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HOME QUART: HEALTH APPS FOR MONITORING HOME QUARANTINE PATIENT

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Abstract

Home Quart is a monitoring application for frontliners like doctors and barangay health workers that monitors quarantine patients in Lapu-Lapu City, Philippines. It is developed to help the health workers to monitor the quarantine patients efficiently even if they are isolated in the comfort of their homes, doctors can consult and recommend medicines remotely, and barangay health workers can see the updates on the patients' symptoms and status without going house to house. The descriptive developmental method of research was utilized to gather data on close contact persons of the positive patients. Respondents were the village health workers, nurses, and medical doctors, to which they responded with two sets of the researchers-made instrument. The data were statistically treated using frequency, simple percentage, and weighted mean. The study revealed that the application prototype was highly acceptable by the users. Also, it reveals that the developed applications were friendly, accessible, and secured. It was concluded that physical monitoring of village health workers and quarantine patients would be easier to implement due to the digitization of records. The researchers strongly recommend that the system be implemented and evaluated to solve the existing problems relating to home quarantine.

Keywords: Information Technology, home quarantine application, COVID-19.

INTRODUCTION

The innovation of technology is the spine of the whole economy. The rise of modern technology is the rise of economic advancements. This innovation has a significant impact on the global society, national and international businesses, and the whole environment, including the biggest problem we face today, the COVID-19 pandemic or the Coronavirus disease. Information and Communications Technology broads society's interactive and collaborative learning and reduces social contact between people. Everything in this economy is connected by technology. Moreover, with our technology, various ways exist to cope with this pandemic.

Pandemics and epidemics are large-scale outbreaks of infectious diseases that can significantly increase morbidity and mortality across a large geographic area while also causing significant economic, social, and political disruption. The outbreaks of pandemics and epidemics change not just the living of individuals but the whole world. Individuals have changed their behaviors, like fear-induced disinclination to workplaces and other public gathering places. It causes economic damage through different channels,

including short-term financial stuns and long-term adverse shocks to economic growth. Outbreaks have happened throughout history and appear to be expanding in recurrence, especially since the development of viral infection. Spanish Flu, Severe Acute Respiratory Syndrome (SARS), and the Italian plague were some pandemics that happened in history, and the recent pandemic humanity is facing today is the COVID-19 disease.

Fortunately, being resilient as we are, expanding the adjustments of technological advancements such as the Internet of Things (IoT), Artificial Intelligence (AI), and many more. International countries use innovative technology to fight against the COVID-19 pandemic and all pandemics and plagues in history. An example of innovative technology is the drone that allows authorities to scan through a large crowd and is equipped with thermal imaging to detect people with a fever. Robots that can remotely disinfect hospitals and deliver foods. Aside from intelligent technologies, information systems, software systems, database systems, and even a web or mobile application can also be used. An example would be a health insurance database with its immigration and customs database to rapidly distinguish high-risk individuals based on individual doctor visits and travel history. In a worldwide pandemic, technology instruments are crucial weapons for successfully checking and controlling disease outbreaks, as people cannot operate the same way as AI-powered machines and cannot meet the scale and speed of the innovative technologies.

COVID-19 pandemic significantly impacts education, economy, society, environment, businesses, community, and many others. To be more specific, the problems that exist in our community are the following. The barangay health worker goes house to house with every patient being home quarantined and review their status in order to keep track of them. This kind of way is very time-consuming, especially in times of emergency. Aside from that, this can create more virus infections since the monitoring is happening physically.

As a solution to these problems, Home-Quart will be developed. This is a web and mobile application for Monitoring Home Quarantine Patients. This application allows the health workers to quickly track the records as soon as they need them. In order to use it, installation of the application is the first thing to do, or simply by just using the web application. Home-Quart will solve the hassle of monitoring quarantined patients every day. Also, this application is categorized by users: the health workers (doctors and village health workers) and the quarantined patient.

RELATED LITERATURE

People can monitor and track their health data and get ceaseless guidance and information with the help of their mobile devices, commonly known as mobile healthcare apps. These mobile devices are more convenient or comfortable and are less expensive than visiting a doctor. Patients only rely on doctors to monitor their health and track changes in their typical symptoms. Doctors can also manage and personalize their health, care, and consultations.

False information dissemination can cause harm or unsafety for the users (Apuke & Omar, 2021). This is why applications for mobile health constitute a significant issue. It is difficult for doctors or health workers to suggest the best application that could help for monitoring purposes. Kakalou et al. (2021) also added that some iOS-based applications consolidate infographic mapping of COVID-19 cases. On the other hand, most android-based applications consolidate home monitoring surveillance features instead of focusing on providing the educational content of the pandemic. It is critical to evaluate the contents and features of COVID-19 mobile applications to guide users in choosing a suitable mobile application based on their necessities (Lewis et al., 2021; Maccioni & Giansanti, 2021).

One way of controlling the outbreak of Coronavirus is to monitor the patients being diagnosed regularly and patients being isolated to facilitate early recognition of degradation

and observe for more complications (Hill, 2020; Zhou et al., 2020; Liang, 2021).

According to Jumreornvong et al. (2020), frontliners evaluate and assess patients with COVID-19 and patients with essential routine care needs under isolation and monitoring. One of the best risks to the healthcare system may be a high rate of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), infection among healthcare workers, and the need for experienced staff to affirm a functional response to pandemic within local or regional. This risk has been increased by the requirement for the rapid scaling of medical aid unit capacity in affected regions, the redeployment of clinical staff to frontline positions, and also the recruitment of less experienced staff to the workforce in response to the pandemic.

Health care settings can, unfortunately, be a significant source of viral transmission (Ippolito et al., 2020; Abbas et al., 2021). This is due to the physical interaction of monitoring individuals within the isolation or quarantine room. Kuo et al. (2020) added that the more the interaction between medical examiners and the patient, the more the infection may arise. Healthcare systems require better and more timely data to manage a transition period in which there are tensions between care needs and capacity due to exceptionally high demand and capacity (Kringos et al., 2020).

