Mona Lisa Mystery: Art Theft Investigators

Design Blueprint 4: Case Based Reasoning & Goal Based Systems

I. Overview

A. Overview of the topic that will be the focus of your design

The *Mona Lisa* is one of the most famous paintings in the world. People travel from all over to see her well-known enigmatic smile, so it comes as no surprise that there have been several attempts to steal this piece of art. The most known attempt happened on August 21, 1911 when the *Mona Lisa* was stolen from the Louvre Museum (Lacayo, 2009).

This blueprint design focuses on the mystery surrounding the 1911 theft of the *Mona Lisa*. Students will experience place-based learning along with Goal Based Scenarios (GBS) while receiving clues to solve the mystery. Students will "check out" an iPad 2 device from the tour director and use a pre-loaded augmented reality technology for their investigations. This tool will provide access to a *Mona Lisa Mystery* channel housed on an augmented reality (AR) browser (such as *Junaio*).

While solving the mystery of the *Mona Lisa*, students will visit eight major works of art that are located around the museum. These works of art will come to life through a augmented reality browser and give students information about that work of art, the suspects and stories of the *Mona Lisa Mystery*, and a clue to the next work of art they should visit in the museum.

The Theft of the *Mona Lisa* in 1911

Leonardo da Vinci created the *Mona Lisa* sometime between the years 1503 and 1506. It is described as "the best known, the most visited, the most written about, the most sung about, the most parodied work of art in the world" (Mona Lisa, 2012).

Today the painting hangs inside the Louvre Museum in Paris, France (Mona Lisa, 2012).

Museum officials realized the famous painting was missing on the morning of August 21, 1911. In actuality, the painting had been missing for more than a day, but the guards at the museum thought it had been taken down to be photographed. Consequently, the Louvre Museum shut down immediately and closed for over a week. During this time, the police investigated the scene and dusted for fingerprints. Fictitious tips poured in from all over the world, but nothing seemed to lead to a suspect (Lacayo, 2009). Eventually, investigators thought they got their first real lead.

A man named Honore Joseph Gery Pieret showed up at the *Paris-Journal* newspaper with stolen statues. He claimed that the statues had been stolen by a former employer, Guillaum Apollinaire. Apollinaire was a supporter of Picasso (Lacayo, 2009). Apollinaire was also once quoted saying that the Louvre should be "burnt down" (Mona Lisa, 2009). Apollinaire denied the claims and lashed back, stating that Pieret had sold the stolen statues to Picasso. After this statement, Picasso was arrested and brought in for questioning. However, both Apollinaire and Picasso were released due to lack of evidence. Even though these claims had nothing to do with the famous painting's whereabouts, investigators thought that these claims could be part of a "crime ring" that linked them to the stolen painting (Lacayo, 2009). After this incident, no authentic leads came in for a long time.

It was not until two years later, in 1913, that a man was arrested for stealing the painting. Vincenzo Peruggia, an Italian carpenter and house painter, was turned into the police by Alfredo Geri, an art dealer in Florence. Peruggia had once worked at the Louvre Museum and even helped to make the glass-enclosed frame for the *Mona Lisa* (Lacayo, 2009). Peruggia had taken the painting during regular hours and hid it in a broom closet until it was time to leave for the day. After which, he had kept it in the closet of his apartment for two years (Mona Lisa, 2012). Peruggia thought it was time to get his reward and tried selling the famous painting to Geri. The *Mona Lisa* mystery had been solved, but why did Peruggia steal it in the first place?

Peruggia wanted to take the artwork back to Italy — where da Vinci had originally painted it. The Italian press turned Peruggia into a hero; however, an Italian jury convicted him of theft in August, 1914 (Lacayo, 2009). Peruggia served only six months for his crime (Mona Lisa, 2012). After finishing the sentence, he went back to France to open an art store. The *Mona Lisa*, on the other hand, toured the entire country of Italy before it was sent back home to the Louvre Museum (Lacay, 2009). Even

though the mystery was solved, rumors of what really happened during that the time between Peruggia's theft and its return to the Louvre still swirl.

One rumor is that an American journalist, Karl Decker for the *Saturday Evening Post,* said he met a man that claimed he was behind the crime. Marques Eduardo de Balfierno, an aristocratic con man in Morocco, said it was his plan to steal the *Mona Lisa*. He planned to make copies of the painting and sell it for millions as the real painting. Baliferno had then paid Peruggia off for his part in the crime (Lacay, 2009). This rumor is a popular topic of conversation, but it has yet to be verified since no copies of the painting have appeared. Some speculate the Decker made up the story to publish articles while others believed he was telling the truth (Lacay, 2009). Perhaps nobody will ever know the truth behind the *Mona Lisa* mystery, but the painting will continue to remain famous.

