

## **Group 4 – WAH for Hospitals (WAH4H)**

**“A PROPOSED MODULAR HOSPITAL INFORMATION  
SYSTEM (HIS) WITH INTEGRATED E-CLAIMS AND  
ELECTRONIC HEALTH RECORDS (EHR) FOR MUNICIPAL  
AND COMMUNITY HOSPITALS”**

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In Partial Fulfillment of the Requirements for Systems

Analysis and Detailed Design

SSYADD1 SS231

Mr. Jose Eugenio L. Quesada

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## TABLE OF CONTENTS

Stage 1: Empathize .....	5
1.1 Introduction.....	5
1.3 Client Interview .....	8
1.5 Customer Interview.....	11
1.6 Actual Personas.....	13
1.7 Theoretical Personas .....	15
1.8 Empathy Map .....	17
1.9 Pain-Gain Analysis Summary .....	19
Stage 2: Define .....	19
2.1 Clustered Problems .....	19
2.2 Problem Statement .....	21
2.3 How-Might-We .....	22
Conclusion .....	23
Stage 3 – IDEATE .....	24
3.1 Brainstorming Session .....	24
3.2 Crazy 8's.....	26
3.3 Post It Voting .....	31
3.4 Desirable, Viable, Feasible.....	32
Stage 4: Prototype.....	35
4.1 Story Boards .....	35
4.2 Wireframe .....	40
4.3 Mockup Design.....	47
Conclusion .....	53
Stage 5: Testing .....	53
5.1 Client Feedback .....	55

## TABLE OF FIGURES

TABLE OF FIGURES.....	3
Figure 1 Speed Up Garage's Physical Location .....	5
Figure 2 Interview Location/ Admin Room of Speed Up Garage .....	6
Figure 3 Interview with Ma'am Mica (Cashier and Inventory Head of Speed Up Garage) .....	6
Figure 4 Interview with Ma'am Maria and Sir Rosmel Lingon (Owner of the Speed Up Garage).....	8
Figure 5 Interview with Speed Up Garage Customer .....	11
Figure 6 Actual persona 1 of Speed up Garage Owner.....	13
Figure 7 Actual persona 2 of Speed up Garage Owner.....	13
Figure 8 Actual Persona 3 of Employee .....	14
Figure 9 Actual persona 5 of Customer .....	14
Figure 10. Theoretical Persona 1 of Owner .....	15
Figure 11. Theoretical Persona 2 of Employee .....	15
Figure 12. Theoretical Persona 3 of Customer .....	16
Figure 13. Theoretical Persona 4 of Customer .....	16
Figure 14. Owner's Empathy Map .....	17
Figure 15. Owner's Empathy Map .....	17
Figure 16. Employee's Empathy Map .....	18
Figure 14. Customer's Empathy Map.....	18
Figure 15. Pain and Gain Analysis Summary.....	19
Figure 16. Trello board screenshot of clustered problem.....	21
Figure 17. Trello board screenshot of Problem statement.....	22
Figure 18. Trello board screenshot of How-Might-We .....	23
Figure 19. Brainstorming meeting screenshot.....	25
Figure 20. Trello board screenshot of brainstorming .....	26
Figure 21. Figma platform screenshot .....	27
Figure 22. Esurena Crazy 8's screenshot.....	27
Figure 23. Reyes Crazy 8's screenshot .....	28
Figure 24. Rocha Crazy 8's screenshot.....	29
Figure 25. Saguinsin Crazy 8's screenshot.....	30
Figure 26. Trello board screenshot of post it voting.....	31
Figure 27. Trello board screenshot of Desirable .....	32
Figure 28. Trello board screenshot of Viable .....	33
Figure 29. Trello board screenshot of Feasible.....	34
Figure 30. Story board for cashier .....	36
Figure 31. Story board for login.....	36
Figure 32. Story board for generating reports .....	37
Figure 32. Story board for inventory .....	37
Figure 32. Story board for inventory .....	38

Figure 34. Story board for debt .....	38
Figure 34. Story board for debt .....	39
Figure 34. Story board for debt .....	39
Figure 37. Wireframe for login system .....	40
Figure 37. Wireframe for login system .....	40
Figure 39. Wireframe for POS dashboard.....	41
Figure 40. Wireframe for POS sales.....	41
Figure 41. Wireframe for POS - Scanning Terminal .....	42
Figure 42. Wireframe for POS - products .....	42
Figure 43. Wireframe for POS - Reports .....	43
Figure 44. Wireframe for POS – daily sales report.....	43
Figure 45. Wireframe for inventory – daily reports .....	44
Figure 46. Wireframe for inventory dashboard.....	44
Figure 47. Wireframe for inventory.....	45
Figure 47. Wireframe for inventory.....	45
Figure 49. Wireframe for inventory - out of stocks .....	46
Figure 50. Wireframe inventory - reports.....	46
Figure 51. Mockup Design for Login System.....	47
Figure 52. Mockup Design for Dashboard for admin.....	47
Figure 53. Mockup Design for POS - Dashboard.....	48
Figure 54. Mockup Design for POS - Sales .....	48
Figure 55. Mockup Design for POS – Scanning terminal.....	49
Figure 56. Mockup Design for POS - Products .....	49
Figure 57. Mockup Design for POS - reports .....	50
Figure 59. Mockup Design for Inventory dashboard .....	50
Figure 59. Mockup Design for Inventory dashboard .....	51
Figure 60. Mockup Design for inventory - low stock .....	51
Figure 61. Mockup Design for Inventory – out of stock.....	52
Figure 62. Mockup Design for Inventory - Reports.....	52
Figure 63. Feedback and Testing with Sir Ross Mel Lingon.....	54
Figure 64. Feedback and Testing with Ma'am Maria and Ma'am Micah.....	54

## **Stage 1: Empathize**

### **Introduction**

At this stage of the design thinking process, we begin by thoroughly understanding the needs and experiences of the people we are designing for. Our focus is inpatient modules in healthcare, we would like to understand the needs of the healthcare staff, billing staff, and hospital administrators. We conduct thorough research and observations to learn about the people we are designing for. The goal is to build empathy by seeing things from their perspective—not just understanding what they say, but also what they do, think, and feel. This involves active listening, asking open-ended questions, and immersing ourselves in their experiences. Through this process, we uncover key insights and identify problems or challenges that need attention.



