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# Innovating Administrative Processes: Online Systems Development for a State University

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***Abstract:*** - The study focuses on improving the efficiency of administrative workflows by creating integrated online systems tailored to the needs of the university's administrative staff, faculty, and management. Employing a Design Thinking approach, the research begins with an evaluation of existing workflows through empathy mapping to identify pain points and inefficiencies. The findings reveal that outdated manual processes, fragmented systems, and high workloads significantly impede productivity. In response to these insights, a series of innovative online system solutions were designed and prototyped, emphasizing improved system integration, reduced maintenance burdens, and streamlined administrative tasks. Usability testing was conducted using the System Usability Scale (SUS), resulting in an impressive average score of 94.25, indicating that the solutions effectively meet the needs of university stakeholders while providing a user-friendly experience. The study concludes that implementing these online systems can significantly alleviate administrative burdens, enhance workflow integration, and create a more efficient environment for staff and faculty at Quirino State University. The findings highlight the importance of user-centered design in developing technological solutions that align with the specific requirements of educational institutions, ultimately fostering improved operational efficiency and a more manageable workload for all involved.

***Keywords:*** *Digital Transformation, Online Administrative Systems, Online Systems, Records Management, State University*

## I. BACKGROUND

Digital transformation is fundamentally reshaping universities around the world by integrating advanced technologies into their academic and administrative processes. This shift is not just about adopting new tools but about rethinking and redesigning how education is delivered, how institutions are managed, and how students, faculty, and staff interact [9]. By leveraging digital platforms, universities are enhancing accessibility, improving operational efficiency, and fostering innovation in teaching and research, thereby meeting the evolving needs of a global and increasingly digital society [20].

Handling challenges in higher education and bringing together departments and campuses to fulfill the institution's mission is a significant task for management. Implementing advanced technology and automation tools to streamline academic and administrative processes can help institutions achieve their goals more efficiently Higher education institutions face several management challenges, including outdated manual processes, cumbersome registration, and difficulty achieving admission and enrollment targets. Inadequacies in course management and faculty evaluation hinder the adaptability and quality of education, while gaps in communication and collaboration lead to miscoordination and discipline issues. Some institutions struggle with financial management and the timely analysis of academic data, affecting decision-making and resource allocation. Implementing digital solutions can help address these challenges by streamlining processes, improving communication, enhancing data management, and supporting better academic and administrative outcomes [17].

Administration is crucial to the success of any institution, organization, company, office, or business firm. The contributions of administrative staff to the functioning of these entities are significant and should not be overlooked. Without administrative personnel, achieving organizational goals and objectives would be nearly impossible [16]. The rigidity of administrative management is a significant issue in educational administration at colleges and universities. Many university management processes are overly complicated and detailed, involving excessive procedures in areas such as personnel management, fostering academic culture, party building, student records, and the oversight of teachers and students. Many administrative departments focus on formalities and procedural management. Additionally, some administrative staff, due to their responsibilities and authority,

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struggle to effectively complete daily tasks and manage their duties with flexibility. This lack of adaptability and autonomy has become a major drawback in the administrative management of colleges and universities [5].

A well-designed university management system enhances academic performance, boosts operational efficiency, and leads to better student outcomes. It offers numerous advantages for staff and the institution as a whole. With the evolving nature of education, it is crucial for universities to adopt an advanced management system to address current and future challenges effectively. Implementing an online management systems address several key challenges faced by universities. It enhances transparency by improving processes in result processing and procurement, thus reducing issues caused by opaque practices. The system also boosts efficiency through streamlined operations and a centralized data repository, making management tasks more effective. By consolidating manual tasks into a single, accountable system, it minimizes errors and enhances oversight. Additionally, it helps simplify the collection and processing of information from various departments, enabling faster and more efficient data management. It also improves communication and integration among faculty, and administration, creating a more comfortable and cohesive environment for all stakeholders [2].

A cloud-based online university management system is a digital solution designed to automate various tasks. It covers a broad spectrum of functions, including fee management, payroll processing for faculty and staff, providing access to online management of employee data, automates routine tasks like record indexing, classification, and retention management, and offers a centralized repository for administrative documents, reducing decision-making delays. It also provides audit trails and reports, logging access and changes to records for tracking document history, compliance verification, and generating reports for management. By minimizing manual labor and intervention, this system enhances the accuracy, transparency, reliability, and integrity of records, information, intellectual property, and data [1].

The primary purpose of this study is to explore and develop online systems that enhance the efficiency and effectiveness of administrative processes within a state university particularly the Quirino State University records management. This involves identifying current administrative challenges and inefficiencies, designing and implementing innovative online solutions, and evaluating their impact on university operations. The goal is to create a streamlined, user-friendly administrative system that improves service delivery, data management, and overall operational efficiency.

The objectives of the study include: evaluate the existing administrative workflows at the Quirino State University; create online system solutions that address the identified challenges and inefficiencies; and assess the usability of the new online systems using System Usability Scale (SUS). The scope of this research involves online records management systems for several key areas: Resource Management Office (HRMO); Records Office; Vice President for Academic Research and Extension Office; Chief Administrative Office (CAO); and Quality Management System – Document Control the Vice President for Administration and Finance Office.

