ABSTRACT
This paper describes the design methodologies of a documentary videogame that looks to explore opportunities for serious games of history. The Cat and the Coup is about Mohammed Mossadegh, Iran's first democratically elected Prime Minister who underwent a CIA-sponsored coup d'état - a historical moment that is largely new to its young American audience.

Categories and Subject Descriptors

General Terms
Documentation, Design, Experimentation, Theory.

Keywords
Game design, history, Iran, CIA, war, democracy, Persian miniatures, Mossadegh, coup d'état.

1. INTRODUCTION
In the documentary videogame, The Cat and the Coup, you play the cat of Dr. Mohammed Mossadegh, the first democratically elected Prime Minister of Iran. During the summer of 1953, the CIA engineered a coup to bring about his downfall. As a player, you coax the non-player character, Mossadegh, through significant events of his life by manipulating him directly and indirectly. War is a common theme among commercial videogames, but the foreign interventions of the CIA after World War II have never before been depicted so explicitly. The Cat and the Coup is about the relationship between the American people and Mossadegh, especially for those who are unaware of these historical events.

2. TECHNICAL REQUIREMENTS
The project can be downloaded and installed from http://www.thecatandthecoup.com for Windows or OSX. It requires a computer with 2GB of RAM and a stand-alone video card is preferred. Also, the project is tailored for an HD resolution, so a monitor or projector that is 1080 or 1200 pixels tall would look best.

3. GOALS
One primary goal of The Cat and the Coup is to engage computer literate Americans about contemporary Iran by focusing on a historical turning point for U.S. and Iranian relations. The overthrow of Mossadegh is well known to Iranians, but not to Americans who often do not realize that the two countries once held good relations. Knowing that the subject matter can be
researched online, we imagine the project as an entry point for a new student of U.S. and Iranian relations.

In addition, we see *The Cat and the Coup* as looking to experiment and explore useful directions for serious games, in particular by putting the project in the context of documentary. There seems to be particular opportunities to discover how metaphor - both procedural and visual - can afford meaning making opportunities for nonfiction games. We sought to incorporate an appropriate combination of previous videogame influences as well as those found in other media. As Brian Hertier points out when describing the game, "What the documentary genre needs is a set of standard conventions---something that will allow a developer/journalist to make a persuasive case without reinventing the wheel every time." [1]

4. GAME DESIGN

There are six significant events of Mossadegh's life that are represented as “puzzle rooms”. Each of these episodes is embodied as a contained space in which the player is challenged to lure Mossadegh out. Mossadegh is a non-player character who, without player influence, goes about a consistent behavior, like cleaning up, listening on the phone, or sleeping.

4.1 Mechanics
The puzzle solutions are unique to each room and, in order, include knocking over Mossadegh's alarm clock, interrupting his writing, tricking him to fall into a hole, inciting a threatening mob, spilling hot tea on him, and finally, knocking him to the ground.

The gameplay is based on the 2D platformer genre, with the cat running and jumping as well as interacting with actionable objects. In addition, the player can make most of the puzzle rooms tilt five to ten degrees on their center axis, allowing for further manipulation of items and characters.

4.2 Visual Art as Space and Time
The art of *The Cat and the Coup* is based on Persian miniatures, a style of painting dating back to the 13th to the 16th centuries. Perhaps the most famous book of Persian miniatures is the illustrated accompaniment to the Shahnameh, an epic about the history of Iran from the beginning of the world until the Islamic conquest in the 7th century. The game space of *The Cat and the Coup* is like a new page in Iranian history, and where the cat travels, so do the player's eyes, making the cat's fine and delicate steps like that of a close and careful reading of an illuminated manuscript, and for that matter a nuanced chapter of history.

Persian miniatures predate perspective drawing and feature impossible spaces. For example, situating a character below a building means he is in front of it; floors and pools of water that are perpendicular to walls include textures that - just like the walls - face the viewer.

*The Cat and the Coup* has no loading screens or camera edits. The entire experience is captured in a single "long take" in order to feature the seamless world and to place Mossadegh's story within a broader historical context. The game world is effectively a tall and narrow Persian miniature timeline referencing significant images and texts of the history. The player must solve the interactive rooms by discovering how to coax Mossadegh to the next one, the next historical chapter.

This graphical timeline is a collage composed of many images. Whereas most history games sect time periods using montage (the filmic cut or fade), *The Cat and the Coup* links time and space, similar to the approach of comic books. Scott McCloud's seminal *Understanding Comics* contextualizes the comic form compared to time based media, such as cinema. The individual comic frame represents a moment, not necessarily an instant, but often an indeterminate short period of time. And when the comic reader's eye moves to the next frame, time concretely moves forward. [2] In *The Cat and the Coup*, each of the areas depict an important moment in Mossadegh's life, but when the player moves to a new region, time progresses by months and years.

