CofC Fall 2024

CSCI 360

C of Seek (tentative project name)

JMZ

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Vision:

The project we are developing is an augmented reality scavenger hunt game. The purpose of the vision statement in this phase is to narrow our view on something feasible that will achieve the project's requirements. The key stakeholders in this project are the College of Charleston, the students/people playing the game, the professors, and the development team. The goal of our game, C of Seek, is to provide incoming students or anyone who would like to know more about the College and city of Charleston with an intuitive game that informs users about the history and purpose of many of the historical buildings and artifacts. C of Seek will help to familiarize new students with the many facilities that would otherwise go unnoticed. When a wayspot is scanned C of Seek will inform incoming students of faculty as well as resources at each facility. C of Seek has the chance to inform tourists about the rich history of Charleston, which would have various benefits for local businesses and the local economy. The project will implement Niantic Wayfarer to provide a user experience similar to Pokémon Go. We are constrained by time, technological resources, and budget constraints. The primary beneficiary of this project is the College of Charleston. Although there is software out there to build AR games there aren't many that are oriented toward scavenger hunts so there isn't much competition. Our game is unique because we want our users to learn the history of the city. We are focused on developing an AR scavenger hunt game that will teach users about the facilities and faculty that College of Charleston has to offer as well as the history preserved throughout the city.

Use-Case:

Developing Wayspot

- A developer will be able to use the Niantic Wayfarer to propose, verify, and develop a wayspot for mapping AR experiences to.

Actor – Developers

Main Scenario

1. Arrive at wayspot location
2. Open Wayfarer application
3. Select appropriate wayspot on device
4. Select scan option
5. Pan camera over wayspot location such that entire waypsot in lit up.
6. Register scan
7. Submit scan of okay or better.

Repeat for 10 scans

Alternative

a. New wayspot

1a. Select register new wayspot

2a. Select spot on map

3a. Upload name and photo

4a. Submit wayspot proposition

5a. Second explorer confirm wayspot location

-continue from main scenario 1

Viewing AR Experience

- A user will be able to use a mobile device to interact with the AR experience, via a link or QR code, and view three dimensional objects in the physical space.

Actor – Freshmen / Incoming CofC student

Main Scenario:

1. Arrive at wayspot location
2. Receive link from staff
3. Open link on mobile device
4. Allow camera access
5. Localize camera onto wayspot
6. View AR experience.

Alternative Scenario:

Access by QR code instead of link

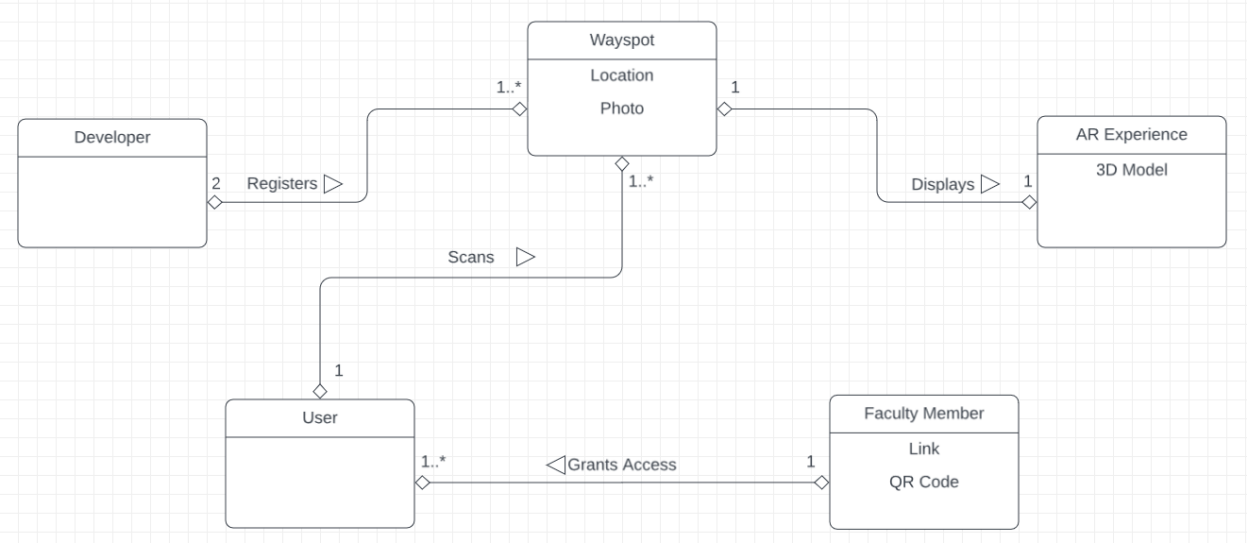
2a. Scan QR code

Supplemental Specs:

- Cost: Niantic 8th Wall commercial license and pro subscription

- Performance: User’s camera must recognize wayspot within 5 seconds of scanning
- Portability: Must be compatible with Android and Apple mobile devices
- Availability: Downtime during orientation, where the load will be the heaviest, is not acceptable. Moderate downtime outside of this time period is acceptable
- Maintainability: Wayspots must be easily modified and added for future scavenger hunts

Domain Model:



Glossary:

Term	Definition
AR	Augmented reality
Wayspot	Location/Object that has been surveyed with Niantic Wayfarer application. The Wayspot has distinquished features that can be pinpointed with VPS and camera imagery
VPS	a cloud service that enables applications to align a user's device with persistent AR content at real world locations for experiences

Experience	The augmented reality program's user experience
Wayfarer	Niantic Application used to create geolocatable spots from a 3D image and device location
8th Wall	Niantic WebAR Development Platform