Team 21

Project Charter

Team Members: Jialu Gu, Shafer Hess, Emily Ou, Derek Shu, and Mangkorn Yuan

Project Title

MyCampus AR

Problem Statement

There are many historical buildings in the campus. However, students and tourists don't have an convenient and interactive way to learn about these buildings. In addition, many tourists like leaving doodles at places they visit. However, physical doodles will certainly damage historical buildings. A way to create virtual doodle is needed. Unlike existing tour guides, our AR guide will be more interactive.

Project Objectives

Through the development of a smartphone app, we plan on exploring the much overlooked field of AR in a campus environment. We hope to connect individuals through a social building and sharing feature as well as a historical feature that allows students to view the history of their campus through their camera, highlighting important historical buildings and their past.

Stakeholders

- **Team Manager:** Shafer Hess
- **Developers:** Emily Ou, Jialu Gu, Mangkorn Yuan, and Derek Shu
- **Purdue University**
- **University Students**

Project Deliverables

At the end of this project we will be delivering an app compatible with both iOS and Android systems that will support the following features:

- **Detecting sign images that create unique AR effects around them.**
- **Use the signs to learn about the history of Purdue's most influential buildings**
- **Allow students to leave comments as AR effects in historical buildings.**
- **The ability to build minimalist AR 3D models in app**
- **Place and screenshot models to share in a public feed**
- **Save models for later use**
- **A Backend server that can be used to store and retrieve information**

We plan to use the following systems to create these features:

- **Backend:**
  - **Node.js**
    - **Express Server**
  - **Security/Privacy:**
    - **User passwords will be "salted and hashed" then stored in our database**
  - **Database:**
    - **Google Cloud/AWS/Azure (for hosting)**
    - **SQL or MySQL (the language)**
    - **Handles all data storage/metadata storage**
- **Frontend:**
  - **Unity** (3D video game engine, ports to Android & iOS)
    - **Vofuria** (plugin, handles AR)
  - **Adobe Photoshop** (for app content & marketing)
  - **Adobe Premiere Pro** (for marketing)