social history content based on the most recent scholarship. The kind of role-playing narrative seen in fantasy games is used to provide “situated learning” – learning “from the inside” – in American history.
- **A Curricular Basis.** *Mission America* is one of the first projects to apply an online gaming approach to the middle school U.S. history curriculum. The missions are standards-based and focus on events and developments included in most U.S. history textbooks, while also introducing historical perspectives and circumstances many textbooks omit.
- **A Proven Model.** When the prototype was tested with 120 students, we found that young people are truly engaged with the story and characters...and *like* that the game has historical content they need to learn. *Best of all, their knowledge of events leading to the American Revolution and their historical thinking improved.* Teachers found the project an easy, adaptable platform for teaching history to students of all ability levels, fusing high motivation with a more nuanced view of the past.
- **Wide Distribution.** *Mission America* will be available free on its own Web site. Widespread availability of high-speed Web connections will enable users everywhere, including in disadvantaged communities, to access it anytime. (b) (4) And the project will be a major asset for PBS stations and libraries, which increasingly use gaming in outreach in their communities.

Historical Scholarship. *Mission America* portrays and conveys information contained in respected and recent scholarship. The prototype draws on ground-breaking social histories of the Revolution that document the perspectives of artisans, farmers, women, and free and enslaved African-Americans, including Gary Nash’s *The Unknown Revolution: The Unruly Birth of Democracy and the Struggle to Create America* (2005). It also relies on political histories, such as John Ferling’s *A Leap in the Dark: The Struggle to Create the American Revolution* (2003) and Benjamin L. Carp’s *Rebels Rising: Cities and the American Revolution* (2007), that show the significance of early Colonial protests in Boston to the coming of the Revolution. *See Bibliography for a complete list.*

All five missions will draw on scholarly works to develop the characters, events, conflicts and settings with which students interact. Historical scholarship will also inform the supplementary resources, in particular the primary document archives and contextual materials for teachers. Scholars will also play a direct role in shaping the content. *See Humanities Advisors.*

Educational Approach. The approach and content of *Mission America* were shaped by studies in history education and technology, and by teacher input about the skills and concepts important for students to learn history.

Role-playing elements of the game put students inside crucial moments in U.S. history, and help to challenge assumptions about historical inevitability. As participants in the story, players experience *multiple perspectives* of characters in our nation’s past. *Mission America* fosters the core skills of history education, including using *evidence* to form interpretations, understanding

the *causes and effects* of major events, and identifying *turning points* when decisions and actions affected the future.

Mission America will help students *evaluate* important historical facts and develop thinking skills identified in state and national history standards. The game will promote *historical comprehension* by requiring students to investigate diverse perspectives and interpret primary documents. For instance, the prototype helps students understand the different viewpoints that Colonial Americans had on British authority and the Patriot movement, and exposes them to challenging vocabulary in multiple contexts. Students interpret an indenture contract and an 18th-century newspaper. The Web site presents other documents – such as Paul Revere’s print of the Boston Massacre and eyewitness testimony – which students come to understand not as *illustrations* of the events, but as *arguments*, accounts that played a role in shaping thinking at the time and the course of the Revolution.

The game will also explore the influence of social, economic, political and cultural factors on *historical decision-making*. Associated activities will provide opportunities for *historical research*. The emphasis on story, characters and differing points of view also links to English language arts and unified humanities programs in middle school.

In sum, players will explore how a cross-section of U.S. society at five key moments shaped and were shaped by events. At the same time, they will learn the skills that underlie what it is to “do history” by critically evaluating the ideas, actions and circumstances – and key pieces of documentary evidence – that helped define those events.

Design & Classroom Structure

Compared to learning from a textbook, it’s much more enjoyable. – Chloe, 8th grade girl

Rather than competing with high-end commercial video games – which typically cost tens of millions of dollars to produce, and use graphics that are too hefty for playing online – *Mission America* is designed for the educational market, informed by the likes of students and the instructional and technical needs of the classroom.

The game design draws on several trends that appeal to our target age group. We drew inspiration from the adventure game genre in which players solve puzzles or quests by exploring environments, talking to characters, and manipulating objects. We chose a look inspired by Japanese anime, a genre which has a large following among teens and tweens. Similar character design styles are used in the most popular Web-based games for our target audience, including *AdventureQuest* and *MechQuest*. The use of 2D backgrounds also allows for a high level of historically appropriate detail. Professional voice actors bring the characters to life, and the game’s “character conversation” system is as sophisticated as in any commercial game.

Also, *Mission America* follows a new trend in the gaming world – the growth in popularity of “casual games” without high-end 3D graphics. Examples include *AdventureQuest*, which boasts tens of million users, and Facebook games like *Mafia Wars* that enjoy over five million plays a

day. While *Mission America* is a little more “heavyweight” in its visual, narrative and educational design, its 2D look will be familiar and appealing to millions of young people.

In terms of classroom use, *Mission America*’s premise differs from some current ideas about how games can improve learning. The dominant theories are that game-playing *itself* entails powerful learning, even without educational content, or can serve as *preparation* for instruction. *Mission America* is based on the theory that games create new and richer *contexts* for learning. If well-structured, games can be a highly productive “disruptive innovation” in the classroom, helping students *and* teachers work differently, and better.

Mission America positions the game as the backbone for wide-ranging use in and out of the classroom over 5-20 days. The game can be played in 20-minute sessions, easily fitting in a 40-minute class. In the prototype, each session corresponds to a “day” in the life of Nat Wheeler, a printer’s apprentice. On each “day,” the player must accomplish tasks, engaging with the larger world of Colonial Boston and talking to characters about their political perspectives. This structure provides natural stopping points for teachers to engage students in discussions, activities and assessments, drawing on a rich body of supplementary material. As students play game sessions, in class or at home, they become emotionally involved with the drama. The game serves as a “virtual field trip into history” – one that can be flexibly mined for learning vocabulary, historical concepts and information, and skills with primary documents.

Technically, the game “engine” is flexible, compatible, and adaptable as technology changes. It is based on Flash technology that is nearly ubiquitous, can be deployed on PCs and Macs, and has low memory requirements; it also eschews a 3D approach that requires hardware many older school computers lack. Computers in schools and homes can run it with no additional software required. The steps for downloading, installing and running the program are kept to an absolute minimum, making it easy for teachers to get the game up and running. *Further discussion of the approach, format and game engine design is in the Design Document, Attachment 3.*

C. STORYLINE: THE FIVE MISSIONS

The game actually puts the American Revolution...in your hands. It helps you get a better understanding of your environment as you go through. – Umar, 8th grade

You actually get to see how it is, from a perspective of a regular person... So you don’t get one side of a story, you get both sides, and that’s what I enjoyed most about it. – Maakeda, 8th grade

Mission America consists of five discrete missions. In each, the player assumes a historically accurate role, often that of an adolescent or young adult. While accomplishing a series of tasks, the player interacts with other characters and makes a series of choices that affect how the branching narrative unfolds.

Learning Goals. The goals of *Mission America* are to help players:

- Learn the story of America and the ways Americans struggled to realize the ideals of liberty and equality
- Understand the role of ordinary men and women, including young people, in history

- Develop historical thinking skills that increase historical understanding and critical perception

These goals are achieved through:

- Five narrative-driven “missions” that cover pivotal events and developments shaping American ideals and institutions
- Stories that are informed by the most recent historical scholarship and highlight how events affected and were influenced by different levels of U.S. society
- Immersive environments that involve interaction with characters and choices that demonstrate that history is contingent on the actions of individuals and groups
- Incorporation of primary documents that enhance interpretive skills and understanding about the consequences of actions and ideas
- Authentic designs that immerse players in the visual culture of the time.

Prototype Mission. The prototype game, which will become Mission 1 of the series, focuses on **Revolution and the New Nation (1754-1820)**. Its goals are to help players understand:

- The structure of Northern Colonial society and how social hierarchy and political authority were being challenged by 1770
- Why taxation without representation became unacceptable to colonists
- The types of protest that colonists undertook in the years leading up to the war
- How the Boston Massacre contributed to the outbreak of the American Revolution.

“For Crown or Colony?” takes place in Boston during the weeks leading up to the Boston Massacre. The mission begins in Uxbridge, Massachusetts, in the winter of 1770. Students assume the role of 14-year-old Nathaniel (Nat) Wheeler. As the game begins, Nat’s father has secured Nat a trial apprenticeship in the Boston print shop of Benjamin Edes, who publishes the pro-Patriot *Boston Gazette*.

Playing the game as Nat, students must complete tasks that Mr. or Mrs. Edes assign. From selling advertisements to merchants, to confronting soldiers patrolling the wharves, to learning pro-Patriot songs to play on a pennywhistle, these activities introduce Nat – and the player – to the full strata of Colonial society and the growing tensions within it. Students also examine documents from the period as Nat works to gain Mr. Edes’ respect and interacts with historical figures such as Phillis Wheatley and Paul Revere.

While building knowledge, players have unique experiences based on their choices, skill and understanding of the period. Emotional and ethical choices raise the stakes and enrich the drama. For instance, Nat meets Constance, a girl he likes...only to learn that she is the niece of a Loyalist! Selling ads for the *Boston Gazette*, Nat has to decide whether to defer to an antagonistic British customs officer, or indulge the impulse to kick him. When Mrs. Edes sends him to buy supplies for a spinning bee, he must determine if it is more important to purchase what she needs or boycott stores that sell imported goods. Players collect Inventory items – period artifacts – and clicking on Smartwords embedded in the dialogue reveals definitions of historical terms.

Regardless of which path players choose, Nat witnesses the Boston Massacre on the night of March 5, 1770. In its aftermath, he is forced to decide where his allegiances lie. Ultimately, it is up to the player to determine whether Nat decides to complete his apprenticeship and support the Patriot cause, go to London with Constance and remain loyal to the Crown, or run away to sea. The revised version of Mission 1 will also include expanded endings in which players choose what happens to Nat next. Possible paths vary widely, from fighting alongside Paul Revere at Lexington and Concord, to investing in the tea that is ultimately destroyed in the Boston Tea Party, to ending up stranded on a Pacific island.

At the end of each game day, players have the option to play a mini-game, “Pennywhistle Hero,” in which they simulate playing period music on a pennywhistle using the computer keyboard. The game is a fun diversion for students who complete assigned gameplay before the rest, deflecting a potential pacing problem when teaching with games in class. Finally, as with all the missions, Web resources will support the game, including downloadable activities, learning extensions, and resources for students and teachers. *The game can be played on the Full Game Prototype disc; a guided walk-through is on the Game Demo disc and at the link on page 1.*

The prototype is a proof of concept, not a finished game. The story and dialogue will be expanded and revised to incorporate feedback from advisors, teachers and students; for instance, we may include more interaction between Nat and characters loyal to the Crown to clarify the Loyalist perspective. In the prototype, all the “days” are not fully developed, so the pacing is uneven. In the completed game, all “days” will be equally fleshed out, Smartwords and inventory features will be functional throughout, and Nat’s full-screen interactions with major characters will all be voiced.

Missions 2-5. For the full project, we have chosen four additional topics covered in every U.S. history survey course, focusing on the 19th and early 20th century, for which film or other media teaching resources are lacking. These topics also lend themselves to strong, character-driven narratives that supplement the social history approach of middle school history and work well for gaming. *As much as possible, Mission America will focus on the role of young people in these periods. At least two of the five main characters will be girls.* The Progressive Era and the Great Depression in particular have rich resources that illustrate the role of young people in events. Stories and source materials will be drawn from respected and recent history scholarship.

Mission 2: Flight to Freedom

Slavery and the Abolitionist Movement (1801-1861)

Players will understand:

- The expansion of slavery as an exploitive economic and social system during the first half of the 19th century and the escalation of sectional conflict leading to the Civil War
- The labor and living conditions of slaves on a cotton plantation
- How enslaved African Americans struggled to shape their own lives through family, religion and resistance
- The growth of abolitionism in the first half of the 19th century.

