

Final Report

INDY-5 CHOA MAP APPLICATION

Section 05

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Website: [https://indy-5-team.github.io/Map Navigation Application/](https://indy-5-team.github.io/Map%20Navigation%20Application/)

GitHub: [https://github.com/INDY-5-Team/Map Navigation Application](https://github.com/INDY-5-Team/Map%20Navigation%20Application)

Number of Lines of Code:

Number of Project Components/Tools: 3

Total Man Hours:

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Remove this once we are done just guidelines from the prof

- Build on your previous documents created for the project plan, requirements, design and testing documents – you may include project plan, screen mockups and other items in the Appendix.
- For all software development, include design and architectural drawings, which explain how your software project components interact
- Include VERSION CONTROL description in your final report
- Challenges, assumptions, and risk assessments (optional as applicable)
- Conclusion / Summary
- Source code – zip file is fine – you can export files from GitHub

Introduction

Our app uses Dart and Flutter, and its purpose is to be able to map the interior of a building, say a hospital or airport and make it easier for users to navigate to where they need to go quickly and efficiently. The main goal was to have a functioning app with a map and a functioning navigation algorithm to find the shortest path with the later inclusion of QR code functionality. This idea came from the knowledge of a new CHOA hospital opening and from my mother who mentioned it is difficult to navigate from there the idea came to form, but after a few difficulties we had to resort to the map application as proof of concept rather than just a hospital navigation app. It would help make the stress of the hospital visit just a little less as you do not need to worry about where you are going as you can simply follow the path to your destination. It may not be much but our overall goal with this app is to make people's work, travel, or daily tasks much easier by subtracting one less thing they must worry about.

Requirements

Project Goals

We plan to have a fully functional application that will allow a user to input their location and destination, and it will provide them with a route. It will not track location but will provide a list of directs to take

Design Constraints

There are very few design constraints other than making it have a fast loading and interactable UI for the user.

Environment

We plan on the application environment to be on IOS and Android and the application itself will be used for navigating the Atrium building but will be easily transferable to any other building.

User Characteristics

We want the application to have a very responsive and friendly User interface to limit any kind of hinderance and we want it to be able to keep user info (if any) secure and for there to be user support integrated into the application.

System

Our system will have a map that is navigable by our algorithm to guide the user to the destination as quickly as possible, there will also be a help menu and settings. There may also be a history / favorite page where they can easily access locations again in the future if needed

Analysis

Risk Analysis, (include the risk with being a hospital app) as that was a risk that fell through and how we went forward perhaps? Maybe QR code with its potential risks or identify that that was all / no risks?

Design

Classification

- **Subsystems:** UI/UX, Data Management, QR Code Processing, Network Communication.
- **Modules:** Each subsystem will be broken down into modules to manage specific functionalities, such as the QR code scanner module, map display module, etc.

Responsibilities

- **UI/UX Subsystem:** Provide a responsive, user-friendly interface.
- **Data Management Subsystem:** Handle the storage and retrieval of map data.
- **QR Code Scanning Subsystem:** Accurately scan and interpret QR codes.
- **Network Communication Subsystem:** Manage secure communication with the server.

Composition

- The system will be composed of independent yet interrelated subsystems, each focusing on a specific aspect of the application's functionality (UI, data management, QR code processing, network communication).

Uses/Interactions

- The UI subsystem interacts with users to capture inputs and display outputs.
- The QR code scanning subsystem interfaces with the camera hardware.

Resources

- Utilizes mobile device hardware (camera for QR code scanning, local storage for map data).

Processing

- QR code scanning triggers real-time data retrieval and navigation path updates.
- User inputs on the map interface lead to corresponding actions (zoom, navigate, etc.).

Development

Tools and Technologies used, implementation details like major and minor components the widgets and what they do. Challenges and solutions to those development wise.

- Development: how you did it – what you did – pull key points out of your presentation transcripts and create an outline, then add details to each part of the outline (see lecture video for Development document) in teams

Test (Plan and Report)

Testing objectives, how we tested, what we tested, the test environment

Test report: summary of results, defects found, final determination if it meets requirements

Version Control

GitHub was our version control for our project, as it is a simple and effective medium for version control and cooperation within our project. Members of our group would use pull requests for each feature added. We reviewed each pull request to avoid overriding any work and to ensure stable version control for our application.

Branching strategy, the history of commits,

Summary

Evaluate how well the app met the objs, what we learned, future work for this app, maybe I am not 100% for this.

How the app went / what goals and what goals were reached, what are future goals (include technical details).

Appendix – training (if mobile apps), Project plan, Etc.

Potential user guidelines, screenshots and walkthroughs?

Project plan, timeline Gantt charts and milestones and time it took to reach our milestones

Include code snippets documentation, or third-party etc.

Screen shot of mobile app tutorial