This experience is embraced in *The Cat and the Coup* to underscore the fact that Mossadegh's story has already happened and is well documented. Even though it involves the CIA, it is not a secret as this history can be easily found on the Internet, for example. In the year 2000, classified CIA documents were leaked to the New York Times, proving what was long suspected. This chapter of history passed years ago, but you are only now bearing witness.

5. METAPHOR

Chris Crawford says that all play is metaphorical, and the mechanics of *The Cat and the Coup* are no exception. [3] Each of the six puzzle rooms challenge the player to manipulate Mossadegh out of the current playspace. This includes rather subtle activities for game standards, and a majority of them can be described as incorporating "indirect influence". Each of these activities has two meanings; spilling his inkwell is silencing him, playing with the judge's head is undermining justice, and ruining tea between he and Truman is ending good relations between two nations. These are metaphors for the type of manipulation the CIA employed on a myriad of foreign leaders over the decades. In the case of Iran, they bribed politicians, fed media outlets disinformation, and curbed Mossadegh's ability to communicate with his people. Ultimately, they forced him to make self-defeating decisions as he did not understand the extent or nature of their influence. Like a sly cat, the player manipulates the situations without Mossadegh's knowledge.

These play metaphors work hand-in-hand with the visual gamescape, and with such use of image metaphors, the game is ostensibly an allegory. All the characters in the story, the CIA agent, the Iranian General, the Shah, Winston Churchill, and Harry Truman are the likeness of people with animal heads - of a toad, pig, peacock, bulldog, and rabbit, respectively. They are an amalgam of a human and an animal, and so their depiction sits somewhere between the literal and the iconographic. These human-animals are coded versions of the real, and their individual roles in Mossadegh's downfall are intentionally ambiguous. As we play, we are not certain who is his friend and foe, as neither was he.
5.1 Play as Decoding
The story is told twice, first the gamer plays through it, before experiencing it again without interactivity. During play, after the player solves each puzzle room, the cat and Mossadegh travel downward in the two dimensional world. To reiterate, the game background is an enormous collaged Persian miniature, and so the last puzzle takes place at the bottom of the world. But as we play, the game tells the history in reverse chronological order, starting with Mossadegh's death (at the top of the world) and ending with the day he was elected Prime Minister of Iran (at the bottom). Moving from a tragic day to a triumphant one - while providing the player with increasing violent influence - emulates the player’s realization that they are not an incidental character in this story, but an essential catalyst of tragedy.

5.2 Reward as Recognition
To solve the final room at the bottom of the world, the player forces Mossadegh to "strike oil" - to collapse to the ground, creating an oil geyser. Oil floods the room before carrying Mossadegh upward. The camera follows the sleeping Mossadegh as he floats up, through the same space that we just played through. Now with no interactivity, the player sees the collaged world again. But as traversing down the gamescape meant telling the story in reverse chronological order, moving up, tells the story forward.

Like many videogames, a narrative reward is given for beating a game. This usually comes in the form of a cinematic cut scene, but in The Cat and the Coup the playable world is now repurposed as a scrolling story collage. Now history is progressing forward with this second telling, and the gamescape is also altered throughout in two ways.

First, the "headlines" are replaced with different ones. The new ones provide a more straightforward telling of the broad events as they site sources that are not of the present day, but reported later with the benefit much more information, found in letters, memoirs, and leaked documents. Second, the characters and scenes have their visually coded representation lifted. The human-animals characters no longer feature a head of a toad, eagle, bulldog, but a photographic depiction of the real people. And each room's background texture is removed to reveal the original photograph for which it is based, such as a picture of Mossadegh and Truman shaking hands, Mossadegh on trial, and so on.

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As the camera moves up through this newly decoded gamescape, we are told the story once again, but with the benefit of hindsight.

We understand what roles each character played in Mossadegh's downfall as we know it today. This noninteractive ending is a reflection on history, and we realize that this was never an allegory, just a thinly veiled cover-up. To get the player to play the story backwards, and comprehend it moving forward honors a recognition that in life we learn history moving back in time, but understanding it forward.

In his book, Everything Bad Is Good For You, Steven Johnson describes the experience of game stories. "Playing a videogame generates a series of events that retrospectively sketch out a narrative, but the pleasures and challenges of playing don’t equate with the pleasures of following a story." [4] As we play through The Cat and the Coup's story the first time, we do not understand the cause and effect relationship happening among the characters and events, not only because the chronology is moving backwards, but because such comprehension necessitates a holistic reflection. The Cat and the Coup acknowledges this phenomenon in videogames and makes use of what we call "retrospective responsibility". The player is driven to solve puzzles as they play, but after they win the game, they look back to see that their short sighted motivations led to a tragic outcome.

