

EP.PORTAL: WEB-BASED INFORMATION MANAGEMENT SYSTEM FOR ELLISTON PLACE SUBDIVISION

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Abstract: In our modern internet technology, every electronic device has a web browser installed. It makes the adoption of the software very efficient. The significant advantage of a web based management system is it provides convenience to its users because it can be easily accessible since most people already have their own electronic devices that they can use. The Homeowner's Association officers and residents from Elliston Place Subdivision are experiencing issues managing the resident's records homeowners' information, monitoring the payment dues, issuance of homeowner's association documents, posting announcements, and option for residents to file an appointment with the HOA officers about complaints. Web-based information management systems make it easier to give real-time information access. It has also advanced significantly and now provides competitive benefits over traditional manual process systems, allowing management to optimize their systems and processes while reducing costs. It is very simple to keep up with an update. The system was developed using PHP as the main programming language and MySQL as the database. All graphics are created using Canva. The researchers used the Agile model as the software development life cycle. It is compatible with different web browsers, such as Google Chrome, Microsoft Edge, and Safari. ISO 25010 was used to evaluate the system by thirty (30) End users, one (1) Admin, and ten (10) IT Experts with a total average mean of "3.46" and a standard deviation of "0.37", interpreted as "Highly Acceptable". The evaluation results verified that the system is effective and highly convenient to use.

Keywords: Web-Based Information Management System, Homeowner's Association, Subdivision, Setting Appointment, Certificate Issuance, Content Management System.

I. INTRODUCTION

Every electronic device has a web browser installed in our modern era. It makes the adoption of the software easy and fast. The significant advantages of a web-based management system provides convenience to people due to its accessibility. It also ensures that in every users, no matter how old and powerful the device is, can use the system because it is optimized to be compatible with any device (Sekirov, 2022). Any business establishment, subdivision, school, and organization needs an information system where they can store and manage their client's information. The system must be functional and trustworthy in order to enable effective and efficient methods of cooperation and communication between people and computers to improve their day-to-day operations (Levi, 2022). The Homeowner's Association officers and residents from Elliston Place Subdivision are experiencing issues managing the resident's records — homeowners' information, monitoring the payment dues, issuance of homeowner's association documents, posting announcements, and option for residents to file an appointment with the homeowner's association officers about complaints. Data redundancies and errors in encoding residents' records are the most common problems they encounter in their current process. By using an information management system, it can improve their report generation efficiency, service delivery, and management and storage of data that can be accessible at any time. Web-based information management systems make it easier to give real-time information access (Senthil.k-Wp, 2022). It has also made considerable advancements and now offers advantages over manual process systems that are more traditional, enabling management to combine and improve their systems and processes while cutting costs. It's quite easy to stay current with an update. All maintenance will take place on the server side (Alter, 2019). The implementation of a web-based information management system addresses the issue of simplifying

the procedure for residents and giving accessibility to track payments and other essential information. It also covers the requirement to safeguard user information and uphold security. The Elliston Place Subdivision's Homeowner's Association officers and homeowners can eliminate the problems in handling resident records, redundant information, and discrepancies in the current manual procedure by implementing such a system. The web-based system ensures better data administration and storage, real-time access to information, more efficient report generation, improved service delivery, and more. Ultimately, this study aims to streamline procedures for residents, improve accessibility and monitoring, and guarantee the security and privacy of user data.

II. METHODOLOGY

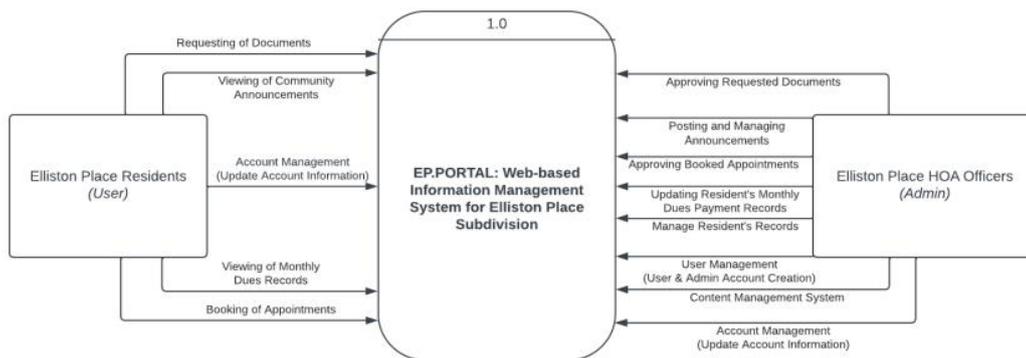


Fig 1. Level 0 Context Diagram of the EP.PORTAL: Web-Based Information Management System for Elliston Place Subdivision

Figure 1 shows the conceptualization of the developed system as a single, interconnected process. With incoming and outgoing arrows designating the input and output data from the two (2) users, it shows the system design as a single bubble. The Elliston Place subdivision's HOA officers as the admin, and residents as the users.

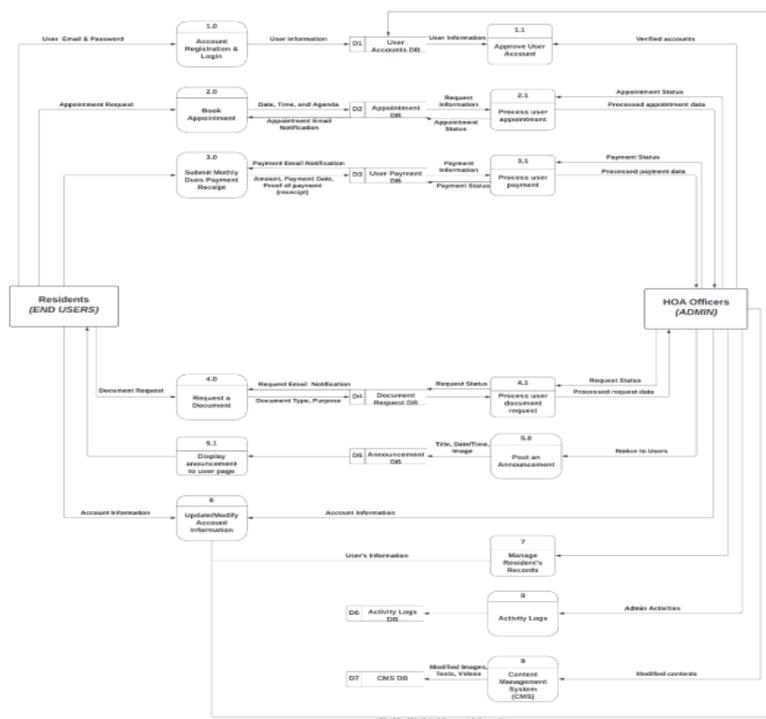


Fig 2. Level 1 Data Flow Diagram of the EP.PORTAL: Web-Based Information Management System for Elliston Place Subdivision – User and Admin Side

Figure 2 illustrates the general data flow diagram of EP.PORTAL. It shows the entire process of how the data flows and is being processed inside the system. It lays out how the admin and user interact and exchange data to perform an operation of the system. The admin must verify the user's requirements before permitting them to create a user account. Once the user has their account credentials and logs in, they will be directed to the user side of the system and will now be able to access the book appointment, check payment, request document, announcement page, and account management modules of the system. The admin will be the one who's responsible for verifying and processing all the data requested by the users. The admin can process users' requests, create an account, publish an announcement, and modify the system's contents using the content management feature. Object Model. According to GeeksforGeeks (2022), it is a system or interface that primarily sees software application elements as objects. Before any programming or development is done, the object model is used to establish a system model or architecture. It is created using object-oriented methodologies. Inheritance, encapsulation, and numerous other object-oriented interfaces are defined as object-oriented system features.

