Moodel: A Collaborative Learning and File Management System for Teachers and Students

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Abstract

A teacher requires students to submit a series of documents as partial fulfillment for their course project. The teacher asks their students to upload their work in a PDF file and will provide feedback on whether their works are satisfactory, or need revisions. However, both the students, and the teacher, are having trouble finding a suitable platform where the students can upload their files, and for the teacher to track their progress and provide feedback. Moodle is designed as an efficient project and document management system tailored for students and teachers, simplifying the process of submitting, managing, and tracking academic projects and documents while providing tools for collaboration, feedback, and monitoring. This paper presents the system's features, usability testing methodology, and results from our usability survey

In academics, effective project and document management is essential to foster good student progress and teacher work efficiency. We have often used traditional methods such as email-based file submissions, or submitting files via Google Drive, which usually leads to disorganization, delayed feedback, and miscommunication. To address this problem, Moodel integrates core functionalities such as: File submission management**[1],** where students can upload their documents either individually or as a group. Teacher feedback**[2],** where teachers can provide feedback for students on their submitted works and ask them to do revisions. Progress tracking**[3],** where users can monitor their submission statuses and revision histories. And collaborative tools[4], where teachers can initiate group projects, where students may form groups to discuss, submit work collectively, and receive unified feedback.

For our design and features, Moodel was developed to provide a robust and user-friendly interface. We took inspiration from platforms such as GitHub, and Microsoft Teams, to emulate an easy-to-use collaborative file management platform. Our features include a dashboard overview**[1]** that gives both teachers and students their own personalized dashboards providing them a compact and easy view of submissions, deadlines, and indicators of personal progress. File organization**[2]** where teachers are provided the ability to categorize student files according to course, progress, and groups. An integrated feedback system**[3]** where teachers are provided the ability to comment on students' works, update submission status, and determine if submissions are satisfactory or need further revisions. Notifications[4] to provide alerts to users such as enrollment requests, deadlines, feedback, and submission updates. And lastly, a built-in AI-Content Detection Tool[5] that allows teachers to assess if artificial intelligence was utilized upon the creation of students' submissions through an index score that estimates the possibility of AI involvement.

To assess the usability of our system, we inquired third-year students who are taking up Bachelor of Science in Information Technology to test the tools that were previously mentioned and to determine if the features that have been developed met their needs. These students participated in a usability survey using the standard System Usability Scale (SUS). The students were told to demo the system first, and then answer the ten (10) template survey questions from the System Usability Scale (SUS). To conclude the survey, the students may provide suggestions to detail any possible improvements that can be made to the system.

After conducting our usability survey, we gathered a total of 32 valid responses. The overall System Usability Scale (SUS) score obtained after processing the results was 68.0, indicating an average score. Some key observations were noted from the survey, particularly rooms for improvement on the user-interface such as the color scheme, and being able to switch between light mode and dark mode. The students also highlighted key strengths in our system particularly the intuitive interface, with particular emphasis on the dashboard's clarity and ease of navigation.

Moodel is a solution to academic project management problems by offering a centralized platform where students can submit their files, and teachers can review and add feedback. The usability test results show that the students' basic needs are met, but further testing and surveying is required for the teachers' side. For improvements, we are looking forward to enhancing the look and feel of the system. Improving the color scheme, and accessibility will be our first step to making Moodel better.

We give our sincerest thanks to our respondents, their valuable feedback and suggestions are instrumental in shaping the development of Moodel. We also acknowledge GitHub, and Microsoft Teams, for providing key user-interface and design inspirations for our system.

References:

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