It is 1854, and the player is a slave on a massive cotton plantation along the Mississippi River near Natchez. Her goal is to escape to the North and evade capture by her former master and

slave hunters. The player's first task will be to explore the world of the plantation, and find a feasible way to escape. After choosing an escape route, the player will need to follow signals, directions and signs to find safe houses on the Underground Railroad. The mission will conclude in Rochester, New York, where the player will have to seek out the home of a leading abolitionist, evade recapture under the Fugitive Slave Law, and gain safe passage to Canada. Along the way, the player will encounter slave owners, other slaves and freedmen, Quakers and abolitionists, and notable historical figures such as Frederick Douglass.

Mission 3: Race to the Golden Spike

Development of the Industrial United States (1869-1900)

Players will understand:

- That the late 19th century marked a spectacular outburst of technological innovation, which fuelled headlong economic growth
- How the construction of railroads created a national transportation and communication network that expanded the population and economy of the West, created unprecedented fortunes, and contributed to volatile cycles of boom and bust
- The obstacles surmounted to build the railroads
- The labor involved in building the railroads, the immigrant groups that composed the workforce, and their living and working conditions.

The first transcontinental railroad in the U.S. was completed in 1869. In this mission, the player is an assistant to a railroad foreman involved in the race to meet the tracks of the Union Pacific and Central Pacific Railroads. Blizzards and avalanches in the calamity-prone Sierra Nevada east of Sacramento have made for slow going, and tensions are high between Chinese laborers and other workers. The player's goal is to gather blasting supplies from a series of snowbound work camps, as well as to avert conflict among the workers, to help keep construction of a new tunnel on schedule. Throughout the mission, the player encounters engineers, laborers and railroad owners as they face setbacks and make progress.

Mission 4: The Sidewalks of New York

Emergence of Modern America (1890-1919)

Players will understand:

- That American cities saw tremendous growth in the late 19th and early 20th centuries
- The experience of tenement life and the living conditions of urban immigrants during the early 20th century
- The unregulated working conditions of factory workers at this time
- That the years 1890-1917 were an era of reform activity known as the Progressive Era. Reformers worked to pass laws protecting workers, immigrants, children and the poor.

The player is a muckraking journalist writing an article about the living and working conditions in immigrant neighborhoods on New York City's Lower East Side. The player's mission is to gather information and photographs for inclusion in the article, and prioritize the items gathered. During the mission, the player meets a cross-section of turn-of-the-century urban America – from tenement dwellers and factory workers to the immigrants and college graduates, especially women, who embodied the reform impulse that came to define the Progressive Era. A secondary challenge will arise when the player must find a quick route of escape from the Triangle

Shirtwaist Factory fire, then submit a completed article and photographs to the editor before an evening deadline.

Mission 5: California or Dust!

The Inter-War Years (1919-1940)

Players will understand:

- The causes of the Great Depression and how it affected American society
- How agricultural policies and extensive drought caused a mass exodus from the Oklahoma Panhandle and surrounding Great Plains
- How New Deal programs addressed the Depression and this ecological disaster
- How the Depression affected everyday life, and the strategies Americans devised to survive and surmount hardship.

The player's family lives on an Oklahoma farm, and are victims of the Dustbowl during the Great Depression. Prospects for survival on the farm are grim. The player's mission is to earn cash and supplies to keep the family financially afloat. After investigating new farming techniques and employment opportunities in Oklahoma, the player's family decides to load up their jalopy and migrate to California. As the family travels west, the player must complete odd jobs and assist with New Deal and rural projects. Along the way, the player encounters a Farm Security Administration photographer and learns how the Dust Bowl experience was documented and artists such as Woody Guthrie and John Steinbeck responded to hard times.

D. FORMAT

For Crown or Colony? is the best tool I have seen for teaching not only about the Revolution, but also important concepts that can be applied to current events. It is certainly a resource that I will use in my classroom. – Montana teacher

The Games. As described above, the format of *Mission America* has been carefully designed to promote vital learning objectives. Key design choices include:

- *Authentic content.* Situating play in a rich historical context, using authentic figures, data, issues and artifacts, the game makes learning deeper and more relevant.
- *Narrative engagement.* A dramatic arc, colorful characters, and suspenseful relationships deepen learners' personal connection to the historic moment.
- *Avatar.* The use of an avatar identity makes the learning more meaningful, and supports ethical reflection on one's choices, loyalties and interactions.
- *Vocabulary support.* Smartwords – terms, idioms and phrases players must master along the way – ensure that they always know enough relevant vocabulary to feel immersed in each environment.
- *Social context.* The game and materials support collaboration, interaction and the exchange of ideas and experiences. Also, while the game is designed for a single player, students may play collaboratively in pairs or groups.
- *Flexibility.* The division into a series of "days" enables students to play the entire game in one sitting, or stop and start over a longer period. For instance, teachers may have students start the game in class and complete it as homework.

Web Site. While the games are the heart of *Mission America*, players will inhabit a vibrant online environment that takes them deeper into the experience of American history. As producer of the multi-media math series *Cyberchase*, WNET has created the most content-rich and technically advanced online games in public media, including seventy games, a story-telling tool and an “immersive” adventure. These proven strategies will be adapted and enhanced for *Mission America* to create online resources and related activities and assignments. *Prototype resources are on the Educator’s Toolkit disc.*

For Players:

- *Background Materials.* Original, curriculum-based content for each mission will include maps, timelines, primers on major topics and themes, and character biographies.
- *Games and Activities.* After each session of game play, users will be able to take advantage of fun learning extensions. Ideas in development include enabling users to extend the narrative themselves by combining characters to create a graphic novel-type story, or test their retention of Smartwords in a game show hosted by game characters. A journal-writing tool would let them assume the persona of a character, and write on suggested topics that could be customized by the teacher.

For Teachers:

- *Introduction.* This section will explain the game and the pedagogical rationale for using it, and provide soup-to-nuts tutorials for all components. Also featured will be videos showing *Mission America* being used in classrooms, produced by our station partners, who may also broadcast them locally.
- *Educator’s Toolkit.* Downloadable support materials will include: PDFs of *primary source documents*, including those in the game; a *day-by-day overview of each game* with a breakdown of themes, characters and key vocabulary; *classroom activities* to be completed before or after playing each “day”; a *primer* on the historical era; *standards correlations*; short *biographies* of the historical figures; a list of related non-fiction, fiction, Web sites, films, and public television *resources*; and PDFs of the *characters and settings* for bulletin boards, art projects and plays.

E. AUDIENCE

Our school...has great diversity in our student population...but the one thing they all unanimously agreed on was how much they enjoyed the game. The students learned the content and concepts faster...than any of my students have in the past, and they have retained it longer.
– Teacher Cornelia Cooley, project advisor

Mission America is designed for use by fifth to eighth graders in schools, informal education settings, and on their own. An equally important audience is the teachers, librarians and PBS outreach staff who will choose to use it with young learners.

Classroom testing of the prototype confirmed that the project is appealing and effective for middle schoolers. Education Development Center conducted weeklong field-tests in two New York City public schools, with three teachers and 123 seventh-grade boys and girls. The study included tests and writing tasks before and after gameplay, observation of the class sessions, and

follow-up interviews with teachers and students. *The evaluation report is Attachment 9 and highlighted in the Video of Classroom Focus Group.* We found that the game and materials achieved key learning objectives:

- Students showed measurable gains in their knowledge of Colonial America before the Revolution.
- In reading and writing tasks, most children showed improved historical thinking, i.e., the ability to identify perspective or point of view in a historical document or argument.
- The game fostered behaviors associated with successful history learning: speculating about motives and bias, justifying opinions with reasons and evidence, and evaluating historical accounts.
- *Mission America* succeeded developmentally. A diverse group of youngsters became instantly and imaginatively engaged, stayed deeply involved throughout, talked excitedly about the game events with partners and in classroom discussions, and later described what made the game so much fun for them.

Two findings were somewhat surprising. First, players liked *Mission America* regardless of their gender or gaming experience. The game was praised highly by boys who are frequent players of commercial games, and girls who rarely if ever play games. Second, students regularly asked for *more* missions to play, not just at school but at home. They saw *Mission America* as a “school game” in that it had educational aims, but also recognized it as a fully developed game with its own interest and momentum.

Mission America was seen to hold its own with far more expensive console games for three main reasons. First, players said they loved the narrative world, which combines unfamiliar historical settings and events with characters they can interact with. Second, players said they liked having familiar *game conventions* that are usually not part of their school experience. Third, students did not share the view of many adults that a successful game needs to disguise educational content. Far from being a drawback, the game’s educational nature was a plus, not only because it made their history class more lively and interesting, but because of the competence they felt from mastering new challenges. As one boy summed it up: “We need to learn all these things – and this is a much better way to learn them.”

Our theory of game-based learning was also supported in testing. Not only did teachers find *Mission America* an exciting context for teaching history, motivating students and fostering a richer view of the past, but they also used *Mission America* to reach for richer kinds of learning than they usually attempted when teaching the Revolution.

Teachers said that they had deeper conversations about the perspectives of Loyalists and Patriots, that students used richer vocabulary and became engaged with the characters in ways they could continue to mine well beyond the Revolution unit. Teachers with different levels of historical knowledge and history teaching experience were able to adapt the game and curriculum to their needs; one humanities teacher had students write poetry about the period as a final assignment.

Each prompted students to discuss their perspectives on characters and events in the game, with topics varying from who provoked the Boston Massacre to acceptable forms of protest. In all three classrooms, *Mission America* became a shared experience, from which teachers could elicit and develop students' thinking about the causes of the Revolution.

Finally, *Mission America* enabled students at different literacy levels to succeed. Despite the large amount of reading in the game, the most struggling readers stayed engaged, played to the end, and participated in class discussions – even using some of the game's challenging language. Two teachers said that they had to do *less* modification of content than usual for their struggling students, because the game provided contextualized and repeated use of vocabulary.

Mission America also wins kudos from other educators we have worked with. The development of classroom support materials was informed by a survey of 244 teachers, a full 97% of whom said they were likely to use *Mission America* in class. PBS station outreach staff who reviewed the prototype say they can't wait to use it. *See Attachment 10 for the survey results and more feedback from children and adults.*

F. RIGHTS AND PERMISSION

As managing director and producer, WNET will manage all rights to the project and all distribution and publishing partnerships. We will clear permissions for all archival material for public and educational use.

G. DISTRIBUTION PLAN

Mission America will roll out over four years. Mission 1 will launch in early 2010, followed by Mission 2 in 2010-11, 3 and 4 in 2011-12, and 5 in 2012-13 (contingent on funding). Updates to the technology and periodically refreshed digital content will ensure that the materials have a shelf life of up to ten years. Over that time, we anticipate that *Mission America* will reach from millions of students and educators through a variety of channels:

- The *Mission America* Web site and on-air promotion
- A partnership with (b) (4), ensuring wide distribution in the educational market
- Outreach with PBS stations who will reach thousands of educators and tens of thousands of youngsters
- Partnerships with national organizations to reach both school and after-school programs, libraries, and other informal education settings.

Web Distribution

The free *Mission America* games and related materials will be widely available via the project Web site, ensuring that youngsters and teachers can access the game from anywhere at any time. As a public media project, we anticipate that the Web site will attract a broad, diverse audience of educators – who comprise one quarter of the visitors to pbs.org – and their students. We will also conduct online outreach to teachers through WNET's VITAL and PBS's Digital Learning Library, libraries of free digital resources for class use and professional development. Making the game available via the Web will help us reach the young teens who already spend much of their time playing games online.