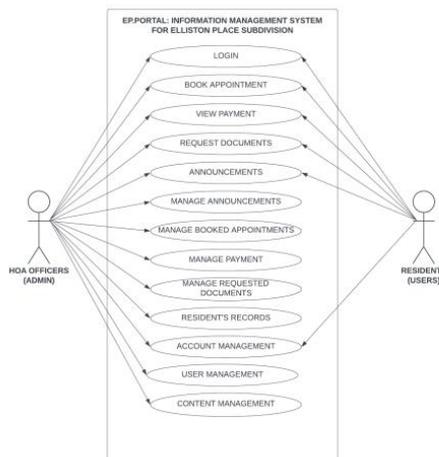


Fig 3. Use - Case Diagram of the EP.PORTAL: Web-Based Information Management System for Elliston Place Subdivision

Figure 3 shows the use–case diagram of EP.PORTAL: Information Management System for Elliston Place Subdivision. The HOA Officers-Admin manages the whole system, including the manage booked appointments, requested documents, payment records, resident’s records, user management, account management, and content management of the system. The Residents-Users can book an appointment, view their payment records, request documents, and view the announcements posted by the admin.

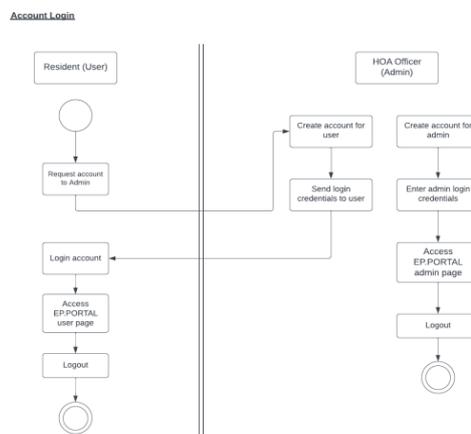


Fig 4. Activity Diagram of the EP.PORTAL: Web-Based Information Management System for Elliston Place Subdivision - Account Login

Figure 4 shows how the HOA Officers (Admin) and the residents (User) create an account. It depicts that the user must register first and enter the details needed to submit. After that, the admin will verify it and wait until it is approved. Once the admin has approved the registered account, the user needs to sign in with their registered login credentials, and after that, they can now browse the web portal.

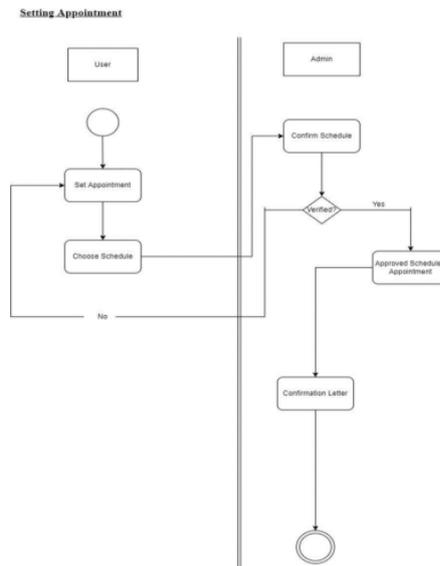


Fig 5.(a) Activity Diagram of the EP.PORTAL: Web-Based Information Management System for Elliston Place Subdivision - Setting Appointment

Figure 5(a) presents how the HOA Officers (Admin) and the residents (User) will set the appointment. It shows that the user will set the appointment and choose the schedule. Once the schedule has been made, the admin will confirm the schedule. Once it is verified, the admin will approve the scheduled appointment and notify the users via email regarding their appointment status.

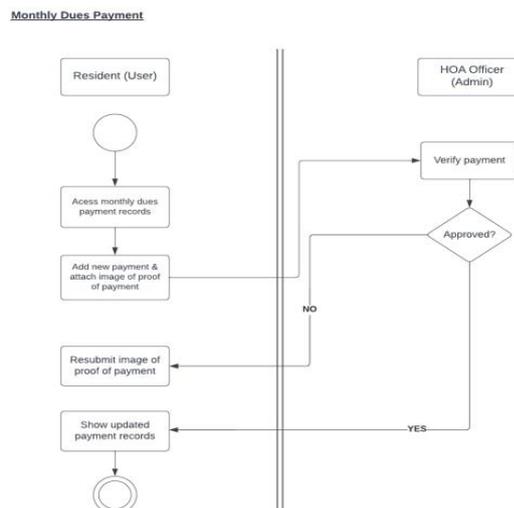


Fig 5. (b) Activity Diagram of the EP.PORTAL: Web-Based Information Management System for Elliston Place Subdivision - Monthly Dues Payment

Figure 5(b) shows the process of monthly dues payment and interaction between admin and user. The user will be able to add new payments, and view their monthly dues payment records, while the admin will verify and display updated payment records

Evaluation Procedure.

The evaluation phase was done with the following steps.

- a. Evaluators were scheduled for an appointment that depended on their availability. Connecting with the evaluators was done with Messenger, Gmail, and Zoom meetings.
- b. The evaluation will proceed once the approval of the evaluators is met.
- c. The development team discussed the overall function of the created project.
- d. The evaluation instrument, criteria, and sub-criteria were discussed.
- e. The evaluators were given time to access the system to determine the overall performance of the system.

Numerical Rating	Equivalent
3.26 - 4.00	Highly Acceptable
2.51 - 3.25	Acceptable
1.76 - 2.50	Fairly Acceptable
1.00 - 1.75	Unacceptable

Fig 6. Likert Scale of ISO 25010

Numerical Rating	Equivalent
4	Highly Acceptable
3	Acceptable
2	Fairly Acceptable
1	Unacceptable

Fig 7. Scoring System of ISO 25010

The table presents a four-point Likert scale used to assess levels of acceptability. It maps numerical ratings to their corresponding qualitative equivalents. A rating of **4** indicates "**Highly Acceptable**," **3** signifies "**Acceptable**," **2** denotes "**Fairly Acceptable**," and **1** corresponds to "**Unacceptable**." This scale can be used to evaluate user feedback or perceptions in a structured and quantifiable manner.

