Feasibility 2

Team Emerald 6/18/25

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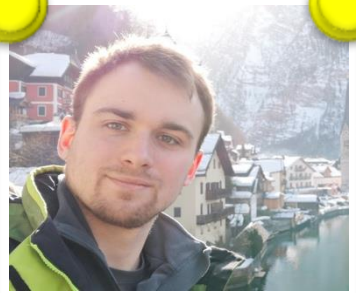

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As AI tools such as ChatGPT and Grammarly become everyday companions for students, there's a growing risk that we're letting AI do too much thinking for us, possibly weakening our critical thinking, creativity and problem-solving skills.

Recent studies show that while AI can boost writing quality and save time, students who rely solely on AI actually understand less. That’s why we're building a mobile/web app that encourages users to think first like reflective prompts, challenge modes, and usage tracking.

Our app empowers students and teachers to harness AI's benefits while still building the independent skills that matter most for lifelong learning.

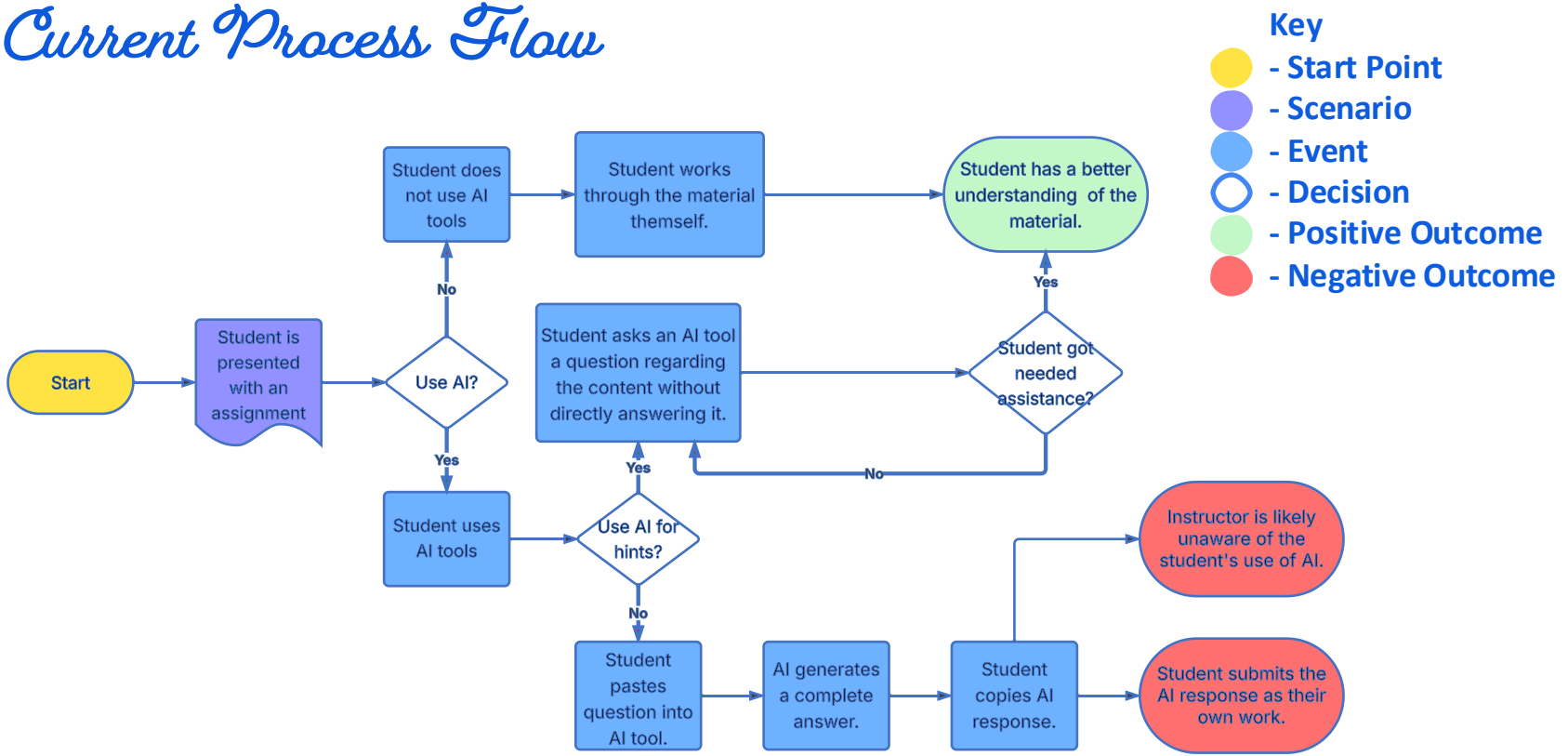
The Societal Problem

As AI tools like ChatGPT, Grammarly, and search engines become more popular, a lot of people, especially students, are starting to rely on them too much. Instead of using them for support, we're starting to see people let AI do the thinking for them. While that might seem helpful in the moment, it could cause long-term problems when it comes to developing critical thinking, creativity, and problem-solving skills.