It includes assessing current administrative processes by analyzing existing workflows to pinpoint inefficiencies and areas that could benefit from technological improvements, while evaluating the limitations and challenges faced by university staff and administrators with the current systems. The research focuses on the design and development of online systems tailored to address these challenges, incorporating modules for records management, and human resources, and ensuring these systems incorporate best practices and technological advancements to meet stakeholder needs. The implementation and integration phase involves planning and executing the rollout of the new systems within the university's administrative framework, ensuring they integrate smoothly with existing processes. The effectiveness of these systems shall be evaluated using System Usability Scale (SUS) and based on improvements in administrative efficiency, accuracy, and user satisfaction, with feedback from users used to measure impact and identify areas for further enhancement.

The software development methodology (SDM) used in this study is the Design Thinking Methodology. Design thinking is a methodology that focuses on finding solutions through a problem-solving approach. It is particularly effective for addressing complex, poorly defined, or ambiguous problems because it aims to understand the human needs involved, reframe issues from a human-centered perspective, generate multiple ideas through brainstorming, and utilize a practical approach to prototyping and testing [7].


**Figure 1. Conceptual Framework of the Study**

Clark *et al.* [6] mentioned in their study that a conceptual framework is an analytical tool or structure designed to clarify and streamline complex ideas or systems. It organizes essential concepts and illustrates how they operate in practical situations.

The conceptual framework of the study begins with the Inputs section, which includes initial factors like existing processes, available technology, stakeholder feedback, and best practices that are integral to the development of online systems. The Process section outlines the steps involved in creating and implementing these systems, starting from identifying needs and gaps, through designing and testing, to achieving full integration. The Outputs section presents the immediate results of these processes, such as enhancements in academic and administrative workflows and higher user satisfaction. Finally, the Outcomes section reflects the broader, long-term impacts, including improved efficiency, greater accessibility, and an enhanced reputation for the university.

This study is highly significant for Quirino State University as it aims to enhance efficiency, transparency, and accessibility within the institution. By developing and implementing online systems, the university can streamline administrative tasks, reduce errors, and ensure more accurate record-keeping. These improvements shall facilitate better data management and decision-making, leading to a more convenient and positive experience for faculty, and staff. Additionally, embracing such innovative technology shall help the university stay competitive, adapt to evolving needs, and enhance its reputation, ultimately positioning it as a forward-thinking institution in the educational sector.

## II. METHODOLOGY

### Research Design

The research aims to explore and develop innovative online systems to enhance administrative processes at a state university. A mixed-methods approach will be utilized, combining both qualitative and quantitative methods to gain a comprehensive understanding of the administrative needs and evaluate the effectiveness of the developed system.

### Data Collection Methods

**Interviews and Observation.** In-depth interviews were conducted with key stakeholders, including university administrators and staff, to gather insights into their experiences, pain points, and needs related to current administrative processes. Existing administrative workflows were observed to identify inefficiencies and areas for improvement.

**Focus Groups.** Focus group discussions were organized with different user groups from various offices to encourage collaborative discussions about the desired features and functionalities of the proposed online system.

**Surveys.** Researchers distributed structured surveys using SUS to a sample of university staff to quantify their satisfaction with the processes and gather data on specific needs and preferences for the new system.

**Document Analysis.** Existing administrative documents and reports were reviewed to understand the current state of operations and identify gaps that the proposed online system could address.

**Sampling Strategy**

**Sampling Method.** A purposive sampling method shall be used to select participants who are directly involved with or affected by the university's administrative processes. Purposive sampling is a method used in qualitative research where a particular group of individuals or units is deliberately chosen for analysis. Participants are selected intentionally rather than randomly, which is why this technique is also called judgmental or selective sampling [8]. In this approach, the researchers selected the sample with a clear purpose or objective, focusing on specific characteristics or attributes relevant to the study's goals. In the study, a diverse group of participants were asked for qualitative interviews and focus groups, and the end users and IT experts were the respondents for the quantitative surveys to ensure data representativeness.

**Software Development Methodology**

The Design Thinking methodology is being applied to the study as it involves a human-centered approach to problem-solving. Design thinking is a mindset and methodology focused on solving problems and fostering innovation with a human-centered approach. Unlike traditional innovation processes that focus on identifying and analyzing problems, design thinking emphasizes creating solutions with the end-user in mind.

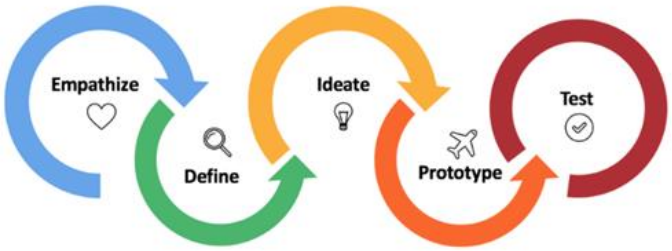


**Figure 2. The Design Thinking Methodology Process (Jain, n. d.)**

Design thinking approach prioritizes finding ways to enhance user engagement rather than solely addressing productivity issues. The core of design thinking is its user-centric focus, concentrating on the individuals involved with both the problem and the solution. It involves asking critical questions such as "Who will use this product?" and "How will this solution affect the user?" The fundamental step in design thinking is to build empathy with users. Understanding their experiences and needs enables the development of more effective solutions. Design thinking also involves observing how users interact with products, drawing insights from research, and keeping the user at the center of the solution throughout the implementation process [18].