In addition to our extensive outreach, short videos suitable for broadcast as “learning moments” will be produced for PBS stations to promote *Mission America*. These videos will also stream online and be available for use by our partners. Other publicity plans are in development; we also anticipate that CPB will conduct comprehensive promotion for the launch of the American History and Civics Initiative.

Publishing Partnership

(b) (4)

[Redacted]

- [Redacted]

- [Redacted]

- [Redacted]

[Redacted]

Outreach & Partnerships

This project has tremendous potential for children, school library media specialists, and public librarians. – Dale Lipschultz, Literary Officer, American Library Association

Nashville has an exploding immigrant population with many children who are absolutely unaware of U.S. history, and gaming would provide an exciting and engaging way for them to learn. – Outreach Coordinator, Nashville Public Television

To further promote and distribute the project, and create opportunities for teacher training, WNET will conduct innovative outreach with PBS stations and the key national organizations for social studies and public and school libraries.

PBS Stations. The LAB@Thirteen, WNET's educational outreach unit, is a leader in outreach and professional development for public media. Its three-year campaign for *Mission America* will promote use of the project in schools and libraries, enlist and train ten different PBS stations a year to use *Mission America* prominently in their communities, and create dialogue among educators about improving history instruction by using the resources.

Each year, a Request for Proposals will ask PBS stations to partner with a "lead educator" and "lead librarian" from a local school and develop innovative plans for promotion, teacher training, and outreach. Ten stations a year will receive implementation grants, with preference given to proposals that demonstrate educational need in the area and dynamic approaches. Each station will be required to reach at least 100 teachers (who in turn will reach thousands of students), but we expect most will reach many more.

Stations will receive a day-long training and be required to document the work of participating teachers and librarians through locally broadcast videos, awards, and articles in program guides. Each will also select a teacher and librarian as *Mission America* Teachers of the Year, with the winning team brought to New York to present a workshop at WNET's educational conference, the Celebration of Teaching & Learning. Site reports on their strategies, challenges and successes will be compiled into a white paper on best practices, for distribution to partners and the entire PBS system. Outreach will then repeat with ten new sites each year.

Partners. The National Council for the Social Studies will promote the project to history teachers across America in its publications and communications and feature *Mission America* at its annual conference. NCSS has also expressed interest in co-branding the Teacher of the Year competition and participating in panels at the Celebration. To reach libraries we will work with both the American Library Association and the American Association of School Librarians. ALA/AASL will promote *Mission America* to via Web sites, email and conferences, and develop grade-level reading lists to accompany the missions. We will also explore making *Mission America* part of ALA's National Gaming Day. This video game tournament at libraries is expanding into schools and seeking games that provide rich learning experiences. WNET will present workshops at meetings of all three partners and other education organizations.

Evaluation. EDC will continue to test missions and materials as they are developed, and plans to extensively evaluate project outcomes in schools. Disseminated via conferences and publications, the research results promise to command considerable attention given the growing interest in educational gaming. EDC's research plan has four parts:

1. *Pilot implementation study:* In Fall 2009, EDC will study the use of a pilot version of Mission 1 by fifteen teachers in the New York metropolitan area and five in rural Montana. The study will expand on prototype testing by looking at uses of the game by a more diverse group of teachers in the context of their varied curricula, informing the development of future games, classroom materials and outreach.

2. *Testing.* EDC will conduct small-scale formative studies of the concepts and materials for each mission.
3. *Research on classroom use.* Contingent on funding, EDC plans to develop and test modules to help teachers use the full *Mission America* project. Such professional development is key to research because teachers are the key variable determining effective classroom use of new technology. Tracking how the trained teachers implement the games is also a precondition for meaningful measurement of student outcomes.
4. *Summative research.* EDC and project partners then plan an experimental study of *Mission America* learning outcomes in 2011 and 2012, when teachers have had time to use many missions over the course of the U.S. history curriculum.

H. HUMANITIES ADVISORS

The lead content developers for *Mission America* are the three historians from the American Social History Project, listed under Media Team. In addition, we have recruited a board of noted scholars and teachers, along with experts in educational gaming and outreach. Advisors will review the content and design of games at key stages of development.

History

Ira Berlin is Distinguished University Professor of History at the University of Maryland. He has written extensively on America in the 18th and 19th centuries, particularly Southern and African-American life. *Slaves Without Masters: The Free Negro in the Antebellum South* won the Best First Book Prize from the National Historical Society. His other award-winning books include *Generations of Captivity: A History of Slaves in the United States*. Berlin is the founder and past director of the Freedmen and Southern Society Project and a past president of the Organization of American Historians. In 2000, he was appointed to the Advisory Council of the NEH. (*Mission 2: Slavery & the Abolitionist Movement*)

Joshua B. Freeman is Professor of History, Queens College and Graduate Center, City University of New York (CUNY). He has written extensively about the history of labor and modern America. Books include *Working-Class New York: Life and Labor Since World War II*, (New York Society Library Book Prize for History); and *Who Built America? Working People and the Nation's Economy, Politics, Culture, and Society, Vol. II* (co-author). (*Mission 5: Inter-War Years*)

Nancy A. Hewitt is Professor of History and Women's and Gender Studies at Rutgers University. Hewitt co-wrote the second and third editions of *Who Built America?* and the forthcoming *Exploring American Histories: A Docu-text*, and edited *A Companion to American Women's History*. She is the author of *Women's Activism and Social Change: Rochester, New York, 1822-1872* and other monographs. (*Mission 4: Emergence of Modern America*)

Patricia Nelson Limerick teaches the American West at the University of Colorado at Boulder, where she is also Associate Director of the Minority Arts and Sciences Program. She was named 1992 State Humanist of the Year by the Colorado Endowment for the Humanities, and was a 1995 MacArthur fellow. Her books include *The Legacy of Conquest* and *Something in the Soil*. She chairs the Center of the American West. (*Mission 3: Development of Industrial U.S.*)

Herbert Sloan is Ann Whitney Olin Professor of History at Barnard College, specializing in early America. Published works include *Principle and Interest: Thomas Jefferson and the Problem of Debt* and “The Earth Belongs to the Living” in *Jeffersonian Legacies*. He is working on a book, *The Fall and Rise of Nancy Randolph. (Mission 1: Revolution & the New Nation)*

Classrooms, Games & Outreach

Cornelia Cooley is a seventh and eighth grade humanities teacher at New York’s School of the Future. She has a BA in history from Vassar College and an MA in social studies education from Teachers College, Columbia University, and is in a second masters program at Columbia in American studies.

Jesper Juul is a Lecturer at the Singapore-MIT GAMBIT Game Lab at MIT. His publications include *A Casual Revolution: The Reinvention of Video Games and Their Players. Half-Real: Video Games between Real Rules and Fictional Worlds* was a finalist for book of the year with *Game Developer Magazine*.

Katie Salen is Executive Director of the Institute of Play, and Associate Professor in the Design and Technology program, Parsons The New School for Design. Co-author of a textbook on game design, she has co-edited *The International Journal of Learning and Media*. Salen lectures and writes on game design, design education, and game culture.

Ana Chiquillo Post is Director of External Relations and Council Communications, NCSS. **Dale Lipschultz** is Literacy Officer, Office for Literacy and Outreach Services, ALA. **Julie Walker** is Executive Director, AASL.

I. MEDIA STAFF

Roles and responsibilities. WNET will produce *Mission America* with three partners: ASHP to develop content, Electric Funstuff to produce the games, and EDC to do testing and evaluation. While *Mission America* is a true collaboration, and each partner offers input at every stage, this is the basic division of duties: ASHP develops content documents for all components, including educational goals and suggested primary documents; the partners jointly develop the narrative; EDC conducts testing (and measures outcomes); EFS designs and produces the missions; and WNET produces the online materials, Web site, outreach and videos, works with advisors, and manages all activity. *More on “How a Mission is Created” is part of the Work Plan.*

For THIRTEEN: Sandra Sheppard (project director) is an award-winning producer and media executive with over 15 years of public television management experience. She is director of children’s and educational programming at the station and executive producer of *Cyberchase*, the ground-breaking animated math series. Sheppard was executive producer for *Freedom: A History of US*, a PBS series for families based on Joy Hakim’s textbook series, the Emmy Award-winning *What’s Up?* series for middle schools, the Emmy-winning *Internet in Action* and more. Projects in the pipeline include *Nate the Great*, a series about inquiry skills based on classic books about the world’s foremost kid detective.

Jill Peters (executive producer) is director of creative development for the children’s and educational programming unit. With more than twenty years’ experience in public television, she has overseen development, production and writing of award-winning educational media

projects with video and Web components. Projects geared to a teen audience include *Freedom: A History of US*, *What's Up in Finance?* and *Do the Math!*, about real-world applications of algebra. Programs for younger children include *Cyberchase*, *Artopia*, *Franny's Feet* and *Angelina Ballerina: The Next Steps*. Her work on *Cyberchase* and *Artopia* won an Emmy Award and Emmy nominations. Series for adults include *Art Through Time: A Global View*. Peters has also written and produced teacher training projects integrating video, Web and print.

Christopher Czajka (outreach manager) is director of the LAB@Thirteen. A former history teacher, Czajka developed online history resources for such series as *The Rise And Fall of Jim Crow*, *African American Lives* and *Colonial House*. **David Hirmes** (Web manager), director of digital strategy, will head the Web team; **Ronald Thorpe**, VP of education, will oversee outreach; **Stephen Segaller**, VP of content, will oversee the entire project.

For ASHP: **Joshua Brown** (content director) is Executive Director of ASHP and professor of history at the Graduate Center, CUNY. He wrote *Beyond the Lines: Pictorial Reporting, Everyday Life and the Crisis of Gilded Age America*. He co-created ASHP's multi-media *Who Built America?* and other digital projects. Brown has a Ph.D. in U.S. history from Columbia University. **Pennee Bender** (co-content director) teaches U.S. history at the Cornell Institute for Industrial and Labor Relations and is on the faculty of the Interactive Technology and Pedagogy Program at the Graduate Center, CUNY. **Leah Potter** (content developer) is a historian and instructional designer. She produced a CD-ROM on free African Americans in the antebellum era, and has taught U.S. and global history at UNC Chapel Hill, where she is completing her dissertation on the popularization of U.S. expansionism in the 1890's.

For Electric Funstuff: **Spencer Grey** is an award-winning game designer who has a long history with interactive education and entertainment, including as Technical & Games Editor at *Family Computing Magazine* and Creative Director of the Interactive Group at Children's Television Workshop. **David Langendoen** runs EFS production and was previously Director of Business Development for eScholastic.

For EDC: **William Tally** (evaluator) is Senior Researcher at EDC. Teaching history with digital media has been a focus of his research for ten years. He is evaluating the U.S. Department of Education (DOE)'s *Teaching American History* and *An Adventure of the American Mind*, a teacher program of the Library of Congress. He has tested educational television and software, developed programs to help teachers use technology, and designed digital materials for schools, museums and public spaces. He co-wrote *The New Media Literacy Handbook: An Educator's Guide to Bringing New Media into the Classroom*. He has a Ph.D. in sociology from CUNY.

Consultants/Writers: **Stanlee Brimberg** (classroom materials) teaches seventh grade social studies and literacy at the Bank Street School for Children and is an adjunct instructor at the Bank Street College of Education. He has developed curricula, led workshops in technology in the classroom, and written Web activities for *Picturing Modern America* and other projects. **Karen Schrier** (educational games) is a senior producer at Scholastic's Laboratory for Informal Learning and an adjunct professor at Parsons The New School. She is editing a collection of scholarly literature on ethics and games to be published in 2010.

