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EXPENSES MANAGEMENT USING TEXT RECOGNITION FOR UNIVERSITY'S SCHOLARSHIP HOLDER

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ABSTRACT - Expenses Management is a method for keeping track of and systematically managing expenses. ExMAp is an Android-based mobile application for university scholarship holders called the Expenses Management Application. To create an application that effectively manages student spending, it is important to ensure that students' requirements. According to researchers, students struggle to control their spending and often end up overspending since it is difficult for them to look back at their previous expenses. The use of Text Recognition API allowed them to decrease the time-consuming on recording their expenses. The API integration is implemented for students to apply for the transaction details. The four-step process is used to make sure the application development process keeps up with the preparation, embodiment, development, and deployment phases. This methodology made ExMAp available to university students when it had successfully utilised for testing. User Acceptance Testing (UAT) is conducted to evaluate students to gather student satisfaction and feedback. The data obtained had a positive outcome, with a mean score of 4, Quite Satisfied. This mean score is derived from the usability of the system, its usefulness, and its ease of use. It has been proven that ExMAp can improve its reach in the industry.

Keywords: Android user, expense management, Text Recognition, university student, User Acceptance Testing.

1. INTRODUCTION

This project gathered a preliminary study and a few resources from the literature review to identify the requirements and techniques for managing student expenses from an expense management application. Considering that, an expense management system is developed for students using mobile applications and Text Recognition API to evaluate user reviews from university students. The mobile application provides a simple expense management function by Text Recognition to ensure the image text can be extracted (Suissa et al., 2020) and processed as transaction input. University students with scholarships can compare their expenses and earnings easily using Peranti Siswa Tablet. The review from other faculty members apart from the Faculty of Science Computer and Information Technology gained different perspectives on the improvement of the application.

2. METHODOLOGY

This project proposed a new methodology with a different phase from the MASAM methodology to develop the mobile application which are the Preparation phase, the Embodiment phase, the Development phase, and the Deployment phase. The application design used Figma to do interface sketching while development focused on Android Studio with Java language. The data stored in the application used Firebase as cloud storage. To enhance students in managing their expenses, the usage of Text Recognition is applied to this application. To make the application available to university students for testing, the steps must be completed in the order that is outlined. The testing used is User Acceptance Testing to evaluate students' opinions on the application.

3. RESULTS AND DISCUSSION

The usability of the mobile application was collected by User Acceptance Testing (UAT). The student's responses to the testing criteria were used to determine the mobile application's usability and usefulness and ease of use. From the findings, the usability and usefulness, and ease of use of ExMAp are being analyzed. As a result, the benefits and problems of the mobile application may be identified which have the potential to improve as a better mobile application for future enhancement and feedback. Based on Figure 1, the mean score for every criterion in the testing is illustrated to examine the level of student satisfaction. Overall, the mean score lies under the score of four which indicates Quite Satisfied. Hence, the total mean score for UAT is Quite Satisfied by students with 4.55.

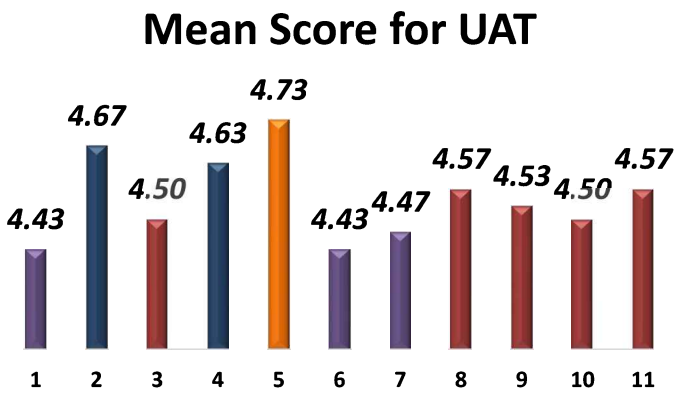

Figure 2. Mean Score for every criterion in User Acceptance Testing.

4. NOVELTY OF RESEARCH / PRODUCT

ExMAp is significant for university students and approaches the student to manage their expenses properly without having the behaviour on spending more than they should (Doniego, 2021). ExMAp provides a simple and time-consuming function to record transactions by using the Text Recognition API from ML Kit. Text Recognition helps reduce manual errors in spelling (Velmurugan et al., 2020) and accelerates the workflow of students from manually recording their expenses. Other than that, ExMAp proposes to students be able to handle their finances with a specific amount of money at a young age. As a result, their ability and practice will increase when they have more responsibilities in the future, such as managing their salary to handling loans (e.g., car, house, etc.).

5. CONCLUSION

The proposed project of a mobile-based application of expense management is structured and developed according to the methodology that fulfilled the project's objectives. Expenses Management Application, ExMAp functions include Text Recognition API to extract receipt to text, taking notes separated from other unrelated notes, and a graph to compare students' expenses and earnings. This application still needs to improve and enhance continuously to be more efficient and user-friendly for students to make use of it.

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