*Figure 1: Wireless Access for Health (WAH) Headquarters*

Two representatives from our team visited the site of Wireless Access for Health (WAH), located on the 2nd Floor, Diwa Ng Tarlac, Tarlac City, 2300 Tarlac. They took the initiative to meet with our clients to understand their thoughts and perspectives on the organization's mission. The primary purpose of the visit was to immerse themselves in the actual workplace and observe the workflow of the healthcare facilities.



Figure 2: La Paz Medicare and Community Hospital in Nueva Ecija

Our team visited two healthcare facilities before arriving at Cuyapo Infirmary, which is the main focus of our project under Wireless Access for Health (WAH). The one of the two facilities we visited were La Paz Medicare and Community Hospital.

At Cuyapo, we had the opportunity to closely observe the workplace, understand the workflow, and engage directly with staff to learn about their needs and perspectives. Visiting as a team allowed us to gather insights, ask follow-up questions, and gain a thorough understanding that will guide the design of the system specifically for Cuyapo Infirmary.

**Section 1 - About you**

Name \*

Your answer \_\_\_\_\_

What is your role in Cuyapo Infirmary? \*

Your answer \_\_\_\_\_

How long have you been working at the infirmary? \*

Less than 1 year  
 1-3 years  
 3-6 years  
 7+ years

On a scale of 1–5, how comfortable are you with using digital tools/technology? \*

1    2    3    4    5  
Not comfortable                    Very comfortable

*Figure 3: Example of the Google Forms Content*

We initially conducted brief onsite interviews with staff at Cuyapo Infirmary and representatives from Wireless Access for Health (WAH). However, given their busy schedules in healthcare, we later sent a more formal set of interview questions through Google Forms to accommodate them. The responses provided valuable insights into their daily routines, challenges, and needs, which now inform the design of a more efficient, user-centered healthcare system.

### **Employee Interview**

We gathered responses from staff at Cuyapo Infirmary and representatives from Wireless Access for Health (WAH) through Google Forms interviews. Their inputs provided valuable insights into daily routines, challenges, and needs, which now guide the design of a more efficient, user-centered healthcare system.

## **Representatives from WAH**

### ***Ms. Nicky Abuso-Balderosa***

Ms. Nicky Abuso-Balderosa, an HR and Training Consultant at Wireless Access for Health (WAH), shared her expertise on training, system adoption, and the long-term vision of WAH4H. Her perspective provided valuable input on how to align the system with user readiness and organizational goals.

- 1. What are your main responsibilities when working with partner healthcare centers or hospitals?**

"Preparing the trainers for training delivery."

- 2. From your perspective, what are the most important problems WAH4H aims to solve for small hospitals and infirmaries?**

"Streamline processes and capture valuable data."

- 3. Which hospital processes should WAH4H prioritize to make the most impact?**

Patient registration, Outpatient consultations, PhilHealth e-Claims, Reports

- 4. What qualities or characteristics must WAH4H have to be considered successful?**

Cost-effectiveness, User-friendliness for staff, Scalability

- 5. In your role's perspective, what kinds of limitations or risks should we avoid in developing WAH4H?**

"Hard code everything. Make sure it is scalable and adaptable."

- 6. Who do you think will benefit the most from WAH4H, and who should be most engaged during its development?**

Hospital staff: Nurses, Admins, Doctors

- 7. What is your long-term vision for WAH4H and its role in improving healthcare delivery in the Philippines?**

"To be the premiere Hospital Information System of choice for public hospitals and infirmaries."

**Ms. Ara Severo**

Ms. Ara Severo, part of the HR team at Wireless Access for Health (WAH), provided her insights into hospital processes, challenges in small healthcare facilities, and the role of WAH4H in improving efficiency. Her perspective emphasized usability, accuracy, and system accessibility for hospitals and infirmaries.

- 1. What are your main responsibilities when working with partner healthcare centers or hospitals?**

“Assist them on filing claims and provide technical support.”

- 2. From your perspective, what are the most important problems WAH4H aims to solve for small hospitals and infirmaries?**

“Small hospitals and infirmaries often rely on manual processes, which can cause delays and inefficiencies. WAH4H should address this by improving accuracy and reducing workload.”

- 3. Which hospital processes should WAH4H prioritize to make the most impact?**

Outpatient consultations and monitoring, Laboratory, PhilHealth e-Claims

- 4. What qualities or characteristics must WAH4H have to be considered successful?**

Cost-effectiveness, Reliability, and Accuracy

- 5. In your role's perspective, what kinds of limitations or risks should we avoid in developing WAH4H?**

“The system should not be hard to use. It must remain user-friendly for staff at all levels.”

- 6. Who do you think will benefit the most from WAH4H, and who should be most engaged during its development?**

Small hospitals and infirmaries

- 7. What is your long-term vision for WAH4H and its role in improving healthcare delivery in the Philippines?**

“It will establish standardized, lifelong patient records and make healthcare processes more efficient.”

**Mr. Jerimie-Ian Garcia**

Mr. Jerimie-Ian Garcia, a Platform Innovation Partner at Wireless Access for Health (WAH), shared his perspectives on system integration, data accuracy, and the long-term vision of WAH4H. His input emphasized innovation, scalability, and creating a connected healthcare ecosystem.

