

Faith Finder – Requirements Specification

Winter 2024 – CSE 499 – Alma Camarillo

Description

"Faith Finder – Web Application" is a pioneering project aimed at bridging the gap between technology and spirituality. Rooted in the principle of inclusivity, the platform serves as a beacon for individuals of diverse faiths across the United States, providing them with a seamless means to discover nearby places of worship. By harnessing the power of Google Map APIs and AI-driven recommendation systems, users can embark on a journey of exploration tailored to their unique beliefs and preferences. Whether through an engaging AI-generated quiz or intuitive manual navigation, Faith Finder empowers users to connect with religious communities in their vicinity, fostering understanding, acceptance, and unity. This innovative endeavor not only leverages cutting-edge technology but also embodies a profound commitment to enriching the spiritual landscape of our society, one virtual step at a time.

Section 1

1.1 Introduction

1.1.1 Purpose

The purpose of the project "Faith Finder – Web Application" is to create a platform that connects individuals from various faith backgrounds to the nearest place of worship in their area within the USA. The project aims to utilize Google Map APIs and AI technology to offer personalized recommendations based on user preferences, ultimately fostering a sense of community and inclusivity among different religious groups.

1.1.2 Scope

The scope of the project encompasses the development of a web application that integrates Google Map APIs and AI algorithms to provide users with tailored recommendations for nearby places of worship based on their religious affiliations or interests. The application will allow users to either take an AI-generated quiz to refine their preferences or manually browse through a database of religious locations. The project is limited to the geographical region of the United States and focuses on enhancing accessibility and connectivity within religious communities.

1.1.3 Overview

The project involves the creation of a web application named "Faith Finder," designed to facilitate the discovery of nearby places of worship for individuals belonging to diverse religious backgrounds. Through the integration of Google Map APIs and AI-driven recommendation systems, users will be empowered to explore and connect with religious communities in their vicinity. The application will offer both automated quiz-based suggestions and manual navigation options, aiming to promote understanding, acceptance, and inclusivity among users.

1.1.4 User Profiles

- Target Audience:
 - Individuals residing in the United States seeking to explore or connect with religious communities.
 - New residents or travelers looking for places of worship in unfamiliar areas.
 - Those interested in learning about different religions and their practices.
- User Characteristics:
 - Diverse religious backgrounds and affiliations.
 - Varied levels of technological proficiency.
 - Interest in leveraging technology to enhance spiritual experiences and community engagement.
- User Needs:
 - Accessible and intuitive interface for discovering nearby places of worship.
 - Personalized recommendations aligned with individual preferences and beliefs.

- Comprehensive information about religious institutions and their services.
- Seamless navigation features for easy exploration and connectivity.

1.1.5 Workflows

- **AI-Generated Quiz Workflow:**
 - User selects the AI-generated quiz option upon accessing the web application.
 - Users respond to a series of questions designed to determine their religious preferences.
 - AI algorithm analyzes user responses and generates personalized recommendations.
 - User receives a list of suggested places of worship based on quiz results, accompanied by relevant details and map locations.
- **Manual Navigation Workflow:**
 - User opts for manual navigation within the web application.
 - User enters location details or zip code to explore nearby religious institutions.
 - User browses through a database of religious locations, filtering by denomination or proximity.
 - User selects a specific place of worship to view detailed information and location on the map.
- **Common Features:**
 - Interactive map interface displaying locations of religious institutions.
 - Detailed profiles for each place of worship, including address, contact information, and description.
 - Search and filter functionalities for refining results based on user preferences.
 - Seamless integration of Google Map APIs for accurate geolocation services.
 - User-friendly navigation and intuitive design for enhanced user experience.

1.2 Standards

- **Coding:**
 - Standard: Adherence to industry best practices and coding conventions.
 - Metric: Maintainability Index score above 70%.
 - Criteria: Consistent code formatting, meaningful variable names and proper documentation.
- **Design:**
 - Standard: User-centered design principles and intuitive user interface (UI).
 - Metric: User navigation score above 70% in usability testing.
 - Criteria: Clear navigation, responsive layout, visually appealing aesthetics, and accessibility compliance.
- **Learning Model:**
 - Standard: Effective utilization of AI algorithms for personalized recommendations.
 - Metric: Accuracy of recommendation matches above 70% based on user feedback.
 - Criteria: Continuous improvement of recommendation algorithms through iterative testing and refinement.
- **Architecture:**
 - Standard: Scalable and modular architecture supporting future enhancements.
 - Metric: Scalability score above 80%, measured by the ability to handle increased user load without performance degradation.
 - Criteria: Separation of concerns loosely coupled components, and adherence to SOLID principles.
- **Quality Assurance Characteristics & Metrics:**
 - Standard: Relying in Regression testing procedures ensuring functionality and reliability.
 - Metric: Test coverage of critical features above 80%, measured by code coverage tools.
 - Criteria: Comprehensive test suite covering unit tests, integration tests, and end-to-end tests, with minimal defect density.
- **Legal & Security Risks:**
 - Standard: Compliance with data privacy regulations and robust security measures.
 - Metric: Zero user data is kept and used to generate results.
 - Criteria: Regular security patches and updates, and never keeping user data.

Section 2

2 Requirements

- 2.1.1 System shall allow users to search for nearby places of worship based on location, denomination, or specific religious criteria.
- 2.1.2 System shall integrate Google Maps APIs to provide accurate geolocation services and display interactive maps of nearby religious institutions.
- 2.1.3 System shall display comprehensive profiles for each place of worship, including address, and denomination with the use of the Google APIs.
- 2.1.4 System shall ensure the web application is fully responsive, allowing seamless access and usability across various devices and screen sizes.
- 2.1.5 System shall include a quiz feature that helps users discover religious options tailored to their beliefs and preferences.
- 2.1.6 System shall implement unique tabs that users can access to view the Religion DB, the general map, the quiz, the home view, the about us page, and the privacy page.
- 2.1.7 System shall include a sophisticated RTE that will allow the site owner to customize each religion entry that is added to the DB.
- 2.1.8 System shall have navigable UX/UI with color contrast to identify active and inactive buttons or web app links.

2.2 Stretch Requirements

- 2.2.1 System must count on all main links and sub-links to be properly connected across the .net razor environment.
- 2.2.2 System could potentially integrate with social media to allow users to share experiences or favorite religious institutions on social media platforms.
- 2.2.3 System could potentially integrate a Community Forum for each religion added to the DB where users can engage in conversations, ask questions, and share insights related to faith.
- 2.2.4 System could potentially implement AI to help the user generate their personalized religion search.

Section 3

3 Design Overview of the Product

3.1 App Design Functionality

Section 4

4 Verification

4.1 Demo

The web app will be demonstrated by using a video recording of the overall navigation of the site. Pauses will be made to showcase unique features that make the web app useful. The video recording will be shared and showcased in an educational discussion environment that is a part of the CSE 499 – Senior Project course offered in the Software Engineering program at BYU-Idaho.

4.2 Testing

Continuous regression testing will be implemented for each time new features and coding blocks are implemented and connected with active and functional areas of the system.