**Empathize.** First phase is to understand the needs, challenges, and experiences of the users involved in administrative processes. This phase is where the researchers engaged with faculty, staff, and administrators to gather insights on their experiences with current administrative processes. The researchers also observed the existing administrative workflows and interactions to identify pain points and inefficiencies. They created user journey map or empathy map to visualize the current administrative experience from different perspectives.

**Define.** Second phase clearly articulate the problems and needs based on the insights gathered. To be able to identify key challenges, the data collected were synthesized to pinpoint the core issues and gaps in the current administrative systems. Problem statements were developed to formulate clear problem statements that address the specific challenges faced by the users. The researchers set goals by define the objectives for the online systems development, focusing on the improvements needed to address identified issues.

**Ideate.** The goal of the third phase of design thinking is to generate a range of ideas and solutions to address the defined problems. The researchers have conducted brainstorming sessions with stakeholders and end users to generate innovative ideas for online system features and functionalities. Researches for same systems helped in

the design and development of the proposed systems. Also, the researchers incorporated best practices and technologies that can enhance administrative processes. They developed conceptual models or prototypes of potential online systems and their features.

**Prototype.** The fourth phase is the development and testing the preliminary versions of the proposed solutions. The researchers created prototypes of the online systems to visualize and test ideas. The prototypes were presented to the users for feedback, focusing on usability, functionality, and overall experience. Prototypes were iterated based on user feedback, making improvements and adjustments as needed.

**Test.** The fifth phase focuses on the evaluation of the effectiveness of the developed solutions and refine them based on testing results. Pilot testing of the online systems is being implement in a controlled environment to test its functionality and impact. Data is being gathered on system performance, user satisfaction, and the impact on administrative processes using the SUS. Through this, the test results were being assessed to identify strengths, weaknesses, and areas for further improvement

## III. Results and Discussions

This part of the study presents the findings to each of the objectives. This ensures that the results comprehensively address the objectives, providing a clear and structured presentation of the findings related to the evaluation, solution development, and usability assessment.

### 1. Evaluation of Existing Administrative Workflows

To summarize the assessment of existing administrative workflows at Quirino State University, empathy maps were created based on the responses and observations from the users: the Administration, the Admin Staff and the Faculty. This includes identifying inefficiencies, bottlenecks, and challenges within the current systems.

The empathy map is a collaborative tool designed to capture and convey insights about the existing admin workflows at QSU. It helps externalize user information to establish a common understanding of their needs and support decision-making processes. By illustrating user attitudes and behaviors, empathy maps enable UX teams to develop a thorough comprehension of end users. Additionally, the process of creating an empathy map can highlight gaps in the current user data [10].

The empathy maps of this study focuses on understanding the experiences, needs, and challenges of different stakeholders, including university administrators, faculty, and admin staff.

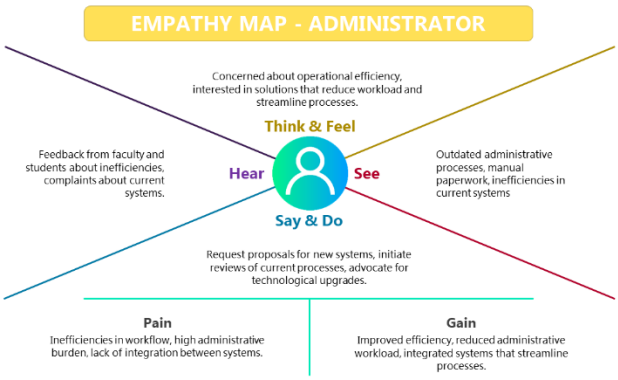


**Figure 3. The Empathy Map of University Administrators**

The empathy map of university administrators is shown in Figure 3. It reveals a primary concern with outdated administrative processes and the inefficiencies caused by manual paperwork and fragmented systems. They commonly receive feedback from faculty about these deficiencies and are driven by a desire to improve operational efficiency. Administrators are actively involved in requesting proposals for new systems, initiating reviews of existing processes, and promoting for technological upgrades to reduce the administrative burden and modernize workflows. Their main pain points include the lack of integration between systems and the high workload

associated with inadequate processes. However, they stand to gain significantly from improved efficiency, reduced workloads, and the integration of online systems that facilitate smoother operations.

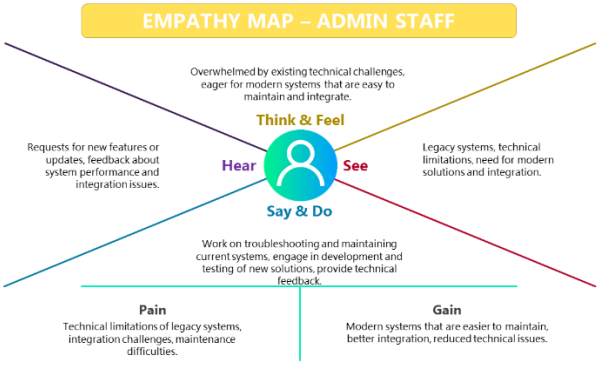


**Figure 4. Empathy Map of Admin Staff**

The empathy map of admin staff as shown in Figure 4 presents their struggles with legacy manual systems and the technical limitations that hinder their ability to maintain and integrate current technologies. They often hear requests for new features or updates and receive feedback on system performance and integration challenges. Overwhelmed by the ongoing technical difficulties and maintenance demands, the admin staff are eager for modern solutions that are easier to maintain and provide better integration. Their actions involve troubleshooting current systems, developing and testing new solutions, and offering technical feedback to improve system performance. The primary pain points for admin staff are the limitations of outdated systems and the difficulties associated with maintaining them. The successful implementation of modern online systems would reduce technical issues, improve integration, and make maintenance more manageable, ultimately easing their workload.

