

# Museum of Discovery and Science: Florida Water Story

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## Abstract:

We, as an entire program, have worked diligently in order to not only produce an app for the Museum of Discovery and Science but also further ourselves and obtain skills that are applicable to real life.

## Background:

The APptitude internship at the Museum of Discovery and Science in Fort Lauderdale, Florida began at the beginning of our junior year of high school. With bimonthly meetings and monthly homework assignments spread throughout the year, we prepared extensively for the Android App Developing class at FAU. For months, we met at the Museum to discuss the content, layout, themes, and games that would go into our app. We had mock ups, pros and cons lists, and votes before we even split off into our separate groups that focused on a specific exhibit featured in the museum. Our sponsors made sure we were thoroughly prepared before we began the development process for our app.

We were given the exhibit called “Florida Water Story.” This exhibit is placed on the first floor of the museum in between the otter tank and the elevator. It includes the aquifer tunnel, which has a light show and an informational video, and an interactive table shaped like Florida, with activities that let you explore the water cycle and how urbanization affects our water. Although it’s not as exciting as other exhibits in the museum, it’s still important to learn about Florida’s history with water and how it impacts our lives. Through this app, we attempted to highlight the important features of the exhibit that most visitors seem to overlook.

## Methods:

During the process of creating the app, both of us worked diligently to see to its conclusion. We each had separate rolls, Erika being in charge of all UI (or user interface) aspects and Bryce being responsible for the Java (or programming) aspects. UI was in charge of how the app looked and how the user interacted with the app. Java was more about what happened in the background, mainly how the program reacted to the user interface. Though we did not have a graphics person like the majority of the groups, our group attempted our best at making the app aesthetically pleasing so the user could enjoy their experience. We also had the help of the graphics professor and his teacher’s assistant, who created a terrific icon along with provided us with a graphical perspective, which again we are so thankful for. To solve problems, both

students used tactical thinking skills along with the help of both professors and teachers assistants to hurdle over the obstacles that stood in our way.

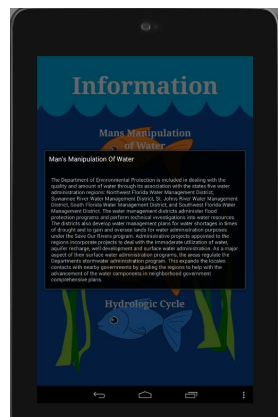
The app development process was long and at times felt tedious but we used the most of our time at FAU to finish it's development, along with attending lectures on the off days when we didn't have class and also working then. We tried to capture the true nature of the Florida Water Story exhibit, an exhibit that is easily overlooked when visiting the museum, even though it could possibly be one of the most important. We included information about all the features of the exhibit and then some in order to well inform the user. The quiz is also meant to test the knowledge of the visitor and help people learn about the importance of Florida's water.

The graphical development and user interface part was most definitely the hardest challenge of creating the app. Getting it to look aesthetically pleasing, especially without a graphics person, was challenging. Though we had the help of the professor and TA, and they did provide a lot of help, we did not have a person who constantly worked on graphics. The design of the app itself completely changed multiple times, and as our knowledge and skills increased we were able to get closer and closer to the final product.

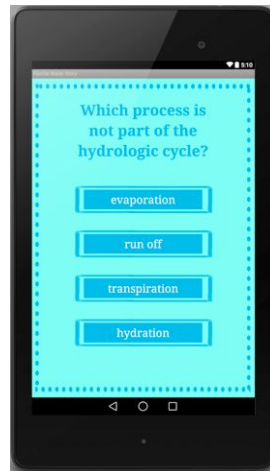
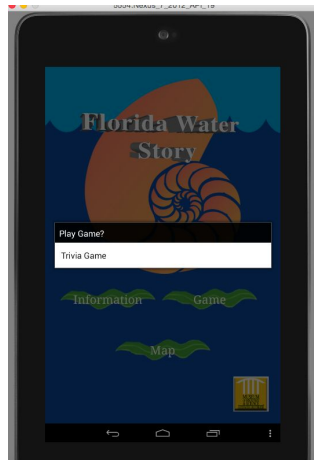
## Results:



Once you press the icon to open the app, the home page, shown on the left, the home page pops up. It displays four buttons: Information, Game, Map, and the museum logo. If you press the museum logo, it brings you to the website [www.mods.org](http://www.mods.org). If you press the map button, an image of the map of the first floor of the museum will appear.