1. **What are your main responsibilities when working with partner healthcare centers or hospitals?**  
“WAH EMR reporting.”
2. **From your perspective, what are the most important problems WAH4H aims to solve for small hospitals and infirmaries?**  
“Data accuracy.”
3. **Which hospital processes should WAH4H prioritize to make the most impact?**  
PhilHealth e-Claims, Reports, and Logs
4. **What qualities or characteristics must WAH4H have to be considered successful?**  
Cost-effectiveness, User-friendliness for staff, Scalability
5. **In your role's perspective, what kinds of limitations or risks should we avoid in developing WAH4H?**  
“Incompatibility with existing systems, poor scalability, and poor integration.”
6. **Who do you think will benefit the most from WAH4H, and who should be most engaged during its development?**  
Patients and clinicians who will use the system
7. **What is your long-term vision for WAH4H and its role in improving healthcare delivery in the Philippines?**  
“WAH aims to create a connected, data-driven healthcare system that improves outcomes and efficiency nationwide.”

## **Staff from Cuyapo Infirmary**

### ***Ms. Benditha B. Babac***

Ma'am Benditha, an Administrative Officer at Cuyapo Infirmary with 3–6 years of experience, provided valuable insights into the facility's workflow and challenges. Her extensive experience helped us gain a deeper understanding of the needs and requirements for the new system.

**1. Can you describe a typical day in your work related to patient care or records?**

"I make sure all patient records are updated and accurate."

**2. What tasks do you usually handle?**

Billing/insurance (PhilHealth, etc.), Reporting, Patient Records Management

**3. Who do you interact with most often when handling patient records?**

Administrative staff

**4. Which of the following are your biggest frustrations?**

Delays from manual processes, Difficulty retrieving records, Errors in manual encoding

**5. Can you share a recent situation where the current process or system made your work harder?**

"We encountered a situation where our current process caused delays in retrieving patient data during emergencies."

**6. What matters most to you when working with patient information?**

Speed and efficiency

**7. If you could change one thing about how patient data is managed today, what would it be?**

"I would advocate for the full implementation of a digital system to minimize manual tasks."

**8. What's the most important outcome you'd like to see from a new system?**

Improved efficiency and reduced manual workload

**9. On a scale of 1–5, how urgent is it to improve the current process/system?**

5 (Very urgent)

**10. How would you describe your ideal experience in handling patient records?**

"I would like to access patient information quickly and accurately without delays."

**11. What would make your work life significantly better in the next 1–2 years?**

Having a digital platform that reduces manual work and ensures smooth operations

**12. From your perspective, what role should technology play in improving community healthcare?**

"Technology can improve how patient data is stored, retrieved, and used to provide better healthcare services."

**13. Do you have any additional thoughts, suggestions, or stories you'd like to share?**

"I'd like to share that small improvements in record-keeping already make a big difference. A proper system will definitely help us and the patients."

***Ms. Madel Lozano***

Ms. Madel Lozano, a Nurse at Cuyapo Infirmary with 1–3 years of experience, shared her perspectives on patient care and record handling. Her insights provided a closer look at the challenges faced by frontline staff and highlighted the importance of accessible, secure, and efficient systems in supporting healthcare delivery.

**1. Can you describe a typical day in your work related to patient care or records?**

"Since July 1, 2025, we had an increased number of outpatients. My day usually involves handling patient consultations, assisting doctors, and ensuring that medical records are properly updated."

**2. What tasks do you usually handle?**

Patient registration, Recording consultations, Preparing records for doctors and staff

**3. Who do you interact with most often when handling patient records?**

Record section staff

**4. Which of the following are your biggest frustrations?**

Delays from manual processes, Difficulty retrieving records, Errors in manual encoding

**5. Can you share a recent situation where the current process or system made your work harder?**

"Since the first step is the creation or retrieval of old records, delays happen often and make it difficult to proceed with patient care."

**6. What matters most to you when working with patient information?**

Security and privacy

**7. If you could change one thing about how patient data is managed today, what would it be?**

"Systematic management of records to avoid confusion and duplication."

**8. What's the most important outcome you'd like to see from a new system?**

Easy to use and accessible anytime

9. On a scale of 1–5, how urgent is it to improve the current process/system?  
5 (Very urgent)
10. How would you describe your ideal experience in handling patient records?  
"Accurate, efficient, and secure."
11. What would make your work life significantly better in the next 1–2 years?  
"Several improvements in processes and tools that will help reduce delays and workload."
12. From your perspective, what role should technology play in improving community healthcare?  
"Technology should play a role in improving communication, access, and efficiency in healthcare delivery."
13. Do you have any additional thoughts, suggestions, or stories you'd like to share?  
"Simple and easy-to-use systems are important since not all of us are very familiar with digital tools."