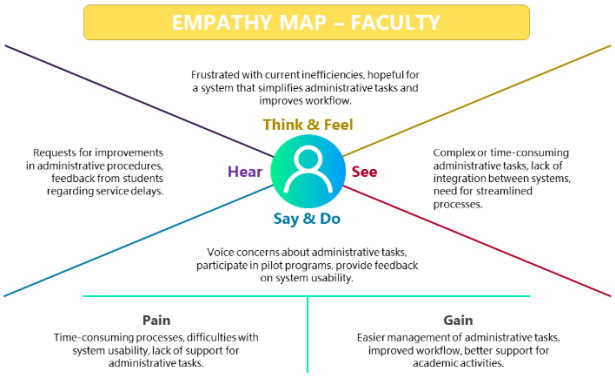


**Figure 5. Empathy Map of Faculty**

The Figure 5 indicates frustration with time-consuming administrative tasks and the lack of integration between systems that complicates their workflow. They hear frequent requests for improvements from students and experience firsthand the delays and difficulties these inefficiencies cause. Faculty members express concerns about the current administrative tasks, participate in pilot programs for new systems, and provide feedback on usability to ensure that the new solutions meet their needs. The major challenges they face include managing administrative duties efficiently and dealing with usability issues in the existing systems. The introduction of new online systems could simplify administrative tasks, enhance workflow, and provide better support for academic activities, leading to a more streamlined and manageable workload.

By understanding the distinct perspectives and needs of these stakeholders through the empathy map, the research can guide the development and implementation of online systems that effectively address their concerns and improve overall administrative processes at Quirino State University.

Creating a clear and precise problem statement is a crucial step in the Define stage of Design Thinking approach. This statement acts as the central point of focus for those engaged in design thinking. Widely regarded as the most

challenging aspect of the Design Thinking process, this stage involves synthesizing user insights gathered during the initial Empathize phase [4].

The Define stage plays a key role in comprehending the issue at hand and creating effective, valuable solutions. This phase involves processing and interpreting the unrefined information and discoveries obtained through research, interviews, questionnaires, and problem analysis conducted during the empathize stage. The goal is to extract meaningful insights from the collected data [11].

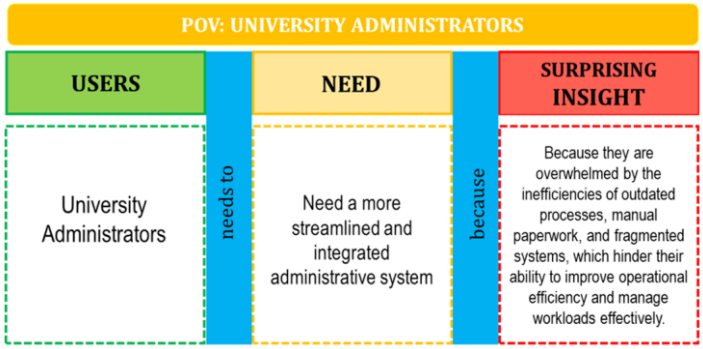


**Figure 6. POV of University Administrators**

The POV outlined in Figure 6 reflects the concerns and aspirations of university administrators. It emphasizes their need for a more streamlined and cohesive system to tackle existing issues and enhance their operational efficiency.

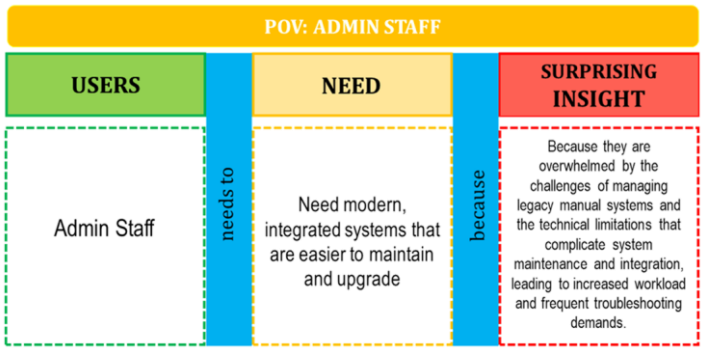


**Figure 7. POV of Admin Staff**

This Figure 7 POV statement encapsulates the particular challenges and concerns faced by administrative personnel, emphasizing their need for more streamlined and effective systems to alleviate their technical workload and enhance overall efficiency.

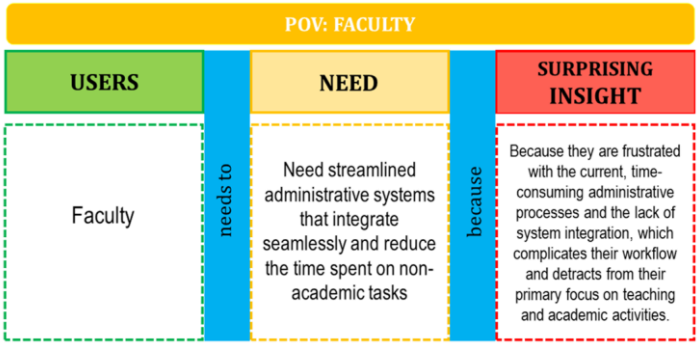


**Figure 8. POV of Faculty**

The POV in Figure 8 highlights the faculty's requirement for more streamlined and user-friendly administrative systems to enhance their workflow and enable them to focus on their primary academic duties.

