5.1 Introduction

"Thrive" is a comprehensive web-based platform designed to assist young professionals and early-career individuals in managing their financial lives. It integrates four primary modules: Real Estate Planning, Salary Projection, Budgeting, and Financial Advising. By offering a suite of tools for financial analysis and decision-making, "Thrive" aims to simplify complex financial planning tasks and provide actionable insights for users. The following high-level diagram illustrates the major components of the system:

The document is organized as follows:

- CSCI Component Breakdown
- Functional Requirements by CSC
- Performance Requirements by CSC
- Project Environment Requirements

5.2 CSCI Component Breakdown

CSCI stands for Computer Software Configuration Item, representing the highest level of software division. The CSCI for this project is named "Thrive" and consists of the following Computer Software Components (CSCs):

5.2.1 Real Estate Planning Module CSC

This module provides detailed real estate data and interactive mapping features.

5.2.1.1 Real Estate Data Integration CSU

This unit integrates with the Zillow API for real estate data.

5.2.1.2 Interactive Mapping CSU

This unit utilizes the ArcGIS API for JavaScript to provide visualization tools.

5.2.2 Salary Projection Module CSC

This module offers career salary insights and future earnings projections.

5.2.2.1 Salary Insights CSU

This unit integrates with the Indeed API to provide salary information.

5.2.2.2 Future Earnings Projection CSU

This unit calculates potential salary growth based on user input.

5.2.3 Budgeting Tools CSC

This module helps users track their income, expenses, and savings goals.

5.2.3.1 Income Tracker CSU

This unit allows users to input and manage their income sources.

5.2.3.2 Expense Tracker CSU

This unit enables users to categorize and track their expenses.

5.2.4 Financial Advising Module CSC

This module provides tailored financial advice based on user inputs.

5.2.4.1 Advice Generation CSU

This unit generates personalized financial advice.

5.2.4.2 Data Visualization CSU

This unit presents financial insights using charts and graphs.

5.3 Functional Requirements by CSC

5.3.1 Real Estate Planning Module

The Real Estate Planning Module shall provide users with tools to analyze real estate options.

5.3.1.1 Real Estate Data Integration

- **5.3.1.1** The system shall retrieve real estate listings from the Zillow API.
- **5.3.1.2** The system shall display property details including price, location, and square footage.

5.3.1.2 Interactive Mapping

- **5.3.1.3** The system shall provide an interactive map showing available properties.
- **5.3.1.4** The system shall allow users to filter properties by price range and location.

5.3.2 Salary Projection Module

The Salary Projection Module shall offer insights into potential career earnings.

5.3.2.1 Salary Insights

- **5.3.2.1** The system shall retrieve salary data from the Indeed API.

- **5.3.2.2** The system shall display average salaries for selected job titles.

5.3.2.2 Future Earnings Projection

- **5.3.2.3** The system shall calculate projected salary growth based on user-defined career paths.
- **5.3.2.4** The system shall allow users to input expected promotions or job changes.

5.3.3 Budgeting Tools

The Budgeting Tools module shall assist users in managing their financial habits.

5.3.3.1 Income Tracker

- **5.3.3.1** The system shall allow users to input and categorize their income sources.
- **5.3.3.2** The system shall display total monthly income.

5.3.3.2 Expense Tracker

- **5.3.3.3** The system shall allow users to input and categorize expenses.
- **5.3.3.4** The system shall provide visualizations of spending trends.

5.3.4 Financial Advising Module

The Financial Advising Module shall deliver personalized financial recommendations.

5.3.4.1 Advice Generation

- **5.3.4.1** The system shall analyze user financial data to generate tailored advice.
- **5.3.4.2** The system shall allow users to input financial goals.

5.3.4.2 Data Visualization

- **5.3.4.3** The system shall present financial insights using charts and graphs.
- **5.3.4.4** The system shall allow users to visualize progress toward savings goals.

5.4 Performance Requirements by CSC

5.4.1 Real Estate Planning Module Performance

- **5.4.1.1** The system shall load real estate data within 2 seconds.
- **5.4.1.2** The system shall respond to user interactions on the map within 1 second.

5.4.2 Salary Projection Module Performance

- **5.4.2.1** The system shall return salary data within 500 milliseconds.
- **5.4.2.2** The system shall project future earnings within 1 second.

5.4.3 Budgeting Tools Performance

- **5.4.3.1** The system shall update income and expense tracking in real-time.
- **5.4.3.2** The system shall load budgeting visualizations within 2 seconds.

5.4.4 Financial Advising Module Performance

- **5.4.4.1** The system shall generate personalized advice within 3 seconds.
- **5.4.4.2** The system shall display data visualizations in under 2 seconds.

5.5 Project Environment Requirements

5.5.1 Development Environment Requirements

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Category	Requirement
Processor	Intel i5 or equivalent
RAM	8 GB minimum
IDE	Visual Studio Code or similar
Frontend Framework	React/Vite
Backend Language	Python
Database	Firebase

5.5.2 Execution Environment Requirements

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Category	Requirement
Operating System	Windows 10, macOS, or Linux
Browser	Chrome, Firefox, or Safari
Network	Stable internet connection

This document provides a comprehensive outline of the requirements for "Thrive."