Problem Characteristics

- According to Qirui Ju, a study conducted on a group of students found that those who fully relied on AI for their school assignments scored almost 20% lower during a writing assignment than those who don't.
- A systematic review found that excessive reliance on AI dialogue systems significantly impairs students' abilities in critical thinking, decision-making, and analytical reasoning. (Zhai et al., 2024)
- Many users rely on AI responses without checking them, often because of mental shortcuts and cognitive biases. (Vasconcelos et al., 2023)

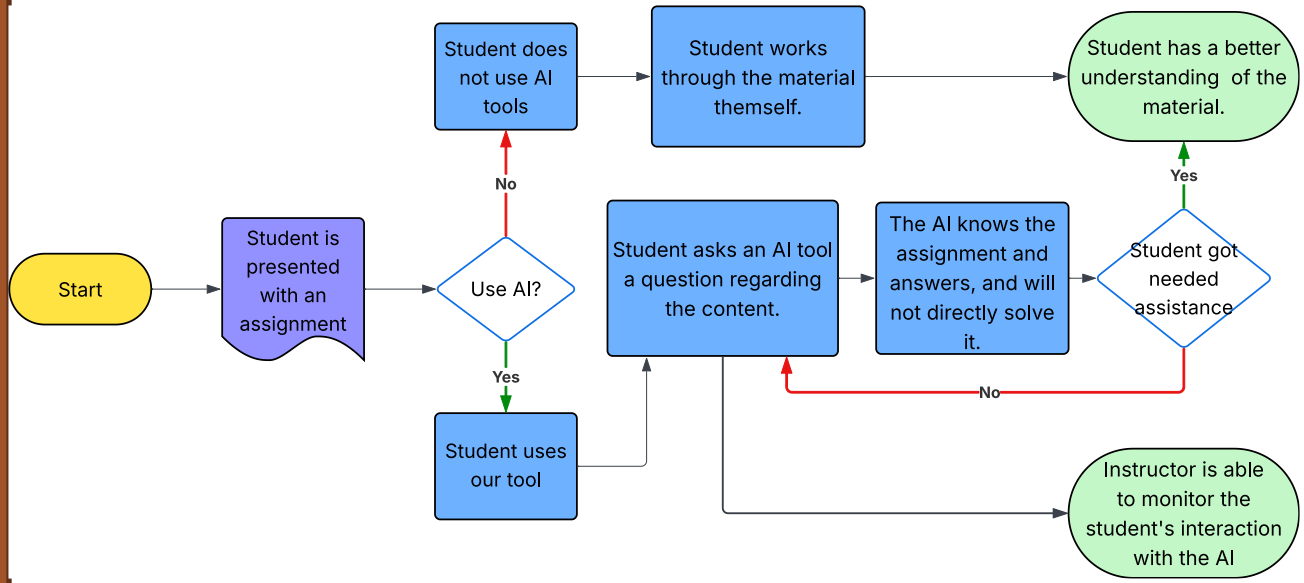
Current Process Flow



Solution Statement

Our goal is to build a mobile app and a web application that helps students and educators use AI tools more intentionally. Instead of giving answers immediately, the app will encourage users to use their own thought process first with the help of guided questions, reflective prompts, and challenge modes that limit or delay AI input. The student's LLM usage history will be accessible to the teacher. This will allow them to identify problem areas in student comprehension. The end goal is to help students learn without the machine doing all the thinking for them.