## Actual Personas

Persona 1: Nicky Abuso-Balderosa (HR and Training Consultant – Wireless Access for Health)



Figure 4: Actual Persona of Nicky Abuso-Balderosa

### Persona 2: Ara Severo (HR – Wireless Access for Health)

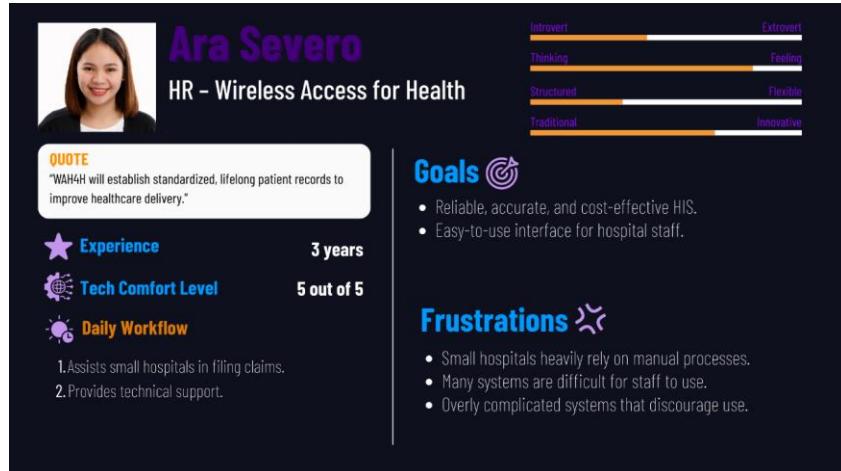


Figure 5: Actual Persona of Ara Severo

### Persona 3: Jerimie-Ian Garcia (Platform Innovation Partner – Wireless Access for Health)

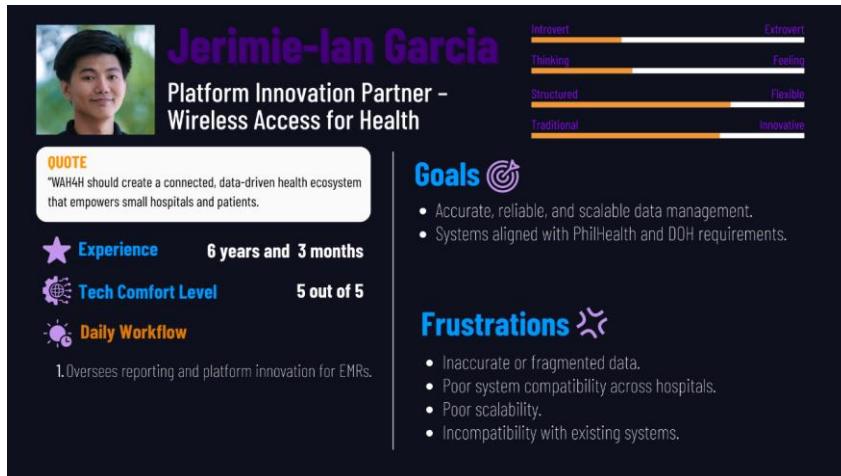


Figure 6: Actual Persona of Jerimie-Ian Garcia

#### Persona 4: Benditha D. Babac (Administrative Officer – Cuyapo Infirmary)



Figure 7: Actual Persona Benditha D. Babac

#### Persona 4: Madel Lozano (Nurse – Cuyapo Infirmary)

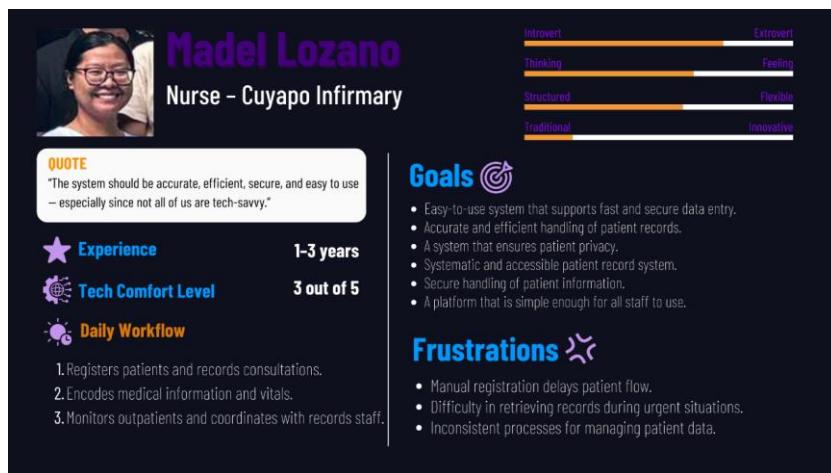


Figure 8: Actual Persona Madel Lozano

