AR-Based Educational App

creating a Software Requirements Specification (SRS) document is an essential step in the development of any software project, including an AR-based educational app. Below is a template that you can use as a starting point. Keep in mind that you may need to customize it based on the specific requirements of your project:

Software Requirements Specification (SRS) for AR-Based Educational App

1. Introduction

1.1 Purpose

The purpose of this document is to outline the requirements for the development of an Augmented Reality (AR)-based educational application.

1.2 Scope

The AR-based educational app aims to provide an interactive and immersive learning experience for users by incorporating augmented reality technology. The app will focus on delivering educational content in a visually engaging manner.

1.3 Definitions, Acronyms, and Abbreviations

- AR: Augmented Reality
- App: Application

2. Overall Description

2.1 Product Perspective

The AR-based educational app will be a standalone application that utilizes AR technology to enhance the learning experience. It may integrate with external content providers for educational materials.

2.2 Product Features

2.2.1 User Authentication

- Users can create accounts and log in securely.
- Different user roles (e.g., students, teachers) with varying levels of access.

2.2.2 AR Content Delivery

- Display educational content using AR technology.
- Interactive 3D models, animations, and simulations to reinforce learning.

2.2.3 Lesson Management

- Organize educational content into lessons and modules.
- Progress tracking and completion indicators for users.

2.2.4 User Interaction

- Intuitive user interface for navigation within the app.
- Support for touch gestures, voice commands, and AR interactions.

2.2.5 Assessment and Feedback

- Quizzes, assessments, and feedback mechanisms to evaluate user understanding.
- Performance analytics for both students and teachers.

2.3 User Classes and Characteristics

- **Students:** End-users who access educational content.
- **Teachers:** Admin-level users responsible for creating and managing content.

2.4 Operating Environment

The app will be developed for mobile platforms (iOS and Android) with ARKit and ARCore support.

3. System Features

3.1 Feature 1: User Authentication

3.1.1 Description

Users can create accounts, log in, and manage their profiles securely.

3.1.2 Dependencies

- Internet connectivity for account creation and login.

3.1.3 Acceptance Criteria

- Users can create accounts with valid information.
- Users can log in successfully and access personalized content.

3.2 Feature 2: AR Content Delivery

3.2.1 Description

The app will use AR technology to deliver educational content.

3.2.2 Dependencies

- ARKit for iOS, ARCore for Android.

3.2.3 Acceptance Criteria

- Users can view and interact with AR content.
- Content is visually engaging and enhances the learning experience.

(Continue documenting features in a similar manner)

4. External Interface Requirements

4.1 User Interfaces

- Intuitive and user-friendly interfaces for both students and teachers.

4.2 Hardware Interfaces

- Compatible with devices supporting ARKit and ARCore.

4.3 Software Interfaces

- Integration with external content providers for educational materials.

5. Non-functional Requirements

5.1 Performance

- The app should load AR content swiftly to ensure a seamless experience.

5.2 Security

- User data should be encrypted during transmission and storage.

6. Other Requirements

6.1 Legal and Regulatory Requirements

- Compliance with data protection regulations.

6.2 Documentation

- Provide user manuals and documentation for both end-users and administrators.