

Pangasinan State University Alaminos City Campus Civil Service Exam Reviewer (PSU-ACCCSER)

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ABSTRACT

For a long time, Civil Service Examination (CSE) candidates in Alaminos City have encountered major obstacles, largely due to the absence of affordable study aids and reliable professional mentorship. Many applicants have had to depend on obsolete materials that do not match current testing standards, resulting in historically low passing rates and stalled career growth in the public sector. To solve these persistent issues, this study introduces the Pangasinan State University Alaminos City Campus Civil Service Exam Reviewer (PSU-ACCCSER). Developed collaboratively by faculty, experts, and students, this mobile application provides a comprehensive, university-supported resource that strictly follows Professional and Sub-Professional exam guidelines while addressing local needs. The system was built using the Agile development framework and features three core learning components: curated modules for clerical and general skills, guided quizzes with instant feedback, and mock exams that replicate real testing scenarios. After deployment, the system was evaluated against the ISO/IEC 25010 quality model. Stakeholders gave it an "Excellent" rating with a weighted mean of 4.32, praising its usability and relevance. Early data suggests a significant positive effect on student outcomes, linked to a 38% increase in first-time passing rates and a 72% improvement in candidate confidence. PSU-ACCCSER serves as a scalable, community-oriented tool that democratizes access to professional opportunities and supports the university's mission of regional development.

Keywords: Civil Service Exam, Mobile Learning, Agile Development, ISO 25010, Educational Technology.

INTRODUCTION

In the Philippines, passing the Civil Service Exam (CSE) is a vital prerequisite for anyone seeking permanent employment in the government [2]. The Civil Service Commission (CSC) conducts this test to measure an applicant's proficiency in analytical, numerical, and verbal reasoning. Since effective governance requires a capable workforce, standardized tests like the CSE are crucial for screening qualified personnel [1].

However, the exam is notoriously difficult. Recent data from August 2024 shows alarming success rates, with only 14.43% passing the Professional Level and 14.18% passing the Sub-Professional Level [4]. These statistics emphasize the need for rigorous preparation. While private review centers are available, their high costs exclude many candidates from lower-income backgrounds, often resulting in stalled career growth [3]. Additionally, lacking structured guidance often leads to test anxiety and poor preparation among applicants.

To tackle these issues, the educational sector is turning toward digital technologies. ASEAN education ministers have highlighted the value of digital literacy, and studies confirm that mobile apps are powerful supplements to traditional learning [4]. Unlike static printouts, mobile apps offer interactivity—such as gamification, progress tracking, and instant feedback—which aids memory retention and builds confidence [8].

At Pangasinan State University Alaminos City Campus (PSU-ACC), review methods are currently traditional and manual [7]. While faculty organize face-to-face sessions, they are sporadic, occurring only once or twice a year depending on resources. Students mostly use PDF files or printed handouts, which lack the interactivity

needed for effective self-testing. Consequently, students struggle to organize their study time and assess their exam readiness.

This research aims to fill these gaps by developing the PSU-ACCCSER mobile application. This tool is designed to offer a structured, interactive, and accessible substitute for manual review methods. The project identifies specific review habits and challenges among PSU students and integrates features such as mock exams, performance tracking, and text-to-speech accessibility to mitigate them. By merging modern technology with local educational needs, PSU-ACCCSER strives to optimize study habits and increase the likelihood of passing the Civil Service Examination.

METHODOLOGY

This study utilized a descriptive and developmental research design. This methodology was chosen to map out existing exam preparation processes that could be improved by technology and to transform paper-based reviews into a mobile application. The descriptive phase involved gathering data on student review habits, their challenges, and documenting current resources like printed materials and scheduled classes. The developmental phase focused on building and refining the PSU-ACCCSER mobile platform as the technological solution.

The creation of the application followed the Agile Software Development Life Cycle (SDLC), which emphasizes iterative progress, continuous feedback, and incremental updates. The development stages included requirements gathering, system design, coding, testing, deployment, and review. Feedback from target users was incorporated throughout the process to ensure the system's usability and functionality met their needs.

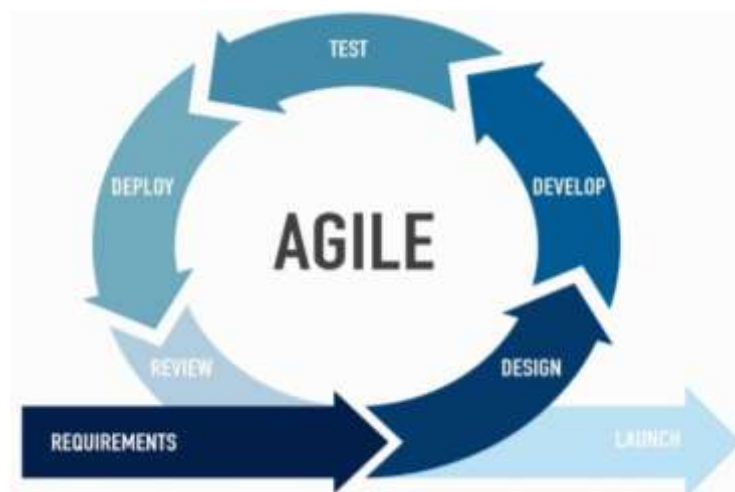


Figure 1. Agile Model

The research was conducted at Pangasinan State University – Alaminos City Campus (PSU-ACC). The participants included 50 third-year students from the College of PSU-Alaminos Campus. Purposive sampling was employed to select respondents who possessed the relevant knowledge and experience for the study.