## Theoretical Personas

### Persona 1: Patrick Navarro (Co-Owner)



Figure 9: Theoretical Persona of Patrick Navarro

### Persona 2: Jose Manual Gonzales (Records & Admissions Officer)



Figure 10: Theoretical Persona of Anna Reyes

**Persona 4: Erica Abella (Staff Nurse – General Ward)**

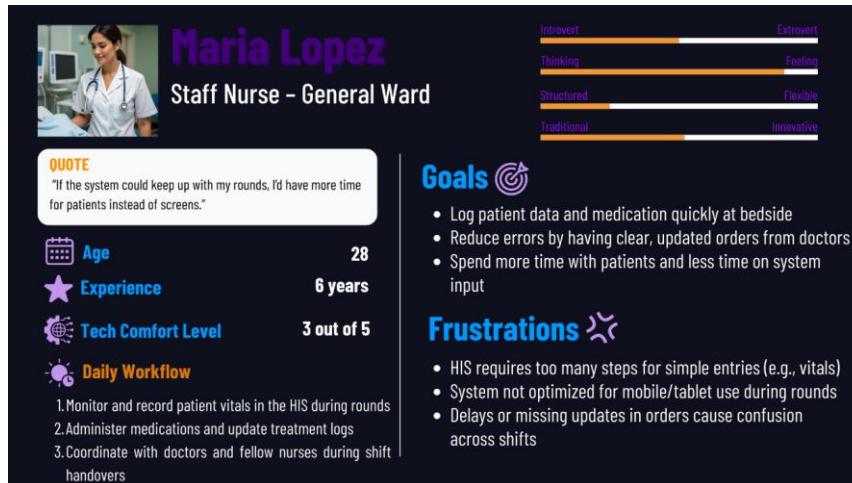


Figure 11: Theoretical Persona of Maria Lopez

**Persona 4: Dr. Miguel Santos (Attending Physician)**

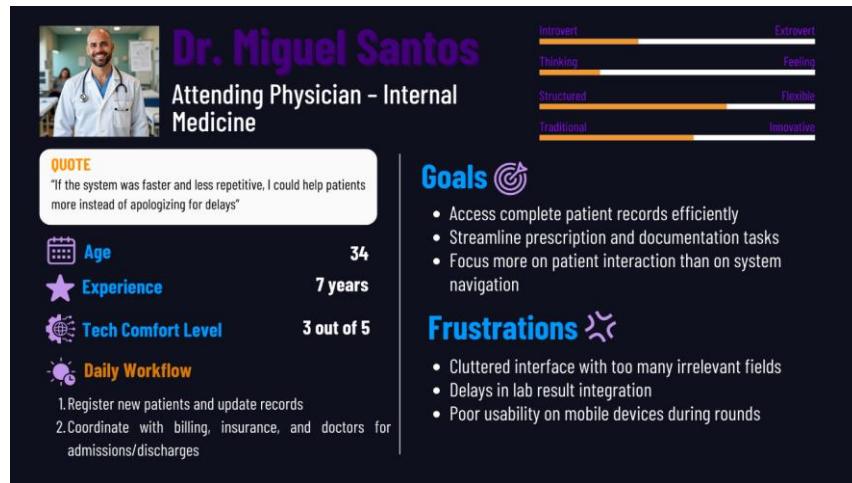


Figure 12: Theoretical Persona of Dr. Miguel Santos

### Persona 5: Erica Abella (Billing & Discharge Officer)

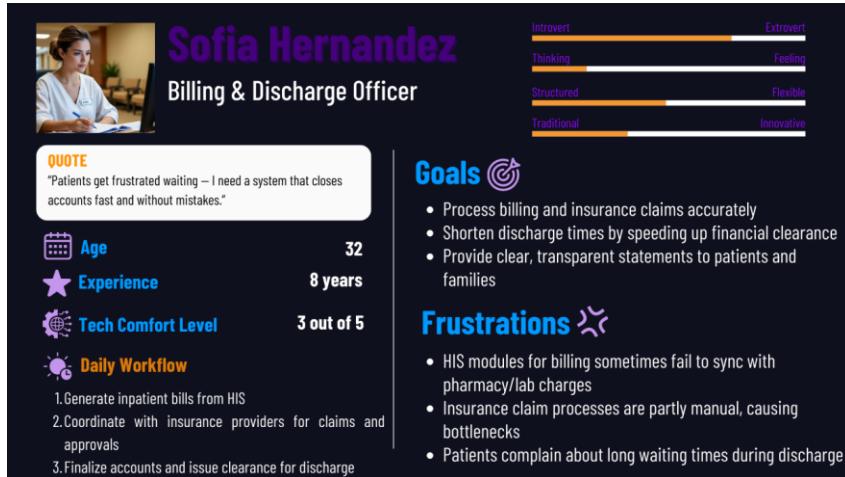


Figure 13: Theoretical Persona of Sofia Hernandez

### Empathy Map

Nicky Abuso-Balderosa (HR and Training Consultant)