Context of the relevant context and learners

Learners participating in the first version of the augmented reality activity are American high school students (approximately 17 years old) visiting the museum as a tour group. The students will be participating in an educational tour at the Louvre Museum. The tour will include adult facilitators and a tour director. Later versions of this design will expand upon this work to include students of all ages, languages, abilities, and backgrounds. The learners will be placed in groups of no more than three students per group. Also, each group will be assigned one adult to be the group's facilitator.

The blueprint was designed for this age group because they have the necessary prior knowledge to complete the required tasks. Students are expected to apply the scientific reasoning process and logical problem solving during the activity. Learners will also have prior experience working cooperatively and collaboratively in peer groups. Other specific background knowledge that the students should have prior to this activity include:

- The Louvre Museum displays the *Mona Lisa* and other famous pieces of art.
- The *Mona Lisa* is an important (and famous) piece of artwork
- Da Vinci and Picasso are famous artists

- How to read and follow maps and guides of the museum
- How to interact with an iPad 2 device and how to use an augmented reality browser

II. Design Components

A. Learning/understanding Goals—what are the learning goals of your design?

"The primary goal of this theory is to foster skills development and the learning of factual information in the context of how it will be used" (Schank et al.,1999, p. 163). The specific learning goals for this blueprint include the following:

- Students will identify and learn about important pieces of art in the Louvre Museum
- Students will be able to research and solve questions about the artworks using their iPad 2 device
- Students will be able to think logically about the process of criminal investigations given augmented input from the iPad 2 device application
- Students will use their problem solving skills to determine who stole the *Mona Lisa*
- Students will be able to argue scientifically and ask questions to further their investigation

B. Overview of the main activities/procedures-be specific about the major components procedures, or phases of your design and how it follows the CBR or GBS design model. If the using GBS as the model, describe each major component of the theory (learning goals, mission, cover story and role, scenario operations, resources and feedback), and describe the activities you designed for each phase. A table may best illustrate this. Aim to provide enough detail that another designer could replicate your idea.

The GBS framework below was developed by Schank et al. (1999, p. 163-164).

1. Goals	The goals of the *Mona Lisa Mystery* include both content and process

• Content knowledge goals • Process knowledge goals	knowledge goals. **Content knowledge goals:** Students will learn facts about the theft of the *Mona Lisa* in 1911. Students will also be exposed to information regarding the Louvre Museum and art history. **Process knowledge goals:** Students will complete specific steps and activities throughout the augmented reality lesson in order to answer questions and investigate who stole the *Mona Lisa*.
2. Mission • Must be motivational • Must be somewhat realistic	The main mission in the *Mona Lisa Mystery* is to find out who stole the *Mona Lisa* using scientific reasoning along with scientific arguing in a collaborative and cooperative group setting.
3. Cover story • Must create the need for the mission • Must allow enough opportunities to practice the skills & seek the knowledge • Must be motivating	A short introductory video will play on the group's iPad 2 devices. This video will explain the activity in greater detail. Students will be told tha Paris and the entire art world is distressed to find out that someone ha stolen the *Mona Lisa*. It is their job to find out who did it. Students will be told more details of the following activity as well as the roles they wi play (see below).
4. Roles • Must be one who uses the necessary skills and knowledge • Must be motivating	There will be three students in each group. Those students will be eac assigned to one of the following roles and responsible for specific activities within the *Mona Lisa Mystery*: • **Government Official:** This student will be in charge of the iPad device. • **Museum Curator:** This student will have the main responsibility of using the museum map and navigating around the museum. This person will also record any necessary information. • **Forensic Scientist:** This student will be in charge of the

	suspect list.
5. Scenario operations • Must be closely related to both the mission and the goals • Must have decision points with consequences that become evident - The consequences must indicate progress toward completing the mission - A negative consequence must be understood as an expectation failure. • Must be plenty of operations for the student to do (to spend most of their time practicing the skills) • Should not require more than what the goals cal for	After students have been given their mission and roles, other tools will be provided. This includes a list of the suspects in the *Mona Lisa Mystery* for the forensic scientist and the map of the museum for the curator. Students will then begin touring the Denon Wing in the Louvre Museum starting at the *Mona Lisa.* Choosing only one area of the museum to use for this activity will allow the scientific investigation to take place in a safe and timely fashion. To avoid bottlenecking, only a few groups will be allowed to perform the activity at one time. Once at the *Mona Lisa*, students will scan the painting to make it become augmented. *Mona Lisa* will tell the students a story full of information about herself and present questions to be answered correctly. Once these are answered, the students will receive information that narrows down the list of suspects and provides a clue to the next piece of art to be experienced. If students are unable to answer the questions correctly, they may play the story again or minimize the augmented reality browser and search the Internet for help. When the students answer the questions correctly, they will be told a piece of the *Mona Lisa Mystery.* Students may write this information on their suspect list or use their iPad 2 device to make notes. Also, students will be given a clue on what piece of artwork to go to next in the wing. Students will be encouraged to to talk with one another and make hypotheses throughout the activity. This operation will continue until all artwork on the augmented reality channel has been visited. The final destination for the group is at Napoleon III's apartments. Students will be given ten minutes to go

