PhilSA Scholarship: Leveraging Expert Systems for Streamlined Scholarship Evaluation and Scholar Monitoring

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INTRODUCTION

PhilSA Scholarship is a scholarship management system with robust features. It includes identity verification, eligibility criteria verification, monitoring of multiple submissions of applications using different identities, data validation, and application review. It utilized various development tools, including EasyOCR (a Python module used to extract text from image), Next.js (an open-source JavaScript framework by Vercel), and JSON Web Tokens (JWT) The goal of using NLP in the system is to raise the efficiency and accessibility of scholarships. Study provides a foundational framework for scholarship administration and identity verification. Eligibility of processing scholarship applicants. have access to higher education. The study provides a framework for scholarship administration and identity verification across various contexts. It also provides a tool dedicated to the regular monitoring and evaluation of scholarly programs. It facilitates informed decision-making and provides a guidance on how to apply for charity.

METHOD

The user clicked the ?Apply for Scholarship? button and was redirected to the application page. After applying, the User account will then automatically turn into an Applicant account. The PhilSA Scholarship System is a web-based scholarship portal designed to build the infrastructure needed for building the web application. The study utilized several modeling tools to analyze the scope and requirements as well as the scope of the project. The model was represented through a block diagram shown in Figure 2, which was represented in a block model. The study developed a web application that served as a scholarship application and an expert system. The system was designed to assist students in applying for scholarships and the staff of PhilSA in checking the forms if they are valid. The evaluation instrument that was used to assess the acceptability of the system was adapted from the ISO 25010 titled ?Systems and software engineering ? Systems and Software Quality Requirements and Evaluation (SQuaRE) ? System and software quality.? The study also developed a mobile application for the scholarship application. -friendly scholarship management solution. The application ?PhilSA Scholarship? was opened using a Web browser. The users were asked to try using the web application and upload sample documents. The evaluators were requested to evaluate the application individually. The aim was to assess the system's effectiveness and resilience in enhancing scholarship application and management. The evaluation was based on a 4-point Likert Scale ?PhilSA?s Scholarship Expert System?. The scope of the application is represented through Use Case Diagram, as depicted in Figure 3. The application page has the following navigation buttons: Clear, Eraser, Pen, and Sign. Vercel acts as the host of the application, making sure to attain fast performance and reliable hosting. The system's information, as presented in Figure 4, is depicted through an Entity Diagram (DER) This cloud-based service stores the data of users securely, ensuring the scalability and scalability of the system. The user will be able to apply successfully, provided they comply with the required forms. The application process consisted of the following stages: Grant access to authorized user only. in applicants' documents to determine eligibility based on specific criteria. Develop a user-friendly document submission module for

applicants, allowing them to upload and securely store their documents in MongoDB. The system collects information to appropriately categorize individuals based on their user types. The user will save all the filled up forms. The application will be available to PhilSA staff, committee, secretariat, admin, applicants, and the developers.

RESULTS

The application process is depicted in Figure 31. The documents that are received by the scholarship evaluators are now under review by the admin. The admin can track the applicants in the landing page. The committee will then rate the candidate. The applicant is then sent back to the secretariat for re-evaluation. The secretariat can then accept or reject the application. The system will provide an evaluation sheet. This will show the applicant?s status as well as his/her information. The dashboard will show the applicants FAQ?s (Frequently Asked Questions) to give the applicants ideas about the online application for scholarship. The system will also show the applicant's status about their scholarship application depicted on Figure 13 and figure 13.1. The process of evaluating the applicant is the same as the first evaluators namely, the admin and the secretariat. The committee will also see the applicant?S eligibility and his/her essay scoring, therefore the committee must further check the application. This process will help to determine if the applicant qualifies for the program. : Applicants: Scholars: The scholars' page is responsible for monitoring and management of every applicant that has been successfully submitted and evaluated by the scholarship system. The scholar page also has the same features as the admin page. The system will then ask the applicants for their personal information until the end of submission of documents. This is depicted in Figure 40, and 40.1. The admin can also check the information given by the applicant, this way the admin can gather the applicant?s complete information. The PHILSA scholarship web application is a tool that allows users to apply for a scholarship. The application is broken down into three sections. The first section is all about the budget proposal for the research. The second section is about the application process. The third section is for the admin side of the application. The system will show the application dashboard. It will also show the status of the applicant. The PHILSSA system has also a filter option allowing users to filter the application by subject. The PHILSA Scholarship platform was designed to streamline the scholarship application process for the Philippine Space Agency. The test results on the usability and security of the developed web application are presented in the table below. The system will automatically send an

OTP to the given email for verification before the applicant can proceed to apply for the scholarship. The users were able to search fast and accurately about a particular university or program. The application has the capabilities of a web application: the landing page, the educational background section, and the e-signature. The user can easily access the website by choosing an existing account or they can manually type their respective accounts, as shown in Figure 10. The user can also choose to log in using their chosen Google account as well. The application was evaluated to determine its acceptability Requested a new OTP after an unsuccessful attempt after an error in the document. The project was developed to enable the evaluator to rapidly identify the eligibility checks by providing eligibility checks based on a percentage percentage. This study developed a web application that provides a platform for applicants of the Philippine Space Agency (PHILSA) to conduct paperless transactions for filing and checking eligibility. The development of PHILSA Scholarship was created by Machine Learning. The web application was limited in AI-generated content detection. The project was unable to determine whether an essay was written by an AI. The users were given access to authorized user only. The application was designed to help the applicant track their application smoothly and with ease.

DISCUSSION

The web application proved highly functional along several dimensions: functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, and portability. It was found that thePHILSA SCHOLARSHIP EXPERT SYSTEM 104generation application was responsive, efficient, compatible with various devices, user-friendly, and maintainable or easy to modify. The system is effective in meeting its purpose, but there are always room for further improvements in the user interface and user experience. The application was found to be stable and dependable, with no major crashes or errors during testing. during registration. Modify the "End" button to change its label to "Continue" or "Resume" if the user disconnects, making it more user-friendly. Usability Usability Security is a web-based, mobile-optimized version of the Web's built-in security features. The web-optimised version of this article includes a version of security features that make it more secure.