J. PROGRESS

Mission America was developed in response to a Request for Proposals from the Corporation for Public Broadcasting (CPB)'s American History and Civics Initiative, a \$20-million program to “create ground-breaking media projects,” especially using interactive media and new technology, “that measurably improve the learning of American history and civics in middle and high school students.” One of seven finalists in the first phase, WNET was awarded a grant of \$900,000 for R&D, production and evaluation of a prototype mission and support materials.

During the prototype phase, educators and youth provided constant feedback as we developed the characters, designs, narrative and “interface,” particularly for examining primary documents. We made strategic decisions about content, game format and technology platforms, and formed partnerships that pave the way for success and sustainability.

The biggest challenge – finding the right balance between gameplay, story, historical accuracy, and learning objectives – has been substantially met. While each mission will pose unique challenges, key patterns have been established. For instance, the time we could cover in each mission proved more focused than originally planned. Many of our first designs were also too lush for lower-end computers. We used this constraint to develop high-quality signature approaches, such as animated silhouettes, that define *Mission America* stylistically.

While testing results were highly positive, they also revealed areas for improvement. In future missions, we plan to include metrics for success, as players said they would welcome feedback on how well they are doing. Endings will be affected by choices made in the game, in response to feedback that students liked “choosing their fate” but did not think they should be allowed to choose any ending at all. Another illuminating finding was that young people valued the hybrid nature of the game as both fun and learning. In future missions we plan to build in *more* historical content, so motivated players can follow up on the events and figures introduced.

Finally, our very success in having students identify with the characters could keep them from realizing how *different* the characters' world was from their own. (Some wondered if Nat and Constance shouldn't just run away to New York!) A solution is to add more historical dissonance – moments when characters defy modern expectations – for instance, when the customs official slaps Nat's head if the player fails to doff his hat.

Advisors also made helpful suggestions. For instance, Katie Salen echoed our test users in recommending that players' collection of Smartwords and Inventory items have strategic use in gameplay, to motivate players to choose and examine them carefully. Herbert Sloan had interesting thoughts about Constance's role that will inform our ongoing efforts to refine the place of gender in future missions.

Based on the success of the prototype phase, CPB has chosen *Mission America* as the launch project for the Initiative and contract negotiations are now in progress. We will “soft launch” a beta version of Mission 1 this fall for use in the pilot implementation study. Teachers have already been recruited and trained, and their early response is highly enthusiastic. We are also rebuilding the game engine in Flex so it is playable on Macs as well as PCs and on lower-end computers. The finished version of Mission 1 will launch to the public in early 2010.

K. WORK PLAN

Production and roll-out of Missions 1-4 will take place over three years, beginning August 2009. NEH funds would support activities from April 2010 through March 2012. Before that, Mission 1 will soft-launch, the pilot implementation study will take place, and development will begin on Mission 2. The grant period includes these overall project activities:

- (Jan-)Apr. 2010: Mission 1 and Web site launch. Year 1 station grants awarded and outreach begins. Mission 2 developed and teacher/student materials begun. (All development is with advisor input.)
- May-Aug. 2010: Mission 2 built and materials completed. RFP for Year 2 issued to stations and Mission 2 promotion begins.
- Sep.-Dec. 2010: Mission 2 launches. Year 2 outreach begins. Mission 3 and 4 content, narrative outlines, and early designs developed.
- Jan.-Apr. 2011: Mission 3 and 4 “rough cuts” and materials developed.
- May-Aug. 2011: Missions 3 and 4 built and materials completed. RFP for Year 3 issued and Mission 3 and 4 promotion begins.
- Sep.-Dec. 2011: Missions 3 and 4 launch. Year 3 outreach begins.
- Jan.-March 2012: Mission 3-4 roll-out and Year 3 outreach continues.

The roll-out of Missions 3 and 4 will continue into 2012. Assuming funds are raised, Mission 5 will be developed, produced and launched in 2011-12. *A detailed work plan is Attachment 11.*

L. FUNDRAISING PLAN

The budget for production and launch of the first four missions is [REDACTED]. CPB has indicated its intent to make a grant of [REDACTED]. Thus with an NEH grant of [REDACTED] we would have full funding for Missions 1-4. (Because work on Mission 1 will begin before April 2010, we are applying the NEH request to Missions 2-4, for which the budget is [REDACTED].)

[REDACTED] (b) (4) and WNET will seek remaining funds from government agencies, foundations and corporations. Prospects include the MacArthur Foundation's Digital Media and Learning Initiative, and the Hewlett, Mellon, Arthur Vining Davis, Bradley, Gilder, and Charles Revson Foundations. Our partnership with the ALA opens the door to approach the Institute for Museum and Library Services to support outreach. Given WNET's track record in funding educational media projects, and the growing interest in educational gaming, we feel confident of our ability to complete project funding.

M. ORGANIZATION HISTORY & PARTNERS

THIRTEEN (a company of WNET.ORG) is one of the key providers of public television programs, including such ongoing series as *Great Performances*, *Nature*, *American Masters* and *Wide Angle*. The station has produced primetime history series including *Slavery and the Making of America*, the NEH-funded *Rise and Fall of Jim Crow*, *African-American Lives with Henry Louis Gates, Jr.*, *The Supreme Court* and *The American President*, and recently received an NEH award for *Picturing America* outreach. Its award-winning programs for children and families include *Freedom: A History of US* and *Cyberchase*. Its Interactive and Broadband Unit has produced more than 300 Web projects and won the top honors in the field, including the Japan Prize, the Webby, and awards from *Editor and Publisher Magazine* and Yahoo.

American Social History Project/Center for Media and Learning. ASHP is a research center based at The Graduate Center, CUNY. Recipient of eleven NEH Education grants, it has done pioneering work in the production and use of print, film, video and digital media to enhance the teaching of history. These include *Who Built America?* (textbooks, documentaries and CD-ROMS); *Freedom's Unfinished Revolution: An Inquiry Into the Civil War and Reconstruction*; and the Web site *History Matters: The U.S. Survey on the Web*. ASHP also leads programs that help teachers use the latest scholarship, technology and active learning methods in their classes.

Electric Funstuff. Founded in 1998, EFS applies the principles of game design to products with educational outcomes. EFS works with experts to translate their research and best practices into engaging interactions – finding the sweet spot that balances the needs of gameplay with learning objectives. Key clients include Scholastic, The Grow Network (McGraw-Hill), Sony Online Entertainment, Nick Jr., Sesame Workshop, The Princeton Review, and Fisher-Price.

Education Development Center. EDC has 25 years of experience in evaluating educational technology. It works with school districts, state education departments, after-school centers, and other institutions to conduct formative and summative evaluation of their programs. EDC has carried out evaluations of curricula, software and hardware, online learning environments, professional development, and whole-school and district-wide reform efforts. It recently received a \$9 million grant from the DOE to serve as a National R&D Center on Instructional Technology, investigating how video games can be used in middle schools.

The **National Council for the Social Studies** is the largest association in the U.S. devoted solely to social studies education. The **American Library Association** is the oldest, largest and most influential library association in the world, with 65,000 members. The **American Association of School Librarians** is a division of the ALA with over 9,000 members.

N. BIBLIOGRAPHY – Please see Attachment 7.

O. COLLECTIONS OF MATERIALS – Please see Attachment 8.

P. CONCLUSION

I think this is going to be the wave of the future. – Adam, 8th grade

Educational gaming – if done well – is an idea whose time has come. *Mission America* will make a significant contribution to young people's knowledge and appreciation of American history. The free resources exploit all the strengths of gaming – a technology that absorbs more and more of young people's time – to let children participate in our nation's story, while drawing on recent scholarship and the latest thinking about history education. Our production partners are leaders in their field and have understanding and enthusiasm for educational gaming's potential. Our game design has the input of hundreds of users and is proven to work. Our partnerships underscore the demand for new approaches to the history curriculum, and position us to secure wide distribution and sustain the project over the long term. We hope NEH will be our partner as we invite millions of young learners to enter the drama of *Mission America*.

Mission America: Design Document

Rationale and Approach to Game Design	1
Prototype Learning Goals	11
Prototype Character Guide	13
Day-by Day Overview of Game Mission	19
Game Engine	25



MISSION AMERICA RATIONALE AND APPROACH TO GAME DESIGN



Authentic Context and Content

In designing *Mission America*, we chose to use an authentic historical context—that of the Boston Massacre—as the backdrop of the game. Further, we used a genre (Adventure game with Role Playing elements) that would maximize interactions with authentic artifacts and historical figures, as well as historically-based circumstances, relationships, and data.

The importance of situating learning—and wedding context to cognition—has been cited by a number of educational researchers, including Brown, Collins and Duguid (1989). They explained that “Learning and cognition...are fundamentally situated,” (Brown, et al., 1989) and that learning should be embedded in authentic activities and realistic social and physical contexts. To meaningfully interact with historical ideas and concepts, historical knowledge should be contextualized.

Learning *in situ* is also appropriate because the learners “pick up relevant jargon, imitate behavior; and gradually start in accordance with its norms” (Brown, et al., 1989). In *Mission America*, we sought to enculturate learners into the historical frame of the Boston Massacre and Revolutionary Era Boston, and by doing so, provide them with the context, academic language, and values necessary for them to more fully understand the historical moment, and to more easily understand the historical concepts and connections surrounding the time period.

For example, we used contracts, documents, and advertisements, such as the Apprenticeship Contract, which are based on actual historical artifacts. We also used meaningful historical figures, such as Paul Revere; realistic organizations, such as the Sons of Liberty, and authentic social relationships, such as apprenticeship and master, to serve

as a backdrop for an engaging drama that highlighted the tensions that were happening in 1770.

Moreover, we designed the game to enable the participant to learn, think, do relevant historical activities and interact with authentic historical information so they can “develop the skills, knowledge, identities, values, and epistemology—the epistemic frame” (Shaffer, 2006) of a practitioner and participant in a historical moment. By participating in a simulated practice field (Barab and Duffy, 2000) of historical thought—and from within an epistemic frame—learners will not only better understand a historical moment, but they will more fully understand how to think historically and “do” history. Explains Stoskopf and Bermudez “a central aim of learning history is to enable students to develop plausible explanations for why and how events and choices occurred in the past.... students must become active investigators, not simply consumers of a vast amount of topical information” (2008). This reinforced our choice of the Adventure Game format, which is primarily investigative.

Finally, we made the game's historical context personally meaningful, relevant and challenging (Barab and Duffy, 2000) so that it would further motivate the learners' participation. By performing—through the avatar of Nathaniel—as Mr. Edes' apprentice, needing to complete relevant responsibilities and duties, and forming friendships and relationships, the learner is more motivated to engage in the historical context.



Social Context and Collaboration

Part of creating a compelling context is incorporating a social component into the gameplay. According to the constructivist perspective, learners actively acquire and construct knowledge, in part, through social interaction and cooperative participation. In other words, knowledge is “socially co-constructed from interactions and experiences with the world” (Jonanssen, Cernusca, and Ionas, 2007). As a result, in designing *Mission America* and its implementation in the classroom, we sought to find ways to further support collaboration. For example, in our formative evaluations of the *Mission America* game, the learners played in pairs and decided together how they would navigate the experience. This meant that they had to communicate to each other their expectations and opinions, divide tasks and roles, and take turns at the keyboard. They were able to have someone to bounce ideas and theories off, and share their initial hypotheses and interpretations, helping them to reflect on and reevaluate their ideas and conclusions, and think critically about others’ perspectives.

Moreover, the class together is able to share their views based on the game’s content; for instance, by expressing and comparing their unique versions of the Boston Massacre and game outcome, and deliberating as a class.

We designed *Mission America* to include multiple points of entry where the class could further deliberate and collaboratively reinterpret historical information, as well as story content. Including opportunities for collective reflective helps to support deeper initial learning, and therefore, the transfer of knowledge to other contexts and problems (Bransford, Brown, and Cocking, 2000).

