

# EagleNAV

## Software Design Document

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## Version History

User	Date	Reason for Changes	Version
Jesse Saroca	12/5/25	Update for snapshot 1	1.0

# 1 Introduction

## 1.1 Purpose

The purpose of this document is to provide a detailed description of the EagleNAV. This document will outline the system architecture, user interface, and intended audience for the application.

## 1.2 Intended Audience

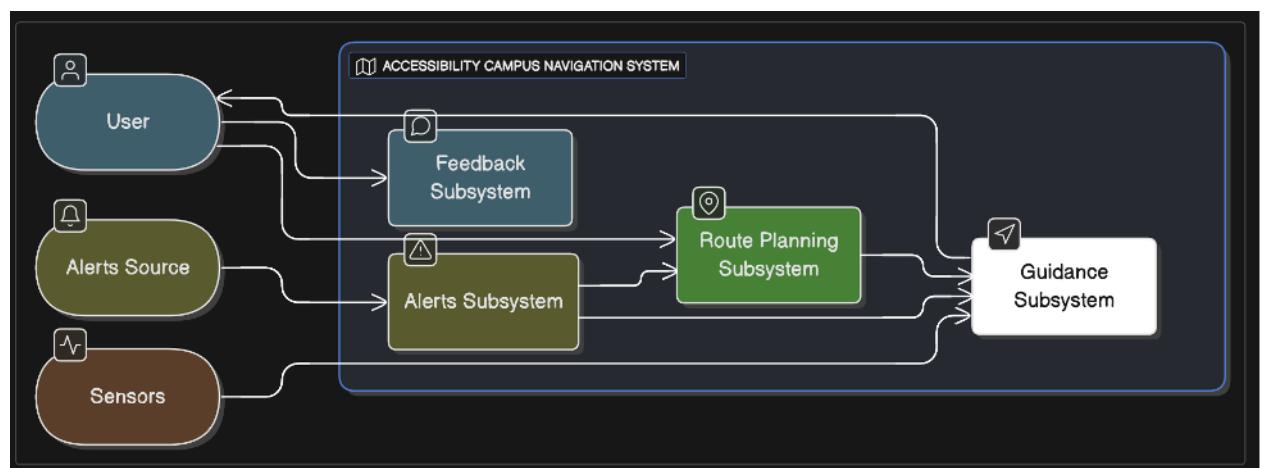
The intended audience for this document includes:

- Software Developers
- Project Managers
- Testers
- Stakeholders

## 1.3 Overview

The EagleNAV will be a mobile application that allows users to use their phone camera to navigate through their college campuses. The application will provide a user-friendly interface and clear instructions that will guide the user.

