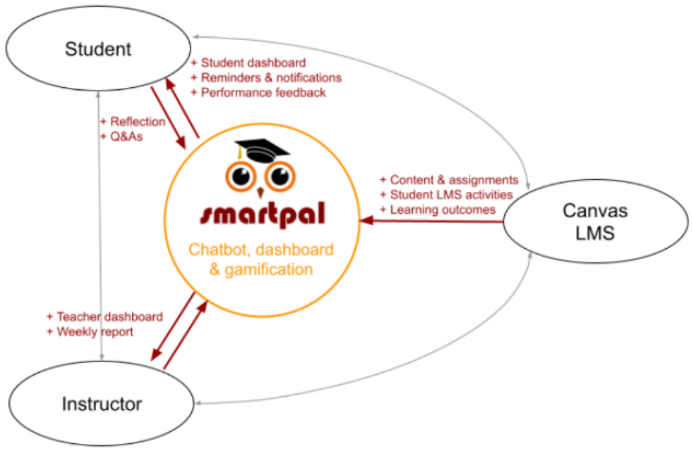
UNIVERSITY OF MINNESOTA
Driven to Discover℠

SmartPal: An AI-driven mobile application designed to enhance student engagement

An AI-powered educational companion for enhanced student engagement and performance in instructor-led courses.



IP Status: Copyrighted and trademarked

Applications

- Support student engagement and self-regulated learning in instructor-led courses
- Provide real-time course information, reminders, progress reports, and performance feedback to students
- Use generative AI to enable productive and efficient ways to interact with course content (e.g. documents and videos) (e.g., searching, asking questions, summarizing, and planning).
- Provide instructors insights into student engagement, performance, and questions
- Provide instructors time-saving tools for routine tasks (e.g., feedback generation, reminding)

Key Benefits & Differentiators

- **Engaging:** Leverages gamification to enhance student motivation
- **LMS Integration:** The SmartPal mobile app is integrated with the Canvas learning management system (LMS) and will also offer a Canvas LTI plug-in as a web-based interface.
- **Instructor Insight:** Instructors receive data-driven insights to help monitor student progress
- **Instructor tools:** Instructors can access time-saving tools such as feedback generators and automated reminders.

Technology Overview

Student engagement and performance in instructor-led courses have noticeably deteriorated in the post-COVID era, creating new challenges for educators, universities, and parents. Students frequently turn to learning apps and public generative AI tools to ask course-related questions

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Category
Software & IT/Artificial Intelligence
Software & IT/Education & Training
Software & IT/Mobile Apps

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and find learning content, however, these tools often provide generic answers and are not contextualized to a specific course. Simultaneously, teachers are also struggling to monitor individual student progress and intervene promptly.

To address these issues, researchers at the University of Minnesota have developed SmartPal, an AI chatbot-based mobile application designed to enhance student engagement and self-regulation in instructor-led courses. The technology leverages generative AI and integrates with the Canvas LMS to provide real-time course information, reminders, progress reports, and performance feedback, and enables students to interact with course content in productive ways (e.g. searching, asking questions, summarizing, and planning). The app uses the principles of gamification and self-regulated learning to enhance student motivation and engagement. The integrated AI Chatbot delivers reminders, nudges, and updates to students and answer their course-related questions in an easy-to-understand manner. Meanwhile, the app offers instructors real-time insights into student engagement, performance, and questions, and provides time-saving tools such as feedback drafts and customizable reminders.

Phase of Development

TRL: 4-5
Working prototype has been tested with over 1300 students.

Desired Partnerships

This technology is now available for:

- License
- Sponsored research
- Co-development

Please contact our office to share your business' needs and learn more.

Researchers

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