III. RESULTS AND DISCUSSION

A. User Interface Design

User interface (UI) Design is the subject of how to design software actions and user- friendly components. It also covers information architecture, graphic design, and interface design.

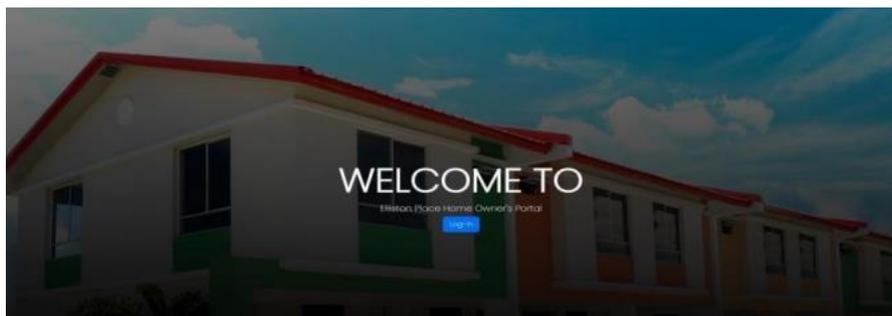


Fig 8. User Interface – Index Screen of “EP.PORTAL”

Figure 8 presents the home page of the system. It displays automatically when accessed using web browsers, and it also contains links to other system modules. The user can click the log in page to access their user or admin account, click the services tab to view the services offered by the system, click the About tab to view the information about the subdivision, and click the Contact tab to view contact information of the system's admin.

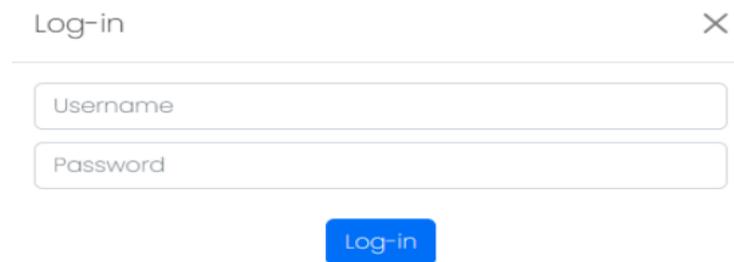


Fig 9. User Interface – Login screen of “EP.PORTAL”

Figure 9 shows the login screen. It requires the users to log in their account credentials to access the user or the admin. The admin is the only one who can create an account for the users (residents) once they are validated as an official resident of Elliston Place Subdivision.



Fig. 10 User Interface – Services Page of “EP.PORTAL”

Figure 10 presents the different services offered by the EP.PORTAL. The system allows its users to request a document, view their monthly dues payment, book an appointment, and view the community announcements posted by the admin.

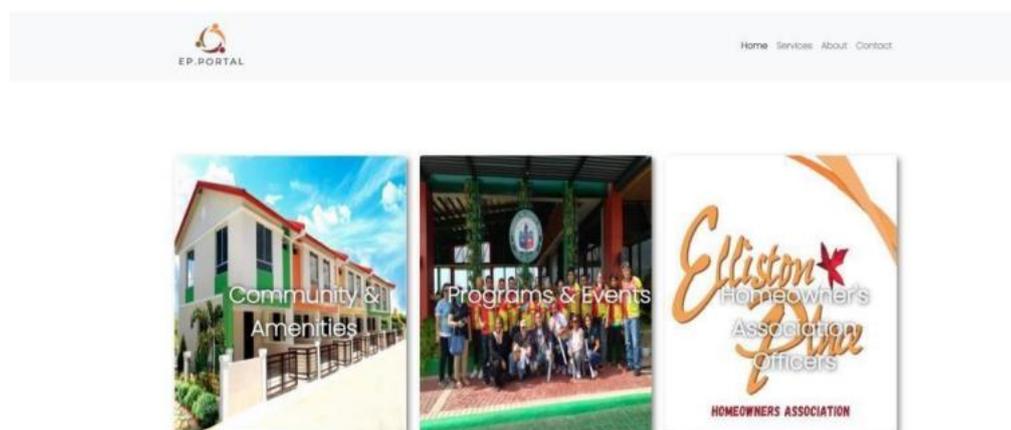


Fig. 11 User Interface – About Us Page of “EP.PORTAL”

Figure 11 shows the about us page. It displays the images of the community and amenities, history of Elliston Place, programs and events in the community, and the existing homeowner's association officers.



Fig. 12 (a) User Interface – Contact Us Page of “EP.PORTAL”

Figure 12 presents the contact us page. It is embedded in the footer and it displays the email addresses of “EP.PORTAL” administrators as well as the location address of the Elliston Place Subdivision.

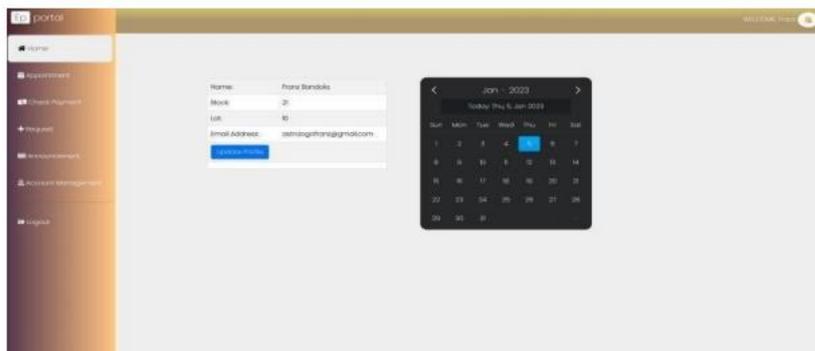


Fig 12. (b) User Interface – User Home Page of “EP.PORTAL”

Figure 12 shows the user’s home page. It displays the personal information of the residents with a calendar on the side. There is also an update profile wherein once clicked, the residents will be redirected to the account management page where they can change their password.