6. SUBJECTIVE DOCUMENTARY
In Documentary Games: Putting the Player in the Path of History, Tracy Fullerton situates nonfiction games within the broader context of videogames and documentary film. Long ago documentary filmmakers and theorists understood that capturing the referent - featuring photographs or video of the subject - should not be used as a guarantee of so-called truth. [5] The weathered black and white pictures and the interviews with notable experts may seem to define the documentary qualities of a Ken Burns film, but such opportunities may at the same time mislead one to expect clean objectivity from any expressive form. Ian Bogost describes the discrete meaning making elements of games as inherently biased, "The objective simulation is a myth because games cannot help but carry the baggage of ideology." [6]

6.1 Play as Performance
The Cat and the Coup does not provide alternative versions of history even though playing with a system is a common design direction for documentary games. Projects such as Peacemaker unfold very differently upon multiple playthroughs. [7] Advocates of documentary videogames sometimes emphasize opportunities for multiple outcomes, but this design approach works best for videogames that are digging deeper into a topic that is otherwise familiar, at least vaguely, to its intended audience. One will discover specific meaningful relationships within the larger system only by playing Peacemaker, but the basic premise and the topic's relevance are familiar to players from the get go. Most Americans know nothing about Mohammed Mossadegh or any history he is situated within.

6.2 Interactive Tragedy
The seminal videogame, Shadow of the Colossus, epitomizes a design model that The Cat and the Coup attempts to emulate. As Nick Fortuno describes, the player character, Wanderer, in Shadow of the Colossus may be small, but he is the aggressor. "Ultimately, the player is continually left in a conflicted position, triumphant about the completion of the puzzles but regretful that this puzzle-solving lead to the painful death of a largely innocent creature." [8] Mossadegh's downfall is inevitable unless the player literally stops playing. To participate is to ask questions about the cat's actions.

Figure 3. Text, image, and play provide their own storytelling methods.
Players go into the experience knowing it is a videogame of history. At first they comprehend the story as separate from their own life and they see the cat as an abstracted catalyst driving an unfamiliar chain of events. As play focuses on manipulating Mossadegh, a primary experience includes understanding the relationship between the Prime Minister and his cat. When the player learns of the United States' direct role in Mossadegh's downfall, they realize that the cat's actions are not wholly abstract, but a stand-in for a manipulative America. The player may feel safe in their magic circle, but perhaps that American player is already connected to the subject, game notwithstanding. *The Cat and the Coup* is not just a game about Mohammed Mossadegh, but also is about the American player's relationship with him, even if such a connection was not otherwise recognized.

7. ONGOING STUDY

In our next phase, we want to assist education researchers looking to study serious games. One such project is in the early stages of research. It is by Konstantin Mitgutsch, a Post Doctoral Researcher at the Singapore-MIT GAMBIT Game Lab, who explains:

> In the context of the preparation for a broader research project on the impacts of serious games on transformative learning, we assessed over 160 games for social change. Our assessment focused on the formal conceptual design of serious games and how the game's purpose, its aesthetics, content, fiction and mechanics impact its overall design. *The Cat and the Coup* was chosen as a best practice example of purposive and serious game design. *The Cat and the Coup* offers an exceptional cohesive game system that works coherently in relation to the purpose of the game. It is a great example of purposeful game design. It offers a number of opportunities for educational research and usage in educational settings. [9]

We are working with Dr. Mitgutsch now, and are inspired by his research.

8. CONCLUSION

Documentarians today understand that they cannot capture any clear conception of "truth", and that is a good thing, as videogames are as much about the player as their subject. Videogames invite players to actively engage the game world and characters; the gamer is challenged to discover concrete solutions within the virtual space while forming personal impressions and real-world connections in mind. In his book, *Unit Operations*, Ian Bogost responds to Espen Aarseth's distinction between digital media and other forms. Games are interpretive in order to be configurative, while films and literature are the reverse. So if the viewer must configure the plot of a film to understand its meaning, the gamer must understand a puzzle to configure a solution. But Bogost is not satisfied with such a clear-cut privileging of configuration as the dominant gamer function, "We must also make room for interpretive strategies that remain faithful to the configurative properties of games". [10] The development of *The Cat and the Coup* was motivated by such a recognition. It is a proposal for game developers to consider the metaphor as a way to blur and break the boundaries of the magic circle, if not for games broadly, then for the future of the digital documentary.

9. REFERENCES


