Implementation of Gamification Elements in the UI/UX Design of Ganesha University of Education's Mobile E-learning Application Using the Octalysis Framework

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ABSTRACT

The use of Learning Management Systems (LMS) such as Moodle has been widely adopted in higher education. However, several challenges persist in effectively supporting asynchronous learning. Students often face limited interaction, a lack of variety in learning material formats, and low motivation when using e-learning platforms. This study aims to incorporate more diverse gamification elements into the UI/UX design of a mobile e-learning application at Universitas Pendidikan Ganesha, utilizing the Octalysis Framework, and to evaluate their impact on user experience through Task Scenario testing and the User Engagement Scale Short Form (UES-SF). The research method includes literature review, analysis of existing designs, prototype development, remote usability testing, and quantitative data analysis. The usability test results indicate a high level of usability, with an average task success rate of 95%, task efficiency at 32.15%, and an average task completion time of 14.99 seconds. The error rate was low, with an average defective rate of 2.5%. User engagement evaluation using the UES-SF shows that the aesthetic and reward factors received the highest scores (3.87), while the usability factor scored only 1.27. These findings suggest that, while the visual design is appealing and engaging, improvements in functionality are necessary to enhance overall user engagement further.

Keywords: LMS, Moodle, Gamification, Octalysis Framework, User Experience, Usability, UES-SF