Guided City tour

Vision: The ultimate goal for this project is to develop a system for a scavenger hunt that will be used to welcome incoming students that might be new to the campus of CofC and international students who want to get to know the city and some of Americas history here in Charleston. The scavenger hunt will span all across downtown Charleston, even outside of campus. The team will be required to find places/statues/landmarks based on clues given by the system, other fun challenges will be given to the hunters during the contest. The goal of our system is to provide a fun challenge to our users which includes many benefits like: teambuilding, social networking, getting to know campus, learn Charleston's significant history and potentially win some prizes.

The "stakeholders" at CofC would benefit from this in numerous ways. First of all, the students will be amazed by this huge and fun welcoming experience. Second of all, this might gain some media attention, putting CofC's name out there to the public. Lastly, this is a project that could easily scalable to not only this school but also to other universities in South Carolina or even the USA.

Goal	The user wants to explore Charleston through a guided city tour tailored to their interests, like historical landmarks, food spots, or art galleries.
Actors	New Student/Resident App
Preconditions	The app is installed on the user's device. The user has provided preferences/interests (e.g., history, dining, shopping, nature).
Postconditions	The user has visited multiple points of interest in Charleston. The app logs the user's activity for future recommendations.
Scenario	The user opens the app and selects "Start a City Tour." The app asks for the user's preferences The app suggests a personalized route, highlighting key landmarks and attractions. The user follows the suggested tour At each location, the app provides a description or historical facts The user can mark places as "favorites" or "visited." After completing the tour, the app gives the option to leave a review or share the experience on social media.

Use Case 2

Goal	Finding of a landmark by a team
Actors	Team System
Offstage	Leaderboard
Successful scenario	In this successful scenario the team will insert input into the system based on the landmark that they've found. (This input is going to be either a quote, a picture or a video) After having uploaded their input, the system will evaluate it and give points. In real time then, the leaderboard is going to be updated.
Successful scenario	The input was put into the system wrong. In this case the team will be notified and the points will not be added to the leaderboard.
Preconditions	Team must be enrolled in the scavenger hunt. Scavenger hunt must be ongoing.
Postconditions	Points will be added to the Leaderboard. Landmark Gets ticked off in the scavenger's list. Other teams get a notification about the teams completion of this challenge
Success Guarantee	For this case to be successful the team first has to find the landmark in question, then input what the system requires whether it is a video, a quote or a simple picture.

Glossary

Augmented Reality (AR): A technology that superimposes a computer-generated image or other content onto the real world, viewed through a device such as a smartphone. In the game, AR will overlay clues or markers at historical locations on campus.

CMS (Content Management System): A software interface that allows the college's administrators to create and modify content in the scavenger hunt, such as storylines, clues, and activities.

Static Map: A non-interactive digital map of the College of Charleston campus that players can use to navigate the scavenger hunt without AR.

GPS (Global Positioning System): Satellite-based navigation technology used by the game to pinpoint players' locations on campus and trigger location-based events or clues.

Clue: A piece of information or hint provided to players during the scavenger hunt to guide them to the next location or task.

Storyline: The overarching narrative or theme of the scavenger hunt, which could involve historical facts, famous alumni, or other College of Charleston history.

Content Update: A change made by the game's administrators that modifies the game's storyline, activities, or clues, which should reflect in real-time for players.

User Authentication: The process of verifying a student's identity through their CofC email account, allowing them access to the game.

Concurrent Users: The number of users who are actively playing the game at the same time.

Progress Tracking: A feature that saves the player's advancement in the game, allowing them to resume from the last point they stopped.

Supplemental Specs

Performance Requirements:

- The game should load within 3-5 seconds on most devices.
- AR elements should render seamlessly without significant lag.
- The app should handle up to 1000 concurrent users without performance degradation.

Usability Requirements:

- Intuitive user interface (UI) with clear navigation.
- Instructions must be straightforward for non-technical users.
- Provide feedback at each step (i.e., "clue found" notifications).
- The game should be accessible for users with disabilities (i.e., text-to-speech options)

Security Requirements:

- User data must be encrypted.
- Sensitive user data must not be shared with third parties.

Reliability Requirements:

- The app should be able to handle quick surges in use (i.e., orientation week, college visiting months).
- If the AR component fails, the user should be able to switch seamlessly to the static map mode.

AR and Map Requirements:

- AR functionality must accurately overlay historical locations and clues on real-world sites.
- GPS accuracy should be within a 5-meter radius for location-based clues.
- Static map mode should display detailed campus maps.

Game Design and Storyline Modifiability:

- Admins should be able to design, modify, and update game storylines and activities through a content management system (CMS).
- Updates to storylines should reflect in real time without needing app reinstallations by users.

Cross-Platform Compatibility:

- The game must be compatible with both Android and iOS smartphones.
- Responsive design for tablet and laptop use.

Data Storage:

- Progress of individual players must be saved so they can return to the game later without starting over.
- All clues, historical facts, and media must be stored in a secure cloud-based server.

Help and Support:

- The app should feature a help section with FAQs, troubleshooting tips, and contact info for technical support.
- Provide a feedback mechanism.