# 2 System Architecture



## 2.1 Workflow

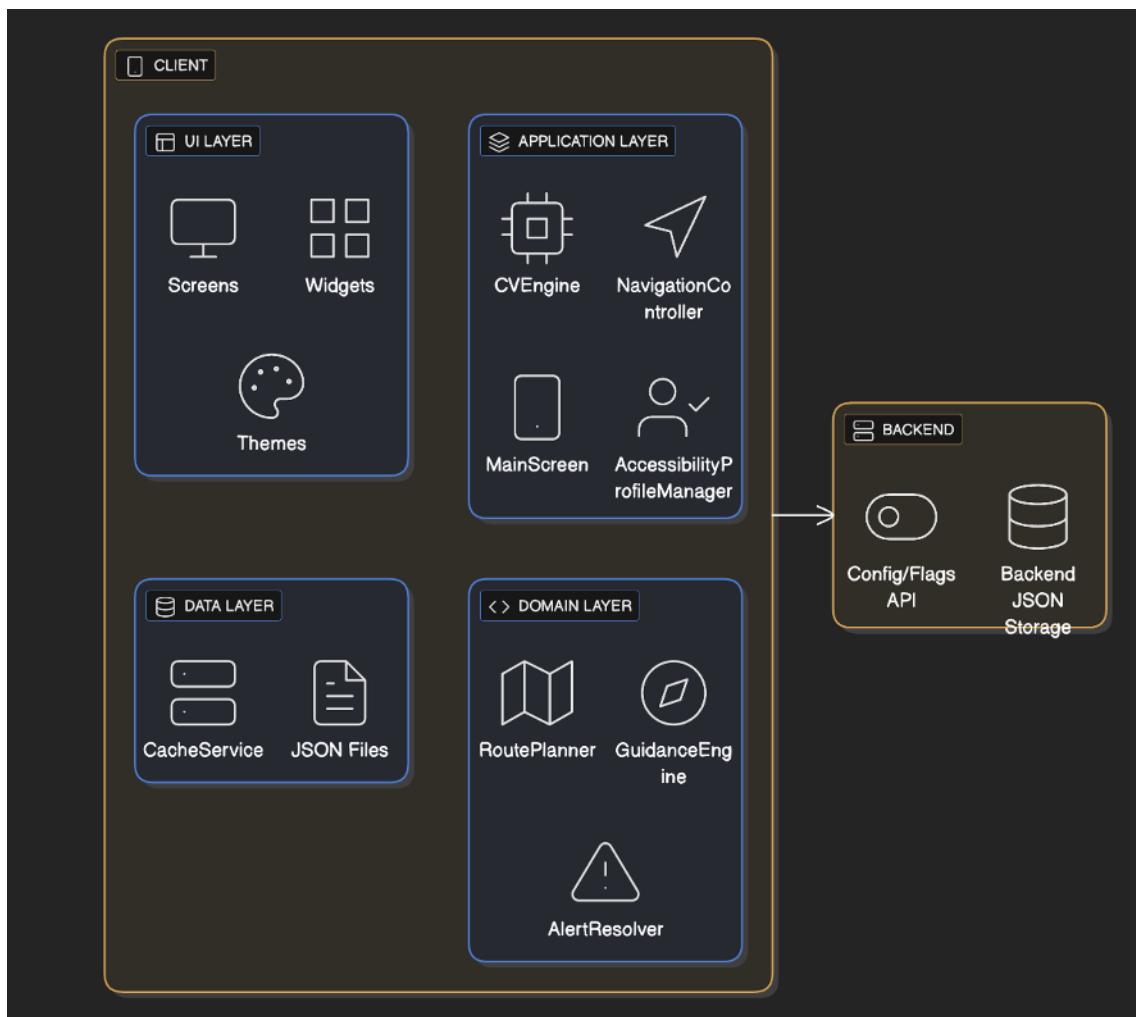
The user workflow of the EagleNAV will consist of:

- User authorization to use location and camera
- User submission of destination choice
- EagleNAV sends a routing request
- EagleNAV directs user towards their destination

## 2.2 App Breakdown

The Accessibility Campus Navigation System is divided into several key areas:

- Route Planning Subsystem: Uses the local routing server and Route Planner Engine provide the assembled route.
- Guidance Subsystem: Uses sensors to give a consistent direction to the inputted location.
- Alerts Subsystem: Uses campus records to indicate obstructions in routes to find a new faster route.
- Feedback Subsystem: User inputted feedback reports.



## 2.3 Data Flow - New Audit

# 3 User Interface

## 3.1 How to Use

- Map: Includes a search bar and current location.

- Camera: Find the navigation arrow in the augmented reality space.
- Favorites: Saved places.
- Alerts: List of active campus impacts in order to re-route user.
- Settings: Change text size, contrast, haptic intensity, or captions.

### 3.2 Database Explanation

The database for EagleNAV is stored in json files:

- bookmarks.json - stores saved routes
- points.jeojson - stores POI and custom landmarks

## Glossary

**AR** - Augmented Reality

**NAV** - Navigation

**POI** - Point of Interest

## References

Ascent - Project. (2025-2026). Cysun.org. <https://ascent.cysun.org/project/project/view/248>