	through their data and make their final conclusion on who stole the *Mona Lisa*. Students will then search for the suspect in the apartment using their iPad 2 devices. All the suspects will appear in the apartment and will inform the students whether or not they committed the crime.
6. Resources • Must provide the information the students need to succeed in the mission - The information must be well organized and readily accessible - The information is often best provided in the form of stories (so knowledge and skills are indexed properly) + Stories should be understandable as extensions of stories the student knows	Students will receive a detailed story about the *Mona Lisa* and other works of art in the Louvre Museum from the art pieces using the augmented reality browser. Students will also receive information about the *Mona Lisa Mystery* and clues on what art pieces to visit next in the museum, and detailed map for their particular activity that will make navigating the space easier.
7. Feedback • Must be situated, so it is indexed properly as an expectation failure • Must be just in time, so the student will use it • Can be given in three ways - Consequence of actions - Coaches - Domain experts' stories about similar experiences	Students are expected to make mistakes along the way. There will be facilitators to help guide students in the correct direction if there is confusion or incorrect conclusions drawn from the clues. The facilitators will be with the students to provide constant feedback. Students will also receive feedback from their success or failure to find the next clue.

Tools, resources, and scaffolding

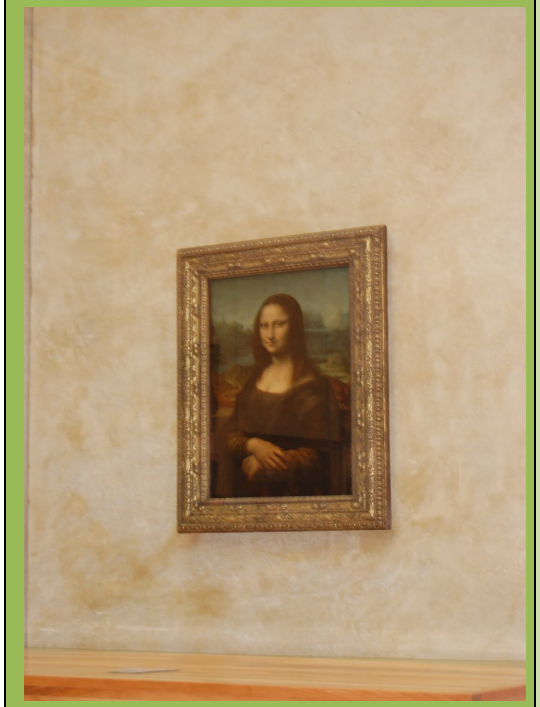
Tools: The *Mona Lisa Mystery* requires only a handful of physical tools for learners to be successful. These include the iPad 2 devices provided by the museum, the *Mona Lisa Mystery* channel set up on the iPad 2 devices, a map of the museum, and a list of suspects.

Resources: Mona Lisa Mystery information will be provided to the students (detailed in the chart below). Several free iPad applications will be needed as well (such as a calculator and online search tools).

Scaffolding: The *Mona Lisa Mystery* is entirely based on scaffolding. Students will receive information, clues, and resources throughout the museum activity. Each activity will build upon and test previously learned information. Every augmented piece of artwork contains information about the piece, activities for each user, information on each suspect, and a clue to the next piece of art.

C. Include any mock-ups as needed (e.g., sample screenshots, illustrations, etc.)

Artwork	Information about the painting	Which suspect is NOT the Thief (and why)	Clue to next painting
Mona Lisa	Welcome investigators! I am Mona Lisa; you must already know that I am one of the most famous paintings in the world. My real name is Lisa del Giocondo. Leonardo da Vinci painted me between the years of 1503 and 1506. He	**Honore Joseph Gery Pieret:** was a former employee of	"I am so small and hungry, go to a much larger painting for your next clue."

 (Mona Lisa stolen-1911, 2007) 	wanted to give my husband, a silk merchant named Francesco del Giocondo, and me a gift to celebrate our new home and second son. Somehow I was obtained by King Francis I, and I am now the property of the French Republic. As you have already learned, I am very popula with the men due to my mysterious appearance, so it is no wonder that I was stolen in the year 1911. Will you please find out who the criminal is so I can get justice once in for all? (Mona Lisa, 2012). **<u>Activity for Government Official:</u>** As of 2010, approximately how much money is the *Mona Lisa* estimated to cost? a. 2.5 billion b. 700 million c. 900,000 *Answer:* B (Mona Lisa, 2012). **<u>Activity for Curator:</u>** Despite the mysterious *Mona Lisa* herself, the background of the painting is also unique to its	Guillaum Apollinaire. Pieret went to the *Paris-Journal* newspaper with stolen statues from the Louvre Museum and accused Apollinaire of stealing them. Police were very interested in this clue, as they thought there could be a potential crime ring for stealing art.	