The emerging digital applications and health services such as social media, mobile health, and remote interactive online education can bridge the social distance and support mental and behavioral health. Health care delivery and services should envision and implement innovative paradigms to meet broad well-being needs as the quarantine and social distancing over a longer term become a new reality. Digital approaches, health technologies, and informatics should be designed and implemented to support public health surveillance and critical responses to children's growth and future development (Ye, 2020).

The use of a health app is a significant concern because of the possible dissemination of misinformation that could harm users. Notably, it can be difficult for health care professionals to recommend a suitable app for COVID-19 education and self-monitoring. Ming et al. (2020) concluded that most iOS-based apps incorporate infographic mapping of COVID-19 cases, while most android-based apps incorporate home monitoring surveillance features instead of providing focused educational content on COVID-19. It is essential to evaluate the contents and features of COVID-19 mobile apps to guide users in choosing a suitable mobile app based on their requirements.

The majority of COVID-19 apps, according to Singh et al. (2020), were for contact tracing and symptom monitoring. These applications, nevertheless, are only useful if the community adopts them. Sharing best practices across borders allows governments to learn from one another and develop effective strategies to combat and manage the pandemic.

According to Chidambaram et al. (2020), the practical challenges of using mobile apps for contact tracing include the possibility of false data inputting and the practicality of location tracking to map epidemiology. The app should have a navigable user interface and a strict commitment to data security. Instead of continuously tracking user location, apps could rely on Bluetooth technology that the user can activate if tested positive through a peer-peer sharing function. Healthcare professionals could also input positive test results to prevent erroneous data. The app should be able to communicate with other similar apps and collate data that can be shared with governments to guide public health policies. Furthermore, when apps were used for COVID-19 contact tracing in other countries, the main deterrents to app uptake were issues related to data protection, so a successful mobile phone app has to ensure users that data is handled securely and ethically.

Quarantine being offered at home can be a comfortable solution for both government and patients. On the other hand, it can be hazardous if not strictly followed and adequately realized. However, the existing geofencing/face selfie apps take static photographs and location data

at certain time intervals, allowing patients to violate the rules between those periods, thus failing to ensure active user identity. Jaswal et al. (2020) introduce a smartphone app that performs continuous user biometric authentication augmented with geofencing using AI technology to realize unbreached home quarantine policies. The purpose of continuous tracking is to strictly control the spread of infectious diseases in society by monitoring the individual move in/out of the quarantine zone.

The use of the Internet of Things in intelligent home automation has led to much improvement in convenient living, remote access to home appliances, mobile health care, and improved social lifestyle, primarily for senior citizens. Combining home automation with the healthcare system helps alleviate stress, reduce the cost of living, and allow remote communication between doctors and patients (Taiwo & Ezugwu, 2020).

OBJECTIVES OF THE STUDY

This study aimed to design and develop a web and mobile-based monitoring application for home quarantine patients of COVID-19. Specifically, it sought to 1) determine how the application was analyzed and designed; and 2) assess the application in terms of user-friendliness, system security, and accessibility.

METHODOLOGY

The study employed descriptive research to gather data to develop a Web and mobile-based application to monitor home quarantine patients in Lapu-Lapu City, Philippines. DevOps deployment methodology was used to develop the system for fast product release, achieved through automation, communication, and a continuous workflow. DevOps methodology is a collection of practices that require the collaboration of development and operations teams throughout the software development lifecycle. It incorporates agile practices and focuses on breaking down team silos, automating manual tasks, and increasing productivity through continuous feedback. The researchers developed two sets of questionnaires administered to the respondents. The first instrument is used to determine the respondents' rating on its design as to their database, user interface, system inputs and outputs, and security control. The second instrument is used to assess the users on the application's user-friendliness, system security, and accessibility. Village health workers, nurses, and medical doctors were the study's respondents. The collected data were treated using frequency, simple percentage, and weighted mean.

RESULTS AND DISCUSSIONS

System Analysis as to Web and Mobile Functionalities

Figure 1 presents the program workflow for the administrator.

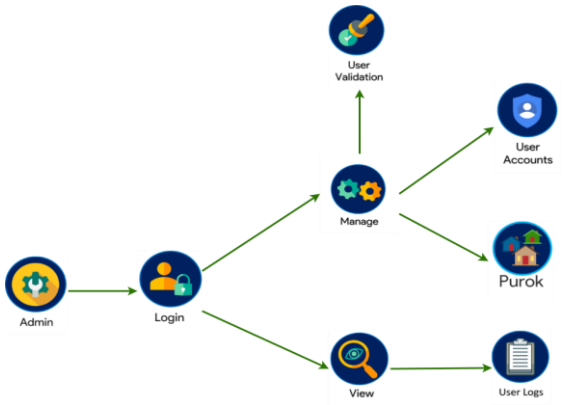

Figure 1. Program Workflow for Admin (Web)

Figure 1 shows that the application administrator can log in to the system. Once logging in, the administrator can view the user logs or can manage the zone ("purok"), user accounts, or can validate users of the system.

Figure 2 presents the program workflow for the home quarantine patient.

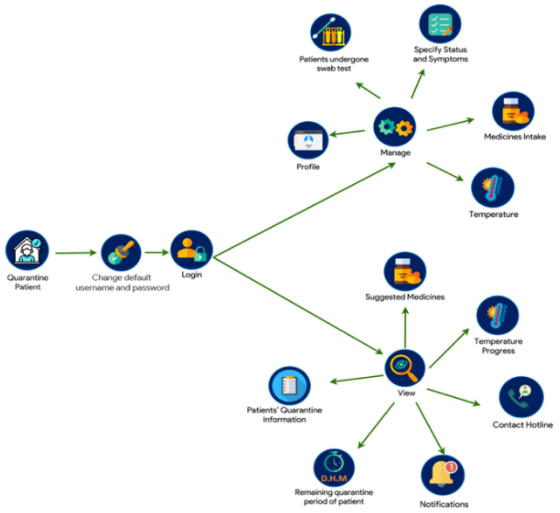

Figure 2. Program Workflow for Home Quarantine Patient (Web)

Figure 2 shows that the home quarantine patient can log in to the application. The patient can manage their user's profile, patient swab test results, health status and symptoms, medicine intake, and body temperature. Also, after logging in, the patient can view their quarantine information, see the remaining quarantine period, receive notification, view the contact hotline for emergency calls, see their temperature progress during their quarantine period, and view suggested medicine to intake for their well-being.

