CPSC 481 Team Project: Stage One
Tutorial 02
Team O

Proposed Ideas

1. AR Room Designer App

Oftentimes, it can be hard to decide on a room layout without seeing it in front of you. Whether it is matching a colour scheme, finding furniture that will go with the room, or just changing the orientation of a bed. It can be frustrating when you paint an entire wall or move everything around only to realize you don't like the look of it. For anyone who wants to design or rearrange a room or a house (basically everyone), it is important that you are able to put together a space that you enjoy being in.

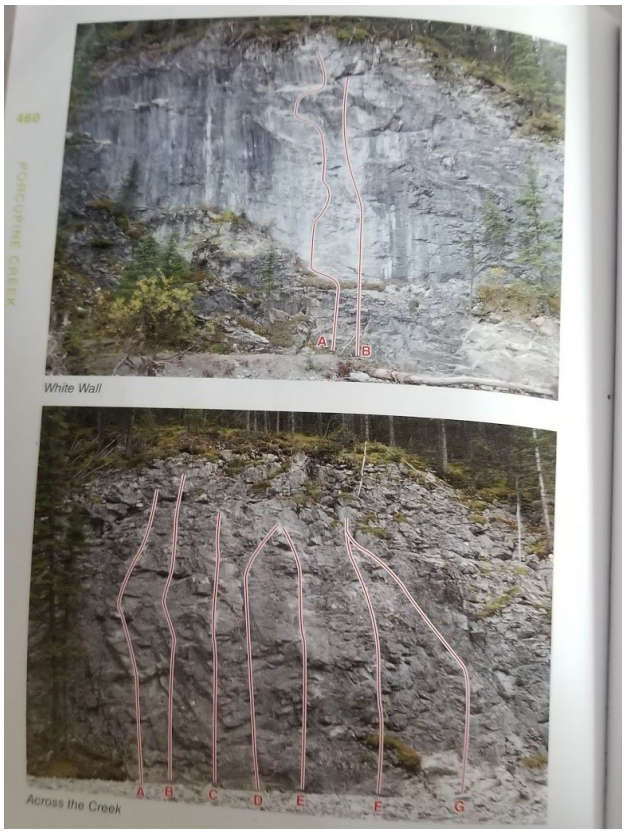
We want to solve this problem by creating an AR mobile application that allows you to imagine your room without doing the hard work. This way you will be able to test out a paint colour, a new wardrobe, or a different layout to see if you actually like it before committing to it. This would be done by viewing your room through the camera in your phone and dragging items "into" the room. You would also be able to select certain areas and change the colour, texture, etc.

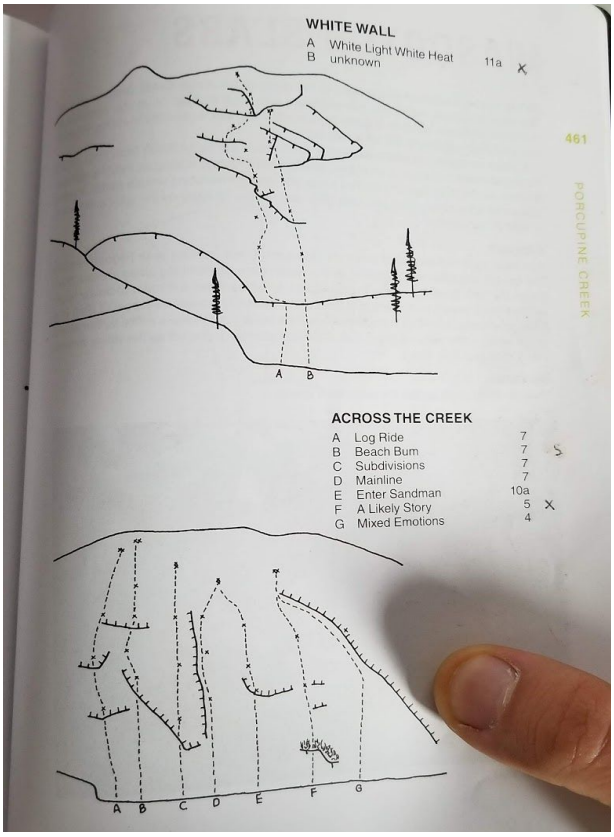
2. AR Rock Climbing App

Traditionally, rock climbers use guidebooks to find and locate routes in the field. The books typically have a picture of the rock face with an approximate path of the routes drawn on top. There is often other information shown such as the climbing grade, route length, location/number of fixed bolts, a text description of the route, etc... Many climbers also check-off climbs they have completed, as well as make notes of climbs they really enjoyed. Climbers may also seek out information ("beta") on how to climb a route that is giving them difficulty. This is usually done by asking someone who has climbed it how they did it.

One issue with these books is it is often difficult to locate the route on the wall at the crag. The photos are small and taken from specific perspectives, which makes correlating what you see with the book challenging. Furthermore, sometimes the protection on the routes changes or routes may be added/decommissioned. Finally, finding good climbs for your ability level requires flipping through the book, looking at the grade, and then finding it on the wall to see if it looks fun. Overall route selection may be time consuming, and misidentifying routes may be a safety issue.

This proposed application would be an AR mobile application that superimposes climbing routes on a live image of a rock face. It would allow users to quickly identify and choose routes (likely with filters for route style/difficulty). It would also include functionality to log ascents (and type of ascent, eg redpoint, onsight). There would also be a social aspect to the application where people could share ratings and beta for specific routes, as well as report any potential issues with the route (such as loose bolt hangers).





3. Parking App

Normally, when people try and find parking in the city, they often have to rely on their vision and word of mouth from passengers in their cars (if they have any) to try and find a parking spot or location. In addition, certain drivers may need to look for certain types of parking spots in locations, such as accessible parking or parking for expectant mothers when trying to park their car.

The main problem at times while trying to find parking is that by not knowing where an exact open parking spot is, it can take minutes to try and find it, causing people to take a chunk of

time out of their visit to a location to find these precious parking spots, especially if they are someone who needs to find a certain accessible parking or expectant mother parking spot, or if they are running late and can't spend the time to find a parking spot.

Our solution to this problem would be to create a "Find My Parking" app that would allow you to find the closest parking spot. It also would have the option to find the closest accessible parking or expectant mother parking spot for people that need it. The user would then also have the option to accept the closest parking spot offered by the app, or to tell the app to find a different parking spot, if the user does not like the parking spot for some reason. We will ensure that the safety of the driver/user of the app is not compromised when using the app, by making it either a voice powered mobile app, or an app that works on a car dashboard through Apple Carplay/Android Auto.

Portfolio

https://cpsc-481---project-portfolio.web.app

Online Repository

https://github.com/lysterjason/CPSC-481-Term-Project/