Thus, meaning-making comes from participating in what is called a community of practice, through which learners work together to apply their new knowledge to solve problems: “Interactions with the world are viewed as not only producing meanings about the social world but also producing identities.... Developing an identity as a member of a community and becoming knowledgeably skillful are part of the same process” (Lave and Wenger, 1991). Performing activities together as a community helps to bind individual learners together and form a collective identity. This makes the knowledge that they acquire more worthwhile, as well as personally and socially meaningful (Barab and Duffy, 2000). Because collaboration and community is emphasized in the play of *Mission America*, learners feel both a stronger sense of self and a deeper connection to history, historical practice, and the greater community of learners.

As noted earlier, a large component of collaboration is the exchanging of ideas and the ability to experience a variety of perspectives. Participants are able to listen to each other’s views, and re-evaluate their own beliefs based on others’ ideas. Moreover, we designed *Mission America* to enable the participant to experience the Boston Massacre, and the events leading up to and after the Massacre, from a variety of historically grounded perspectives. By designing a game that has simultaneously accessible and diverse views—such as loyalist and patriotic—we encourage critiques and revisions of master narratives of the past, encouraging participants to consider new ones. For example, participants each receive a different permutation of scenes from the Boston Massacre, showing snippets of historically grounded interpretations of what might have happened during the event. Thus, no two game experiences are the same, further enabling differing views on how the Boston Massacre unfolded and encouraging deliberation and a more nuanced and holistic perspective of history.

For example, one classroom conversation we heard went like this:

Teacher: Who do you think was more responsible for the shooting, the townspeople or the soldiers?

Student #1: The townspeople because they threw rocks. [Player saw a scene where what was being thrown was shadowy and indistinct; easily could be interpreted as rocks]

Student #2: I didn't see any rocks. All I saw was snowballs. [Player saw a different scene where what was being thrown clearly included snowballs, but didn't exclude the possibility of rocks]

Teacher: So there is a difference between throwing rocks and snowballs?

Student #2: Yes, rocks are dangerous. But you shouldn't shoot someone for throwing snowballs!

(The class continued to debate various points, like the taunting shouts of the apprentices, the soldiers affixing bayonets--is that a threat or a warning?, etc.)

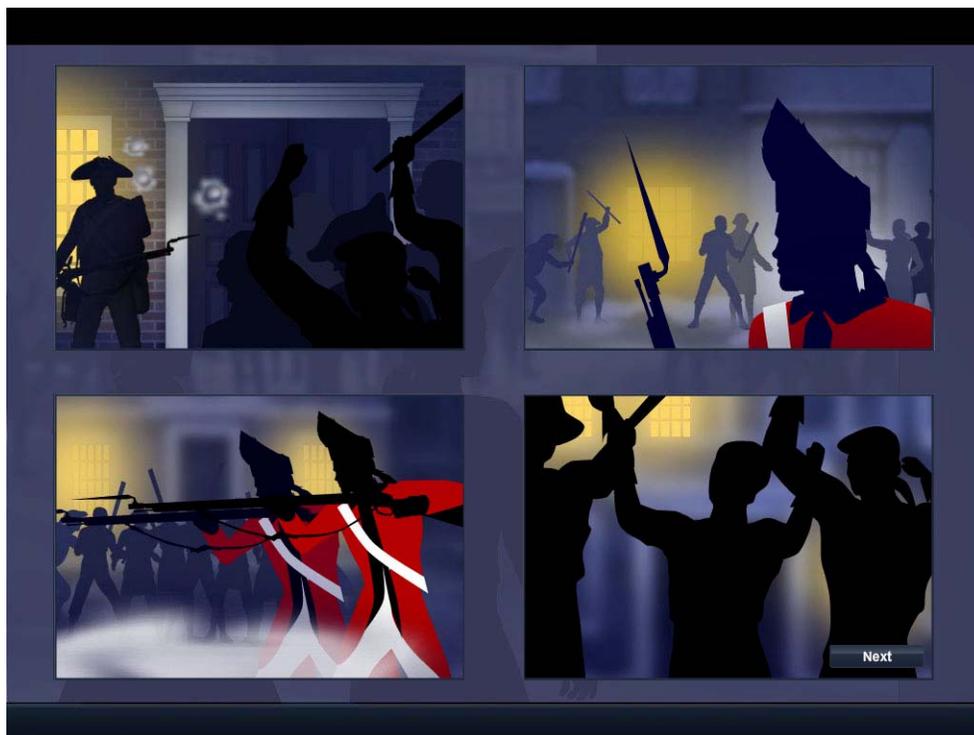


Figure 1: The first "vignette" (which are animations) shows snowballs, which Student #1 observed. The last vignette showed a British soldier being struck by something and falling down. After the last vignette, the shooting commences.

History becomes not a standard version of the past, but a complex, multidimensional database of possible stories and interpretations of how things might have happened.

Narrative and Engagement

To further create a motivating and personally meaningful context, we fused the drama of history with a vetted historical backdrop. *Mission America* incorporates a historically relevant storyline, conflict and resolution, compelling characters and colorful dialogue. The attention to narrative and drama helps to create a deeper emotional engagement and personal investment for the game participant. We purposefully designed by considering “fun, enjoyment, aesthetics, and the experience of use” (Blythe, et al, 2003). Participants find pleasure in a game that holds attention and captivates, is novel and arouses new emotions beyond the quotidian, whereas both the cognitive and affective are stimulated (Caroll, 2004; Hassenzahl, 2003). To have “fun,” we need to be emotionally aroused, but also invited to be intrigued, mentally challenged, surprised, and to discover and explore. Drama and narrative, along with a compelling historical and social context, can add to this element of pleasure, which in turn leads to deeper engagement in the game (Wensveen and Overbeeke, 2003; Shneiderman, 2004).

Incorporating narrative elements, such as a storyline, an avatar that embodies the participants’ choices, and relationships with non-playing characters (NPCs) help learners feel a greater sense of responsibility to the game’s characters and outcomes, compelling them to further consider and reflect on the consequences of their actions and interactions in the game. The game’s drama and multiple narratives is also a launch pad for the learners’ own creative interpretations of history. For example, learners can create what feel like “fan fictions” (Jenkins, et al., 2006), in that they can access the story, and write, perform, or deliberate new narrative nodes and possibilities. By creating a rich multilayered narrative, we are able to encourage participant’s creative enhancements to the story, furthering their engagement and understanding of the material.

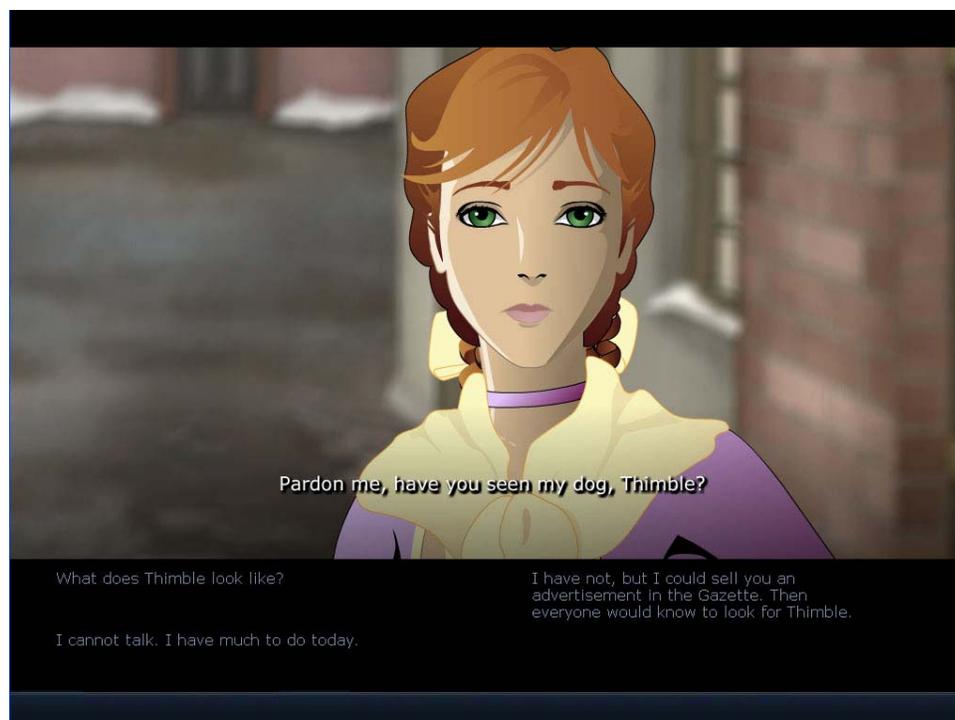


Figure 1: A lost dog serves as a narrative hook that deepens the player's exploration of the Loyalist perspective, embodied by Constance Lillie, the (fictional) niece of the merchant Theophilus Lillie (a real person) who was an importer.

Moreover, we developed game tasks that were integrated into the story line, such that tasks seemed relevant to the overall narrative and historical context. For example, participants were invited to find advertisements from townspeople to place in Edes' newspaper, an appropriate task for a printer's apprentice. The challenge of finding advertisers that had patriotic leanings, similar to Mr. Edes, versus loyalist leanings, also helped to situate the task in the historical context, while remaining true to the story. The ads themselves were also based on actual advertisements in Mr. Edes' newspaper.

This example also illustrates how in designing *Mission America*, we needed to continually and carefully balance game play with pedagogy, emotion with cognition, and narrative techniques with accepted facts and details about the historical moment of the Boston Massacre. The intention is that by incorporating these elements, *Mission America* does not only teach about the historical moment of the Boston Massacre, but it enables learners to practice 21st century skills, such as problem solving, collaboration, ethical reasoning, and critical thinking (Partnership for 21st Century Skills, 2008). In turn, engaging learners' emotional and ethical understanding also helps in supporting their understanding of the past and their development as citizens, as evidenced by recent research from Stoskopf and Bermudez (2008). They explain that:

Rather than ignoring the role ethics and emotions play in classroom discussions, teachers need to know how to effectively work with these dimensions to enhance students' historical understanding. When teachers are skilled at doing this well, students' curiosity and learning is sustained beyond the actual lesson. Students' relationship to the past, present, and future changes; they now have new ways of understanding how their study of history can inform their own roles and choices in society today (2008).

Such skills and historical understanding are necessary for fully participating in a global interconnected, digital economy, and for deeper democratic engagement and citizenship (Stoskopf and Bermudez, 2008; Jenkins, et al., 2006).

Avatar/Player Relationship

In designing *Mission America*, we paid particular attention to the dynamic between the learner and the avatar, which in this case is Nathaniel, a printer's apprentice. The learner can express themselves by controlling the avatar, so their choices and decisions are embodied in the avatar, or digital or virtual manifestations of one's play within a gaming environment.

Through the use of an avatar, *Mission America* invites the player to take on a new identity and to experiment with the role of an apprentice in Revolutionary Era America. As Gee explains, learning requires one to take "on a new identity and [form] bridges from one's old identities to the new one" (2003), by making connections from one's own identity to an emerging one. Gee explains that in a role playing game, there are three different identities. One is the virtual identity, or avatar, which is Nathaniel in this episode of *Mission America*. A second is the player's own identity, and the preconceived notions and ideas that you bring to the game and learning. And finally, the third is the projective identity, in which the real world person and virtual world person interact and form a hybrid identity. In this sense, the real world player projects his or her own "values and desires onto the virtual character" (2003), as well as expresses aspirations for what the character should be. Through the course of the game, the avatar and player teach each other, co-constructing meaning and knowledge, coupled with the formation of a hybrid identity.

In *Mission America*, we designed the game so that through the interaction of real player, virtual character, and projective identity, the player is able to further reflect on what it means to be a person during the Revolutionary Era, what it means to be an apprentice, as well as an ethical and historical thinker. Because of this complex relationship, game players have more at stake in the game, and their learning deepens (Gee, 2003). Moreover, playing a role heightens the drama and engagement of the game experience (Laurel, 1993).