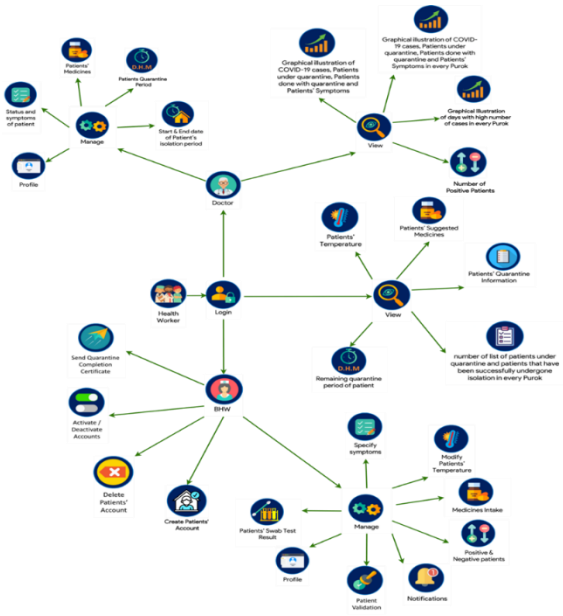

Figure 3. Program Workflow for Doctors and Village Health Workers (Web)

Figure 3 shows that the village health workers can log in to the application. After logging in, the health workers can view their remaining quarantine period of patient, the list of a patient under quarantine, patient quarantine information, patients' suggested medicines, and patients' temperatures. Also, the village health worker can create and delete patients' accounts, activate or deactivate the patients' accounts, and can send the certificate of quarantine completion. Further, the village health worker can manage their profiles, patients' swab test result, patient validation, notification, medicines need to intake, their body temperature, and specific symptoms.

Also, the figure shows that the village health worker can communicate with the medical doctors who can view the list of COVID-positive patients, see the graphical illustration of the number of COVID cases, list of patients under quarantine, and report a patient who completed the quarantine period.

Moreover, the medical doctors can manage the patient's profiles, status, and symptoms, encode the patient's medicines and set patient quarantine and isolation periods.

Figure 4 presents the program workflow for the home quarantine patient.

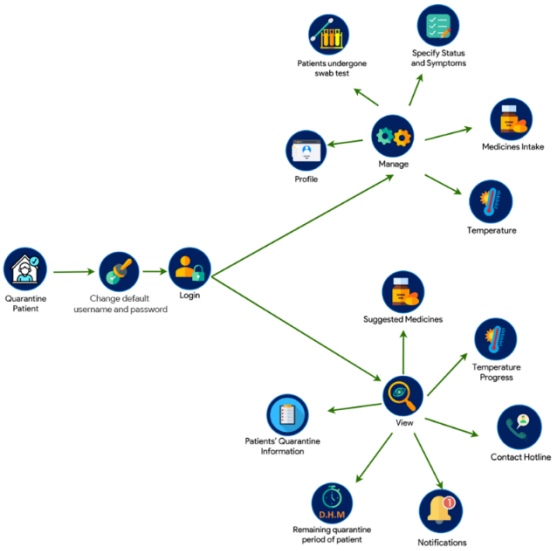

Figure 4. Program Workflow for Quarantine Patient (Mobile)

The figure shows that the home quarantine patient can log in to the application. After logging in, the patient can view their quarantine information and remaining quarantine period, receive notifications, view contact hotlines in case of emergency, view the progress of their body temperatures, and view suggested medicines from their doctors.

Also, the figure shows that the patient can manage their profile, body temperature, medicines to intake, specify their status and symptoms, and manage their swab test results.

System Design as to Web and Mobile Functionalities

Database Design is an organization of data based on a model. It determines what data regarding home quarantine must be stored and how the data elements interrelate. It is a collection of processes concerning home quarantine that help facilitates the analysis, design, and development of the health app. Figure 5 present the Entity-Relationship Diagram of the Home Quart.