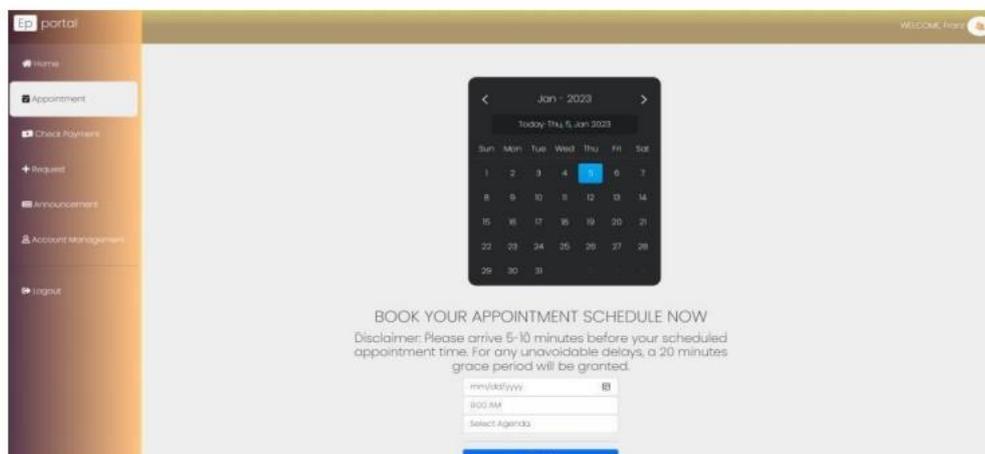


Fig 13. User Interface – User Appointment Page of “EP.PORTAL”

Figure 13 shows the page wherein residents may set an appointment to visit the homeowner’s association office or meet with a homeowner’s association officer to raise their concerns or inquire for clubhouse/covered court reservation.

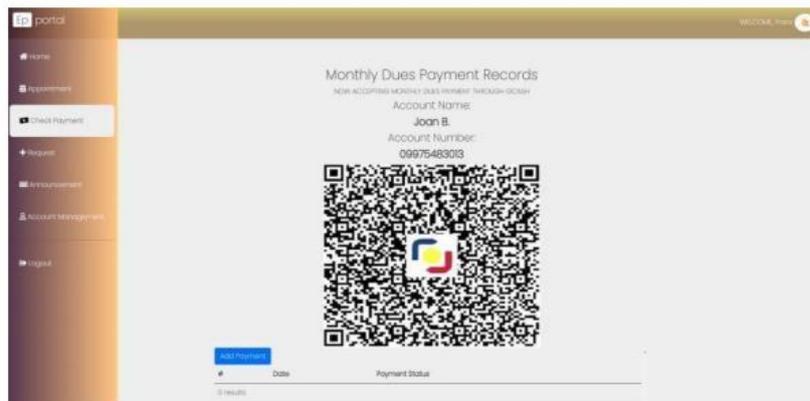


Fig 14. User Interface – User Check Payment Page of “EP.PORTAL”

Figure 14 shows the page wherein residents may check the records of their monthly dues payments and submit proof of their payment by attaching an image of the digital receipt alongside the amount they paid.

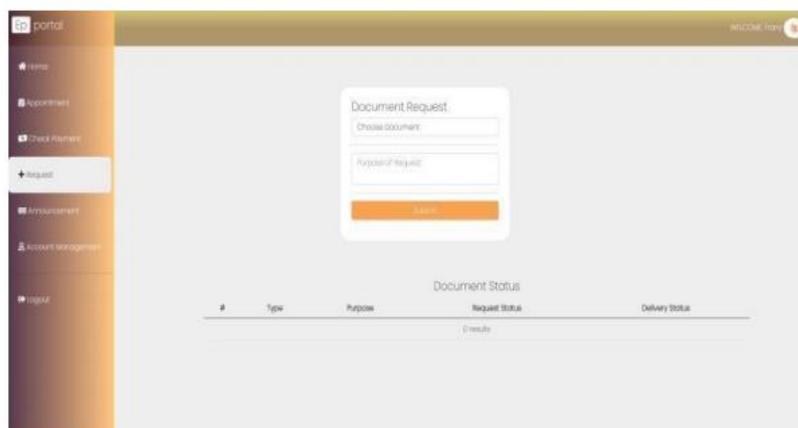


Fig 15. User Interface – User Document Request Page of “EP.PORTAL”

Figure 15 presents the page on which the resident may request different HOA documents they need and must provide a valid purpose of request for their request to be approved by the admin.

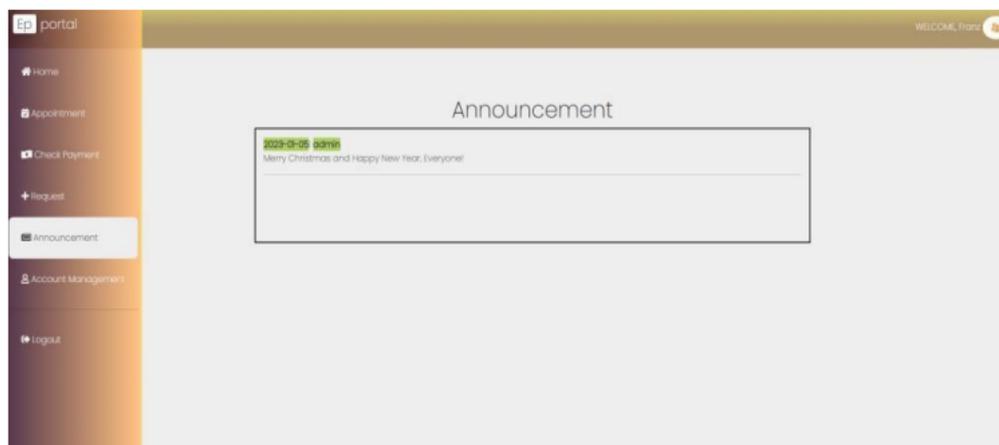


Fig 16. User Interface – User Announcement Page of “EP.PORTAL”

Figure 16 shows the page wherein the residents can view the community announcements posted by the admin. Announcements like water cleaning maintenance, upcoming events, and more

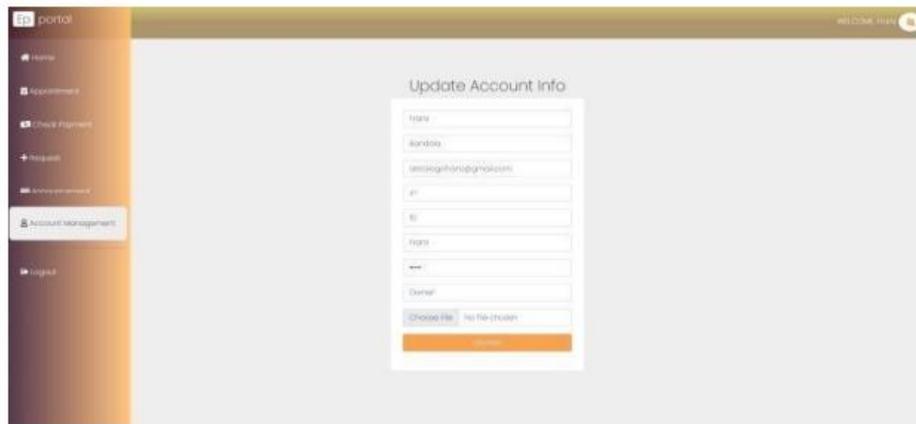


Fig 17. User Interface – User Announcement Page of “EP.PORTAL”

Figure 17 shows the page wherein the residents can update their account information and their profile picture if needed.