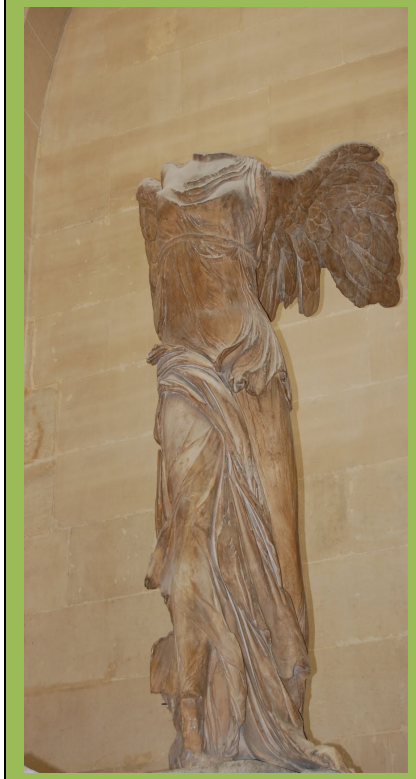
(da Vinci, c. 1503-1519)	time. This painting is among the firsts to use an imaginary background and an aerial perspective. What is an aerial perspective? *Answer:* "refers to the effect the atmosphere has on the appearance of an object as it is viewed from a distance" (Aerial Perspective, 2012). **<u>Activity for Forensic Scientist:</u>** Name at least two other attempts that were made at either stealing or destroying the painting. *Answers (any combination of the following):* -1956: Acid was poured on a lower part of the painting -1956: A rock was thrown at the painting -1974: Red paint was sprayed on the painting (bullet-proof glass protected it) -2009- A mug from the gift shop was thrown at the painting (bullet-proof glass protected it) (Mona Lisa, 2012)		
The Wedding Feast at Cana	(Lute player dressed in white) Do you enjoy my painting? Let me introduce myself, I am Paolo	**Guillaum Apollinaire:**	"The person who brought me back

 (Veronese, 1563)	Véronèse. I created this huge painting in the year of 1563. It is 669 x 990 cm. My painting depicts a wedding feast with Jesus and his disciples. An interesting aspect of this is that during the feast the wine runs out! I created th painting for the Venetian monastery of St. George the Greater, as it pictures many of his contemporaries and symbols of wealth such as courtesans, various animals, and myself, of course. My painting was obtained by France when Napoleon brought it back from war (Veronese's Wedding Banquet, 2010). **<u>Activity for Government Official:</u>** Napoleon was well known for stealing works of art. Approximately, what year did Napoleon plunder this painting? a. 1800 b.1700 c. 1600 *Answer:* A (The wedding at cana, 2012) **<u>Activity for Curator:</u>** *True or False.* This artist also painted a painting that was call *Feast in the House of Levi*, but due to the	was a supporter of Picasso, an art-world polemicist, and a poet. After Pieret accused him of stealing statues from the Louvre Museum, Apollinaire claimed that Pieret had sold the stolen statues to Picasso. Apollinaire was arrested but was let go due to the lack in evidence.	from war is the mastermind behind your next piece of art to visit"

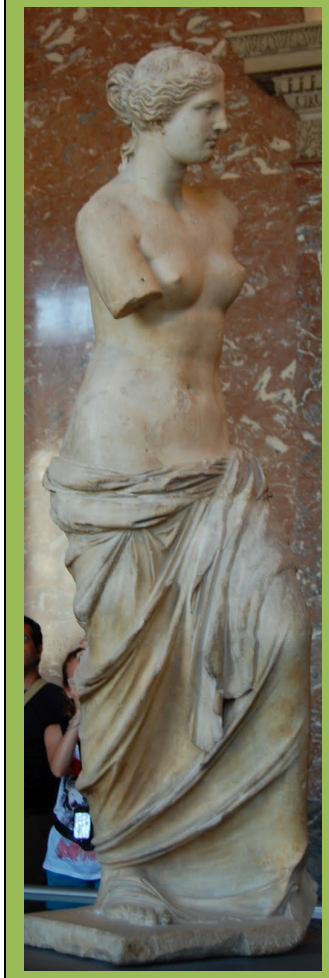
	riches he depicted in the picture was forced to change its name to *The Last Supper.* *Answer:* False. The artist made a painting called *The Last Supper*, but he was forced to change its name to *Feast in the House of Levi* (*Clowns at the last supper?,* 2010). **<u>Activity for Forensic Scientist:</u>** Find and name two animals depicted in the painting. *Answers include any combination of the following:* dogs, parrots, and cats (Veronese's Wedding Banquet, 2010)		
The Coronation of Napoleon I (David, 1805-1807)	(Jacques-Louis David) Welcome to *The Coronation of Napoleon I,* which Emperor Napoleon commissioned me to paint. Despite this name, the event you are looking at is really the coronation of Josephine, Napoleon's wife. My painting is so large that I was able to illustrate distinguishing characteristics of each person in the painting. Interestingly, one of the main characters in my painting is Napoleon's mother.	**Pablo Picasso:** was thought to be in a "crime ring" of stolen art along with Apollinaire. They were both arrested but released because there	"You're next clue is an important 2nd century BC marble sculpture of the Greek goddess Nike."

