A Location-Based Mobile Learning Project

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Problems in Education Culminating Experience

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Problem Project Defined

I consider myself an advocate of the arts in education, and have always felt a calling to make a contribution to this field in some way. In addition to the disappointing removal of art programs from schools, art also faces other challenges...it is often brushed over and misunderstood.

Miami, FL is a city that has become known for its art expeditions, and is annual hosting grounds of the international art fair, Art Basel, which has spawned several other large art fairs around it. More art fairs, art walks, and events have become prevalent throughout the year. Additionally, Miami has several museums dedicated to art, and more open as its population grows.

Although these are great cultural advances, there still seems a noticeable lack of interest in, or respect for the art itself. It feels that these art events have become a mere backdrop to the social scene, and that the importance of the art is getting lost. To me this is a terrible shame, so the aim of my project is to help guide art viewers, and students lacking art programs in their schools, in appreciating the art they are seeing.

Although it's not necessary to *like* every piece of art we see, it's only respectful that we give the art we encounter a chance, by taking in what it has to offer – either learn something, or feel something about it. Simply take a minute to learn a tidbit of information about the piece or the artist.

Project Ideas

At first, I imagined creating a mobile app that would display information about an art piece, based on the exact location the user stood. I covered much research regarding location-based mobile learning, and studied many examples of how this could be accomplished. The best way to build this, it seemed, was with Adobe Captivate, a software with geo-location technology capabilities. Yet at this stage, I was unclear how this technology could integrate with a mobile app on my topic, *art education*.

I signed up for an Adobe webinar to learn more about how to create a geo-location app using Captivate. It was clear how to use it, but an idea for the app was still not coming together. The prime challenge I foresaw was getting the location-aware functionality to work with pieces of art in close proximity to each other, such as in a museum or gallery space. A lot of the examples I read about my research of this technology were in historical cities in Europe where iconic masterpieces are placed throughout the city, and there is a lot of space (a block or more) around each. Miami is not set up like that, so I had to edit my idea from here.

Since Miami is not a walking city, nor is it pleasant to drive in, I started to accept that this app had to work within a single walkable vicinity. I decided that building this experience for a museum was my only option, and geo-location functionality was probably not going to work here. The app also had to provide an art experience that was to be fun, a bit of a challenge, and educational. It also needed to target visitors ranging in age from middle school kids to adults. My major goal was to get viewers seeing art as more than something hanging on the wall in the background.

The Final Plan

One example I read about was a field trip to an art museum, where students were paired up and given

mobile devices. They were expected to research certain art pieces, and collect information to bring back to

class for further discussion. It was a successful project, in that these students spent an *additional 90*

minutes on average looking at art in the museum, versus a trip without such a purpose.

Adobe held another webinar about publishing an app from within Captivate. With the addition of this

knowledge, I finally concluded to build a scavenger hunt app, where users must locate specific pieces

within the museum, and answer a question about it.

I originally planned to include three museums. I would write questions about various art pieces throughout

each location, prompting users to find the piece and provide an answer. This would be built as a mobile

app that would guide users through the questions, thereby guiding them through various rooms of the

museum. I had some initial ideal thoughts, such as including a badge system to award learners at certain

steps, and submitting grades to teachers who might wish to monitor student's experiences. Not all of these

ideas worked out as planned, but I did build a successful app which accomplishes my main goal, and

functions properly.

Time Log for Project:

