



AIMS-QUIZZER: A Multi-Platform Gamified Knowledge Tester for Asian Institute of Maritime Studies Hospitality Management

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Abstract

The goal of this study is to determine the extent of the utilization of the AIMS-QUIZZER in helping the Hospitality Management students based on McCall's Quality Model in terms of the following success indicators: correctness, reliability, and usability. The respondents are the 33 hospitality management students of AIMS from first year to third year. Percentage was used to quantify the demographic profile of the respondents and mean was used to determine the average response as per the success indicators of the system. A Likert scale type of survey questionnaire was used to get the data from the respondents. The system was deemed successful by the proponents based from the survey where majority of the students strongly agreed in terms of the three success indicators. In terms of correctness or the extent to which the AIMS-QUIZZER meets its requirement specifications the students deemed that it was very good. As for the reliability or the extent to which the software performs its intended functions without failure, it has an equivalent of very good. Lastly, in terms of usability, the HM students gave a rating of very good for the effort required to learn, operate, and understand the functions of the web application. The AIMS-QUIZZER, a web application for Hospitality Management students, was found to be easy to use based on McCall's Quality Model. It was considered correct, reliable, usable, portable, and efficient by the majority of respondents. The system was able to achieve the expectations of the students, helped with bar and operations management lessons, and provided a user-friendly experience across different devices.

Keywords: *AIMS QUIZZER, platform, game, hospitality*

Article History:

Received: November 16, 2023

Accepted: December 28, 2023

Revised: December 26, 2023

Published online: December 30, 2023

Suggested Citation:

Barroga, J.C. & Hipe, M.M. (2023). AIMS-QUIZZER: A multi-platform gamified knowledge tester for Asian Institute of Maritime Studies Hospitality Management. *The Research Probe*, 3(2), 133-139. <https://doi.org/10.53378/trp.12232>

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Introduction

E-learning web apps has become popular nowadays as it enhances the user's knowledge and skills. According to the article, the Cloudwise E-learning, web apps are very useful because it leads to higher engagement, better performance, and less learning barriers for learners. E-learning web apps are interactive websites that allows users to do different activities such as taking quizzes, viewing learning materials, online live learning presentations, and the likes which takes place in a virtual platform (Samuel, 2023).

For students to be skillful in the career field that they had taken, they must understand and keep in mind the lessons that they are studying since these are the building blocks in preparation for their future job. Aside from this, as the new normal is being implemented because of the fading of Covid-19 pandemic, it will be a great help if students have an alternative way of evaluating their knowledge on their own by just using gadgets. With this in mind, the researchers came up with a system that will help improve the knowledge of students.

The purpose of AIMS-QUIZZER: A multi-platform gamified knowledge tester for AIMS Hospitality Management students is to provide a compiled and organized different sets of topics from the hospitality management department such as bar and operations management lessons which will serve as a reviewer and refresher for students to improve their knowledge in line with their course specifically in the bar management which is being checked by the Customs Administration Department Head.

Hospitality Management students will choose and take different game-quizzes in the platform to continuously refresh and sharpen their minds to easily retain the things they have learned and at the same time learn more about their course lessons. In addition to this, the web-based app was made to let the students enjoy learning and will help students improve their knowledge without the fear of failing as the app will let them retake the wrong answered questions until they will perfectly answer the set of questions correctly. The main purpose of the scoring system is to let the students track their progress because even though they are allowed to retake the wrong-answered questions again, the system will only collect the first correctly answered questions and the purpose of retaking the incorrectly-answered questions is to make the students remember the correct answer for a particular question.

Methodology

Quantitative research was applied to this study as the success of the system tested using numerical data. This research methodology is used to process the gathered information from the respondents of the study.

For the selection of the sample size, convenience sampling is used. Convenience sampling is a type of non-probability method that will be used to collect data from conveniently available people from the target population (Saunders et al., 2012). The respondents were chosen from the first, second, and third year level of the Hospitality Management Department of Asian Institute of Maritime Studies. Hospitality management students were asked to evaluate the system based on the correctness, reliability, and usability. Also, they were also asked to share their opinion on the system to measure their acceptance to the system.

The researchers interviewed the Department Head of the Hospitality Management Department of AIMS via MS Teams to gather the necessary data that was needed for the system. Through the interview, she expressed her opinion and shared to the researchers the specific topics that were taken by hospitality management students.

The evaluation was in the form of Google forms. Before floating the form, the researchers asked for the permission of the respondents through a validated permit from the research adviser. After given permission, they asked the respondents to use the AIMS-QUIZZER. Then after playing, researchers distributed the evaluation forms to the respondents via Facebook, messenger, and Microsoft teams chat. After answering the evaluation form, the data were gathered, collated, and analyzed. Then the researchers interpreted the data based from the results of the study.

The study used percentage and mean computed using the Statistical Packages for Social Sciences (SPSS) as statistical tools to analyze the data collected from the survey questionnaires. These tools were employed to derive the findings and outcomes of the study based on the gathered information.

In this study the researchers used Visual Studio Code to create the system with CSS and ReactJS to develop the graphical user interface and Apollo Server, GraphQL, Express Js, MongoDB, and Google OAuth2 are used for the database administration, data access, and security of the application.

For the Software Development Life Cycle, the agile method is useful for its iterative development. The agile method will enable the researchers to test the different function of the system throughout its development and this method allows the researchers to make changes easily.

Findings

Hospitality Management students from different year levels evaluated the AIMS-QUIZZER Platform in terms of correctness wherein the overall mean score is 4.33 equivalent to very good. The highest indicator is “the app reaches the user’s expectations” with mean score of 4.39.

The mean tally result in terms of reliability, has an overall mean score of 4.24, meaning very good. The highest indicator is given to “the information on the app are helpful” was rated 4.33, meaning very good.

The mean tally result of the evaluation in terms of usability, has an overall mean score of 4.27, meaning very good. The highest indicator is given to “the app is easy to learn and understand” by most students with a mean score of 4.33, meaning very good.

The summary of the evaluation results given by the students has an overall mean score of 4.28, which means “very good”.

In terms of the position of experts, the two respondents are faculty members of the Computer Science Department. They evaluated the AIMS-QUIZZER platform system created by the researchers. First is based on functionality in which the mean is 4.75 meaning excellent. Second is in terms of correctness with a mean of 5 equivalent to excellent. Third, experts evaluated the reliability of the system in terms of different indicators and all the means is 5 (excellent). And fourth, evaluation in the usability of the platform has a mean of 5 equivalent to excellent. For the summary tally of the evaluation results, the overall mean is 4.94 (excellent) where functionality has a mean of 4.75 (excellent), and correctness, reliability and usability is 5 (excellent).

Conclusion

The developed web-app, AIMS-QUIZZER: A Multi-Platform Gamified Knowledge Tester for Aims Hospitality Management Students, is considered a success since the result of

the survey which was based from McCall's Quality Model was helpful to the students in terms of correctness, reliability, usability, portability, and efficiency. Likewise, the faculty members commended the platform regarding its functionality, correctness, reliability, and usability.

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