



Challenge Report

Hackathon Aubay 2024

Challenge 10 - AI Integration to Enhance User Experience in Chamilo

Done By the Yellow Team:

- Bruno Costa
- Pedro Appel
- Luís Lemos
- Pedro Santos

Index

Introduction	3
Benefits of AI-Powered Plugins	4
Existing AI Solutions in Chamilo	5
Development of the AI Learning Recommender Plugin	6
Conclusion	7
References	8

Introduction

In this report, we present our proposal for integrating AI-powered plugins to enhance the user experience on the Chamilo e-learning platform during the Aubay Hackathon. This challenge focused on exploring how AI can improve the learning experience by offering personalized recommendations and increasing user engagement with the platform.

The challenge involved developing a content recommendation plugin, named **AI Learning Recommender**, and exploring the impact of AI on different aspects of user interaction. This report outlines the benefits, implementation strategy, and testing phases of the plugin.

Benefits of AI-Powered Plugins

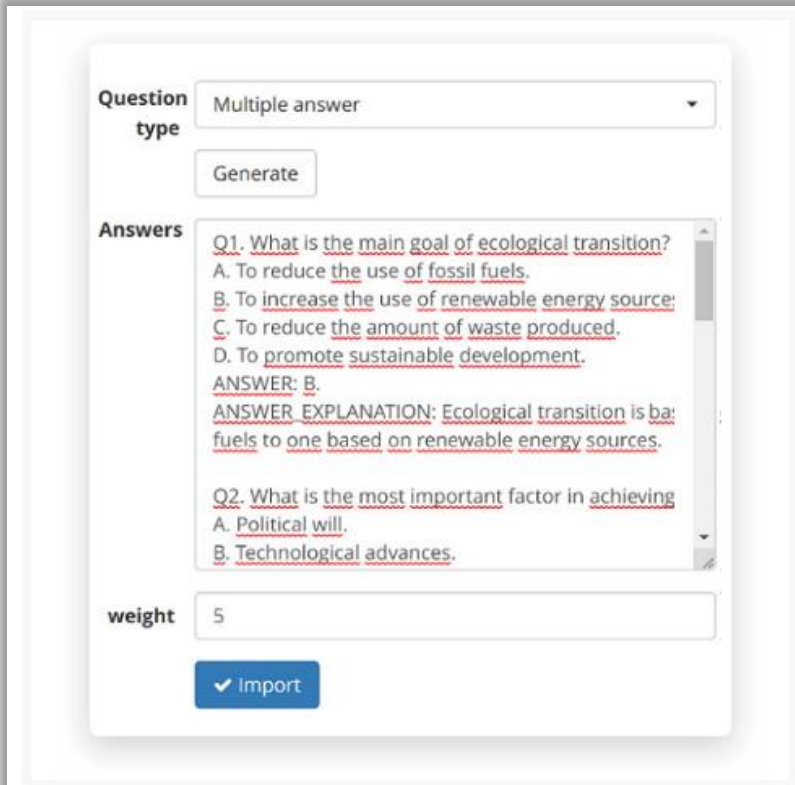
AI plugins offer several improvements in the learning experience, including:

- **Personalized Course Recommendations:** AI enables analyzing user behavior and preferences to suggest courses and content that match specific needs and learning pace.
- **Increased User Engagement:** With more relevant and tailored learning materials, users are likely to stay motivated and engaged.
- **Data-Driven Insights:** These tools assist educators and administrators in identifying which content is most effective and recognizing trends in learner behavior.
- **Enhanced Knowledge Retention:** Personalized recommendations can lead to higher course completion rates and better retention of knowledge.

Existing AI Solutions in Chamilo

Chamilo already supports some AI plugins that enhance teaching and learning processes:

1. **AI Helper:** This plugin allows instructors to efficiently create content and quizzes within learning paths. It is available through the plugin management section in Chamilo's administration.



AI Plugin

This new feature incorporates in Chamilo all the power of OpenAI/ChatGPT making the process of creating test type questions simpler. You can now ask ChatGPT from the tests interface to create a test using the aiken format; once the questions are generated, they will appear in the Chamilo format completely editable and ready for you to review.

Development of the AI Learning Recommender Plugin

As part of our contribution, we developed a custom plugin called **AI Learning Recommender**. This plugin is designed to enhance user experience by suggesting courses based on each user's previous course history.

Description and Integration

- **Description:** The **AI Learning Recommender** generates personalized recommendations based on users' past course activities.
- **Integration:** This plugin can be imported and activated directly through the plugin management in Chamilo administration.

Implementation Strategy

To ensure effective implementation and maximize the plugin's benefits, we outlined a strategy covering plugin import, API configuration, email dispatch scheduling, and various methods for user interaction.

Requirements:

- Import the plugin to the Chamilo platform.
- Register and set an API Key on the OpenAI platform to generate recommendations.

API Integration: Our solution includes three main approaches for activating recommendations:

- **CRON:** Set a periodic schedule to execute the plugin and send batch emails.
- **OnAuth:** Each time a user logs in, the system checks the last email sent. If the required time has passed, a new recommendation email is sent.
- **OnClick:** Set a button for either user or administrator to send the recommendation mail.
- **Course Block:** Another plugin that makes it possible to include content in the course footer.

Conclusion

The integration of an AI-powered content recommendation tool, along with an educational content generator, will add significant value to the Aubay E-Learning experience. With these features, we expect increased user engagement, optimized support for course development, and a more personalized learning experience. By leveraging available technologies and adapting proven solutions, we are creating a competitive, adaptive learning platform driven by data.

References

Chamilo Association. (n.d.). *Chamilo LMS Documentation.* Retrieved from <https://docs.chamilo.org>