



Capstone Tours Sprint 3

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Project Focus

Capstone Tours is a web-based mobile application that aims to allow users to explore UA's campus, using a live-location based interactive map to share facts, information, and history for significant locations on campus.

Prioritized Sprint Goals

- Implement User Contributed Locations
 - Implement Backend API for adding new 'unpublished' locations
 - Add Frontend form for users to suggest additional locations
- Implement Additional Media Types
 - Backend support for audio and video storage
 - Update API for audio and video retrieval
 - Frontend display of new media types
- Implement Location Categories
 - Add new category field to all locations
 - Update APIs for category inclusion
 - Update Frontend to display different location Categories
- Create Walking Tour "Test Harness"
 - Create location-spoofing system for remotely testing location-based interactions
 - Create documentation for "Test Harness"
- Write Documentation
 - Write detailed documentation for frontend and backend systems
 - Create detailed development guide
 - Create user guide for operating tours system

Major Sprint Achievements

- ✓ User Contributed Locations were successfully implemented on the frontend and backend
- ✓ Audio and Video Support was implemented for locations on the backend
- ✓ Location Categories were successfully implemented on the backend and frontend
- ✓ Location-Spoofing "Test Harness" was successfully implemented and documented
- ✓ Extensive Documentation for project components, development, and usage was created

Sponsor Feedback

Our project sponsor felt that our project was in a good place and was pleasantly surprised by the progress we made across sprints 1 and 2. She told us that although we should work to implement some additional functionality in sprint 3, that we should focus on setting easily achievable goals to allow time to create extensive documentation for our project.

Project Backlog

Audio
Features

User
Contributions

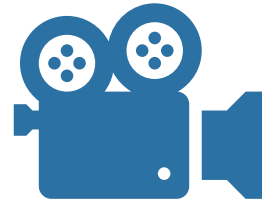
Location-
Based
Interaction

Guided Tours

Sprint Backlog



User Contributed
Locations



Audio and Video
Hosting



Create Testing
Environment

Accessibility and Inclusive Design

Because our application is written in React, and the user interface is not hardcoded, the User Interface can scale easily to different zoom levels / text sizes, accommodating potential low-vision users



Missed Goals & Lessons Learned

We weren't able to implement additional media type support (audio & video) in the frontend application

- The complexity of supporting additional media types with associated media players left us unable to add this functionality with the time provided
- What we learned: More time should be spent investigating the complexity of and effort required to implement new features before planning on them

Originally, we planned to implement curated walking tours in this sprint, but this was cut when planning the sprint

- Our vision for curated tours was not concretely defined and the scope of the feature proved too great to accomplish in one sprint
- What we learned: Have a clear idea of what planned functionality will look like, and provide yourself with adequate time to create it

Technologies Used

- React: Mixed, allows for extensive interface customization and interactivity, but highly complex, uses CSS, which can feel obtuse
- Django: Positive, allowed us to quickly create, store, and retrieve structured data while providing us with a prebuilt UI for backend management
- Firebase: Positive, gives us the ability to easily host static files like our frontend
- Claude Code: Positive, allowed us to build some parts of our project with remarkable speed
- GitHub: Mixed, some misunderstandings with version control practices led to us accidentally undoing other people's work

Team Member Contribution

Walter:

- Implemented User Contributions on backend and frontend
- Implemented Location Categories on backend and frontend
- Created Development Guide

Ethan:

- Created Location-Spoofing "Test Harness"
- Wrote User Guide Documentation

Jacob:

- Created Audio and Video Hosting
- Wrote the Deployment Guide