	Activity for Government Official: Why was Napoleon's mother in that central position in the painting? a. She was in a position to show she was more important than the pope. b. Because her presence was very important. c. To show her support for Napoleon's marriage to Josephine. **Activity for Curator:** *True or False.* Napoleon's mother and brothers were present at the actual coronation *Answer:* False. Napoleon's mother refused to attend Josephine's coronation because of a feud between Napoleon and his brothers, who were also not in attendance, despite them all being present in the painting. **Activity for Forensic Scientist:** What other known people were painted in this painting? *Answer(s):* 1. Napoleon I 2. Joséphine de Beauharnais 3. Maria Letizia Ramolino -mother of	was little proof.	

	Napoleon, 4. Louis Bonaparte –Napoleon's brother 5. Joseph Bonaparte –Napoleon's brother 6. The young Napoleon Charles Bonaparte -Son of Louis Bonaparte 7. The sisters of Napoleon. In the replica, the dress of Napolean's favorite sister will be pink. This is the only change in the replica despite being painted from memory. 8. Charles-Francois Lebrun -The third consul alongside Napoleon and Cambacérès. 9. Jean Jacques Régis de Cambacérès Arch-chancellor prince of the empire. 10. Louis-Alexandre Berthier -Minister of war under the Consulate. 11. Talleyrand -Grand chamberlain 12. Joachim Murat -Marshal of empire, king of Naples after 1808, brother-in-law of Napoleon and husband of Caroline Bonaparte. 13. Pope Pius VII 14. The painter Jacques-Louis David is depicted in the stands as well. 15. Halet Efendi-An Ottoman ambassador (Johnson, n.d.)		
The Winged Victory of Samothrace	Hello, I am the Greek Goddess Nike, although your guidebooks might call me "The Winged	**Alredo Geri:** an art dealer in	"Your next clue is located at

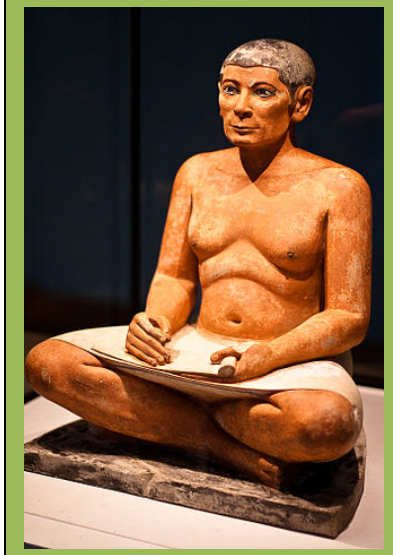
 *(Winged Victory of Samothrace*, c. 220-190 BC)	Victory of Samothrace." While I was rediscovered pretty recently (in 1863) I was actually made in the second century BC. For a long time people thought that I used to have arms that held a trumpet because that is how other representations of Nike were portrayed. However, the recent discovery of my hand with an open palm disputes this claim...I probably had one arm raised in a military salute (Winged Victory of Samothrace, 2012). **<u>Activity for Government Official:</u>** Besides honoring a goddess, what other reason was I created? a. To honor a war hero b. To commemorate a sea battle c. To win an sculpting competition **<u>Activity for Curator:</u>** *True or False.* In 1950 they unearthed The Winged Victory right hand. *Answer:* True. In 1950, a team led by Karl Lehmann unearthed the missing hand and the tip of a finger. They were discovered on Samothrace, and the rest of this finger and a thumb were	Florence. He was asked by Peruggia to sell the Mona Lisa.	another famous -- and armless -- statue of a Goddess. While the statue was made by a Greek, she currently is called by her Roman name."

	found in a dusty drawer inside a museum in Vienna. These pieces now rest inside a glass case near her podium. **<u>Activity for Forensic Scientist:</u>** Why is the Winged Victory headless? *Answer:* No one really knows! It is suspected that it was smashed and broken in a war, earthquake or other natural disaster.		
Venus de Milo	Hello, investigators! While you may call me *Venus de Milo* (my Roman name) I was actually created by a Greek, Alexandros of Antioch, around 130-100 BC (Venus de Milo, 2012). Grecians called me Aphrodite of Milos, although I am the goddess of love and beauty in both cultures. Long ago I held an apple in my left hand (Venus de Milo, 2012). I have long inspired other work; an image of this statue was on the seal of the American Society of Plastic Surgeons (Venus de Milo, 2012). I'm also the inspiration of a seminal 1970s song by the band Television.	**Karl Decker:** a journalist from the *Saturday Evening Post* who met Eduardo de Balfierno (a man who stated that he had stolen the Mona Lisa).	"Your next clue is found where Cupid's arrow has struck"