## 2. Design and development of Online System Solutions

Systems design involves outlining the various elements of a system, including modules, architecture, components, their interfaces, and the associated data, all tailored to meet specified requirements. This process encompasses defining, developing, and creating systems that fulfill the unique needs and demands of a business or organization [19]. The design and development of online systems at QSU have been pivotal in adapting to the evolving educational landscape, particularly in response to the COVID-19 pandemic. The university has focused on creating systems that enhance learning processes, ensuring they cater to the specific needs of its student population.

In the design and development of the online admin systems of QSU, the Ideation and Prototyping stage of Design Thinking were utilized. Ideation is the imaginative and generative process of creating, refining, and sharing ideas. The ideation process was utilized to address specific challenges, explore innovative approaches to implementing solutions, or gather feedback and assess existing ideas [13].

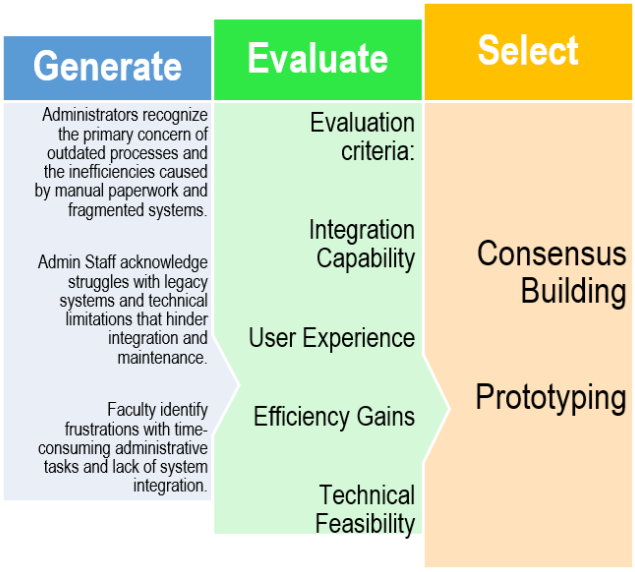


**Figure 9. Ideation Process**

Figure 9 is the ideation process for innovating administrative processes at QSU and involves three main phases: Generate, Evaluate, and Select. This structured approach helps identify and implement effective online systems that address the challenges faced by university administrators, admin staff, and faculty.

In the Generate phase, the focus is on brainstorming and generating a wide range of ideas to tackle issues related to outdated administrative processes and inefficiencies. Key activities include problem identification based on empathy maps and idea generation techniques such as brainstorming sessions and mind mapping. Administrators recognize concerns with manual paperwork and fragmented systems, admin staff acknowledge struggles with legacy systems and technical limitations, while faculty identify frustrations with time-consuming administrative tasks and lack of system integration.

The Evaluate phase involves assessing the generated ideas against specific criteria to determine feasibility and potential impact. Evaluation criteria are established based on the needs and pain points identified in the empathy maps, including integration capability, user experience, efficiency gains, and technical feasibility. Each idea is analyzed during the gathering of stakeholder feedback to ensure practicality and desirability.

In the final Select phase, the most viable ideas are chosen for implementation. Consensus building among stakeholders helps refine ideas and reach agreement on the best solutions to pursue. Prototyping is conducted to test the functionality and effectiveness of the selected solutions in real-world scenarios, allowing for practical assessment and further refinement. A detailed implementation plan is then created, outlining timelines, resource allocation, responsibilities, and success metrics.

With Generate-Evaluate-Select ideation process, QSU can effectively innovate its administrative processes through the development of online systems that enhance efficiency, reduce workloads, and improve integration for all stakeholders involved.

Prototypes are preliminary versions of products created to test concepts or processes. Prototyping is a crucial step in the Design Thinking process, often used in the final testing phase. Every product targets a specific audience and aims to solve their problems, in this scenario, the QSU. To determine if a product effectively resolves users' issues, the researchers created an almost-working model or mock-up, known as a prototype, and test it with potential users and stakeholders. Prototyping allows designers to assess the feasibility of the current design and gain insights into how trial users perceive and interact with the product. It enables thorough testing and exploration of design concepts before significant resources are invested [14].

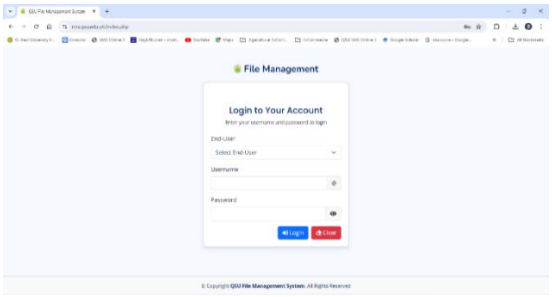


**Figure 10. Login Form of QSU Online File Management**

Figure 10 is the login form for the QSU Online File Management system. It features a clean and user-friendly design to facilitate easy access for users. There are input fields for users to enter their credentials, includes a dropdown arrow to select end-user, username and password. These fields are labeled clearly to avoid confusion. This design approach aims to streamline the login process while providing necessary security measures, ultimately improving user experience within the QSU Online File Management system.