Date	Activity	Hours
4/28/2015	webinar on Captivate GPS location app building	1
5/15/2015	research location-based mobile learning	6
5/19/2015	research location-based mobile learning	5
5/25/2015	Concept and research for Project Ideas	8
5/31/2015	Visit Wolfsonian for questions	3
6/1/2015	organize images and details from museum	3
6/4/2015	work on layout and prototype	3
6/5/2015	build prototype, note revisions	3
6/7/2015	visit lowe art museum for questions	3
6/7/2015	organize images and details from museum	3
6/6/2015	watch webinar to learn app dev via captivate, phone gap	1
6/8/2015	research phone gap technology for building apps	3
6/9/2015	develop questions for wolfsonian	5
6/11/2015	begin development in captivate	2
6/16/2015	development in captivate, design, adding questions	4
6/18/2015	development in captivate, adding questions	4
6/19/2015	captivate, troubleshooting functionality	4
6/21/2015	functionality and formatting	2
6/22/2015	functionality and formatting	2
6/23/2015	resolve issues with functionality, back/next buttons	4
6/23/2015	develop questions for lowe	2
6/24/2015	resolve issues with functionality, back/next buttons	4
6/24/2015	develop questions for lowe	2
6/25/2015	develop mobile version and work on issues with answer alignment	4
6/25/2015	develop questions for lowe	2
6/26/2015	test, work on functionality, mobile formatting issues	6
6/26/2015	add lowe questions	2
6/27/2015	adding and formatting quiz responses	3
6/28/2015	functionality issues with branching and question numbers	3
6/28/2015	writing and adding in more info pages for each question	4

6/29/2015	writing info pages for each question	2
7/1/2015	writing info pages for each question	1
7/2/2015	writing info pages for each question	2
7/3/2015	writing info pages for each question	4
7/5/2015	writing info pages for each question	2
7/7/2015	writing info pages for each question	2
7/8/2015	writing info pages for each question	2
7/12/2015	writing info pages for each question	6
7/13/2015	formatting info pages	4
7/14/2015	clean-up and formatting of entire project	4
7/15/2015	review and make outline for project paper	2
7/15/2015	Publish project as app via PhoneGap	2
7/15/2015	Publish project to web server	1
7/16/2015	Make edits, and republish	4
7/17/2015	edit size for tablets	2
7/19/2015	work on summary paper	4
7/20/2015	work on summary paper	4
7/21/2015	work on summary paper	2
7/22/2015	work on summary paper	3
	TOTAL HOURS	**153**

Project:

Viewable at the following link:

http://www.aimeenyoungs.com/wp-content/uploads/2015/art-find2/index.html

Android app link (not the final piece for review):

https://build.phonegap.com/apps/1551164/share

(Instructions: Visit link on Adroid device. Download .apk file, click to open and install)

Note: It is ideal to review this project on a mobile phone versus a tablet, or a tablet turned vertically

(portrait). The size was adjusted to accommodate a width of 1200 pixels but some tablets are larger (1280

px width). I'm not sure why Captivate doesn't allow tablet development up to this size. If you choose to

view this on a full-screen computer browser, be sure to drag the right side of the browser to the left, until

the main screen of the app appears correctly.

Answer Key *(note: answers shuffle, so answer key states complete answer)*

 Wolfsonian:
 1. Art Deco
 2. Japanese lacquer work and Egyptian gold-leaf bas-relief.
 3. People
 4. Pyrography
 5. Crab
 6. Allowed cooking with gas off, cut fuel costs and kept kitchen cool.
 7. The kidnapping and murder of Charles Lindbergh's two-year-old son.
 8. Candlestand
 9. Celtic art
 10. Le Balcon [The Balcony] by Henry Malon

11. Teeth
12. The Strange Couple by Anja Decker
13. A sign of both depletion and possible renewal.
14. The Plateresco style, from late 15th and 16th centuries.

Lowe Art Museum:

1. Took the photographs and wrote the poem.
2. To develop a narrative, each detailing some aspect of their creativity.
3. 23
4. Hot dogs
5. Cibachrome
6. Wool, silk ribbon, cotton thread, and glass beads.
7. They produce artwork for people of many different faiths.
8. Shotgun shells
9. Silver
10. Bogotá, Columbia
11. Elephant
12. Italian Mannerism
13. Tempera on wood
14. Perfume
15. It is thick and appears primitive.

Summary

Initially, I began working on the technical and visual aspects of the project. I designed the pages and visual elements in Adobe Photoshop, and brought these into a prototype software on my mobile phone called 'POP'. Here, I could create active buttons over a static screen, experience the movement from one screen to the next, and assure the project flowed as I had imagined it. This was a very helpful step before getting started in Captivate.