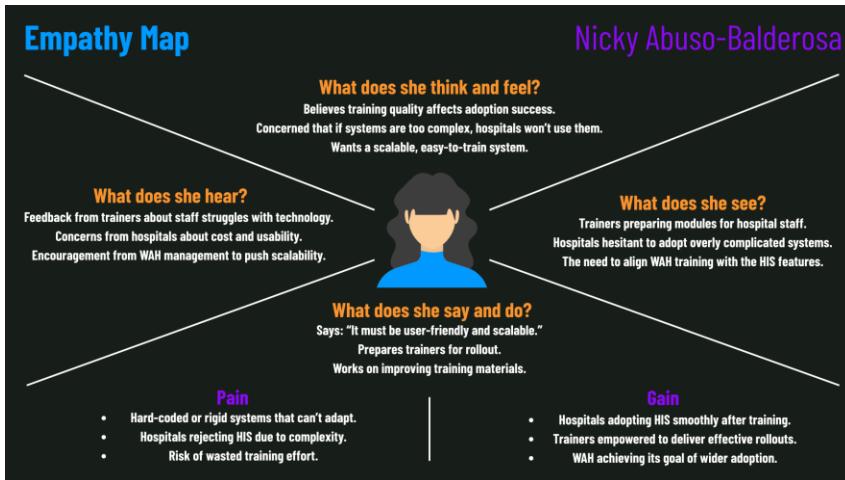


Figure 14: Empathy Map for Nicky Abuso-Balderosa

### Jerimie-Ian Garcia (Platform Innovation Partner)

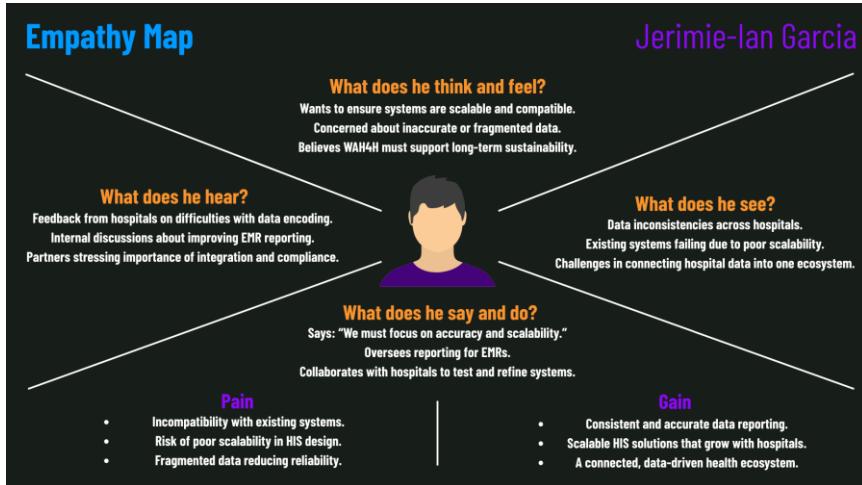


Figure 15: Empathy Map for Jerimie-Ian Garcia

### Ara Severo (WAH - HR)

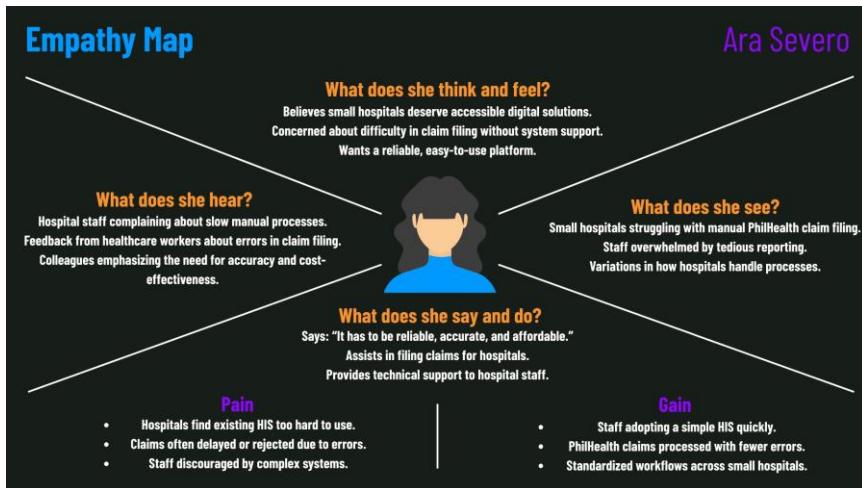


Figure 16: Empathy Map for Ara Severo

### Madel Lozano (Nurse – Cuyapo Infirmary)

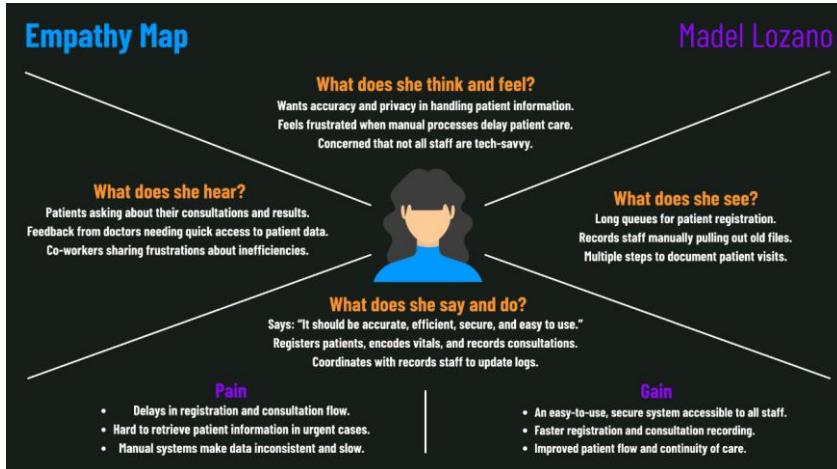


Figure 17: Empathy Map for Madel Lozano

### Benditha D. Babac (Administrative Officer – Cuyapo Infirmary)

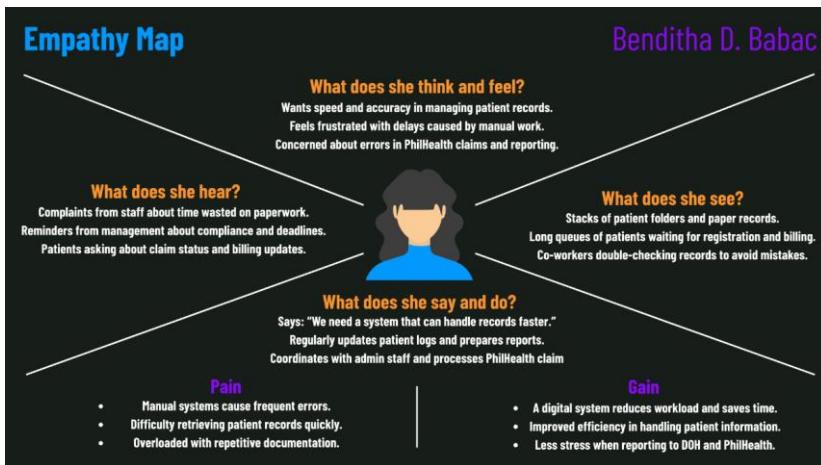


Figure 18: Empathy Map for Benditha Babac

## Pain-Gain Analysis Summary



Figure 19: Pain-Gain Analysis Summary

## Stage 2: Define

In the Define stage, we shift from gathering insights to clarifying the core challenges faced by our stakeholders. Building on what we learned during the Empathize phase, we examined the pain points of healthcare staff, administrators, and patients, then grouped them into key categories. This step helped us move from scattered issues to a structured view of the problems that matter most.

Through clustering, we identified recurring themes in patient records, staff workload, and billing processes. These clusters provided the foundation for developing problem statements and “How Might We” questions, ensuring that our focus remains aligned with the real needs of WAH and Cuyapo Infirmary.

### Clustered Problems

After analyzing the results of the interviews, empathy maps, and pain-gain analysis, the team categorized the identified issues into three major clusters: Patient Records & Data Management, Staff Workload, and Billing & Payments. These clusters represent the most pressing challenges faced by Cuyapo Infirmary staff and partner stakeholders under Wireless Access for Health (WAH).

