




# PSU Locator



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CS461P Open Source Software Development



# Overview

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- Project idea: : Develop a mobile application that will help a user navigate through a large campus, in this case Portland State University
- Intended users: PSU students, faculty members, and guests
- Github: <https://github.com/vunhi/CS461P>
- License: MIT License
- Contact info to learn more about the project or report bugs: [vunhi@pdx.edu](mailto:vunhi@pdx.edu)

# About PSU Locator

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- Based off of my work for another class
- Dynamic enough to apply to any campus
- 3 major features: interactive campus map, search functionality, favorites section
- Provides multiple ways for a user to navigate to a particular room floor plan
- Easier than having to navigate to a PSU campus map online or looking at an actual physical map
- Allows users to store frequent locations like a classroom - users don't have to search a classroom up on Banweb

# How does the app work?

- PSU Locator demo:  
<https://appetize.io/app/xcrg55th46amgv69kufwtfrgc4?device=nexus5&scale=75&orientation=portrait&osVersion=7.0>



# Design Changes During Development

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- Originally wanted to include GPS in the app to allow the user to have a path to the room
  - Complexity beyond my scope and limitations with using GPS indoors
- Changed to a room locator concept instead
- Highlighted rooms changed to static location marker
  - Vector drawing beyond my scope - unable to achieve that with time limitations
  - Originally used multiple drawables to have each room highlighted = too many drawables
  - Settled on using a static image marker instead
  - Multiple drawables = one xml layout file
  - Less drawables = multiple xml layout files

# Struggles

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- First time doing mobile dev
  - Getting used to Android studio and xml files
  - Learned how to work with XML layouts and navigating through Android activity pages and working with Android widgets
  - Limitations in Android studio: certain desired features not included for specific API levels or in general
- Problems with XML layouts and screen resolutions
- Collaborating with other programmers
  - Merge conflicts on Github
  - Difference in opinions and implementation styles
- Lack of time spent designing/planning lead to inefficient process
  - Inefficient, “ugly” initial coding that was later optimized - should spend more time designing and planning first. Example: Building + Room names started out as one large string which was meticulously parsed, was optimized to Object classes with different fields

# Improving the Project

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- Adding more data to the project (buildings, floors, rooms)
- Improving specific limitations
  - Rooms are only identified with one specific format (CH 101), must find a way where they can be identified with other formats as well (Cramer 101)
- Making app work for all screen size resolutions
  - Currently only works for a specific size screen (the one I was testing on)
- Simplify process of adding buildings, floors, and rooms
  - Currently to add new floor layouts you must add a new xml layout for that floor and manually add in the marker locations - each floor uses a different layout. Want to try to find a simple way where you use only one layout so you don't clutter up the project code
- Improve and Simplify code overall
  - Reduce code redundancy that I didn't have time to clean up
- Add more features/Modify current ones
  - Customizing favorite locations with own user entered string
  - Allowing user to search by Building Floor (and not just Building and Room name only)
  - Test floor numbers < 0 or > 10
- Create a version for iPhones or a web app

# Questions???

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