Software Requirements Specification

for

EduSense

Version 1 approved

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1. Introduction

This SRS covers EduSense, a mobile and web application designed to govern and guide the use of AI in an educational environment.

1.1 Purpose

The purpose of this SRS is to outline the detailed requirements and specifications for EduSense.

1.2 Scope

An increasing number of students nowadays rely on Artificial Intelligence tools to complete their assignments, leading to a decline in critical thinking and problem-solving skills. EduSense is a mobile and web application in development that transforms Large Language Models (LLMs) into an intentional educational tool for students and educators. It encourages students to think first by using guided questions, reflective prompts, and challenge modes to limit or delay AI input, preventing over-reliance on AI. EduSense provides educators with essential oversight features, such as usage tracking and assignment monitoring, allowing them to review student LLM interactions and effectively manage assignments to ensure that AI is supporting, not subverting, the learning process.

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1.3 Definitions, Acronyms, and Abbreviations

Artificial Intelligence (AI) - A commonly used term encompassing any machine learning algorithm designed to train from a given input to provide an expected output.
Large Language Model (LLM) - An advanced machine learning algorithm trained on massive text datasets to understand and generate human-like language.
Canvas LMS - A learning management system used by educators to manage course content, assignments, and communication with students.
Challenge Mode – A setting that encourages learners to try on their own before getting help. It limits access to answers to encourage thinking through the assignment first.
Guided Prompts - Targeted questions or hints created to help students think critically and come up with their own solution.
MFCD (Modified Functionality Component Diagram) - A diagram showing the major hardware and software components of the product and how they interact.
Usage Tracking - The process of recording how users interact with the system, such as which features they use or how they engage with LLM prompts.

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1.4 References

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1.5 Overview

Section 2 of this SRS provides a brief overview of EduSense.

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2. Overall Description

Section 2 and the subsections therein describe the functionality, customer, and end users of EduSense.

2.1 Product Perspective

EduSense is an innovative web and mobile application designed to help students and educators use Artificial Intelligence (AI) tools more resourcefully and effectively in academic environments. It addresses the growing concern that over-reliance on AI can weaken essential skills such as critical thinking and problem-solving. EduSense allows instructors to upload assignments and monitor student interactions with generative AI, providing oversight and helping identify areas where students need assistance. Simultaneously, it encourages students to engage with their assignments independently by utilizing guided prompts and leading questions rather than direct answers, ensuring that the LLM is solely an aid in the learning process. Through this intentional integration of AI, EduSense aims to empower students to develop lifelong critical thinking skills while still benefiting from modern technology.

2.2 Product Functions

EduSense is designed as a highly scalable application with a polished and responsive UX/UI, ensuring an intuitive experience across mobile and web devices. The platform offers customizable LLM integration that supports multiple LLMs, allowing for tailored guided prompts on a per-assignment basis rather than direct answers. It features robust security (OAuth and encryption) and provides full API sync for seamless Canvas LMS integration. Additionally, the system includes full analytics (detailed and exportable) for educators to monitor student usage, track progress, and evaluate the effectiveness of AI integration.

2.3 User Classes and Characteristics

EduSense has two main classes of users: Students and Educators (or Instructors). Students are the primary beneficiaries, using the application to access an LLM for support with their assignments. Their core requirement is a tool that assists their learning via guided prompts and reflective questions without providing direct answers. Educators utilize the platform to upload assignments, set learning parameters, and monitor student-AI interactions. They need to be able to effectively manage classroom activities and have clear oversight to ensure AI solely assists their students rather than doing all the work for them.

2.4 Design and Implementation Constraints

N/A

2.5 Assumptions and Dependencies

N/A