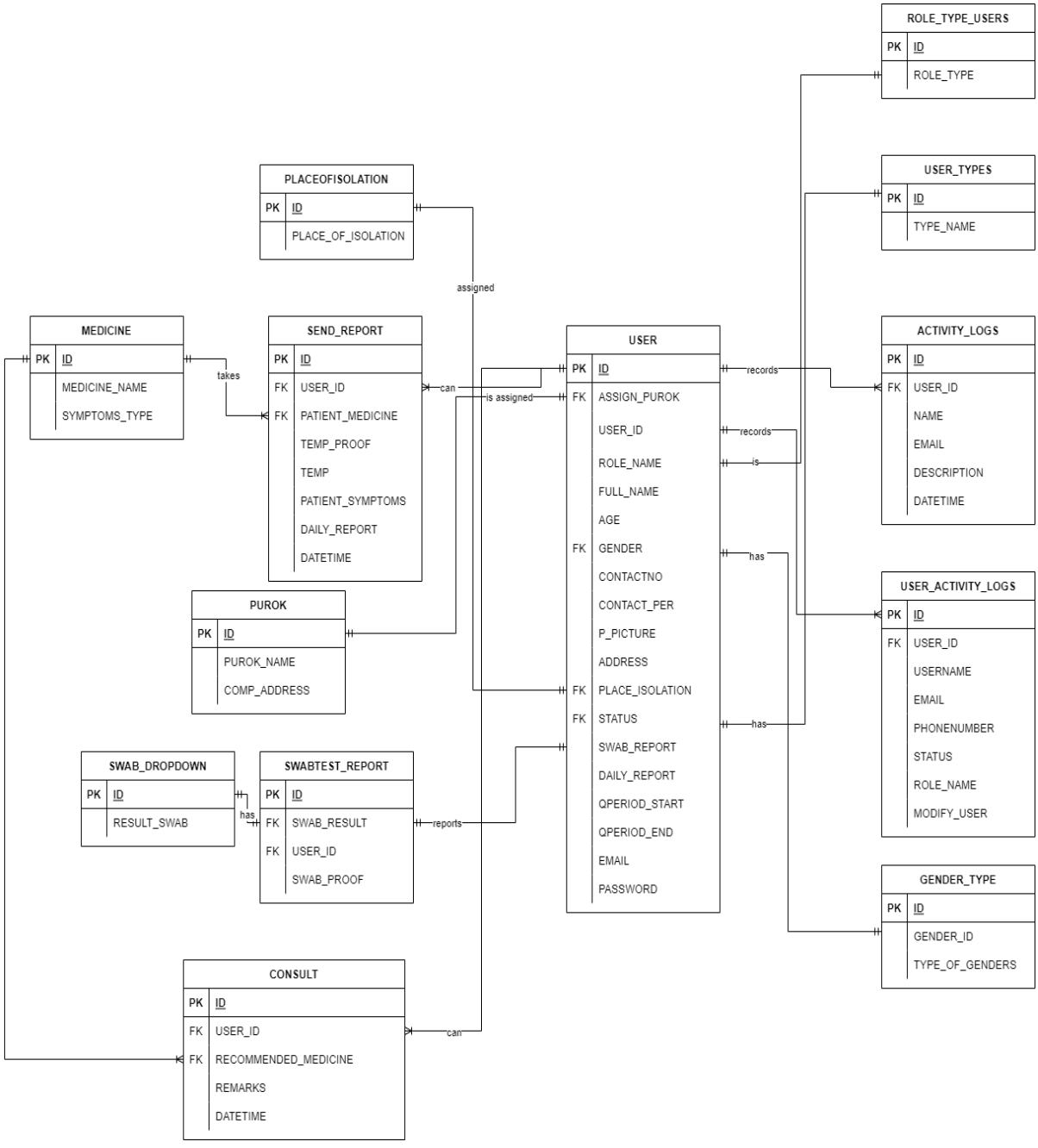

Figure 5. Entity Relationship Diagram

The Network Design outlines the planning of the implementation of the network infrastructure. This ensures that the telecommunication service meets the client's and server's critical needs. The prototype application will use the network design based on Transmission Control Protocol/Internet Protocol (TCP/IP), which uses the client-server communication model in which the server provides client services or requests.

Home-Quart follows the design of a Client-server Model where communicating systems are the client and the server devices. On the client-side, the client takes the form of laptops, tablets, or smartphones, then requests a file or application from the remote server. On the server-side, the server hears the request and then serves the client's requested file. In addition to the server-side, the database server provides database services to computers and performs tasks such as data analysis, data manipulation, and data storage.

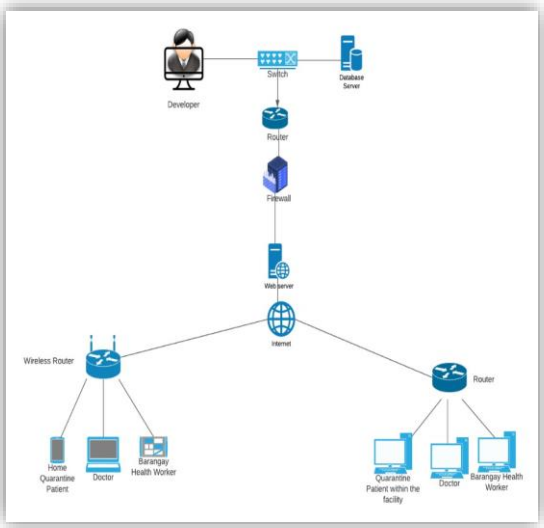

Figure 6. Network Model

Home Quart application has both home quarantine patients and health workers as clients. The home quarantined patient may use wireless devices such as smartphones, laptops, and tablets. In this manner, they connect to the server using a wireless connection. However, the patient can also establish a LAN connection to the server except for not having a wireless device.

On the other hand, the village health workers can build a connection to the server over WAN or LAN. They can also establish a wireless connection to the server when they use wireless devices. This network model connects developers, patients, and village health workers over the internet.

Graphical User Interface (GUI) Design is a visual way of interacting using the screen, allowing the village health workers, medical doctors, and the home quarantine patients to interact directly with objects on the screen. Figures 7 to 32 show the sample screenshots of the web application for the different users of Home Quart. Also, Figures 33 to 41 display the sample screenshots of the mobile application.