### **Patient Records & Data Management**

- Delays in retrieving patient records during consultations or emergencies.
- Errors and inconsistencies caused by manual data entry.
- Risk of misplaced or lost paper records.
- Difficulty updating patient records across multiple departments.
- Lack of centralized access for doctors, nurses, and administrative staff.
- Duplication of records due to uncoordinated manual systems.
- Insufficient security measures for protecting sensitive patient information.
- Inability to generate quick reports for compliance and audits.

### **Staff Workload**

- Excessive paperwork required from healthcare staff (registration, billing, reports).
- Long queues caused by slow, manual processes.
- Repetitive documentation tasks, reducing time for patient care.
- Staff struggling to balance administrative tasks with medical duties.
- Over-reliance on a few employees for key processes, leading to burnout.
- Time wasted searching for files or forms.
- Limited training and familiarity with digital tools.
- Stress caused by inefficiencies, affecting work-life balance.

### **Billing & Payments**

- Limited payment methods available for patients.
- Lack of transparency in billing processes (unclear or delayed bills).
- Errors in computing PhilHealth claims or patient balances.
- Manual tracking of payments leading to inaccuracies.
- Delays in processing refunds or adjustments.
- Difficulty handling patients with installment or debt-based payment terms.
- No automated system for generating receipts and invoices.
- Challenges in consolidating billing data with patient records.

## **Problem Statement**

1. Manual and paper-based records cause delays, errors, and inconsistencies.
2. Lack of a centralized database makes access and updates inefficient.
3. Records are often duplicated, misplaced, or insecure.
4. Generating reports for compliance and audits is slow and difficult.
5. Excessive paperwork and repetitive tasks reduce time for patient care.
6. Manual processes create long queues and inefficiencies.
7. Staff face stress and burnout due to workload and limited digital skills.
8. Billing is manual, error-prone, and lacks transparency.
9. Limited payment options inconvenience patients.
10. PhilHealth claims and balances are often inaccurate.
11. Consolidating billing data with patient records is inefficient.

## **How-Might-We**

1. How might we create a centralized and secure patient records system that allows quick access for doctors, nurses, and administrative staff?
2. How might we minimize errors and duplication in patient data entry?
3. How might we reduce paperwork and streamline documentation tasks for healthcare staff?
4. How might we shorten patient queues and improve the flow of hospital processes?
5. How might we simplify the billing process to ensure accuracy and transparency for patients?
6. How might we integrate PhilHealth e-claims and automate receipts to reduce manual workload?
7. How might we ensure billing data is seamlessly integrated with patient records?

## **Conclusion**

After analyzing and clustering the issues and challenges faced by our clients, employees, and customers, we have formulated a problem statement that identifies the root problems they are encountering. From there, we have developed "How Might We" statements that concentrate on potential solutions to these problems. Prior to this stage, our understanding of our client's system problems was quite limited, but we went deeper into different stages of the design thinking process. It gives us a

better understanding and clear vision of what our client needs and what area we should focus on.

### Stage 3 – IDEATE

In the third phase of the Design Thinking process, Ideate, we worked closely as a team to brainstorm and explore creative solutions. We made sure to create an open and supportive space where everyone could contribute ideas to addressing the challenges we discovered earlier. At this stage, our focus was on reframing problems in fresh ways and defining clear objectives that consider the needs of our clients, our team, and their customers with the shared goal of driving the growth of Speed Up Garage.

#### Brainstorming Session

In this session, we shared our opinions and suggestions to broaden our ideas. We created an open environment where everyone could freely express their thoughts, using Microsoft Teams and a FigJam board from Figma to facilitate brainstorming. To ease into the session, we started with casual conversations before listing our ideas on the board and encouraging out-of-the-box thinking. The team then voted on the concepts with the most potential or best alignment with our problem statement, helping us identify the key features to focus on for our project.

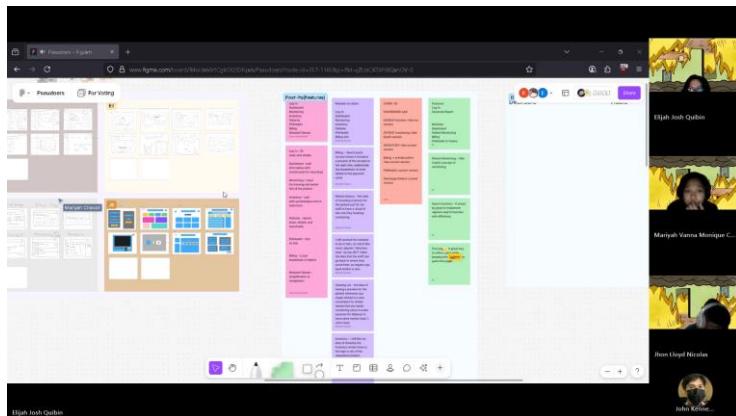


Figure 20: Pseudoers Brainstorming Session

## Crazy 8's

In this session, we used Figma's Crazy 8's feature to sketch ideas quickly, starting with a 5-minute round and then extending by another 7 minutes to refine and expand our concepts. Each of us created simple visual representations of potential solutions across the eight sections. This iterative process allowed us to capture missing features, explore new directions, and build on one another's ideas. We then shared and discussed the most promising sketches, which guided us toward more innovative solutions.

