

**Project:** EasyPlan

**Team name:** MapFolio

**Team members:**

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**Introduction**

The problem we have identified is the inefficiency of floor plan creation and presentation. Creating a floor plan involves taking measurements and recording them at the property site. These measurements are translated into a floorplan which is served up in various ways, either on paper or through a website. This process is often time consuming and inefficient, which results in lost time and money.

Presentation of the floorplan is often a painstaking process; many real estate websites only supply photos of the rooms, leaving the renter to try to imagine how all these photos piece together. Even if the property owners supply both a floor plan and images of the property on the same website, a renter may have trouble relating the two.

Traditionally, a floor plan is often stored in a static format; they do not scale well and are hard to update. Even if the floor plan is stored in a vector based format, this is usually shown as a static image in an owner's website. This means that if the property ever physically changed, all floor plans would need to be updated so potential renters could see this new information.

Customers (both renters and property management) want more of the rental process to be a more convenient and online experience. While much of rental process *has* been moved online, the process of efficiently creating and effectively presenting a visual of a rental unit has not yet been perfected. Renters don't want to waste their time trying to figure out a complex floor plan with no indication of what the property looks like, often times having to physically visit multiple locations before making a decision. Renters want more information

about a particular unit quickly and owners want a more modern way to provide this information.

Currently the floor plan creation process still involves taking measurements at the property site and turning these into a floor plan after the fact. There exist some technologies to ease these processes. The floor plan creation process can be expedited with the help of more advanced mobile phone technologies. Several mobile phone apps allow a user to model a room by touching their phone to walls and taking pictures of walls and ceilings. Using the accelerometer and gyroscope in many modern smart phones, they can ease the creation of a 2D model that can be eventually translated into a floor plan.

Presentation has become more intuitive and convenient due to advanced web technologies. These have made real estate websites easier to use and update, but this does not necessarily translate to a better experience viewing a floor plan.

### **Projected Outcome**

Using the gyroscope and accelerometer in a mobile device, this mobile application will generate a floorplan that will be stored in the cloud. When using the application, users will be able to input features of a room such as doors, windows, and major appliances. Users can enhance their floorplan by associating actual photos of the room with points on the floorplan.

Our application will also feature a backend that will allow the user to export the data generated through this process to be stored online or be shared with other users to be edited to suit future changes to the building or improve the specificity of the measurements or the individual appliances that were added.

### **Milestones**

- Initial technology: Initial technology stack selected.
- Measurement taking: Ability to leverage phone's gyroscope and accelerometer to take measurements while running as a web service.
- Creating image files: Ability to create floor plan images.
- Storing image files: Ability to store image files in the cloud.
- Ability to add features of the room (such as windows, doors, etc...)
- Ability to associate photos of the room with points on the floorplan.
- Ability to combine multiple room plans into a larger floor plan

## **Process**

We are going to use Scrum/Agile process model to achieve the milestones above. Milestones are going to be broken up into user stories populating our project's Icebox. In the beginning of each sprint iteration, we will have sprint planning meetings, in which we will pull user stories into the sprint based on priority. We will use Pivotal Tracker to stay organized during our sprints as well as to track issues. We will follow the feature branch workflow on Github. We have scheduled daily stand-up meetings, favoring in person meetings over virtual meetings.

Technology wise we will be using Ruby on Rails for our back-end which will be hosted in Amazon AWS cloud. For our front-end we will be using HTML5 and Javascript.