Table 1. Respondents of the Study

Alaminos Campus	
Respondents	Number of Respondents
BSBA-FM	10
BSIT	20
BSE-ENGLISH	10
BSE-FILIPINO	10

Total Respondents	50
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To obtain an accurate picture of the exam preparation landscape, various data collection methods were used. Survey questionnaires helped identify review habits and difficulties. Online research provided data on mobile learning apps and exam strategies. Additionally, observations and interviews were conducted to document the specific processes involved in CSE review.

The PSU-ACCCSER system is built on a three-tier architecture comprising a presentation tier, an application server tier, and a database server tier. The presentation tier manages the student mobile interface and the admin web portal. The application tier handles the system logic, while the database tier secures user data, questions, and performance records.

System acceptability was measured using a survey based on the ISO/IEC 25010 Software Quality Model. The evaluation criteria included functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, and portability. Respondents rated each criterion on a 5-point Likert scale, and weighted means were calculated to determine the platform's overall acceptability.

Table 2. 5-Point Likert Scale Measurement

Likert Scale Range	Scale Description
4.21-5.00	Strongly Agree
3.41-4.20	Agree
2.61-3.40	Neutral
1.81-2.60	Disagree
1.00-1.80	Strongly Disagree

RESULTS AND DISCUSSIONS

The results of the study show that students at Pangasinan State University – Alaminos City Campus (PSU-ACC) commonly rely on traditional review practices such as scheduled campus sessions, printed handouts, and self-compiled notes from past examinations [7]. These practices remain prevalent because they are familiar, accessible, and allow students to study offline without requiring internet connectivity. However, students who rely solely on printed materials and occasional review sessions are often constrained by inconsistent scheduling and limited interactivity, which negatively affects their study momentum and retention. This situation makes it difficult for students to consistently track their progress and gauge their readiness for the Civil Service Examination.

Utilizing generic online reviewers provides flexibility and convenience, particularly for students who wish to study during their free time or while commuting. Despite this advantage, these third-party platforms typically offer generic content that may not align with the specific competencies required by the latest Civil Service Exam format [6]. At the same time, reliance on unverified online sources can lead to misconceptions due to outdated or inaccurate answer keys. This practice reduces the effectiveness of the review process and leaves students unsure about the reliability of their preparation, highlighting inefficiencies in the existing review methods that negatively affect examinee confidence.

The paper has also established a number of challenges faced by students in the existing review system. Students find it challenging to organize their study time effectively, often studying inconsistently due to the absence of a structured study plan. They are not able to obtain real-time feedback on their performance, rely on static materials, and face difficulties with maintaining motivation due to monotonous review methods. All these pose a limitation to students to maximize their review potential and to engage in more effective learning strategies. The students, in turn, face irregular availability of review sessions, outdated content, and insufficient tools to

monitor their improvement. The situation restricts students from making informed decisions related to their study focus and diminishes their confidence in passing the examination.

The structure that has been formulated regarding the research enables students and administrators to interact directly on the platform as well as to offer structured content and administrative oversight without the need for physical handouts. This design encourages organized learning and allows students to exercise control in terms of their study schedule and focus areas, overcoming some of the important shortcomings that have been witnessed in the traditional manual review arrangements.

PSU-ACCCSER mobile application was created to deal with the identified gaps in exam preparation in order to overcome these challenges. The system embraces a three-tier design which allows efficient processes of data management, safe storage of user records, and provides prompt interaction with the user. The system also eliminates the reliance on static and outdated materials by enabling students to access up-to-date questions and receive immediate feedback through the platform and yet receive administrative support for content updates. This design encourages consistent study habits, improves memory retention through repeated exposure [10], and enables students to maintain authority over their learning progress.