As I progressed with the project, I learned that Adobe Captivate was not as smooth to work with as I had hoped. I did a lot more editing and refining than I think was necessary, and it could have been easier to work with. In the past, I've used Articulate Storyline, a software comparable to Captivate, and had an easier time with it, with similar results. Had I needed the geo-location functionality, I do think Captivate would have been the better application to choose, but only for this reason.

My primary reason for choosing to work with Captivate was so I had this experience to include on my résumé, as I see it often as a requirement in job postings. I also wanted to work with Captivate's responsive layout functionality, which allows designing for mobile, tablet, and full screen sizes. Unfortunately, this was not automatic, and required manually designing for the two screen sizes I was building for (tablet and mobile). In the future, I will likely choose to work with Articulate Storyline for such a project whenever possible, due to an overall smoother and timelier experience.

One of the challenges I enjoyed most about this project was writing the scavenger hunt questions. It was more difficult than I had anticipated, but it forced me to understand the content better (in this case, the art). Right on time, just after I'd finished writing these questions, I was given an opportunity to write similar-style questions at the company I work for (a healthcare IT consulting company). The experience I gained from this problems project helped me to better understand the content my company is teaching, which is important to my success here.

Changes in My Plan

Instead of visiting a third museum and writing another set of questions (which seemed repetitive, and I felt I'd learn little from), I decided to add more learning content. Once the user answers the question correctly, they are moved to a page with a tidbit of information related to the piece they just viewed. This might include something such as more information about the artist, the style of art, or the medium. This page also shows a related image, and some include a hyperlink out to additional information on the web. I really tried to keep these brief, but interesting. Adding these pages was a positive learning experience for me in providing useful, relative, and summarized information that a learner would be pleased to know while on-the-go in a mobile "environment" (the museum).

Additional minor changes involved removing the ability to go back and review answers after they reached the end, as well as submitting their results to teachers. I struggled with getting these aspects to function properly, and this would have taken me much more time. For the purposes of this research project, I didn't feel these elements were necessary to be successful. I did learn that I would need to plan more time for including these aspects in the future.

Additionally, I faced some challenges with publishing this project as an app. While I was able to submit

through Android systems, I still haven't figured out how to add a cover, or make the app public in the Play

Store. I did submit this as a private app, which is viewable for this class, but is not the final version. For

Apple submissions, it costs $100.00 to upload an app to their store, so I did not attempt this. For the

purposes of reviewing the project for this course, I uploaded the project to my server, where it is still

viewable from a mobile device by visiting the url provided on page 7 of this paper. Please be aware that it

is only intended to be viewed on a mobile device, and is not designed to be viewed on a full monitor

screen. Since this is a mobile experience, these mobile versions are all that is needed to use the app.

After a lot of trial and error, my app is generally functioning as I had intended. The questions move

through correctly from one to the next, error messages appear correctly, and the results page at the end

gives number of questions correct, as well as your score. I was happy that the results page knew one quiz

from the other, and didn't lump them all together, falsely claiming there were 29 questions (note: having

this results page isn't necessary in this case, because I set every question to be answered correctly before

moving onto the next. I felt this decision would provide a more thorough learning experience, allowing

viewers the opportunity to see the more info pages that were added. If it were designed to send a report to

a teacher, students would only have one chance to provide an answer).

As I mentioned, I will likely utilize Articulate Storyline for similar projects moving forward. The mystery

has mystery as to what Adobe Captivate offers, and can now say I am able to use it at an Intermediate level

on my résumé (but hopefully will work with companies who are open to using Articulate). I have seen the

amount of work, and the various elements that go into developing such a simple application, so I am better

able to estimate the time and cost something like this would take to develop.

All in all, it was a good learning experience, and the bumps in the road throughout this project have shown

me a lot (better that I learned this in school than testing on a client)! If this application were used by a

class on a field trip, I do believe that students would gain far more from their museum experience than

without such a tool. Therefore, I feel I successfully completed what I set out to do...make a contribution to

art education, and inspire viewers to see art as more than something hanging on the wall in the background.