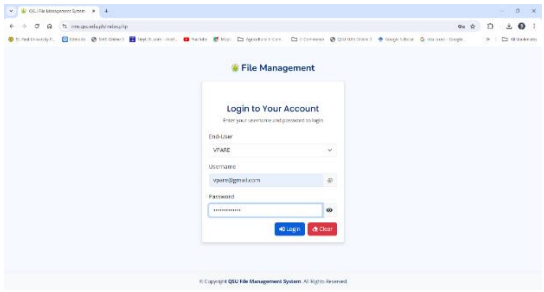


**Figure 11. Example Login of QSU Online File Management**

Figure 11 is an example login using the account of VPARE or the Vice President for Academic, Research and Extension. This indicates that all the university administration heads have different login credentials in the system.

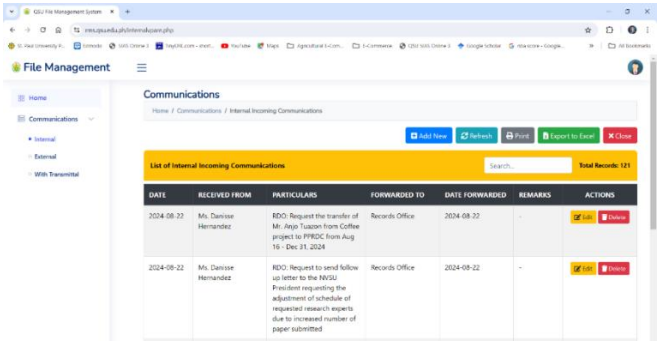


**Figure 12. List of Internal Communications**

Figure 12 contains the list of internal communications labeled where it was received from, date received, where it was forwarded and the date it was forwarded.

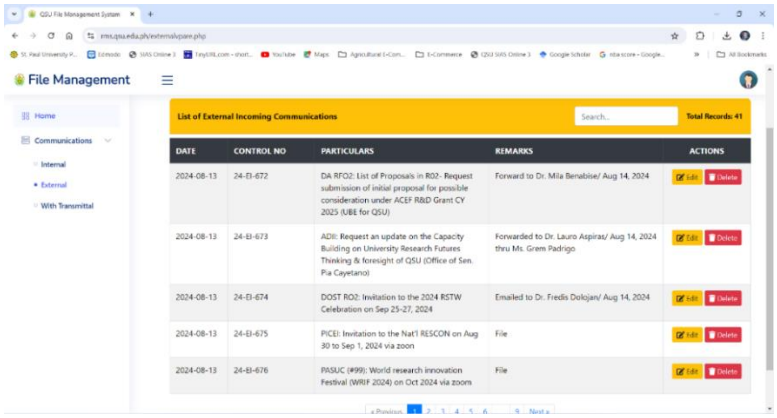


**Figure 13. List of External Communications**

Figure 13 is the sample list of external communications. It indicates the date the communication is received, the control number, the title or the description of the communication and the action taken by the VPARE in that particular communication.

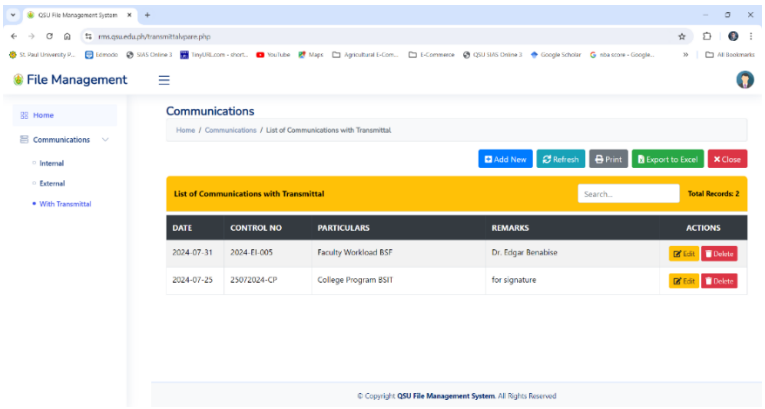


**Figure 14. List of Communications with Transmittal**

Figure 14 is a sample list of communications with transmittal. This indicates the action done with transmittal so that the communication can be traced easily.