 (Alexandros of Antioch, c. 130-100 BC)	**Activity for Government Official:** What were the items in my hands originally? A. An apple was in my left hand and in my right hand I was holding a sash. B. An apple was in my right hand and in my left hand I was holding a sash. C. An apple was in my left hand and in my right hand I was holding a scroll. D. An scroll was in my left hand and in my right hand I was holding a sash. *Answer:* A (Venus de Milo, 2012) **Activity for Curator:** In which way was the sculpture intended be viewed? A. As a profile from the right B. As a profile from the left. C. From the front. D. From the back. *Answer:* A (Venus de Milo, 2012)		

	<u>Activity for Forensic Scientist:</u> *True or False.* If you look closely, I have marks from once painted necklaces, armbands, and earrings. *Answer:* True (Venus de Milo, 2012)		
Psyche Revived by Cupid's Kiss (Canova, 1777)	Welcome to the white marble sculpture *Psyche Revived by Cupid's Kiss* created by Canova in 1777. My name is Cupid and I am the Roman god of desire. I have just landed on a rock to find the woman I love, Psyche, lying unconscious (Psyche Revived by Cupid's Kiss, 2012). My mother demanded that Psyche bring a flask to her from the Underworld and told her not open it under any circumstances. Psyche couldn't resist. She breathed in the fumes and fell under a deep, long sleep (A closer look at Psyche Revived by Cupid's Kiss, 2010). I saw her in this deep, death-like sleep, and to make sure she was not dead, I rushed over and gently touched her with the tip of a arrow. As you can see from our pose now, captured in	**Marques Eduardo de Balfierno:** an aristocratic con man from Morocco. He claimed to come up with the plan to steal the painting so he could sell copies of it to millionaires.	"Your next clue sits waiting for you in the Egyptian wing"

	exquisite detail by Canova, we can now enjoy a tender embrace (A closer look at Psyche Revived by Cupid's Kiss, 2010). **<u>Activity for Government Official:</u>** Who was Cupid's mother? A. Persephone B. Venus C. Nike (Psyche revived by Cupid's Kiss, 2012) **<u>Activity for Curator:</u>** *True or False.* Is this work an example of neoclassical work? *Answer:* True (Psyche revived by Cupid's Kiss, 2012) **<u>Activity for Forensic Scientist:</u>** What is the main theme of this work? A. Love and emotion B. Fountain of youth C. Death D. Respect your mother *Answer:* A (Psyche revived by Cupid's Kiss, 2012)		

Seated Scribe  (The Seated Scribe, c.2450–2325 BC)	Welcome to the Egyptian wing. I am called the "Seated Scribe" and I was created in the 5th Dynasty during the Old Kingdom. As you can tell from looking at the other works surrounding you, I am very unique. I look much more human and natural. A papyrus scroll sits on my lap, and I used to hold a reed pen in my hand—but that has been lost long ago. Perhaps one of the reasons why I'm not as hieratic as the other sculptures and paintings is because I'm not royal. In fact, I am the first evidence of a non-royal portrait. While I admit that I'm not royal or divine, I must have still been quite important. As a scribe, I was one of the few Egyptians who could read and write. And check out my stomach pouch—must be well-fed to have a tummy! I also probably represent a particular person—my thin lips and big ears are pretty individualized. My eyes are made out of drilled crystals and surrounded by copper eyeliner. (Harris & Zucker, 2011).	**J.P. Morgan:** a very rich American banker with a large collection of important artwork, he was thought to have financed the theft of the Mona Lisa. While it is true that he financed many artists and archaeological expeditions (including ones in Egypt), he was not behind the *Mona Lisa's* theft.	"Your final piece to the *Mona Lisa Mystery* lies in the drawing room of the man whose uncle renamed this museum after himself. The name has since been returned to the Louvre."

