Software Requirements Specification

for

Amped Learn

Version 1.0 approved

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Revision History

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| **Name** | **Date** | **Reason For Changes** | **Version** |
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# Introduction

## Purpose

The purpose of this Software Requirements Specification (SRS) is to outline the functional and non-functional requirements for the development of a platform that provides a comparison of different programming languages and resources to learn them.

## Document Conventions

The document follows the IEEE 830-1998 standard for software requirements specifications.

## Intended Audience and Reading Suggestions

This document is intended for the development team, stakeholders, and anyone else involved in the development and maintenance of the platform.

## Product Scope

The platform aims to provide a centralized location for comparing and learning programming languages. The platform will provide information on the most in-demand programming languages in the industry, resources for learning them, and opportunities available after learning a specific language.

## 1References

[Insert any relevant references such as project proposal, industry reports, etc.]

# Overall Description

## Product Perspective

The platform will be a web and mobile application built using React and Flutter, respectively. The platform will integrate machine learning models to provide personalized recommendations to users.

## Product Functions

The platform will allow users to compare programming languages, access learning resources, and share their own experience with others.

## User Classes and Characteristics

The platform will cater to students interested in learning programming languages and professionals looking to expand their knowledge in a specific language.

## Operating Environment

The platform will run on modern web browsers and mobile devices running Android and iOS.

## Design and Implementation Constraints

The platform will be designed to be scalable, maintainable, and modular. The platform will be developed using agile methodology and continuous integration and delivery practices.

## User Documentation

The platform will provide user documentation in the form of help pages, video tutorials, and FAQs.

## Assumptions and Dependencies

The platform assumes that users have internet access and basic computer literacy. The platform is dependent on third-party APIs and libraries for machine learning models and other functionalities.

# External Interface Requirements

## User Interfaces

The platform will have a user-friendly interface with intuitive navigation and search functionalities. The platform will support multiple languages.

## Hardware Interfaces

The platform will run on modern web browsers and mobile devices running Android and iOS.

## Software Interfaces

The platform will integrate third-party APIs and libraries for machine learning models and other functionalities.

## Communications Interfaces

The platform will use HTTPS for secure communication between the client and server.

# System Features

## System Feature 1

Users can create an account on the platform by providing their name, email address, and password.

Users can log in to their account using their registered email address and password.

**4.2 Language Comparison**

Users can compare different programming languages based on various criteria such as popularity, job opportunities, and difficulty level.

Users can view detailed information about each language such as syntax, features, and use cases.

**4.3 Learning Resources**

The platform will provide a curated list of resources for each programming language such as video tutorials, online courses, and textbooks.

Users can rate and review each resource to help others make informed decisions.

**4.4 Learning Roadmap**

The platform will provide a structured roadmap for learning each programming language, starting from the basics and progressing to advanced topics.

Users can track their progress and receive recommendations based on their performance.

**4.5 Community Interaction**

Users can interact with each other through discussion forums and chat rooms.

Users can share their learning experiences, ask questions, and provide guidance to others.

**4.6 Personalized Recommendations**

The platform will provide personalized recommendations for each user based on their learning preferences and performance.Users can customize their learning experience by selecting their preferred resources and topics.

# Other Nonfunctional Requirements

## Performance Requirements

The platform should have a response time of less than 3 seconds for all operations.

The platform should be able to handle a maximum of 1000 concurrent users.

## Safety Requirements

The platform should not contain any content that is harmful or inappropriate for students.

## Security Requirements

The platform should use secure authentication methods to protect user accounts.

The platform should use encryption to protect user data.

The platform should have a backup and recovery system in case of data loss.

## Software Quality Attributes

The platform should be easy to use and navigate.

The platform should be reliable and perform as expected.

The platform should be maintainable and scalable.

## Business Rules

The platform should not contain any content that violates copyright laws.

The platform should not promote any illegal activities.

# Other Requirements

The platform should be accessible from any device with an internet connection.

The platform should have a user-friendly interface that is easy to use for all users.

The platform should provide user support in case of any issues or queries.

Appendix A: Glossary

ML: Machine Learning

SRS: Software Requirements Specification

Appendix B: Analysis Models

Use case diagrams

Activity diagrams

Sequence diagrams

Class diagrams

Appendix C: To Be Determined List

Testing requirements

Deployment requirements

Maintenance requirements