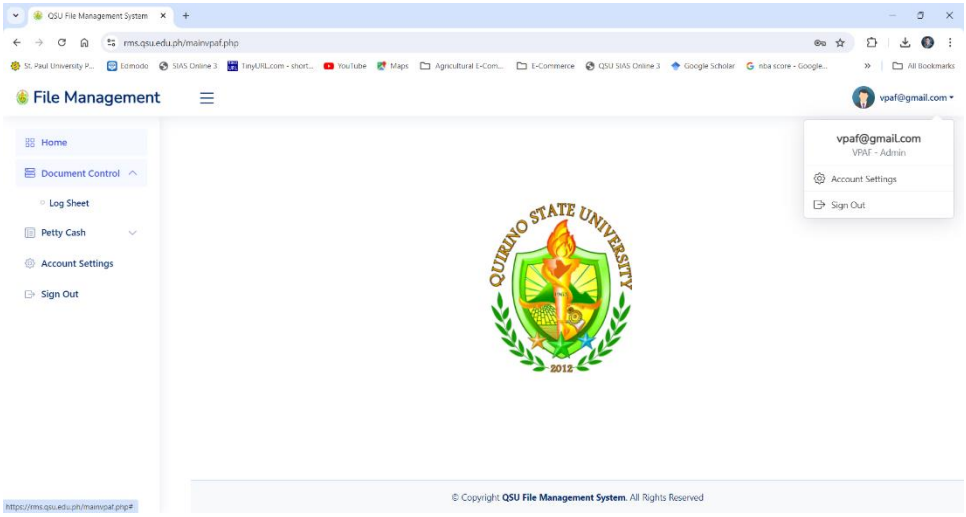


**Figure 15. VPAF Account**

The VPAF or the Vice President for Administration and Finance account as shown in Figure 15 contains the Document Control and Petty Cash.

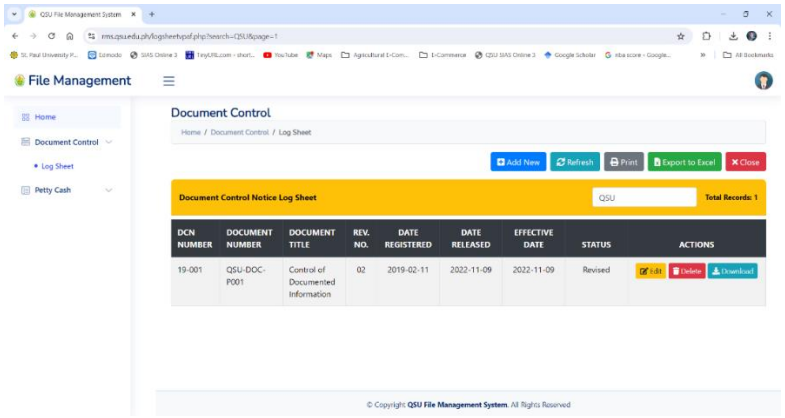


**Figure 16. Document Control Notice Log Sheet**

Document control log sheet as shown in Figure 16 is based from the ISO Quality Management Systems. ISO 9001 is an internationally recognized standard that specifies requirements for a quality management system (QMS). Organizations use this standard to demonstrate their ability to consistently provide products and services that meet customer and regulatory requirements. It is the most widely used standard in the ISO 9000 series, and the only one to which organizations can be certified [12].

Figure 16 contains the unique document number, the title of the document, date registered and date release. Date of effectivity is also projected.

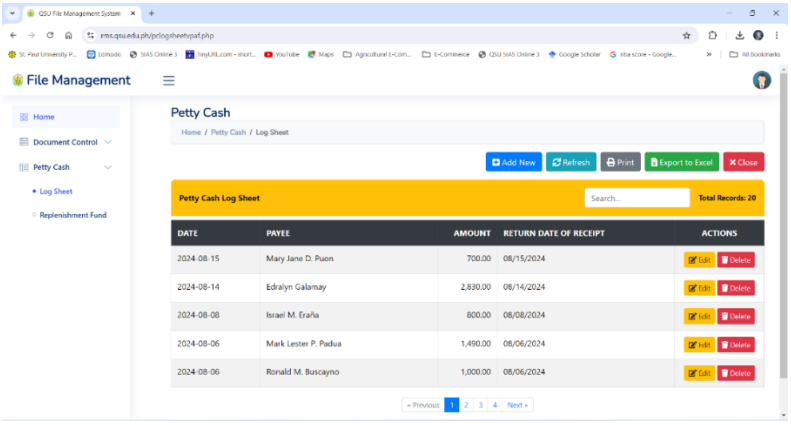


**Figure 17. Petty Cash**

Figure 17 contains the petty cash to whom it was given. It displays the date, the name of payee, amount and the return date of receipt.

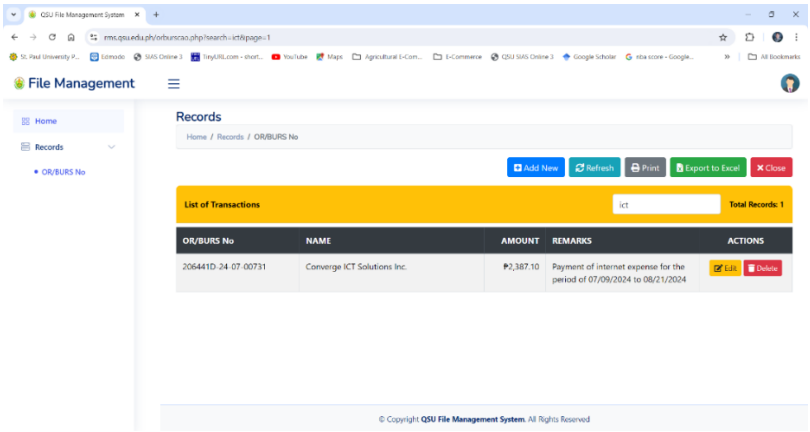


**Figure 18. Document Control Notice Log Sheet**

In the account of the Chief Administrative officer, Obligation Request/Budget Utilization Request (OR/BURS) is displayed. It projects the OR/BURS number, name where the budget is requested, the amount to be paid and the remarks.