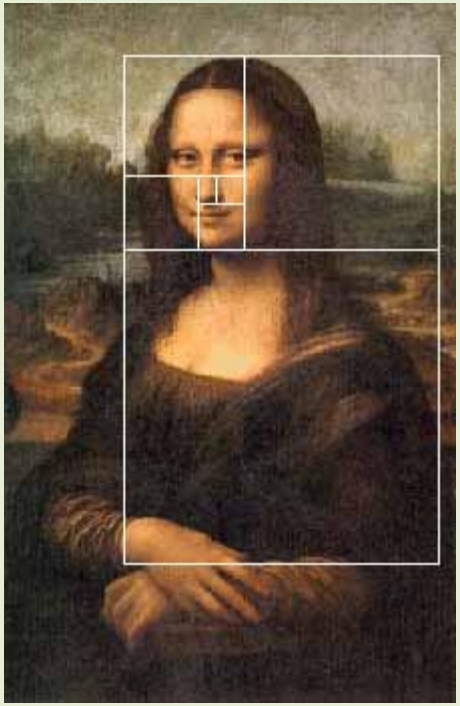
	To be honest, I was not meant to be seen by anyone alive. I was made as a funerary object and found inside a tomb. I sat undisturbed until November 19, 1850, when Auguste Mariette discovered me at Saqqara, a site about 30km west of Cairo (The seated scribe). He was working for this very museum—the Louvre—but apparently he was too busy to write more about my location and the objects that were surrounding me. Some believe that I must have been resting on top of a base with an inscription bearing my real name. After Mariette's death, the archaeological site was pillaged and no contextual information remained. Isn't it ironic that me, a scribe in charge of keeping records, should have my own record lost? (Abrahim, 2006) **Activity for Curator:** What does hieratic mean in this sentence: "The seated scribe is posed in a very natural position, not as *hieratic* like most of the other statues in the Egypt wing." 1. Cursive Egyptian Writing 2. Priestly 3. Highly stylized or formal		

	Answer: 3 (Heiretic, 2011) **<u>Activity for Government Official:</u>** Which modern-day occupation bears the closest resemblance to the responsibilities of an ancient scribe? A. President B. Police Officer C. Journalist *Answer:* C **<u>Activity for Forensic Scientist:</u>** How old am I? In a sample of the paint used to make my white kilt, scientists found about 57.3% of carbon that had not decayed. Use the formula below to find out how many years old I am: t=(ln (%/100) / -0.693) * 5730 *Answer:* Approximately 4604 years old (Carbon 14 Dating)		

Napoleon III's Apartments (Appartements Napoléon III, 1700-1800)	Bon jour! I am Louis-Napoléon Bonaparte (otherwise known as Napoleon III). No, I'm not **that** Napoleon, he was my uncle. But this is my apartment. You're standing in the Grand Salon or what you would call a drawing room. This room, and the dining room next door, are decorated in the Rococo style (Appartements Napoléon III) Rococo derives from the French word "Rocaille" which refers to rock or shell ornamentation. As a style of art, it rejects Baroque formality and its reflection of rigid court life, morality, and self-discipline. Instead, it represents a move towards a lighter, more charming, and optimistic means of decoration (Rococo). So how did I get here? After my uncle's death, the French royalists re-established a monarchy. That is, of course, until I successfull led a coup d'etat in 1852. As part of my reign, I moved my office to the Tuileries Palace, a building that once stood next to this museum. I was later demolished and is now the garden you see outside today (Napoleon III, 2012).	**Vincenzo Peruggia:** The real thief of the *Mona Lisa* was an Italian carpenter and house painter who had previously worked at the Louvre. He was familiar with exits, entrances, and the broom closet in which he hid the painting waiting for the guards to leave the night. Peruggia was caught red-handed when he tried to sell the *Mona Lisa* to an Italian art dealer, Alredo Geri,	"Congratulations ! You have successfully figured out the *Mona Lisa Mystery*."

	You can see an allegory of my work with the two buildings in the painting on the ceiling, *The Reuniting of the Louvre and the Tuileries by Napoleon III* by Charles-Raphaël Maréchal (Appartements Napoléon III). While the popularity of Rococo was already in decline during my lifetime, we can both appreciate how the style promotes make-believe and game playing (Rococo). Speaking of which, complete the final 3 questions and you will uncover the *Mona Lisa Mystery*! **<u>Activity for Curator:</u>** Match the personification of concepts we've seen today to the allegories they embody A. *The Winged Victory of Samothrace* B. Psyche C. Cupid 1. The human soul. In Greek, this name means spirit, breath, life or animating force" (Cupid and Psyche, 2012) 2. Victory. In ancient Greece, the goddess of Victory was named Nike.	who turned him into the police.	