Figure 7. Admin Login Page

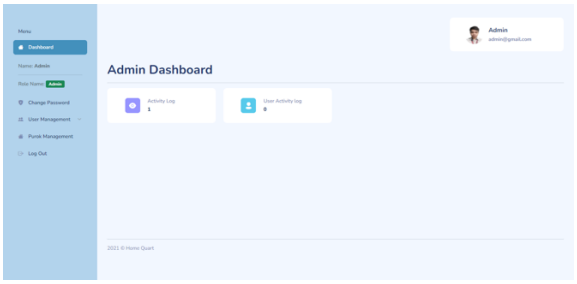

Figure 8. Admin Dashboard Page

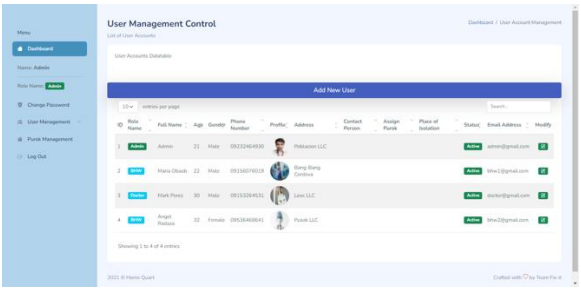

Figure 9. Admin User Management Control

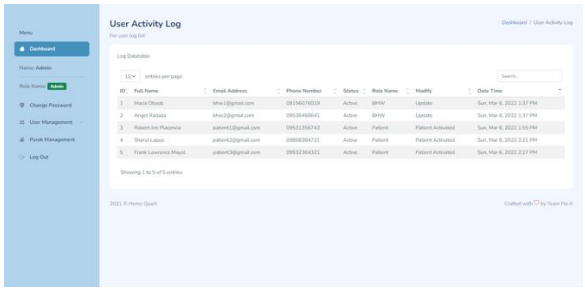

Figure 10. Admin User Activity Logs

Figure 11. Village Health Worker Login Page

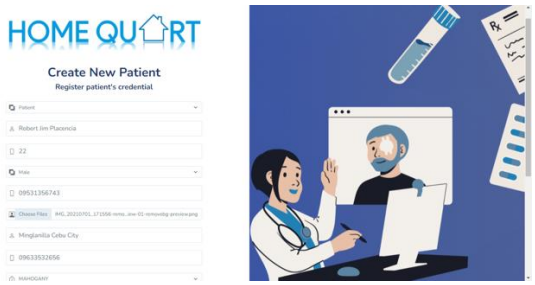

Figure 12. Create an Account for Patient

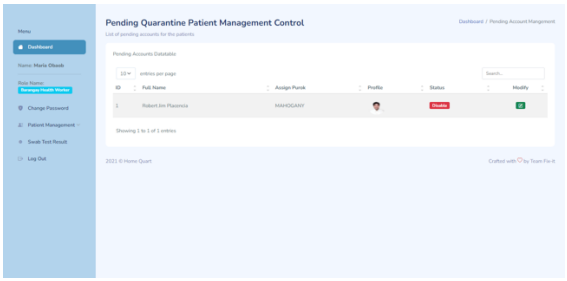

Figure 13. Pending Quarantine Management Control

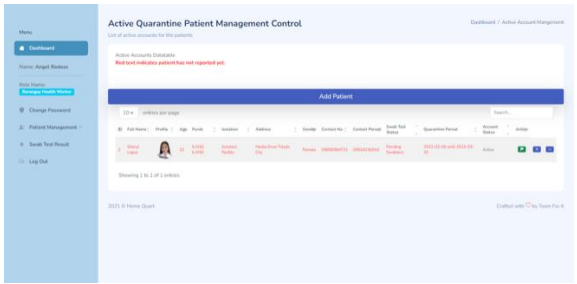

Figure 14. Active Quarantine Patient Management Control

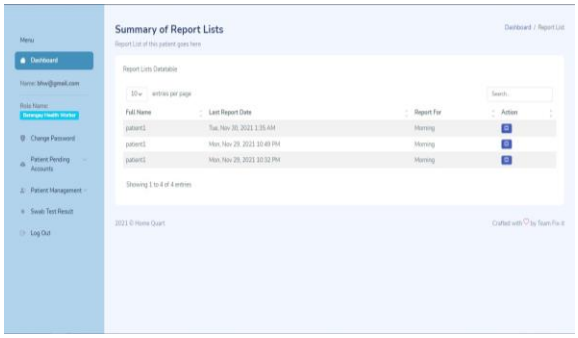

Figure 15. Patient Reported Summary

Figure 16. View Detailed Report of Patient

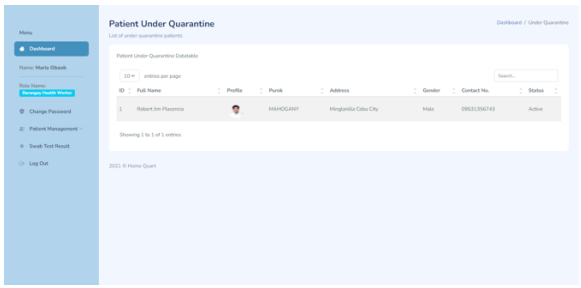

Figure 17. Report of Patient Under Quarantine

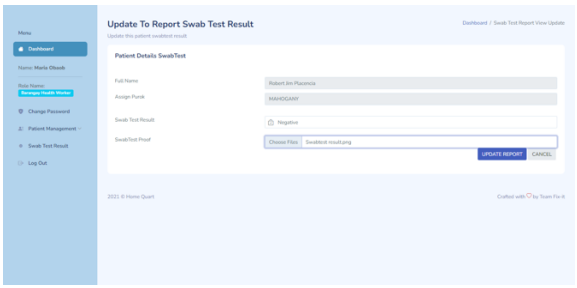

Figure 18. Update of Swab Test Results

Figure 19. Doctors Login Page

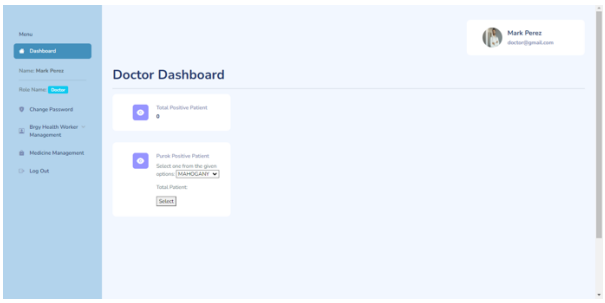

Figure 20. Doctors Dashboard Page

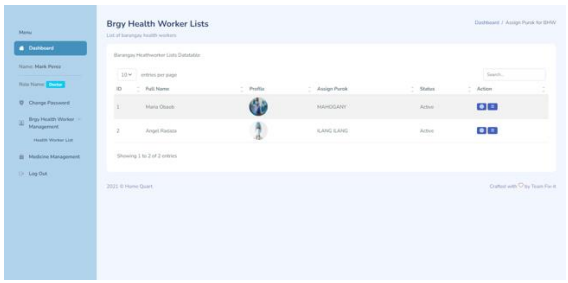

Figure 21. Village Health Workers List

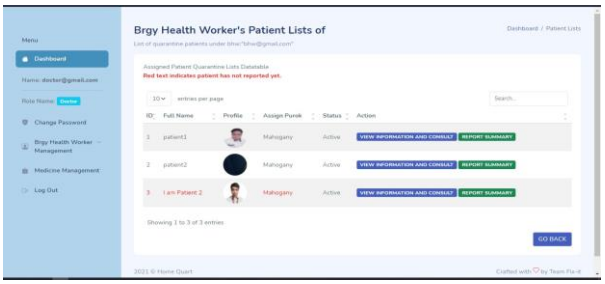

Figure 22. Patient List

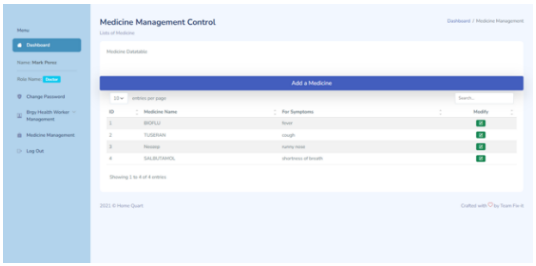

Figure 23. Medicine Management Control

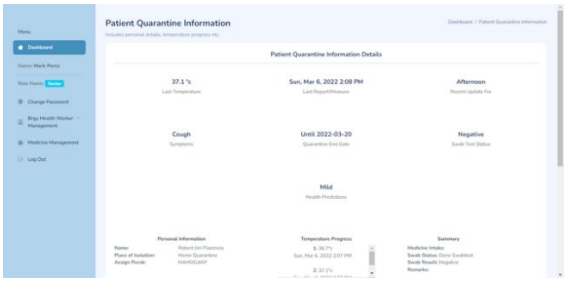

Figure 24. Patient Quarantine Information

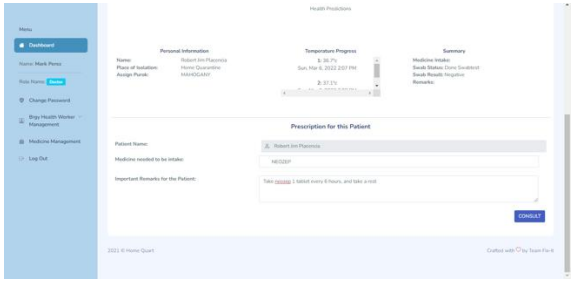

Figure 25. Patient Consultation

Figure 26. Doctor's Summary Report

Figure 27. Patient Login Page

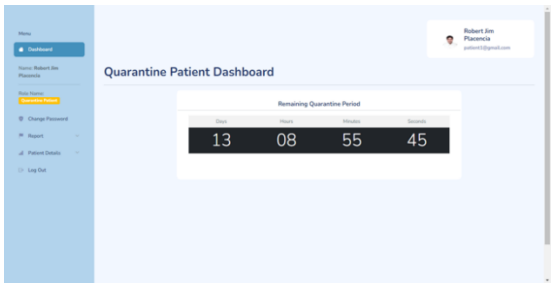

Figure 28. Patient Dashboard Page

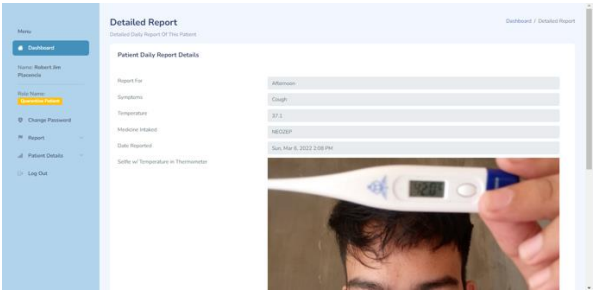

Figure 29. Patient Daily Report

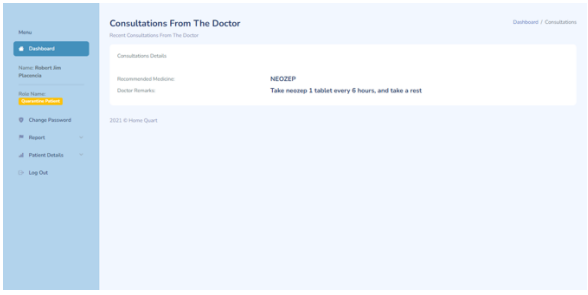

Figure 30. Patient's Prescription

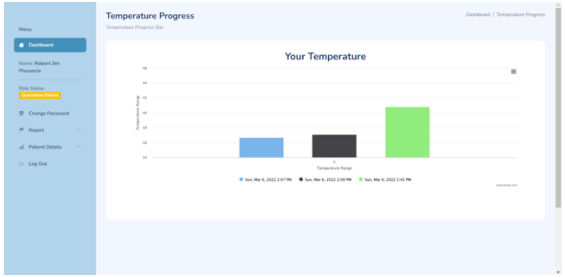

Figure 31. Patient Temperature Progress

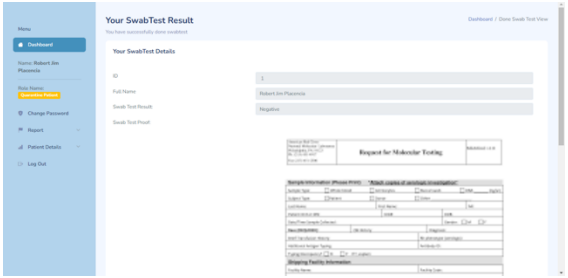

Figure 32. Patient Swab Test Report

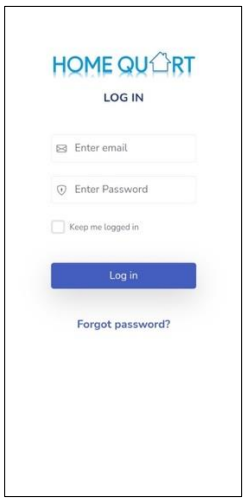

Figure 33. Patient Mobile Login Page

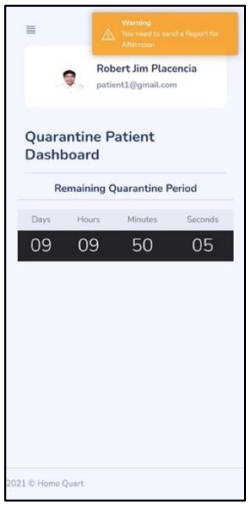