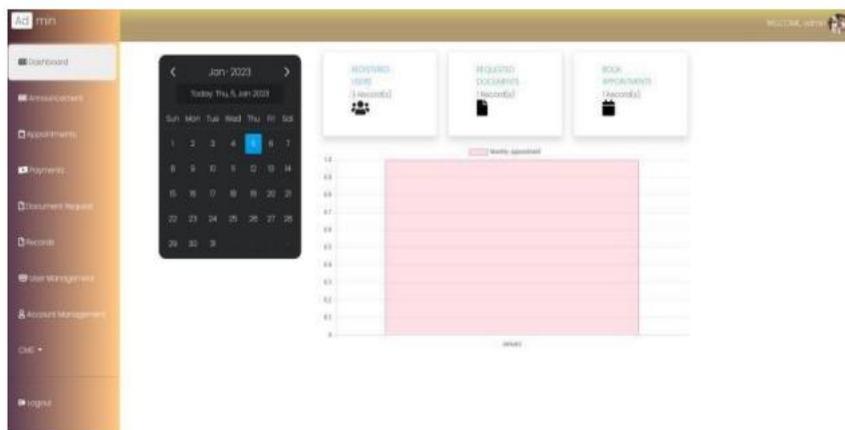


Fig 18. User Interface – Admin Dashboard Page of “EP.PORTAL”

Figure 18 presents page wherein the admin can view the total number of registered users, requested documents, booked appointments, a real-time graph, and a calendar

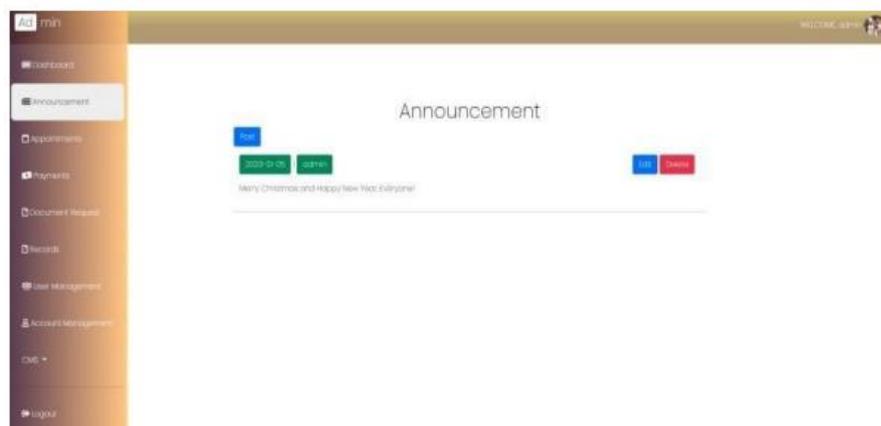


Fig 19. User Interface – Admin Announcement Page of “EP.PORTAL”

Figure 19 shows the page wherein the admin can post an announcement for the community. Announcements like water cleaning maintenance, upcoming events, and more

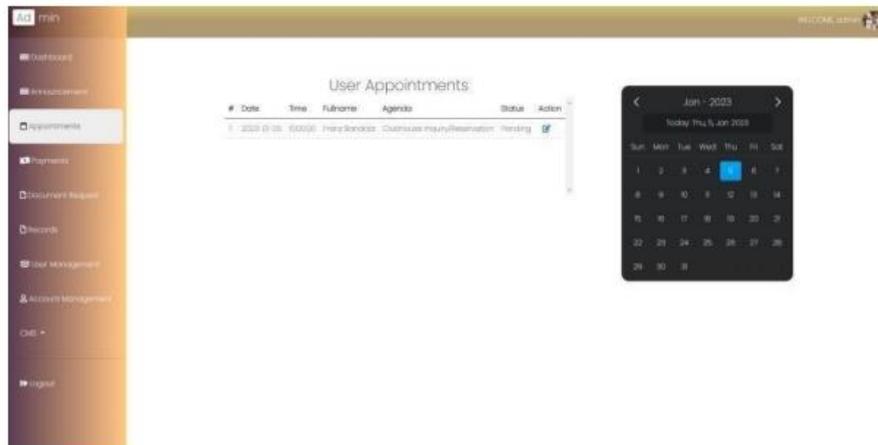


Fig 20. User Interface – Admin Appointment Page of “EP.PORTAL”

Figure 20 shows the page wherein the admin can approve or reject the appointments booked by the resident. It also allows the residents to get notified via email once their appointment has been approved or rejected



Fig 21. User Interface – Admin Payment Records Page of “EP.PORTAL”

Figure 21 presents the page wherein the admin can view the payment records of the residents. It also allows the admin to verify the payments by checking the attached image of resident’s proof of payment. It also allows the residents to get notified via email once their payment has been approved or rejected.



Fig 22. User Interface – Admin Document Request Page of “EP.PORTAL”

Figure 22 shows the page wherein the admin can approve or reject the requested document by the residents based on the validity of their purpose. It also allows the residents to get notified once their request has been approved or rejected via email notification.



Fig 23. User Interface – Admin Resident’s Records Page of “EP.PORTAL”

Figure 23 presents the page wherein the resident’s records are displayed. Residents are segregated based on their type of residency, whether they are an owner or renter.



Fig 24. User Interface – Admin User Management Page of “EP.PORTAL”

Figure 24 is the page wherein the admin can create an admin or user account in order to access the EP.PORTAL.

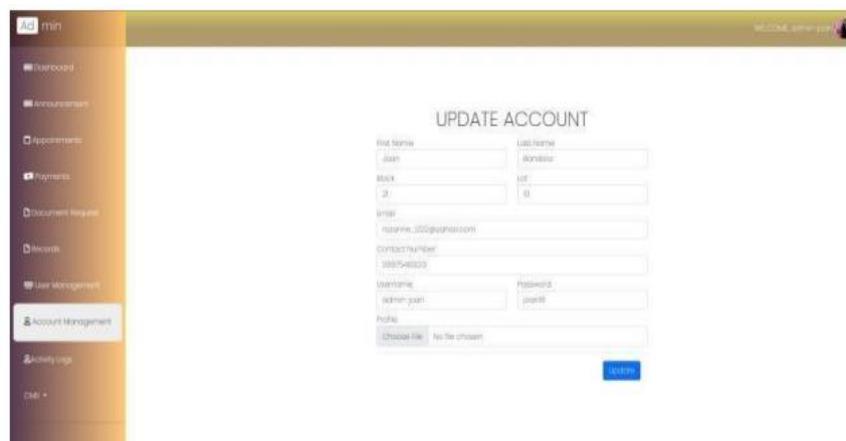


Fig 25. User Interface – Admin Account Management Page of “EP.PORTAL”

Figure 25 is the page wherein the admin can update their account information as well as their profile picture.