As such, we designed *Mission America* so that the learner has “real choices...and ample opportunity to mediate on the relationship between new and old identities” (Gee, 2003). Participants are able to test out and reflect on their preconceived notions about history, play with their identities, and explore another’s identity from within a historical context. The player is able to perform tasks and access experiences and perspectives they would not normally be able to do in their real world. This includes everything from interacting with historical figures and artifacts, to arguing with adult NPCs, to performing tasks associated with a printer’s apprentice, or enacting small transgressions. In designing the game, we let participants make mistakes, be self-reliant, solve snags, traverse boundaries, and experiment with multiple identities.

For example, there is a moment where the player encounters a British Customs Official. Nathaniel would certainly know to step out of the way and even doff his hat. A modern-day student is unlikely to treat an oncoming adult with that much respect. The player then has the option to do what Nathaniel would do, but also to explore what happens when he acts using his own social norms and not those of 1770. In this case, he gets smacked on the head and, again, has the opportunity to move on or “Chase after him and kick him.”

By letting the player step out of their seats, and outside the boundaries that their social and historical role dictates, they can travel down paths of their own choosing. Players need to “traverse these realities, enacting choices, suffering happenstance,” and experiencing the consequences of actions without real world implications (Murray, 1997). For instance, learners can experience how actions in the past might have different results than actions today.

Supporting Vocabulary Development

If a learner cannot comprehend the text of the game, then none of the above elements matter. First and foremost, a learner needs to be able to decipher the meaning of the game’s content, so that he or she can learn the domain. Currently, a large component of the inability for many readers to access nonfiction is their lack of sufficient vocabulary. Gee explains that one of the biggest challenges to kids’ reading comprehension and a major cause of the “fourth grade slump” is their inability to access and decode “academic language” (2008). Gee writes, “Different academic subject areas and disciplines use different varieties of academic language, and academic language itself is just one type of specialist language” (2008). In playing *Mission America*, participants need to be able to understand the specialist language to be able to further comprehend both the story and historical context.

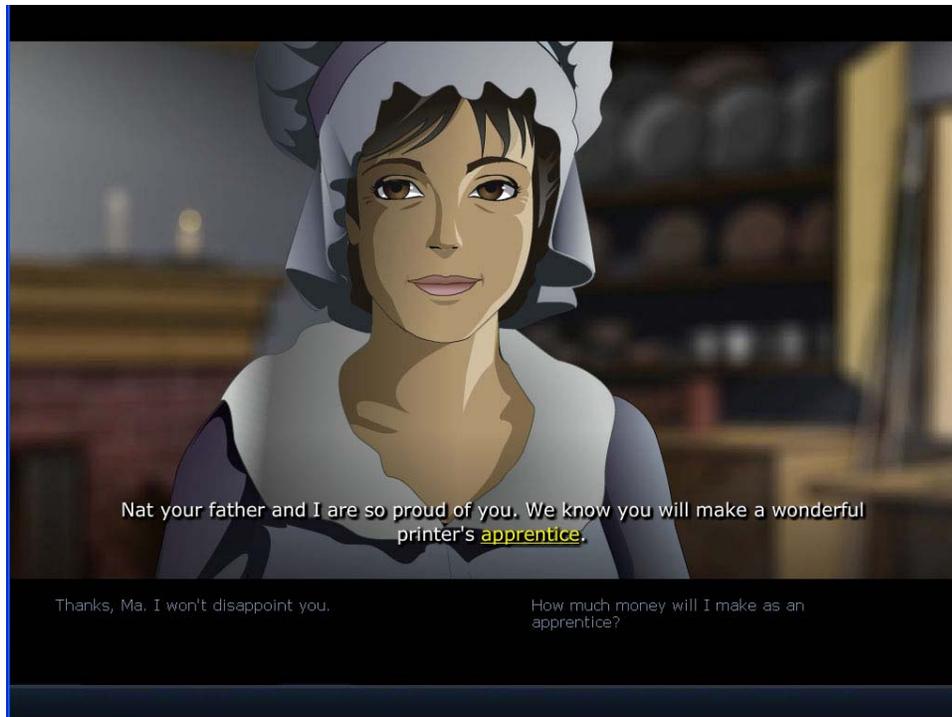


Figure 2: Smartwords, like "apprentice" in this example can be clicked on and collected (in addition to seeing a meaning).

As a result, we designed *Mission America* so that these vocabulary words would be scaffolded, or supported for learners in a variety of ways. For example, players can grab and collect “Smartwords” and put them in their inventory, where they can see its definition. And, we provide multiple exposures—the game first provides the word in the game’s context, so that its meaning is appropriately situated with relevant content, and then the game offers a way to access the word’s explicit meaning. For example, the player can first collect the phrase, “Sons of Liberty” when a fellow apprentice is bragging about how he will soon be a member. This provides the learner with a sense of ownership over the words and builds their confidence in its comprehension, removing obstacles to further engagement in the learning experience.

Design Note: The Smartword feature as seen in the prototype is not the full functionality that is planned. The player needs a way to use these words in game context and derive additional exposure and meaning. The design calls for these words to be dragged-and-dropped over NPCs and have them relate their relationship to that word and concept e.g. dropping “Sons of Liberty” over Paul Revere will elicit a very different response than dropping it over Theophilus Lillie. By exploring each word or concept with multiple characters, the Smartwords will get “promoted” to new levels. This “promotion” of vocabulary was a very successful feature that Electric Funstuff employed in their design of Scholastic’s ReadAbout reading comprehension program (vocabulary acquisition for users of RA improved significantly more than a control group).

Further research to support this type of in-text scaffolding of vocabulary comes from Feldman and Kinsella, who note that context alone is not enough to understand a word, and “understanding the meaning of a new term requires a clear explanation of the meaning,

using language familiar to the students,” (2005) along with seeing the word in multiple contexts, and elaborating on and using the word.

The following are a selection of other design choices that we employed, as well as a brief rationale for each.

- **Simplification of Animation.** We sought to simplify the animation while NPCs talked, so as not to distract the viewer from the text and audio inputs. This is based on the information processing theory and research on the dual coding system, and studies on the interference between more than one visual input (Mayer, et al., 2001; Mayer, 2003).
- **Modular Play.** We developed short, 25-45 minute game segments (Prologue through Day 6) that could each fit into one class period and could be supported by further activities within the classroom, as guided and determined by the teacher.
- **Balance Between Control and Freedom.** We designed the game such that the player was able to freely choose among a number of dialogue strands, mini-tasks, and loyalties. While there was an amount of freedom and exploration, we also included appropriate constraints so that the player would continue to move forward in the narrative in the allotted time.
- **Providing Goals and Mini-tasks.** We designed multiple, relevant game tasks that were historically grounded and dramatically appropriate. These mini-goals helped to support an overall objective of historical thinking, interpretation and understanding.
- **Curriculum and Standards Integration.** The game was carefully constructed so as to include multiple points of connection to the curriculum, as well as allowing for a certain amount of creativity for the teacher and students. Moreover, the game tied into state and national history standards.
- **Pivotal Climax and Resolution.** The game’s narrative builds to the dramatic climax of the Boston Massacre, which each game player views differently. The game engine randomly provides four different short animations that show snapshots of the event, enabling many possible interpretations. Likewise, the resolution, in the form of the deposition, allows the player to then enact and reflect on their interpretations of the event, and also experience its consequences.

Works Cited

- Barab, S. & and Duffy, T. (2000). From practice fields to communities of practice. In D. Jonassen & S. Land (Eds.), *Theoretical foundations of learning environments* (pp. 25-56). Mahwah, NJ: Lawrence Erlbaum Associates.
- Blythe, M. (2003). Introduction. In M. Blythe (Ed.), *Funology: From usability to enjoyment*. Boston: Kluwer Academic Publishers.
- Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Education Researcher*, 18, 32-42.
- Bransford, J.D., Brown, A.L., & Cocking, R.R. (2000). *How people learn: Brain, mind, experience, and school* (expanded edition). Washington, D.C.: National Academy Press.
- Carroll, J.M. (2004). Beyond fun and interactions (special issue). *Interactions: New visions of human-computer interactions*, September/October.
- Feldman, K. and Kinsella, K. (2005). *ReadAbout Research: Narrowing the Language Gap*. New York, NY: Scholastic, Inc.
- Gee, J.P. (2008). *Getting over the slump: Innovation strategies to promote children's learning*. (Policy Brief). Joan Ganz Cooney Center at Sesame Workshop.
- Gee, J.P. (2003). *What video games have to teach us about learning and literacy*. New York: Palgrave Macmillan.
- Hassenzahl, Marc. (2003). Making sense of experience. In M. Blythe (Ed.), *Funology: From usability to enjoyment*. Boston: Kluwer Academic Publishers.
- Jenkins III, H., Clinton, K., Purushotma, R., Robison, A., & Weigel, M. (2006). *Confronting the challenges of participatory culture: Media education for the 21st century*. Chicago, IL: MacArthur Foundation.
- Jonanssen, D., Cernusca, D. & Ionas, G. (2007). Constructivism and instructional design: The emergence of the learning sciences and design research. In R.A. Reiser & J.V. Dempsey (Eds.), *Trends and issues in instructional design and technology* (2nd ed., pp. 45-52). New York, NY: Pearson Education.
- Laurel, B. (1993). *Computers as theatre*. Reading, MA: Addison-Wesley.
- Lave, J. and Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.
- Mayer, R.E. (2003). The promise of multimedia learning: Using the same instructional design methods across different media. *Learning and Instruction*.
- Mayer, R.E., Heiser, J., & Lonn, S. (2001). Cognitive constraints on multimedia learning: When presenting more material results in less understanding. *Journal of Educational Psychology*.
- Murray, J. (1997). *Hamlet on the holodeck: The future of narrative in cyberspace*. Cambridge, MA: MIT Press.
- Partnership for 21st Century Skills. (2008). *21st century education & competitiveness: A resource and policy guide*. www.21stcenturyskills.org
- Shaffer, D. W. (2006). *How computer games help children learn*. New York, NY: Palgrave Macmillan.
- Shneiderman, B. (2004). Designing for fun: How can we design user interfaces to be more fun? *Interactions: New visions of human-computer interactions*, September/October.
- Stoskopf, A. and Bermudez, A. (2008). New Insights into How Students Learn about the Past. *AI Tablero*. Fall Issue.
- Wensveen, S. & Overbeeke, K. (2003). Fun with your alarm clock. In M. Blythe (Ed.), *Funology: From usability to enjoyment*. Boston: Kluwer Academic Publishers.

MISSION AMERICA

“FOR CROWN OR COLONY?” LEARNING GOALS

LEARNING GOALS FOR *MISSION AMERICA*

- Learn the story of America and the ways Americans struggled to realize the ideals of liberty and equality
- Understand the role of ordinary men and women—including young people—in history
- Develop historical thinking skills that increase historical understanding and critical perception

LEARNING GOALS FOR “FOR CROWN OR COLONY?”

The coming of the American Revolution saw people in the thirteen colonies grow alarmed by British interference in their affairs (“tyranny”) and begin a movement to secure their “liberty” that eventually led to the Declaration of Independence. Amid growing tensions and violence, apprentice Nat Wheeler must choose whether to join the Patriot cause, remain loyal to the Crown, or try to stay out of the conflict.