Figure 34. Quarantine Patient Dashboard

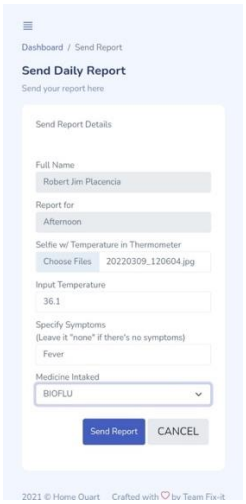

Figure 35. Patient Daily Reporting

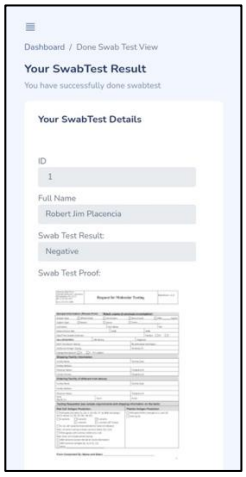

Figure 36. Patient Swab Test Result

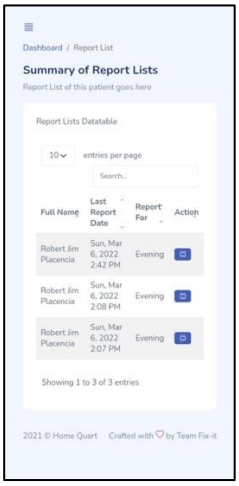

Figure 37. Patient Summary Report

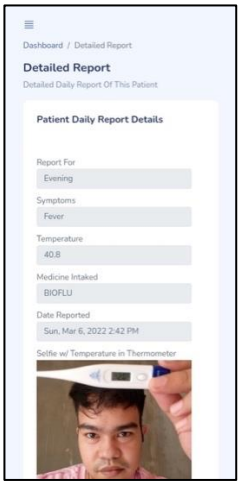

Figure 38. Patient Daily Report

Figure 39. Patient's Consultation

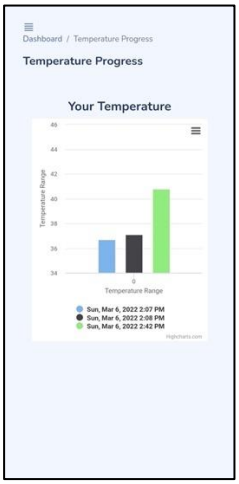

Figure 40. Patient Temperature Progress

Figure 41. Contact Hotline

System Assessment in terms of User-friendliness, System Security, and Accessibility

Table 1 presents the results of the users' assessment of Home Quart Application as to User-friendliness.

Table 1 Users' Assessment of Home Quart Application as to User-friendliness

Indicators	Medical Doctors [n = 10]		Village Health Workers [n = 40]		Home Quarantine Patient [n = 50]		Consolidated [N = 100]	
	Mean	**Inter**	**Mean**	**Inter**	**Mean**	**Inter**	**Mean**	**Inter**
1. Fulfilled system requirements	3.23	MF	3.14	MF	3.55	VF	3.31	VF
2. First impression	3.01	MF	3.77	VF	3.11	MF	3.30	VF
3. Ease in using	3.12	MF	3.56	VF	3.07	MF	3.25	VF
4. Usefulness	3.71	VF	3.70	VF	3.11	MF	3.51	VF
5. Comprehensiveness	3.45	VF	3.68	VF	3.37	VF	3.50	VF
Aggregate Mean	**3.30**	**VF**	**3.57**	**VF**	**3.24**	**MF**	**3.37**	**VF**

Range:

1.00-1.74 Not Friendly [NF]; 1.75-2.49 Less Friendly [LF];

2.50-3.24 Moderately Friendly [MF]; 3.25-4.00 Very Friendly [VF]

The table shows that most medical doctor respondents agreed with the Usefulness of Home Quart application [Mean = 3.71, Very Friendly]. While the indicator, First impression, got the lowest mean of 3.01 [Moderately Friendly].

Also, the table reveals that most village health worker respondents rated the First Impression of Home Quart application were Very Friendly, with the highest mean of 3.77. While the indicator, Fulfilled system requirements, got the lowest mean of 3.14 [Moderately Friendly].