Pressing the Information button on the home page brings the user to the first page shown on the left. It displays the four different topics that the user can read about. When you press one of the topics, a pop-up comes on the screen, shown by the second picture of the left, showing the information text.



When you press the Game button on the home page, a pop-up appears on the screen asking if you would like to start the Trivia Game. When you press Trivia Game, it brings you to the first question of the quiz. Getting a question correct moves you to the next question. After completing the last question, it will take you back to the home page.

#### Discussion:

The main page that incorporates all of our apps should contain more such as museum times and such. The program had created museum exhibit specific apps for each exhibit but worked little on the main page which shall incorporate all of our apps. Though Osmar did create a main page, more content should be there.

#### Conclusions:

Bryce -

The amount of work we have accomplished is phenomenal, not just my group but the whole program and all who partook. I still can't believe we've actually succeeded in creating a full working program which will be seen by thousands, all of our work paying off. I feel that this experience was one I will never forget and will definitely impact my course of life in the future. I am happy to have been given such an extraordinary opportunity and am so thankful. It's the best feeling to see all that you've worked for finally become complete. All of that hard work, putting in painstaking effort, now becoming happy and relatively distant memories because in the end it was all worth it. Once again I am so grateful and so proud of all we have accomplished.

Erika-

Looking back at the program and the class, I am so proud of what my partner and I accomplished. The three weeks spent in this class at FAU were busy and at times stressful, yet it

flew by in the blink of an eye. Developing an app and coding is all pretty new to me, so this class opened me to a whole new world of computer science. It was difficult, yet it was a gratifying experience. I never thought I would be able to create something that people could actually use and access. The memories gained and information learned from this class and program will carry with me and impact decisions I make in the future.

<https://github.com/ebryant2015/Florida-Water-Story-and-Everglades-App>

#### Acknowledgements:

We applied and got accepted into the APptitude internship program at the Museum of Discovery and Science in Fort Lauderdale, Florida hoping to gain valuable skills for our future. Through the course of this program, we explored how it feels to work in a professional environment with colleagues, deadlines, and other responsibilities. Not only did we learn how to program and build an app for android devices, but we learned important life lessons such as reliability, integrity, and time management. We are both extremely grateful for this opportunity to participate in this class.

We would like to thank our school Cypress Bay High and our AP Computer Science teacher, Mrs. Slutsky, for informing us of this program. Without her, we would not have known about this incredible opportunity.

A special thanks also goes to the Museum of Discovery and Science and the directors of the internship, Mrs. Scarlatelli and Mr. Cytacki, for deeming us to be worthy of this program and for thoroughly preparing us for the summer class. They provided us with important organizational tools and time management skills that made the FAU class more doable.

We definitely could not have completed the app without Florida Atlantic University. They allowed us to take a phenomenal course with top-notch professors all for free. Our professors, Dr. Shankar and Professor MacAfee, along with several teacher assistants, including Alain and Santiago, guided us in the app developing process. Whenever we needed help, they were easily accessible. A special shoutout goes to one of the teacher assistants, Demetrius Dukes. Our group did not have a graphics designer, so Demetrius assisted us greatly in that field. He designed the icon for our app and gave vital advice when we were designing the pages in our app. Without him, our app would have been less pleasing to the eyes to say the least.

## References:

- Android Studio
- d.android.com
- Android Studio Development -by Neil Smyth
- Adobe Photoshop
- Maya (3D graphics program)
- Pixelmator
- [www.stackoverflow.com](http://www.stackoverflow.com)
- [www.github.com](http://www.github.com)
- Sudoku program provided by Dr. Shankar
- <http://www.oracle.com/technetwork/java/javase/downloads/index.html>
- <https://eclipse.org/home/index.php>
- MODS Explorer app