Solution Process Flow



Key

- Start Point
- Scenario
- Event
- Decision
- Positive Outcome
- Negative Outcome

What It Will Do

- Provide instructor with the ability to upload assignments to the platform.
- Provides the student with access to a LLM while completing their assignment.
- Restricts the copy/paste function for the student.
- Guides the student's questions with leading prompts to help them arrive at the answer.
- Provides the instructor with the student's full user history.

What It Won't Do

- Diminish the guardrails put in place by the LLM's originator.
- Provide direct answers to assignment questions.
- Replace the need for student effort and critical thinking

Competition Matrix

Function	EduSense	Chegg	ChatGPT	Google's AI Overview
Explains how the solution was achieved	✓	✓	✓	
Restricts copy & paste functionality	✓			
Guides the user with leading prompts based on the desired answer	✓			
Provides external links to more information			✓	✓
Saves user history for review	✓	✓	✓	

Development Tools

Frontend	HTML, CSS, JavaScript and possibly React
Backend	Python (Django or Flask)
Database	PostgreSQL
Testing Framework	PyTest (Python), Jest (JavaScript)
Documentation Tool	Pydoc (Python), JSDoc (JavaScript)
AI Integration	OpenAI GPT, Claude, Gemini or LLaMa

Solution Statement

User Authentication (students, teachers)

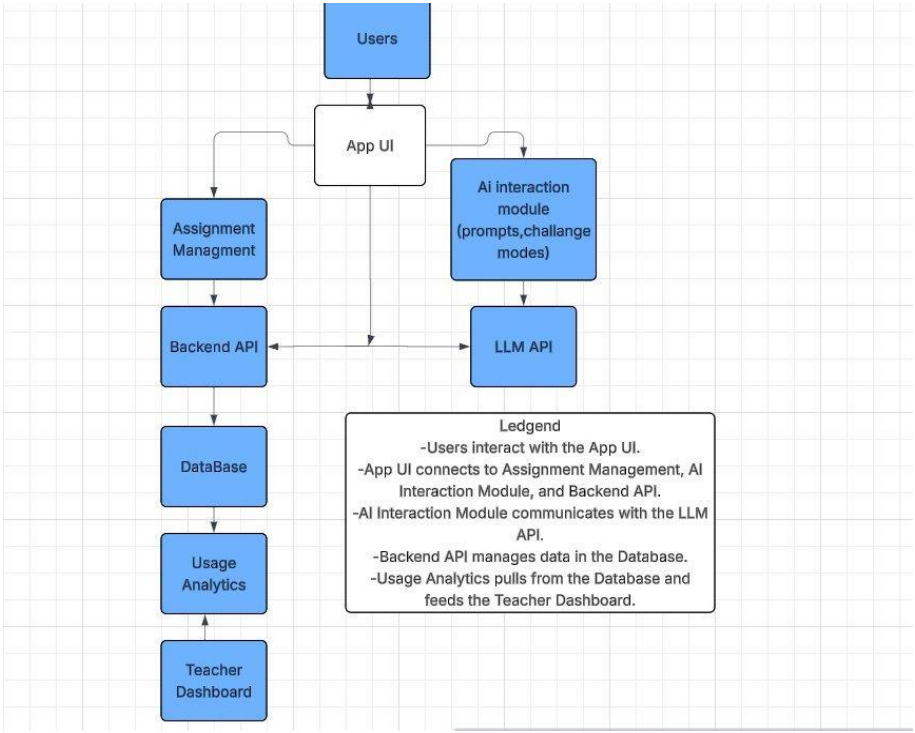
Assignment Managment (upload, assign, track)

Ai integration (prompts, challenge modes LLm access)

Copy/paste restriction layer

Admin controls

Major Functional Components Diagram



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Risks Overview

Over reliance on AI: Students may still find workarounds

Privacy concerns: Tracking usage must comply with FERPA/GDPR

Technical complexity: integrating copy/paste restrictions and analytics.

User adoption: Teaches and students may resist new workflows

Real World Product vs. Prototype

Scalable, robust security, full analytics, Intergrations with LMS, polished UX/UI, mobile and web parity.

Limited features, basic UI, core functionality (prompts usage tracking, assignment upload).

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Appendix