Moreover, Table 1 shows that most patient respondents rated the Fulfilled system requirements of the Home Quart application as Very Friendly, with the highest mean of 3.55. While the indicator, Ease in using, got the lowest mean of 3.07 [Moderately Friendly].

When data are combined, the study agreed that the indicator, Usefulness of Home Quart application, got the highest mean of 3.51 [Very Friendly]. While the indicator, Ease in using, got the lowest mean of 3.25 [Very Friendly].

The data imply that the system users were delighted with the Web and mobile-based applications for home quarantine of patients. Assessing the friendliness of the health app should be enforced to ensure medical accuracy and good usability of the application needed for home quarantine patients. This is of prime importance for Home Quart, focusing on the quarantine procedures of patients.

COVID-19 telemonitoring applications have been developed and are used in primary care to monitor patients who have been quarantined at home. From the end user's perspective, there is a lack of evidence on the utility and usability of telemonitoring applications. Lim et al. (2021) concluded that the health app is feasible and helpful to patients and doctors in providing remote monitoring and teleconsultation during the COVID-19 pandemic. The utility and usability evaluation enables the refinement of the health app to be a patient-centered monitoring system.

Chung et al. (2021) identified the critical components of the health app. These include

border controls, restricted entry, inbound traveler quarantine, and comprehensive case findings; repeated testing to minimize false diagnoses and pooled testing in resource-limited circumstances; extended quarantine period, and digital tools for contact tracing and self-isolation.

Table 2 presents the results of the users' assessment of the Home Quart Application as to System Security.