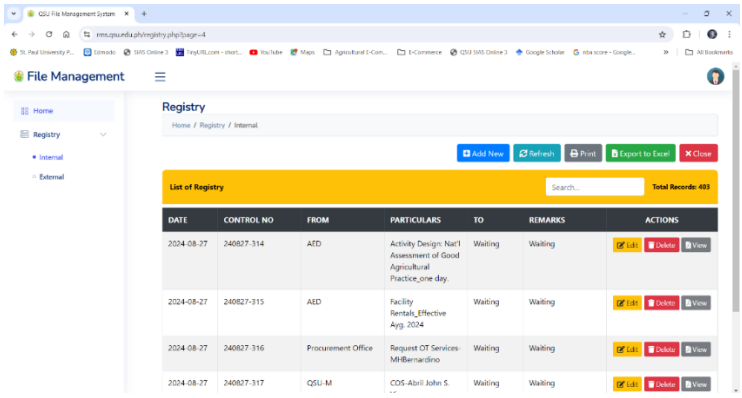


**Figure 19. Document Control Notice Log Sheet**

In the account of the records officer as shown in Figure 19, in contains internal and external communications. It projects the date received, control number, where it came from, the description of the communication, where it will be forwarded to and remarks.

### 3. Assessment of Usability

In the assessment and testing of the usability of the proposed online systems, System Usability Scale was used. The System Usability Scale (SUS) is a widely used questionnaire method that evaluates the usability of a system or product through a series of standardized questions. It has become an essential tool in the field of User Experience (UX), providing valuable insights into the user-friendliness and overall quality of digital platforms [15].

**Table 1. SUS Questionnaire**

| | | **Strongly Disagree** 1 | 2 | 3 | 4 | **Strongly Agree** 5 |
|---|---|---|---|---|---|---|
| 1 | I think that I would like to use this system frequently. | | | | | |
| 2 | I found the system unnecessarily complex. | | | | | |
| 3 | I thought the system was easy to use. | | | | | |
| 4 | I think that I would need the support of a technical person to be able to use this | | | | | |
| 5 | I found the various functions in this system were well integrated. | | | | | |
| 6 | I thought there was too much inconsistency in this system. | | | | | |
| 7 | I would imagine that most people would learn to use this system very quickly. | | | | | |
| 8 | I found the system very cumbersome to use. | | | | | |
| 9 | I felt very confident using the system. | | | | | |
| 10 | I needed to learn a lot of things before I could get going with this system. | | | | | |

Table 1 presents the SUS questionnaire which was handed to the respondents to answer with regards to the usability of the system.

Responses were gathered from the university administrators, faculty, admin staff and IT experts.

**Table 2. Distribution of Respondents**

| Respondents | Number |
|---|---|
| University Administrators | 10 |
| Faculty | 10 |
| Admin Staff | 10 |
| IT Experts | 5 |
| **Total** | **35** |

Table 2 presents the distribution of the respondents by purposive sampling.

The System Usability Scale (SUS) is a reliable tool used to assess the usability of products, services, or systems. It provides a quantitative measure of usability based on users' subjective assessments, making it a valuable resource in user experience research [3].

Formula: *SUS = (x+y) * 2.5*

The SUS survey's 10 statements are divided into odd-numbered and even-numbered questions for calculation purposes.

*x = Subtract the sum of all points of odd-numbered questions by 5.*

*y= Subtract 25 from the sum of points from all even numbered questions*.

In this analysis, the mean SUS score results to **94.25**, which indicates outstanding usability. SUS scores range from 0 to 100, with scores above 85 typically regarded as excellent. Therefore, a score of 94.25 suggests that respondents perceive the online system as highly intuitive, user-friendly, and well-designed. This elevated score indicates that the system meets or surpasses user expectations regarding functionality, ease of navigation, and overall user experience.

## IV. Conclusions

Based from the results and findings, the study effectively met its primary goals of evaluating current administrative workflows, creating online system solutions, and assessing their usability. By utilizing empathy maps, the study uncovered significant inefficiencies and challenges within the existing administrative systems, underscoring the necessity for modernization and improved integration.

University administrators, administrative staff, and faculty members voiced concerns regarding outdated processes, fragmented systems, and the substantial workload associated with manual tasks. The insights gained from the empathy maps and Point of View (POV) statements were instrumental in understanding their experiences, needs, and expectations, forming a solid foundation for the design and development of the online systems.

In response to these findings, the design and development phase incorporated the Ideation and Prototyping stages of the Design Thinking process. The study successfully created and implemented online systems tailored to the specific requirements of the stakeholders of the university. These systems were designed to streamline workflows, alleviate administrative burdens, and integrate various functions, addressing the key pain points identified in the empathy maps.

The usability assessment, conducted using the System Usability Scale (SUS), resulted in a high average score of 94.25. This score indicates that the newly developed online systems are highly user-friendly and effectively cater to the needs of university administrators, faculty, administrative staff, and IT experts. The positive feedback reflects the systems' capacity to simplify administrative tasks, enhance workflow efficiency, and provide better support for academic and operational activities.

Overall, the study illustrates the effectiveness of user-centered design principles in developing technological solutions that meet specific user needs. The newly implemented online systems are anticipated to significantly enhance administrative processes at Quirino State University, leading to improved operational efficiency and a more manageable workload for all stakeholders involved.

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