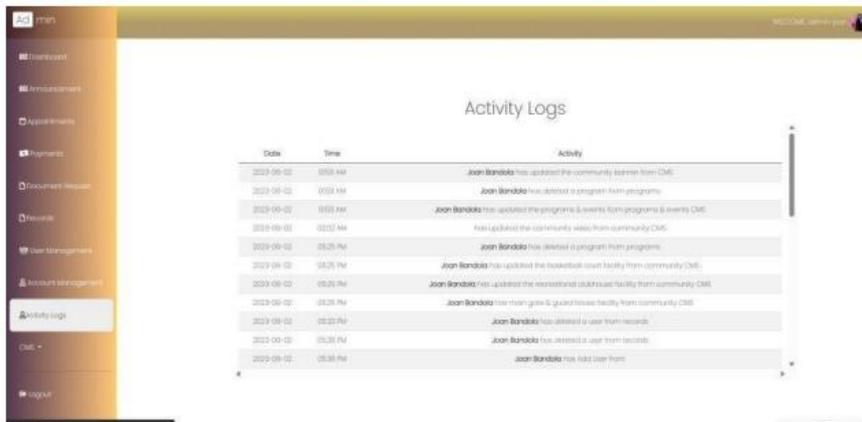


Fig 26. User Interface – Admin Activity Logs Page of “EP.PORTAL”

Figure 26 is the page wherein the admin’s activities will be recorded. All the activities that admin did will be displayed on this page. Activities such as account creation, posting announcements, approving requests, changing contents in the CMS, and many more.

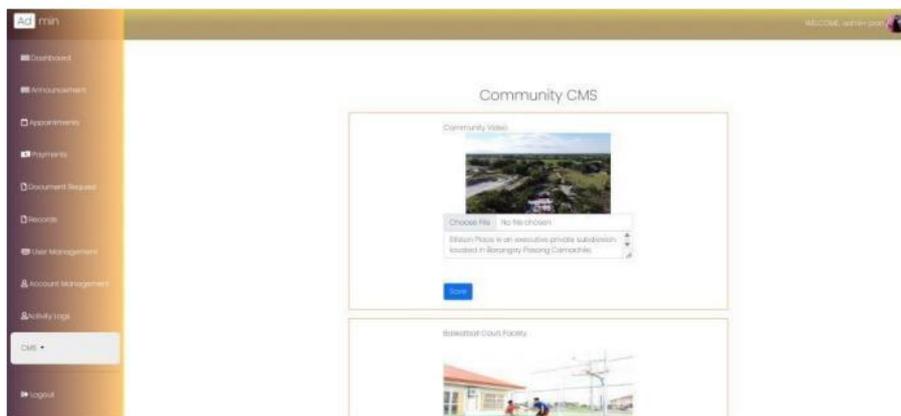


Fig 27. User Interface – Admin Community CMS Page of “EP.PORTAL”

Figure 27 is the page wherein the admin can modify the contents of Community and Amenities Page of EP.PORTAL such as video, images, and text descriptions

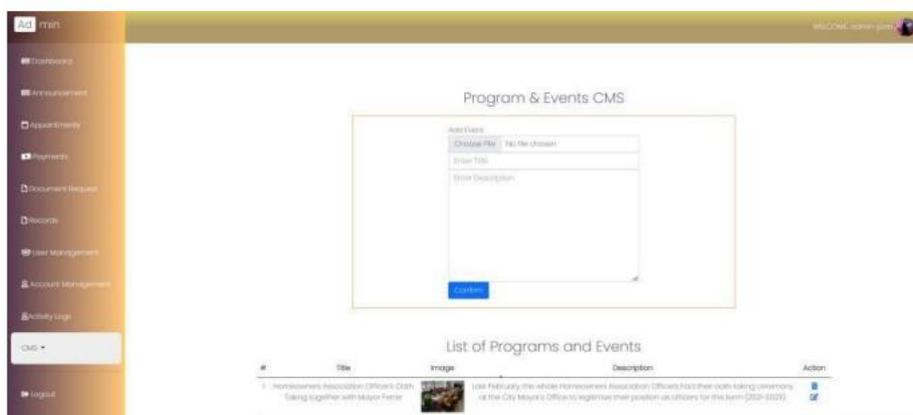


Fig 28. User Interface – Admin Programs & Events CMS Page of “EP.PORTAL”

Figure 28 is the page wherein the admin can modify the images inside the programs and events page, add or edit events, and even delete.



Fig 29. User Interface – Admin HOA CMS Page of “EP.PORTAL”

Figure 29 is the page wherein the admin can modify the image of the existing homeowner’s association officers.

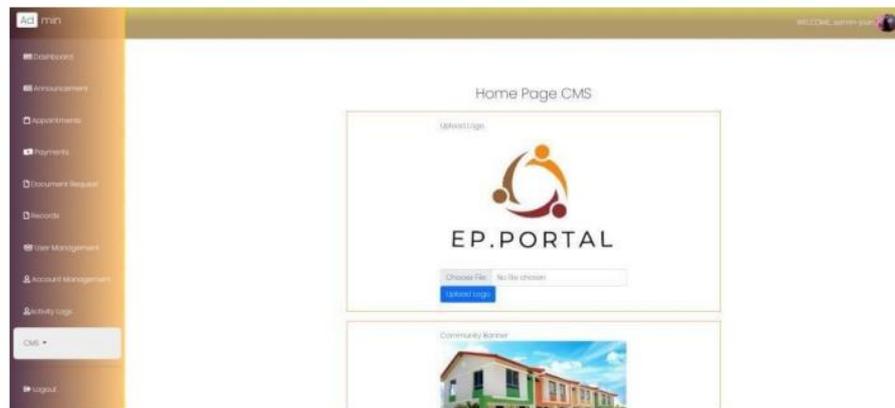


Fig 30. User Interface – Home Page CMS of “EP.PORTAL”

Figure 30 is the page wherein the admin can modify the contents of the home page including the logo, banner, image cards, text descriptions, and footer section

TABLE 1: TEST RESULTS USING FUNCTIONALITY TESTING

Test Respondents	Pass	Fail	Test Criteria	Percentage
Research Adviser	22	0	22	100%
Admin	22	0	22	100%
IT Expert 1	22	0	22	100%
IT Expert 2	22	0	22	100%
IT Expert 3	22	0	22	100%
IT Expert 4	22	0	22	100%
IT Expert 5	22	0	22	100%
TOTAL				100%

Table 1 displays the results of the functionality testing conducted by one (1) research advisor, one (1) admin (HOA Officer), and five (5) IT experts, including an IT Associate, Software Engineer, Data Analyst, Web Developers, and Programmers. The test instrument comprised 22 criteria. All participants, including the research advisor, admin, and IT experts, achieved a perfect score of 22 out of 22, resulting in a 100% passing rate. Although the IT experts provided minor suggestions—such as modifying the font style and size to enhance text readability—these issues were promptly addressed prior to the evaluation phase.