Table 2 Users' Assessment of Home Quart Application as to System Security

	Indicators	Medical Doctors [n = 10]		Village Health Workers [n = 40]		Home Quarantine Patient [n = 50]		Consolidated [N = 100]	
		Mean	**Inter**	**Mean**	**Inter**	**Mean**	**Inter**	**Mean**	**Inter**
1.	User's identification	3.06	MS	3.72	VS	3.31	VS	3.36	VS
2.	Registered user has control over his own information	3.38	VS	3.69	VS	3.25	VS	3.44	VS
3.	User limitations on unauthorized modifications	3.49	VS	3.71	VS	3.57	VS	3.59	VS
4.	System's security performance	3.61	VS	3.12	MS	3.78	VS	3.50	VS
5.	Safety of records inside the database	3.15	MS	3.00	MS	3.60	VS	3.25	VS
	Aggregate Mean	**3.34**	**VS**	**3.45**	**VS**	**3.50**	**VS**	**3.43**	**VS**

Range:

1.00-1.74 Not Secured [NS]; 1.75-2.49 Less Secured [LS];

2.50-3.24 Moderately Secured [MS]; 3.25-4.00 Very Secured [VS]

The table shows that the medical doctor respondents agreed that the indicator, System's security performance got the highest mean of 3.61 [Very Secured]. While the indicator, User's identification, got the lowest mean of 3.05 [Moderately Secured].

Also, the table reveals that most village health worker respondents rated the indicator, User's identification of Home Quart application as Very Secured, with the highest mean of 3.72. While the indicator, Safety of records inside the database, got the lowest mean of 3.00 [Moderately Secured].

Moreover, Table 2 shows that most patient respondents rated the indicator, System's security performance of the Home Quart application, as Very Secured, with the highest mean of 3.78. While the indicator, the Registered user has control over his information, got the lowest mean of 3.25 [Very Secured].

When data are combined, the study agreed that the indicator, User limitations on unauthorized modifications of Home Quart application, got the highest mean of 3.59 [Very Secured]. While the indicator, Safety of records inside the database, got the lowest mean of 3.25 [Very Secured].

The data imply that the system users of Home Quart perceived that the app was secure. In the fight against the COVID-19 pandemic, quarantine apps have emerged as reliable tools for public health communication and preventative health promotion. However, to function correctly, the apps require users to provide sensitive information, which has raised concerns about data disclosure, misuse, and social surveillance. However, little is

recognized on how various types of risk perceptions both hinder and motivate people to use mobile health apps, especially in the context of a pandemic.

According to Borra (2020) that with different apps for different countries, one thing most of the apps facilitate is tracking. Many governments are willing to overlook privacy implications to save lives during a great crisis. It is keeping in view that the sensitive data being collected is not exclusive to public health organizations and governments. This explores different developed apps aiming to combat COVID-19 and the related personal data privacy concerns that arise in the post-coronavirus era.

Table 3 presents the results of the users' assessment of the Home Quart Application as to Accessibility.

Table 3 Users' Assessment of Home Quart Application as to Accessibility

	Indicators	Medical Doctors [n = 10]		Village Health Workers [n = 40]		Home Quarantine Patient [n = 50]		Consolidated [N = 100]	
		Mean	**Inter**	**Mean**	**Inter**	**Mean**	**Inter**	**Mean**	**Inter**
1.	Authentication of user access	3.47	VA	3.16	MA	3.53	VA	3.39	VA
2.	Online access using the Internet	3.11	MA	3.51	VA	2.85	MA	3.16	MA
3.	Systems availability over the Internet	3.16	MA	3.77	VA	3.75	VA	3.56	VA
4.	Data integrity and validation controls	3.60	VA	3.42	VA	3.05	MA	3.36	VA
5.	System components are tested before implementation	2.86	MA	2.80	MA	2.80	MA	2.82	MA
	Aggregate Mean	**3.24**	**MA**	**3.33**	**VA**	**3.20**	**MA**	**3.26**	**VA**

Range:

1.00-1.74 Not Accessible [NA]; 1.75-2.49 Less Accessible [LA];

2.50-3.24 Moderately Accessible [MA]; 3.25-4.00 Very Accessible [VA]

Table 3 shows that the medical doctor respondents agreed that the indicator, Data integrity, and validation controls got the highest mean of 3.60 [Very Accessible]. While the indicator, System components are tested before implementation, got the lowest mean of 2.86 [Moderately Accessible].

Also, the table reveals that most village health worker respondents rated the indicator, Systems availability over the Internet, as Very Accessible, with the highest mean of 3.77. While the indicator, System components are tested before implementation, got the lowest mean of 2.80 [Moderately Accessible].

Moreover, the table shows that most patient respondents rated the indicator, Systems availability over the Internet, as Very Accessible, with the highest mean of 3.75. While the indicator, System components are tested before implementation, got the lowest mean of 2.80 [Moderately Accessible].

When data are combined, the study agreed that the indicator, Systems availability over the Internet, got the highest mean of 3.56 [Very Accessible]. While the indicator, System components are tested before implementation, got the lowest mean of 2.82 [Moderately Accessible].

The data imply that COVID-19 health-related apps need to be accessible. The city government must ensure basic accessibility rules and then correct any issues raised by users.

According to Almalki and Giannicchi (2021), health apps have been used to combat the spread of COVID-19. However, little is known about the characteristics, technical features, and various applications of these technologies in health care when responding to this public health crisis. Because of a lack of understanding, developers and governments have made poor app design choices, resulting in less accessibility in the app use due to technical flaws.

Haggag et al. (2022) identified a wide range of accessibility issues related to traditional challenged end-user accessibility issues, such as the ability to register, access, download, and use from various app stores in different countries and for different end-users. A user evaluation indicates it will assist developers in addressing many of these issues before initial emerging app deployment.

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CONCLUSION

Monitoring home quarantined patient is not an easy job. Due to community lockdowns, many areas across the country are experiencing a lack of workforce. With the web and mobile applications for monitoring home quarantined patients, it would be easier for the village health workers and medical doctors to monitor the health and well-being of the patient. In this manner, refraining from conducting face-to-face monitoring will lessen the spreading of the COVID virus and, in return, will result in financial savings for the government. The proposed system will help lessen the worries of the village health workers about overworking through the use of the system. On the other hand, medical doctors can take necessary actions regarding the patient needs and concerns through the system.

RECOMMENDATION

The researchers recommend conducting further research to strengthen the preliminary results in using the system. Also, the researchers strongly recommend that the developed system be implemented and evaluated.

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