**Project Name      FIT History Tours**

Team Lead:          Tyler Zars
Team Member(s):     Grant Butler, Cameron Miskell, Matthew Tokarski, Tyler Zars
Faculty Advisor(s): Dr. Fitzroy Nembhard, Dept. Of Computer Science, Florida Institute of
                    Technology

**Project Description:**

With the over 60 years of history behind Florida Tech, all the factoids that have been kept and passed down are displayed largely in a single room in the library. The goal of this project is to ensure that others can learn about the much broader history of Florida Tech while experiencing the university itself. The vast history of Florida Tech isn't known with just small plaques attached to buildings and statues scattered across the campus. This web application allows for users to find historical sites on campus and navigate to them accordingly to learn about places they find interesting.

**Features:**

Explore the beautiful campus of Florida Tech at your own pace with our guided walking tours, housed completely within the app! Navigate to your desired point of interest with ease as the map shows which paths to take in real time. Select from a small set of routing options with varying travel times and en-route stops. Discover the landmarks of Florida Tech without setting foot on campus; select locations on the map to display their history, Immerse yourself in the culture and legacy of our university through the screen of your device and get a remote start on the Panther Experience. Connect with the university through games that test your knowledge. Bridge the gap between education and fun with our Jeopardy-style trivia during your tour and rack up points while you learn about each landmark. Make your own path as you search for points of interest in a scavenger hunt. Our games will help you remember tour discoveries about Florida Tech. Scroll through facts and pictures of the campus on the active timeline! Watch as the most relevant information scrolls automatically into view as you reach each point of interest on your tour! Easily see more detailed views of images on timeline cards with a tap.

**Evaluation:**

We measured the success of our web app on various metrics, such as positional and factual accuracy, where each user's device will display their location within a 75 ft radius, and the historical content has been acquired from primary and verified secondary sources to supply 55+ facts from throughout Florida Tech's history. Another target metric was loading speed, and the application has been measured to consistently load within three seconds on mobile devices with steady internet connections. Next we measured the reliability of navigation provided by the app, which should direct users down the optimal path upward 80% of the time, and will direct users on some path that leads to the intended destination 95% of the time. Variability exists in this metric due to different precision in user devices' in-built GPS capabilities. Lastly, the system was evaluated on a user satisfaction metric through an online survey after engaging with the application for at least two primary functions. The average rating was 8/10.

**Major Challenges:**

We faced two major challenges during the development of this application, those being the reactive content timeline and the GPS precision. For the timeline content, we have an integration for a scrollable timeline that will hold the historical data for our project, but implementing automatic scrolling based on the geofencing that will be defined around campus buildings is going to need experimentation and testing to verify. On the other hand, this historically geotagged data revolves around the GPS. Due to the differences in the precision of GPS in different user's devices, 2 users may be put on different paths, even if they are walking side by side. This is an interesting problem, because this deals with the hardware of the user, rather than the software itself.
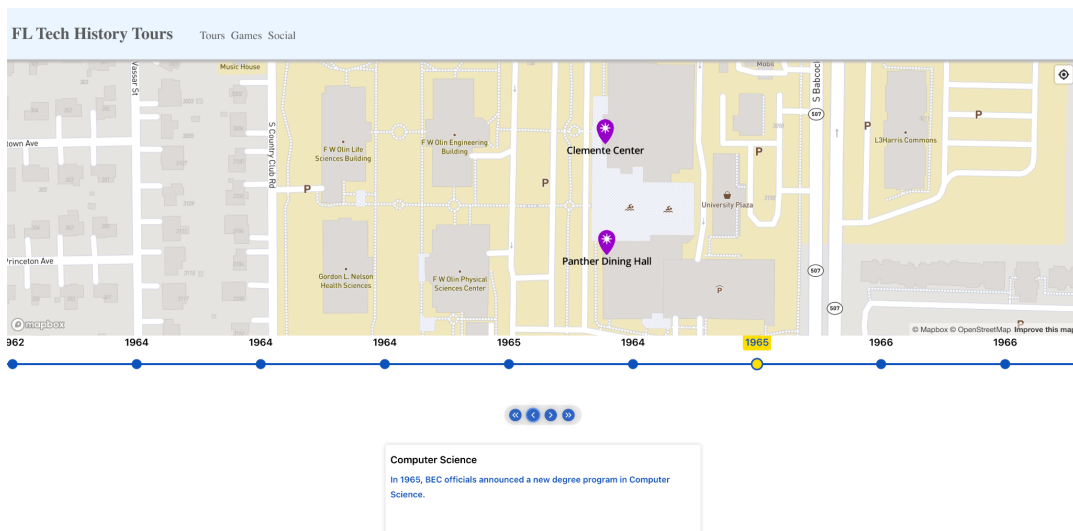


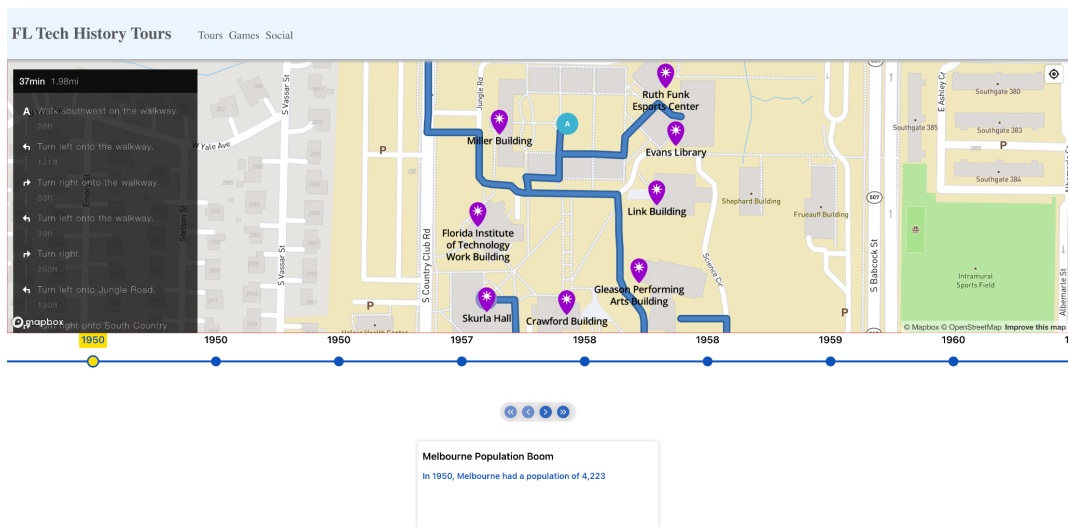**Figure 1: Default Application View Upon Loading**



**Figure 2: Application View When User Has Chosen A Tour**