TABLE 2: TEST RESULTS USING THE COMPATIBILITY TESTING

Test Respondents	Pass	Fail	Test Criteria	Percentage
Research Adviser	9	0	9	100%
Admin	9	0	9	100%
IT Expert 1	9	0	9	100%
IT Expert 2	9	0	9	100%
IT Expert 3	9	0	9	100%
IT Expert 4	9	0	9	100%
IT Expert 5	9	0	9	100%
TOTAL				100%

Table 2 displays the results of the compatibility test, which was participated in by all test respondents. Each participant achieved a 100% passing rate across the nine (9) test criteria. The results confirmed the system's capability to function smoothly on multiple web browsers—namely Google Chrome, Microsoft Edge, and Safari—as well as on various screen resolutions including 375 x 667, 1680 x 1050, and 1920 x 1080. Additionally, testers recommended including more screen resolution options to further enhance system compatibility.

TABLE 3: TEST RESULTS USING (ISO 25010) FROM ONE ADMIN

Criteria	Mean	SD	Interpretation	Rank
Functional Suitability	3.67	0.58	Highly Acceptable	3
Performance Efficiency	3.33	0.58	Highly Acceptable	6
Compatibility	4.0	0	Highly Acceptable	1
Usability	3.50	0.55	Highly Acceptable	5
Reliability	3.25	0.50	Acceptable	7
Security	3.60	0.55	Highly Acceptable	4
Maintainability	3.80	0.45	Highly Acceptable	2
Portability	3.33	0.58	Highly Acceptable	6
Average Mean and Standard Deviation	3.56	0.47	Highly Acceptable	

Table 3 illustrates the results of the evaluation from one (1) Admin (HOA Officer). Compatibility ranked first and scored a mean of “4.0” and a standard deviation of “0”. Maintainability ranked second and has scored a mean of “3.80” and “0.45” SD. Functional Suitability ranked third and scored a “3.67” mean and “0.58” SD. Security ranked fourth and scored “3.60” mean and “0.55” SD. Usability ranked fifth and obtained a mean of “3.50” with “0.55” SD. Performance Efficiency and Portability tied in the sixth rank with a score of “3.33” mean and a “0.58” SD. Lastly, Reliability ranked seventh and scored a “3.25” mean and “0.50” SD. The evaluation with one admin resulted in an average mean of “3.56” and an SD of “0.47” with the interpretation of “Highly Acceptable”

TABLE 4: TEST RESULTS USING (ISO 25010) FROM TEN (10) IT EXPERTS

Criteria	Mean	SD	Interpretation	Rank
Functional Suitability	3.40	0.10	Highly Acceptable	6
Performance Efficiency	3.33	0.58	Highly Acceptable	7
Compatibility	3.60	0.14	Highly Acceptable	3
Usability	3.72	0.42	Highly Acceptable	1
Reliability	3.45	0.38	Highly Acceptable	4
Security	3.62	0.45	Highly Acceptable	2
Maintainability	3.40	0.39	Highly Acceptable	5
Portability	3.17	0.29	Acceptable	8
Average Mean and Standard Deviation	3.46	0.34	Highly Acceptable	

Table 4 evaluated the results of the evaluation from one (10) IT Expert (IT Associate, Software Engineer, Data Analyst, Web Developer, and Programmer). Usability ranked first and scored a mean of “3.72” and a standard deviation of “0.42”. Security ranked second and scored a mean of “3.62” and “0.45” SD. Compatibility ranked third and scored a “3.60” mean and “0.14” SD. Reliability ranked fourth and scored “3.45” mean and “0.38” SD. Maintainability ranked fifth and obtained a mean of “3.40” with “0.39” SD. Functional Suitability ranked sixth and scored a “3.40” mean and a “0.10” SD. Performance Efficiency ranked seventh and scored a mean of “3.33” and a “0.58” SD. Lastly, Portability ranked eighth and scored a “3.17” mean and “0.29” SD. The evaluation with 10 IT Experts resulted in an average mean of “3.46” and an SD of “0.34” with the interpretation of “Highly Acceptable”

TABLE 5: TEST RESULTS USING (ISO 25010) FROM THIRTY (30) END USERS

Criteria	Mean	SD	Interpretation	Rank
Functional Suitability	3.47	0.06	Highly Acceptable	3
Performance Efficiency	3.34	0.49	Highly Acceptable	5
Compatibility	3.18	0.02	Acceptable	7
Usability	3.54	0.33	Highly Acceptable	1
Reliability	3.36	0.41	Highly Acceptable	4
Security	3.53	0.44	Highly Acceptable	2
Maintainability	3.34	0.29	Highly Acceptable	6
Portability	3.08	0.20	Acceptable	8
Average Mean and Standard Deviation	3.36	0.28	Highly Acceptable	

Table 5 asserted the results of the evaluation from one (30) End user (Residents). Usability ranked first and scored a mean of “3.54” and a standard deviation of “0.33”. Security ranked second and scored a mean of “3.53” and “0.44” SD. Functional Suitability ranked third and scored a “3.47” mean and “0.06” SD. Reliability ranked fourth and scored “3.36” mean and “0.41” SD. Performance Efficiency ranked fifth and obtained a mean of “3.34” with “0.49” SD. Maintainability ranked sixth and scored a “3.34” mean and a “0.29” SD. Compatibility ranked seventh and scored a mean of “3.18” and a “0.02” SD. Lastly, Portability ranked eighth and scored a “3.08” mean and “0.20” SD. The evaluation with 30 End users resulted in an average mean of “3.36” and an SD of “0.28” with the interpretation of “Highly Acceptable”.