	3. Desire. Greeks named the god of desire Eros, while Romans renamed him Cupid. In both mythologies, he was the son of the goddess of Love (Aphrodite/Venus). *Answer:* A=2, B=1, C=3 **<u>Activity for the Government Official:</u>** In what year was the Tuileries Palace destroyed? *Answer:* 1871 (Tuileries Palace, 2012) **<u>Activity for Forensic Scientist:</u>** Artists and philosophers have been using the "golden ratio" (also called the divine proportion, golden proportion, and golden rule) for thousands of years. This mathematical ratio that is believed to be particularly aesthetically pleasing. The Mona Lisa includes many references to the golden ratio. Below is a representation of the *Mona Lisa.* Find the ratio of the length to the width of the rectangles surrounding her face. This is the golden ratio: an irrational number called Phi (φ		

	(Golden ratio, 2012). What is it in decimal form? Approximately 3.1415 Approximately 1.6180 Approximately 2.5252 *Answer:* Approximately 1.6180  (Mona Lisa Golden Ratio, 2012)		

III. Reflection

A. Summarize the big ideas of the design theory/model that you found useful or important in guiding your design.

This blueprint incorporates the Goal-Based Scenario (GBS) framework constructed by Schank, Berman, and Macpherson. GBS is defined as a “learn-by-doing simulation in which students pursue a goal by practicing target skills and using relevant content knowledge to help them achieve their goal” (Schank et al., 1999, p. 165). A framework using GBS helps solve current problems in traditional instruction so as to better support Case-Based Reasoning (CBR), a theory of learning and memory.

"The most important problem with traditional teaching methods is that children are not learning skills; teaching is more concentrated on imparting factual knowledge to students" (Schank et al., 1999, p. 165). In some classrooms today, children seem to be only learning declarative knowledge and not the processes that go with it. Hence, students find the material uninteresting and forget quickly what they learned. GBS motivates learners to achieve goals that are interesting and important (Schank et al., 1999, p. 166).

The *Mona Lisa Mystery* will make learning declarative knowledge about artwork in the Louvre Museum an entertaining and motivating learning experience. The experience will give students a reason for learning the information-providing them with clues to solve the mystery-motivating them to achieve their goals. *The Mona Lisa Mystery* also presents its information in a unique and enjoyable way. Finally, students will be using this information to research and perform activities for each piece of artwork. This will allow students to not only learn the declarative knowledge in the learning experience, but it will allow them to use it and build upon it.

CBR emphasises learning through experiences. Case-Based Reasoning “...is a model of cognition that explicitly integrates memory, learning, and reasoning" (Kolodner et al., 2012, p. 144). Kolodner et al. (2012) states that to be successful, students must: have an experience, interpret the experience, and draw conclusions. Students must also anticipate usefulness in the future, expect failures, and understand how to use previous experiences to guide learning (p. 147). Students will gain content

knowledge from the augmented reality experience, interpret and draw from this knowledge to complete activities, and determine where they should go next in the museum. Also, students will be solving the *Mona Lisa Mystery* and must rely on clues from art pieces to discover who stole the painting.

The seven key aspects of the goal based scenario frameworks include:

1. Goals: The goals in this blueprint present both process and content knowledge goals. Students will learn declarative knowledge while developing procedural knowledge as they participate in the *Mona Lisa Mystery.*

2. Mission: The students' mission in this blueprint is both motivational and realistic. By giving students a mystery to solve, they are motivated to learn art history and answer questions to get more clues to solve the mystery. The mystery is also realistic as it is a true investigation that took place in 1911. Since this event actually happened, students could potentially find themselves in the positions created and perform similar activities in the future.

3. Cover story: The cover story for this blueprint is motivating as it places students in a story to find out who stole the *Mona Lisa.*

4. Roles: The roles of a Government Official, Museum Curator, and Forensic Scientist in this blueprint motivate students to take part and participate in the mystery. It also guides students to complete specific activities.

5. Scenario operations: The scenario operations align with the goals and the mission of this blueprint. It gives students content knowledge through an augmented reality experience as well as motivating them through a realistic investigation. Students must correctly answer a series of questions, find artworks through clues, and conduct scientific inquiry about the *Mona Lisa Mystery.*

6. Resources: Resources are delivered to students in a form of a story through the paintings. The paintings will provide background information about the pieces of art, related questions, clues about the *Mona Lisa Mystery*, and a clue to guide

them to the next piece of art to visit.

7. Feedback: Feedback will be given to students after answering questions electronically. Feedback will also be given by the group facilitator.

Since this blueprint is to be used inside the Louvre Museum, it will also take place-based design theories into consideration. Klopfer (2008) describes the “location matters” approach as an activity designed around a specific context with natural advantages and limitations of its physical setting. Through this blueprint, we will be using the natural affordances of the Louvre Museum as an intrical part of the design process. Students will navigate through the space and use the augmented reality browser on their iPad 2 devices.

Klopfer et al. (2011) describes place-based learning as a tool that “...immerses students in their immediate community, using this local angle as the context and motivation for student inquiry…” (p. 1024). This blueprint will immerse students in the learning activity of finding out who stole the *Mona Lisa* by situating them in the specific context. "Place-based augmented reality games are played in specific real-world locations (historical, geographical sites) and use handheld computers with global positioning systems (GPS) to augment users’ experience of space with additional data" (Squire & Jan, 2007, p. 6). By using a place-based theoretical approach in this blueprint, students will work within the natural context.

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