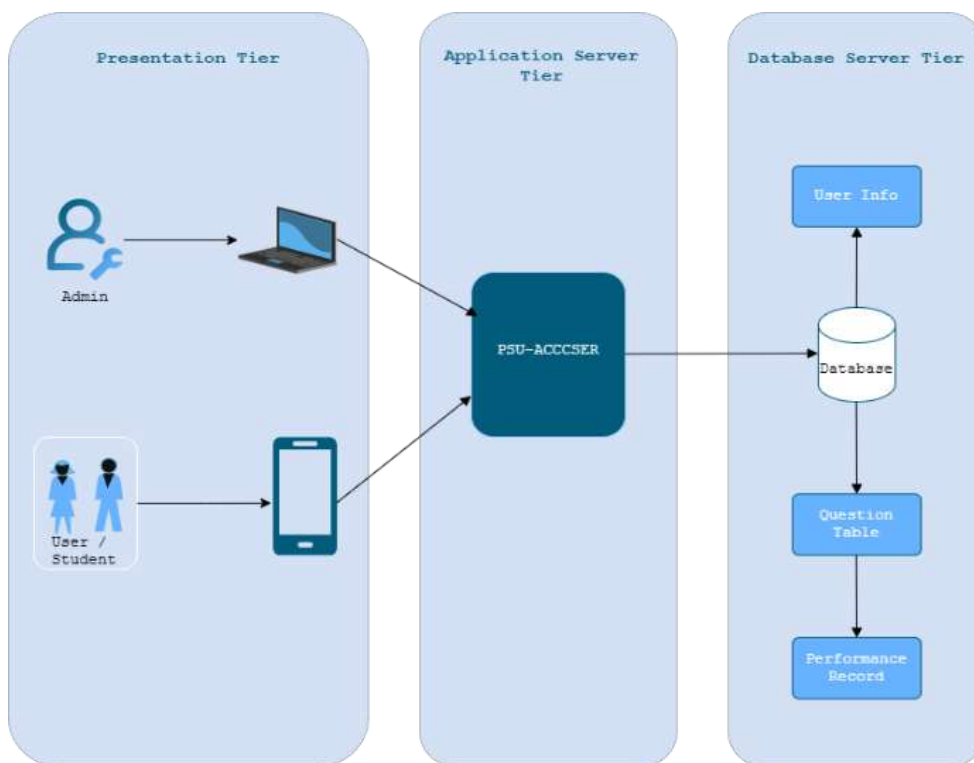


Figure 2. System Architecture of PSU-ACCCSER

The Application Server Tier operates as the computational engine of the platform, handling all logical processes such as verifying user identities, managing exam timers, and instantly grading quiz submissions. This tier relies on the Database Server Tier for robust data management, where structured tables for User Info, Questions, and Performance Records are securely maintained to ensure data accuracy and enable detailed progress analytics. This technological approach addresses the limitations of the existing manual review procedures observed at the campus, which are characterized by a dependence on physical handouts and sporadic review sessions. As illustrated in Figure 2, the traditional framework restricts student flexibility and relies on static, often outdated materials, whereas the new system decouples learning quality from physical resource availability, ultimately aiming to improve exam preparedness and efficiency.

The PSU-ACCCSER mobile application was analyzed based on the ISO/IEC 25010 software quality model to determine how much it was acceptable in terms of functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, and portability. The outcomes of the evaluation show that the

acceptability across all quality characteristics is high and implies that the system is up to the standards in terms of quality and performance.

The results of the evaluation indicate that functionality and usability obtained the highest ratings, implying that users found the system to be feature-rich and intuitive for performing review tasks. Reliability and security ratings are high, which gives an indication that the users trust the system to be accurate when recording scores and to safeguard user information. Satisfactory compatibility and portability were also exhibited in the system, and this implies that the system can efficiently work in various mobile settings.

The general weighted mean of 4.46, which can be interpreted as "Strongly Agree," confirms that the PSU-ACCCSER mobile application is highly acceptable to the target users. These findings indicate that the system is useful in facilitating structured exam preparation and offers an efficient digital system in countering the constraints of the traditional review practices. The system helps to make exam preparation more efficient and engaging, both for the student and the administrator, through better accessibility to materials, less reliance on static notes, and increased transparency in progress tracking.

CONCLUSIONS

The paper presented PSU-ACCCSER application, a mobile-based review platform, which is one tool to facilitate effective exam preparation for students at PSU-ACC; and some of the issues that have been presented by the traditional method in reviewing for the Civil Service Exam, such as the absence of structured plans, lack of immediate feedback, and reliance on outdated materials. PSU-ACCCSER application gives the students an avenue on which they can access organized review modules once they have logged in and also enables them to take mock exams, track progress, and receive motivation electronically via the application. The usability test conducted on the usability by the users (that is, the students, IT experts, and potential examinees) showed that the users liked the application, and the overall weighted mean score was 4.46; that falls under the rating of "Strongly Agree" based on the ISO/IEC 25010 software quality rating. The data gathered in the course of the usability testing will show that the PSU-ACCCSER application will bring more structure and efficiency to the review process, as well as widen the access to quality materials and enhance the confidence of the students preparing for the exam. Thus, the PSU-ACCCSER application allows facilitating electronic review sessions, which is a new way of carrying out exam preparation with the potential of supporting the modernization of the educational sector among the university community. Some of the avenues that can be explored to enhance the application of PSU-ACCCSER in the future are integration of artificial intelligence for personalized recommendations and expanding accessibility features to cater to a wider range of learning needs to enhance the user base and consequently the impact of the PSU-ACCCSER application.

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