REACH FOR THE STARS: DEVELOPMENT OF WEB-BASED MANAGEMENT INFORMATION SYSTEM FOR PHILIPPINE SPACE AGENCY SCHOLARSHIPS

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INTRODUCTION

The study aimed to develop a secured web-basedmanagement information system. The system is accessible to Philippine Space Agency scholars, employees and committee members only. It will be based on a merit-based scholarship where the academic and.extracurricular achievements are weighted more than the student's financial needs. The researchers utilized both JavaScript and HTML programming languages in creating both the algorithm and functionality of the system. It aims to: Test and improve the system in terms of performance efficiency, security, and functional suitability. The agency intends to support theREACH FOR THE STARS: AD ASTRA 3 fellowship program. The PhilSA program offers undergraduate and graduate students opportunities to pursue studies related to space science and technology. A web-based system will help the agency better administer its scholarship program. A chat feature that can be used as a means of communication between the administrator and the user, with the user only able to reply once the administrator initiating a conversation. A dashboard for the administrator that can serve as a comprehensive overview of the data visualizations involved with the scholarship.

METHOD

The AD ASTRA WebrehensibleApplication was developed to meet the education and scholarship needs of the agency. It was designed to meet needs of a diverse. user base, including applicants, SESD staff, committee members, and. administrators. The application is designed for the applicant, the administrator, and the committee members. The system is a complex network of interconnected models that enable the.monitoring and management of scholarship applicants, payments, and communications. The user can sign out of the application located in the tab of the home page. The system design for the educational agency's web-based MIS integrates several contemporary technologies to create a robust and secure platform that caters to education and scholarship management. The system's design is tailored to deliver a high-performance, high-scalable, and secure user experience for both scholarship applicants and the administrative staff. The scholars were asked to test the functionalities present within the user side of the web application, including the access to the dashboard, chat, and manage applications. The study utilized a variety of technologies to analyze the scope and requirements of theweb-based. MIS as a.paralleledguide for the researchers in developing the project. The study modeled and developed a web application that served as a web-based scholarship platform. The application was designed to assist both the agency and the students in managing the scholarship process. The development of this web- based MIS involved a range of technologies including HTML, JavaScript, React, MaterialUI, NextJS, NodeJS/Express, and Visual Studio Code. The database is capable of handling complex queries, transactions, and data relationships as per the requirements of the research project while maintaining scalability and flexibility. The PhilSA AD ASTRA Scholarships Program Web Application wasopened using a desktop computer. The system includes a Dashboard, Chat, and Alerts pages. The application was deployed on Vercel for enhanced performance and reliability. The Scholarship Tracker model serves as a diligent guardian, overseeing thevancement of each scholarship, documenting the duration of study, and carefullydocumenting every financial entitlement and disbursement. The Communication model, which facilitates user interaction through

aynamicdynamic messaging system, is fundamental to the user experience. The PhilSA AD ASTRA Scholarships Program Web Application was opened using a desktop computer. The system is designed to provide a customized experience for applicants, SESD staff, and administrators. The application should be clear and. provide a clear process flow that guides the user through each step. The PhilSAAD ASTRA Scholarship Web Application is available on Google Play and Apple's App Store. It was developed by Likertert Scale, a company that develops software for academic and business use. SESDIS is a crucial tool in the field of educational support and scholarship facilitation. It has extensive tracking systems, strong documentmanagement, and interactive communication modules. The application is accessible from any device. It was evaluated by (10) students currently enrolled in a scholarship program. The overall system will be tested by IT Professionals to ensure that the application is securely configured. It will also be used for data management, data analysis, and reporting. It can be downloaded from the SESDIS website.

RESULTS

Application Details Page offers an overview of the details of the scholarship. Disbursement Creation Page offers the overview of disbursement details. User Notification Page shows the history of chatmessages sent. Security Test Results show that the site is secure. The application was able to load in a timely manner. The web application was accepted for acceptability. The site was not experiencing any crashes or loading errors. The website is available on the Astronaut Satellite and the Space Station. The web application obtained its lowest rating under ?Maintainability? with an overall weighted mean of 3.28 Landing Page. The project website application was designed to streamline the structure of the Ad Astra program. The scalability of the web application relies on the limitations of the deployment platforms used by the researchers. The drop-down button reveals more information about the specific topic, designed to help the users get the necessary information that they want at any given time. The application was developed using JavaScript and HTMLprogramming languages. The website consists of the contact, application, and disbursement pages. The system was successfully implemented in protecting the data of its users from potential threats. The chat feature of the application between the agency administrator and the scholars was limited to text chatting only; the development of other communication features such as a calling feature was not included in the website. The web application obtained its second highest rating under ?Functional Sunni?s Suitability? with an overall weighted mean of 3.52. The study aimed to develop a web application that automates the process of managing scholarship applications for PhilSA staff and applicants. The test results regarding the performance efficiency, usability testing, and functional suitability are presented in the tables that follow. The developed web application can also serve as a platform where the Philippine Space Agency and its scholars can have two-way communication with each other through announcements and chat. The application was able to perform functions such as monitoring. embattledscholarship status, managing scholarship. applications, creating notifications, receiving notifications, data filtering, and recording financial transactions. The study aimed at developing a mobile-friendly web application thatautomates the

scholarship program processes for PhilSA and its scholars. The application should be able to provide a clear andstructured process flow that guides the user through each step. The researchers also utilized specific frameworks from these frameworks, such as React, in enhancing the functionality and user experience of the application. The web application was made to be responsive, allowing the application to run on both a web and mobile browser. The study aimed to develop a mobile friendly web application. The Scholarship Program is an integral part of the application process. Users can read the documents and decide whether they agree with it, in order to proceed with the registration process. The information is also part of their disbursement packages. The scholarship program is funded by donations from the public and private sectors. It is funded through a combination of grants and loans. The program is run by the University of Strasbourg and the French Ministry of Education and Science. The application process is run on a web-based basis.

DISCUSSION

The developed system was evaluated to be highly acceptable in terms of Functional Suitability, Performance Efficiency, Usability, Reliability, Maintainability, and Portability. The system was considered as secure in ensuring that the data of the users are safeguarded fromunauthorized access. However, some recommendations received from the evaluators received from researchers expressed the need for an improvement in the user experience of the web application. The following concurred recommendations are proposed to enhance thedeveloped website application. The system was designed to be functionally suitable, efficient, user-friendly and secure. The system was successfully created by implementing a variety of tools to avoid overloading the server. The security testing of the system showed no major vulnerabilities. The application demonstrates a moreuser-centered approach in designing the system, making it more accessible for new users. It is recommended to showcase an AI chat feature in the system to further extend the assistance to scholarship applicants. The web application implemented user authentication and authorization email. It provided a dashboard for the administrator that acts as an overview ofscholarship-related information.