Historical Understandings & Skills	Game Assessments	Smartwords	Classroom Activities
Change and continuity: People in the colonies changed from taking pride in their relation to the mother-country and their place in the British Empire to wanting their independence and revolution	Identify some reasons why colonists were no longer happy under British rule Identify major events on “Road to Revolution”	empire/colony mother-country grievance revolution rights liberty/tyranny King/Parliament	Background Info Pre-game activity on thirteen colonies and 1763 turning point; post activity on causes of Revolution
Change and continuity: Revolution was the result of a <i>social movement</i> – ordinary people like printers, apprentices and women who expressed their anger at British control through different kinds of protest -- printing newspapers, boycotts, making homespun, tarring and feathering British officials.	Match forms of protests to NPCs; protest/spinning bee mini-game; or identify key protests on “Road to Revolution”	protest tax import/export boycott homespun tarring and feathering pamphlet	Activity on different types of protest (violent resistance, boycott, propaganda) Documents related to protest

Historical Understandings & Skills	Game Assessments	Smartwords	Classroom Activities
Cause and effect: Historical events have more than one cause. Parliament’s tax policies, the presence of British soldiers in Boston, and colonial protests were all factors in the Boston Massacre.	Identify multiple causes of Boston Massacre in “Causes and Consequences” minigame	redcoats occupation Boston Massacre	Activity on Paul Revere print and propaganda
Turning Points: The Boston Massacre, and the stories and images Patriots made about it, helped build colonial opposition to the Crown; it was a key event on the road to Revolution.	Identify major events on “Road to Revolution.” Game ending should ask player to make choices about what role they want to play in the coming of the revolution.		Activity on Paul Revere print and propaganda
Read and interpret primary sources (18 th c. pamphlets, prints, newspapers).	Problem solving task(s) that requires decoding primary docs		(Most of the classroom activities are already document based)

MISSION AMERICA: “FOR CROWN OR COLONY?” CHARACTER GUIDE



Nathaniel (“Nat”) Wheeler

- Fourteen-year-old son of a middling farmer.
- Has spent his entire life on his family’s farm in Uxbridge, MA
- Can’t inherit the farm, since his older brother will.
- Takes the opportunity to become an apprentice in the print shop of Benjamin Edes in Boston.
- Wants to succeed as an apprentice, but not sure he’ll like the life of a printer; trying to figure out the path he’ll take in life.
- Thinking about Nat’s Perspective: Nat is new to Boston and must figure out (like students) what the conflicts are all about, and where he stands on them. Does he have a stake in the arguments over taxes, troops, and protest? Who will he side with? What life will he lead?



Royce Dillingham

- A Ropemaker’s apprentice at Gray’s Ropewalk.
- Poor, with no family means – a member of the ‘worsler’ sort
- Street smart and tough, has lived in Boston his entire life.
- Works for the Sons of Liberty staging protests with other apprentices outside loyalist stores
- A favorite of Mrs. Edes, the wife of Nat’s employer
- Hates British soldiers, who he likes to antagonize
- Supports the colonists’ non-importation agreement, and angrily opposes merchants who sell imported goods
- Thinking about Royce’ Perspective: Royce is eager to take part in any action against the Crown, including mild violence. Is he too eager? Does he protest in order to get fairness and justice – or mainly for fun? Colonists who debated the threat vs. the potential of the ‘mob’ wondered the same thing.



Solomon Fortune

- A laboring free black man.
- Born into slavery on a sugar plantation in the West Indies.
- Works as a sailor for a ship's captain. When his vessel is in port, works at the waterfront unloading and loading cargo
- No fan of Parliament's taxation and trade policies, since they restrict the shipping trade that he depends on for a living;
- Skeptical towards the Patriot movement, since he doubts it will extend emancipation to slaves
- Thinking about Solomon's Perspective: How would a free black man view the tensions between the Colonies and the Crown? Would he be indifferent? Interested in one side or the other winning? Happy to see them arguing and fighting? Why?



Mrs. Martha Edes

- Wife of printer Benjamin Edes, Nat's employer
- A competent "goodwife"
- Very interested and involved in politics
- Takes a leadership role among women in organizing consumer boycotts by hosting Spinning Bees and refusing to drink tea
- Supports locally-made goods, as a protest against British taxes
- Opposes the selling of imported goods from Britain
- Is kindly and helpful toward Nat, and considers Royce one of her favorites
- Thinking about Mrs. Ede's perspective: Women in colonial society could not participate in public life and argument in the same ways men could. What alternative types of action does Mrs. Edes engage in? How effective might she and other women feel? Why?



Phillis Wheatley

- Sixteen-year-old slave belonging to merchant John Wheatley
- Has been taught how to read and write by the Wheatleys
- Writes poetry supporting the Patriot cause and more romantic ideas about liberty and virtue
- Is trying to get a book of her poems published but is having a hard time getting enough financial support from the local community
- Believes the Patriot cause is connected with the freeing of slaves
- Thinking about Phillis' perspective: Phillis is a 'well-treated' slave (which complicates students' thinking about slavery and freedom). Does she support the Colony over the Crown out of gratitude, because her master John Wheatley treats her well? Because she yearns for liberty despite this? Will her support for the patriot cause be rewarded after Independence?



Paul Revere

- Boston silversmith
- Member of the Sons Of Liberty
- Strongly opposed to the occupation of Boston by British troops
- Opposed to taxes levied on colonists by the Crown
- Supports crowd action in order to overthrow the Crown's control of the colonies.
- Thinking about Revere's perspective: Paul Revere is a successful artisan who lives and dresses modestly; he opposes the Crown's interference in Boston's society, economy, and government; like Edes, uses the printing press as a Patriot weapon against the Crown, most famously in his engraving of the Boston Massacre. What might his attitude be towards aristocrats? Workers? British soldiers?



Hugh White

- British Customs Sentry
- Not happy about being in Boston, since army conditions are harsh and the town of Boston is unwelcoming
- Loyal to the Crown and its policies
- Weary of mob actions in the streets
- Dislikes Royce and the street gangs of apprentices
- Thinking about Hugh's perspective: Hugh White is a private in the British army; he has been trained to fight against Britain's enemies like France, and does not like the idea of babysitting a bunch of colonists who won't pay their taxes; he wants to be reassigned outside of Boston. How is the occupation of Boston different from other "battles" that British soldiers have fought?



Constance Lillie

- Beautiful niece of loyalist shopkeeper, Theophilus Lillie
- Visiting Boston from New York
- Sophisticated and kind; enjoys the "finer things"
- Happy with the status quo
- Likes Nat, though she generally would not converse with someone as low as an Apprentice
- Thinks that the Sons of Liberty should not interfere with the livelihood of merchants who sell goods imported from England.
- Fears the violence of protesting crowds
- Thinking about Constance's perspective: As the niece of a successful shopkeeper who sells lots of British goods, Constance benefits from the colonial system, and doesn't see the need for change. How does this affect her view of soldiers, boycotts, and violent protests?



Mr. Benjamin Edes

- Master-craftsman Printer
- Member of the Sons Of Liberty
- Prints Boston Gazette, a Patriot paper.
- In his paper he condemns local merchants, such as Theophilus Lillie, for selling imported goods
- Strongly in favor of the non-importation act (that is, opposed to merchants selling imported goods from Britain).
- Opposed to taxes levied on the colonies by the Crown
- Thinking about Mr. Edes' perspective: Mr. Edes is a political "radical" – he is a Patriot and outspoken critic of the Crown and British soldiers; by printing attacks on the Crown, he puts his personal and professional life at risk; he does not appear to participate in crowd actions and street protests but portrays them sympathetically in his newspaper; How effective is the printing press as a weapon against the Crown? By printing attacks on the Crown, is Edes being a traitor to the English?



Mr. Wheeler

- Middling farmer from Uxbridge, Massachusetts
- Father of Nat Wheeler
- Sets Nat up as an apprentice in Boston because his older brother Samuel, rather than Nat, will inherit the farm
- His eldest son Christopher went off to fight with the British army to protect the American frontier in the French and Indian War.
- As a farmer, feels he has little stake in the political arguments in Boston over taxes and troops.
- Concerned about how Nat will handle the conflict in Boston; advises him to not get too involved.
- Thinking about Mr. Wheeler's perspective: Why would a farmer like Mr. Wheeler not be too concerned about British tax policies and troops?



Theophilus Lillie

- Loyalist shop-keeper who sells many goods imported from England
- Defies the colonists' non-importation act – continues to import and sell British goods
- Angry at the Boston Gazette and its printer Benjamin Edes, for calling him names in the paper
- Supports the Crown's rule over the colonies as opposed to mob rule
- Supports the Townshend Act as a way for the Crown to fund its protection of the colonies
- Thinking about Mr. Lillie's perspective: Mr. Lillie does not want to upset the colony's relationship to the Crown. For him, taxes are only fair to help pay off British debts; troops in Boston mean protection from dangerous crowds; and colonists' violent protests against the Crown are nothing but mob actions to be condemned. What reasons would he give for these positions?

**MISSION AMERICA: “FOR CROWN OR COLONY?”
DAY-BY-DAY OVERVIEW OF GAME MISSION**

	Synopsis	Vocabulary	Concepts	Questions to ask students	Primary Docs
Prologue	Nat provides some background about his family, then leaves home to start an apprenticeship in Boston with the printer Benjamin Edes. Upon arriving at the Edes printshop, Nat must read his indenture contract, decide if he wants his father to negotiate any terms, and then sign it.	<ul style="list-style-type: none"> • Seven Year’s war • master • apprentice • journeyman • indenture contract 	<i>Colonial occupations & social roles--</i> <ul style="list-style-type: none"> • Apprentice, journeyman, and master • Printer • Indenture contracts 	<ul style="list-style-type: none"> • Why is Nat leaving his family and the farm? • What is an apprenticeship? Is it a job? Will Nathaniel be paid? Will he receive anything for his services? • What are the troubles in Boston to which Nat’s father alludes? • Why does Nat have to sign a contract? How do you think signing a contract will influence Nat’s life in Boston? 	<i>In the game:</i> Indenture contract <i>In the classroom:</i> Indenture contract

	Synopsis	Vocabulary	Concepts	Questions to ask students	Primary Docs
<p>New in Town</p> <p>Feb. 21, 1770</p>	<p>Nat begins his apprenticeship with Mr. Edes. His first task is to sell three ads for the Gazette and pick up a shipment of type from Griffin's Wharf. He may meet a variety of people around town, including merchants, a Redcoat, a ship worker from the West Indies named Solomon Fortune, and the historical figures Paul Revere and Phillis Wheatley. He also meets Royce Dillingham, a Patriotic apprentice at the ropewalk, and Constance Lillie, niece of loyalist merchant Theophilus Lillie, who is searching for her lost dog Thimble.</p>	<ul style="list-style-type: none"> • apprentice • master • patriot • contract • merchant • Redcoat • artisan • journeyman • slave • freedman • slavery • printer • tax • advertisement • Sons of Liberty 	<p><i>Colonial occupations & social roles--</i></p> <ul style="list-style-type: none"> • Apprentice & master • Slave & freedman • Printer, Merchant, Silversmith, Sailor <p><i>Beginnings of resistance--</i></p> <ul style="list-style-type: none"> • People calling themselves "Patriots" and the "Sons of Liberty" are arguing with their neighbors over British <i>taxes</i> and <i>troops</i>. 	<ul style="list-style-type: none"> • Royce is also an apprentice. What do apprentices do in colonial Boston? • Royce and Mr. Edes talk a lot about Patriots and the Sons of Liberty. What are patriots? Who are the Sons of Liberty? • Does Theo. Lillie have the same feelings about the Sons of Liberty as Royce and Master Edes? Why is he angry at Master Edes? • Why won't Mr. Edes buy ads from importers? What are importers? Are they patriots? • Phillis mentions that she "may never taste that kind of freedom." What does she mean by that? Is she free? Is Nat free? Is Solomon free? 	<p><i>In the game:</i></p> <ul style="list-style-type: none"> • Boston Gazette • Text of advertisements <p><i>In the classroom:</i></p> <ul style="list-style-type: none"> • Gazette articles • Lyrics to "The Liberty Song"