TABLE 6: OVERALL RESULT (ISO 25010) FROM TEN (10) IT EXPERTS INCLUDING ONE (1) ADMIN, AND THIRTY (30) END-USERS

Criteria	Mean	SD	Interpretation	Rank
Functional Suitability	3.51	0.28	Highly Acceptable	5
Performance Efficiency	3.34	0.55	Highly Acceptable	7
Compatibility	3.59	0.54	Highly Acceptable	1
Usability	3.59	0.43	Highly Acceptable	2
Reliability	3.36	0.43	Highly Acceptable	6
Security	3.58	0.48	Highly Acceptable	3
Maintainability	3.51	0.37	Highly Acceptable	4
Portability	3.19	0.35	Acceptable	8
Average Mean and Standard Deviation	3.46	0.37	Highly Acceptable	

Table 6 evaluated the results of the evaluation of ten (10) IT Experts (IT Associate, Software Engineer, Data Analyst, Web Developers, and Programmers) including one (1) Admin (HOA Officer), and thirty (30) End-users (Residents). Compatibility ranked first and scored a mean of “3.59” and a standard deviation of “0.54”. Usability ranked second and scored a mean of “3.59” and “0.43” SD. Security ranked third and scored a “3.58” mean and “0.48” SD. Maintainability ranked fourth and scored “3.51” mean and “0.37” SD. Functional Suitability ranked fifth and obtained a mean of “3.51” with “0.28” SD. Reliability ranked sixth and scored a “3.36” mean and a “0.43” SD. Performance Efficiency ranked seventh and scored a mean of “3.34” and a “0.55” SD. Lastly, Portability ranked eighth and scored a “3.19” mean and “0.35” SD. The evaluation with ten (10) IT Experts, one (1) Admin, and thirty (30) End-users, resulted in an average mean of “3.46” and an SD of “0.37” with the interpretation of “Highly Acceptable”.

IV. CONCLUSION

The project titled “**EP.PORTAL: Web-Based Information Management System for Elliston Place Subdivision**” was developed to replace the community’s outdated manual processes for handling document issuance, appointment scheduling, payment processing, record management, and community announcements. The system is designed to benefit both the residents and the Homeowners Association (HOA) officers by offering a more convenient and efficient digital solution.

The system supports two primary user types: **Users (residents)** and **Admins (HOA officers)**. Residents can request documents, check and submit proof of monthly dues payments, book appointments, view announcements, and update their account information. Admins are provided with tools to process requests, verify payments, manage appointments, post announcements, maintain resident records, and control system content through a content management system (CMS).

Functionality and compatibility tests were conducted with a research advisor, one admin, and five IT experts. All participants reported a 100% passing rate across all test criteria. Minor suggestions were made, including adjustments to font style and size and support for more screen resolutions. These recommendations were addressed before moving to the evaluation phase.

The system was evaluated using the ISO 25010 standard by one HOA officer, ten IT professionals, and thirty residents. Evaluation criteria included functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, and portability. The system achieved a high average mean score of **3.46** with a standard deviation of **0.37**, interpreted as “**Highly Acceptable.**”

Overall, the system was well-received by both management and users, demonstrating its effectiveness and convenience. The HOA expressed interest in adopting the system permanently. With successful testing and positive evaluation results, the researchers aim for the system to help fully eliminate obsolete manual processes and promote technological integration within the community.

REFERENCES

- [1] J. A., "What is bootstrap?" Hostinger Tutorials, Hostinger, 2022. [Online]. Available: <https://www.hostinger.ph/tutorials/what-is-bootstrap/>
- [2] Aborot, "Ulat Information Management System: A web-based visualization of Weather and Lightning Observations in the Philippines," 2022. [Online]. Available: <https://ieeexplore.ieee.org/abstract/document/9983253/>
- [3] J. L. Adonis et al., "Hospital management system: CORE transaction 1 (patient registration, doctors appointment, inpatient management, outpatient management and bed in linen management)," Ascendens Asia Singapore – Bestlink College of the Philippines Journal of Multidisciplinary Research, 2019. [Online]. Available: <https://ojs.aaresearchindex.com/index.php/aasgbcjpmra/article/view/2210>
- [4] Agustin, "Management Information Systems on integrated student and lecturer," 2022. [Online]. Available: https://www.researchgate.net/publication/353045328_Management_Information_Systems_on_Integrated_Student_and_Lecturer_Data
- [5] S. Alter, "How effective managers use information systems," Harvard Business Review, 2019. [Online]. Available: <https://hbr.org/1976/11/how-effective-managers-use-information-systems>
- [6] A. Anuj and A. Prasad, "What is computer system and its types?: Definition: Merits and demerits of computer?" C.S. Point, 2022. [Online]. Available: <https://computerstudypoint.com/computer-system-and-their-types/>
- [7] Y. Bai, "View of the relationship between website accessibility and usability: An examination of U.S county government online portals," 2019. [Online]. Available: <https://academicpublishing.org/index.php/ejeg/article/view/666/629>
- [8] M. Baumgartner, "Test Automation Fundamentals," O'Reilly Online Learning, n.d. [Online]. Available: <https://www.oreilly.com/library/view/test-automation-fundamentals/9781098156701/>
- [9] J. Britton, "What is ISO 25010?" Perforce Software, n.d. [Online]. Available: <https://www.perforce.com/blog/qac/what-is-iso-25010>
- [10] Codacy, "ISO/IEC 25010 Software Quality Model," Codacy | Blog, 2023. [Online]. Available: <https://blog.codacy.com/iso-25010-software-quality-model/>
- [11] Danlog, "Southeast Asian Journal of Science and Technology by Pangasinan State University, Lingayen Campus," 2017. [Online]. Available: <https://sajst.org/online/index.php/sajst/article/view/130>
- [12] Diffen, "Data vs information," n.d. [Online]. Available: https://www.diffen.com/difference/Data_vs_Information
- [13] M. Drake, "What is mysql?" DigitalOcean, 2020. [Online]. Available: <https://www.digitalocean.com/community/tutorials/what-is-mysql>
- [14] L. Edwards, "What is CANVA and how does it work?" Tech Learning, 2022. [Online]. Available: <https://www.techlearning.com/how-to/what-is-canva-and-how-does-it-work-for-education>
- [15] H. Floresca, M. Diño, and I. Ong, "Filipino nurses' feedback on using a web-based medication...," Cin: Computers, Informatics, Nursing, n.d. [Online]. Available: https://journals.lww.com/cinjournal/Abstract/2022/03000/Filipino_Nurses_Feedback_on_Using_a_Web_Based.9.aspx
- [16] GeeksforGeeks, "PHP: Introduction," 2022. [Online]. Available: <https://www.geeksforgeeks.org/php-introduction/>
- [17] GeeksforGeeks, "Computer Hardware, Computer Software, Databases, Network, Human Resources," 2022. [Online]. Available: <https://www.geeksforgeeks.org/components-of-information-system/>
- [18] GeeksforGeeks, "Frontend vs backend," 2023. [Online]. Available: <https://www.geeksforgeeks.org/frontend-vs-backend/>
- [19] J. Gordon, "Homeowner's Association (HOA)," The Business Professor, LLC, 2022. [Online]. Available: https://thebusinessprofessor.com/en_US/property-law/homeowners-association-hoa-definition
- [20] J. K. P. Imus, "Barangay Management Information System (BMIS) for cities and municipalities in the Philippines," International Journal of Computer Applications - IJCA, n.d. [Online]. Available: <https://www.ijcaonline.org/archives/volume180/number19/29042-2018916441>