	Synopsis	Vocabulary	Concepts	Questions to ask students	Primary Docs
<p>A Death in Boston</p> <p>Feb. 22, 1770</p>	<p>Mrs. Edes sends Nat out to buy supplies for her upcoming spinning bee, with instructions to be careful where he shops. In town, Nat learns of protests against merchants who have been importing goods from England. Nat has the option to buy goods from importers or non-importers.</p> <p>Later in the day, he hears that an eleven-year-old boy named Christopher Seider was shot during an altercation between protestors and a customs informer. Back at the print shop that night, Nat overhears a meeting of the Sons of Liberty in which plans are made for the Seider funeral and protest.</p>	<ul style="list-style-type: none"> • import • export • boycott • non-importation • homespun • spinning bee • protest • Liberty Tea • Townshend Acts • taxes • Sons of Liberty 	<p><i>Taxation and protest</i></p> <ul style="list-style-type: none"> • The Townshend Acts • The non-importation movement – boycotts and other forms of protest • Women and protest 	<ul style="list-style-type: none"> • What are the unfair laws that Mrs. Edes refers to when she talks about spinning bees? Why is she concerned with the places at which Nat shops? • Why does Mrs. Edes say that people who don't import British goods are patriots? Why does she refuse to support the Townsend Acts? • [Looking at the Gazette]: Who are the people on Gazette list? What do the Edes think about them? Why does Mr. Edes publish this list of names? • How and why was Christopher Seider shot? • What meeting does Nat overhear before he goes to bed? What's the connection between this meeting and the Seider murder? 	<p><i>In the game:</i></p> <ul style="list-style-type: none"> • Boston Gazette including list of importers and advertisements sold on Day 1 <p><i>In the classroom:</i></p> <ul style="list-style-type: none"> • Newspaper account of the death of Christopher Seider • Hutchinson (Loyalist) reaction to the death of Seider

				<ul style="list-style-type: none"> • How do the Sons of Liberty feel about the Seider murder? What do they plan to do about it? 	
--	--	--	--	--	--

	Synopsis	Vocabulary	Concepts	Questions to ask students	Primary Docs
<p>From Bad to Worse</p> <p>March 5, 1770</p>	<p>Out on an errand, Nat runs into Constance Lillie, who is still searching for her dog Thimble. They spot Thimble and chase him down an alley, which leads them directly into a chaotic confrontation between a crowd of angry townspeople and Redcoats. In a series of stylized vignettes, Nat and Constance witness the events that later come to be known as the Boston Massacre.</p>	<ul style="list-style-type: none"> • massacre • witness • inquest • regiment • musket 	<p><i>Growing tensions and violence between Redcoats and colonists</i></p> <p><i>Understanding multiple perspectives</i></p> <p><i>Causes and consequences of the Boston Massacre</i></p>	<ul style="list-style-type: none"> • Describe the circumstances and events leading up to the Boston Massacre. Who and what did you see? • What do you think caused these events? • Why was it called a Massacre? 	<p><i>In the game</i></p> <ul style="list-style-type: none"> • N/A <p><i>In the classroom:</i></p> <ul style="list-style-type: none"> • Revere engraving of the Boston Massacre

	Synopsis	Vocabulary	Concepts	Questions to ask students	Primary Docs
<p>A Meeting with Fate</p> <p>March 6, 1770</p>	<p>Nat is called to Faneuil Hall to give a deposition about what he witnessed the night before at the Customs House. Before giving his testimony, he speaks briefly with Constance, Royce, and Solomon, who give their perspectives on the Massacre.</p> <p>After completing his deposition, Nat is given three possible paths. He must choose one and prove that he understands the perspective that path represents – whether it is staying in Boston and becoming a Patriot printer; going to New York with Constance and her Loyalist uncle; or sailing to sea with Solomon and leaving the political tensions of Boston behind.</p>	<ul style="list-style-type: none"> • deposition • massacre • musket • Patriot • Loyalist 	<p><i>Causes and consequences of the Boston Massacre</i></p> <p><i>Understanding multiple perspectives:</i></p> <ul style="list-style-type: none"> • Patriot versus Loyalist versus other • Black/African perspectives <p><i>Evaluating/analyzing historical evidence</i></p> <ul style="list-style-type: none"> • Constructing historical interpretations 	<ul style="list-style-type: none"> • What did Constance, Royce, and Solomon say about the Boston Massacre? How do their viewpoints differ? Why do you think they differ? • Why do you think the Boston Massacre happened? How would you have answered the questions in the Deposition? • What do you think will happen next? 	<p><i>In the game</i></p> <ul style="list-style-type: none"> • N/A <p><i>In the classroom:</i></p> <ul style="list-style-type: none"> • Revere engraving of the Boston Massacre

	Synopsis	Vocabulary	Concepts	Questions to ask students	Primary Docs
Epilogue 1770-1776	<p>A 3 minute animated cinematic will summarize the events between 1770 and 1776 leading up to the signing of the Declaration of Independence.</p> <p>Following the cinematic, players will learn what happens to all of the main characters in the game after 1776.</p>	<ul style="list-style-type: none"> • Boston Tea Party • Continental Congress • Taxation without representation 	<p>Causes of/events leading to the American Revolution</p> <ul style="list-style-type: none"> • Revolution as a gradual contagion of liberty • Taxation without representation • Boston Tea Party • Continental Congress • Printed word spreads revolutionary ideas • Lexington & Concord battles • Declaration of Independence 	<ul style="list-style-type: none"> • Describe the events that led from the Boston Massacre to the signing of the Declaration of Independence. • Why did colonists throw tea into Boston Harbor? • Why did colonists gather at the First Continental Congress? • How did the printed word impact colonial society? • What do you think will happen next? 	<p><i>In the cinematic:</i></p> <ul style="list-style-type: none"> • Revere print of Boston Massacre • Protest handbill • Paine’s “Common Sense” • Declaration of Independence • Boston Gazette <p><i>In the classroom:</i></p> <ul style="list-style-type: none"> • TBD

MISSION AMERICA GAME ENGINE

The data-driven, open-architecture of the *Mission America* game engine has proved to be a great success, and is ready to be refactored into a commercial-grade application to enter into Phase II of the project.

Engine Features

The key features of the engine include:

- **Core support for rapid, iterative development using XML.** The ability to quickly respond to user-feedback during informal testing was crucial to the success of the prototype. For games in general, and educational games in particular, the ability to hone the software through many small iterations coupled to user-testing allows the exploration of different design-, interface-, and content approaches, ensuring a high-likelihood of meeting all of a project's goals. The entire structure of *Mission America* missions is stored in the industry-standard XML data format.

This has several benefits, including: 1) major changes can be made to the entire experience without requiring programmer time and without requiring the engine to be recompiled, 2) robust third-party tools can be used to manipulate the game data, 3) content designers do not have to learn a proprietary data format.

- **Adobe Flash/ActionScript-based.** This is as close to being universally distributable and compatible as software can get. The Flash Player built into Internet browsers has achieved 99% market penetration (http://www.adobe.com/products/player_census/flashplayer/). What this means is that computers in schools and in homes can run the engine with no additional software required. Market research shows that ANY required custom browser plugins or client-software downloads significantly reduce the size of the audience the software reaches--whether due to user-caution of third-party software, lack of technical ability, impatience, or institutional security restrictions on computers (an issue for schools and corporations). Using Flash has the automatic benefit of taking advantage of technology upgrades that Adobe invests in. For example, when the next version of the Flash Player is released, the prototype will automatically get 10-15% faster with no additional effort from the developer. Additionally, having the engine be Flash-based opens up possibilities of using the same content and codebase for mobile platforms that support Flash as those platforms gain power. Finally, Flash has built-in accessibility features which could be used if the demand was there.
- **Extensible, modular design.** The parts of the software experience are analogous to Lego bricks that can be snapped together or pulled apart and reassembled to create uniquely customized experiences. New interaction types (such as how we treat different primary source documents: indenture contract, *Boston Gazette*, etc.) as well as minigames can be plugged into the existing framework and integrate seamlessly with pre-existing modules. So, for example, if some mission called for a scene to be explorable in 3D, the engine would not have to be rebuilt, but simply a new module type created. Another way of explaining the modular design is by

saying that the engine framework has no built-in “look” or graphics-presentation dependency -- it is completely reskinnable based on the needs of a project and mission. Lastly, the modular design holds the possibility that we could easily “slice” the same mission content into different pieces based on the different needs of teachers. Using "For Crown or Colony?" as an example, a time-pressed teacher might want just the Paul Revere dialogues to be available to her students for in-class exploration. It would be relatively trivial to create that game configuration because of the modular design.

- **Assessment/Data-reporting Capabilities.** The engine already captures data on user-interactions and makes it accessible to the EDC/CCT testing team. With a more rigorous assessment specification, the engine would be compatible with a more sophisticated, web-based assessment technology.

In summary, the *Mission America* game engine architecture is extremely flexible, compatible, distributable, and adaptable to the dynamic environments of school, home and the Internet of tomorrow.

Systems Overview

The *Mission America* game engine consists of the following systems that work together:

- graphics system - handles loading/unloading/manipulation of any visual assets including video.
- audio system - handles loading/unloading/manipulation of external .mp3 files used for sound effects, VO and music
- XML data system - handles loading and parsing of the files that describe every aspect of the game structure
- scripting system - this is a major component of the whole architecture, allowing scripters to create and alter game experiences without involving programmers
- dialog system - handles interactions with the game's NPCs
- inventory / smartword system - handles in game interactions with these objects
- memory management system - monitors, reports and helps manage the current system memory load - to control game performance
- font management system
- reporting system - monitors and reports user interactions
- debugging framework - not only helpful during QA, but a core piece of that enables rapid iterative development.

Next Steps: Refactoring And Enhancement

A typical commercial software-application project begins with a 4 - 6 month period where a well-understood end product is detailed in a large functional specification. This “spec” is the roadmap that a team of programmers use to construct the software in the most efficient way possible. A typical development cycle might be 18 months. In the case of a game, the application (the “engine”) is developed entirely first and then the “content”(art, audio, puzzles, dialogues, etc.) is developed and the game is polished for a while as the user experience (the “fun”) is honed. It is not unusual for game projects to take 2 - 5 years to develop, depending on scope.

The CPB grant project was, by definition, experimental. At the outset, there were many unknowns. Phase I of the grant consisted of discovering the conceptual approach, the

team processes, the feature sets, and the content that fulfilled the project goals. In contrast to a typical application, all of these things were being discovered, developed and refined simultaneously in a relatively short amount of time.

The existing prototype engine codebase was designed to get the functionality of different features up and running as quickly as possible since the vision of the final product was not fully-formed at the beginning of the project. As with most prototypes, now that we have a very well-informed design, we need to significantly "refactor" the codebase to build a release-quality application. Refactoring involves things like optimization (to make Web-delivery as smooth as possible), making the application more robust (in terms of user-error-handling), making it more maintainable and scalable (so a larger team of programmers can work on it), and building in extension points for further engine enhancements. This need to refactor and rebuild was recognized from the outset of the project, and is an industry-standard best-practice for projects that don't begin with a functional spec; (<http://www.artima.com/intv/tracerP.html> "Prototyping is a learning experience. Its value lies not in the code you produce, but in the lessons you learn."

In addition to refactoring, as we revisit the codebase we will be looking to add or improve features. Possible areas of enhancement include:

- new screen effects - such as scriptable cinematic transitions between scenes
- new scene management - with more drag and drop manipulation of objects
- enhanced lip sync system
- enhanced inventory and Smartword system
- enhanced dialogue system - supporting more response types - such as item clicks, keyword type-in, etc.
- accessibility features
- enhanced data-reporting.