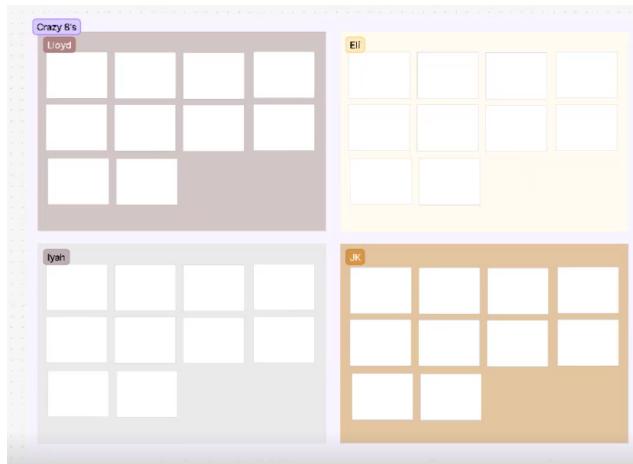


Figure 21: Figma Platform Screenshot

### Jhon Lloyd Nicolas (Team Leader)

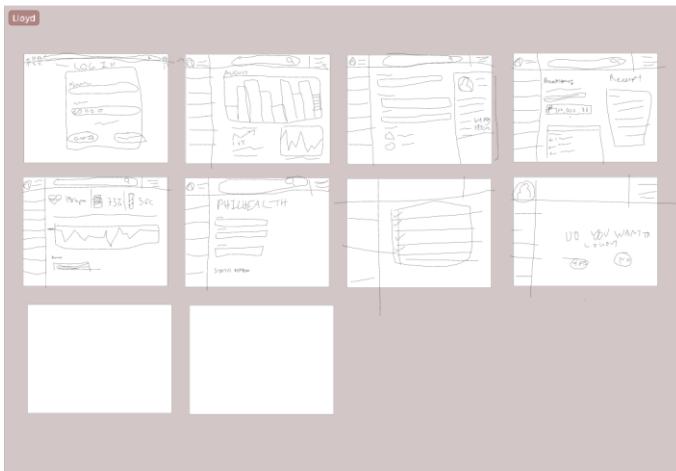


Figure 22: Jhon Lloyd Nicolas' Crazy 8

### Elijah Josh Quibin (Back-end Developer)

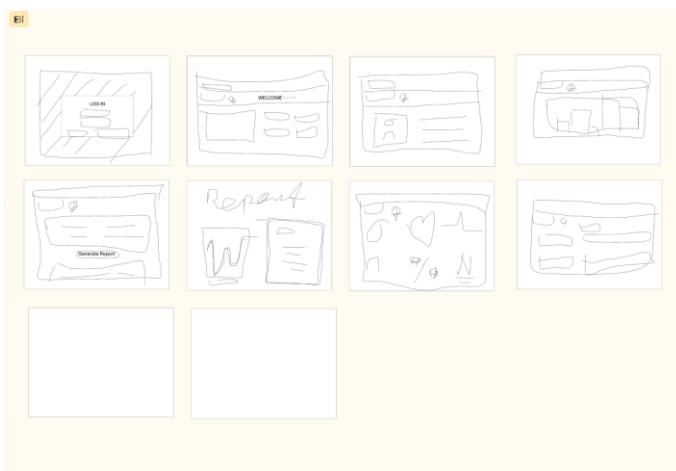


Figure 23: Elijah Josh Quibin's Crazy 8

### Mariyah Vanna Monique Chavez (Project Manager)

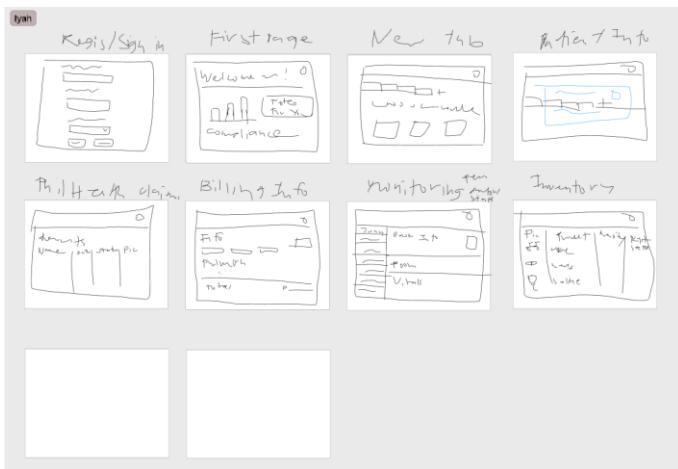


Figure 24: Mariyah Vanna Monique Chavez's Crazy 8

### John Kenneth Jajurie (Front-end Developer)

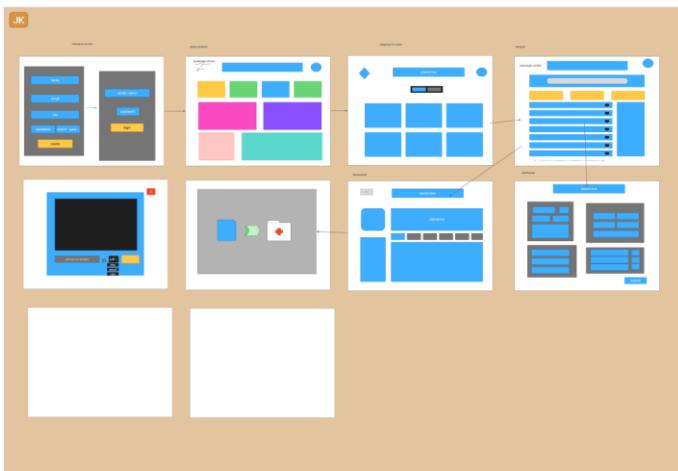


Figure 25: John Kenneth Jajurie's Crazy 8

## Post It Voting

After the Crazy 8's session, we organized our ideas on a FigJam board and voted on the ones we found most promising. This helped us narrow down the features that would be most useful for the system. The selected ideas became the starting point for creating prototypes and preparing for testing in the next steps of the design thinking process.



*Figure 26: FigJam Board Post It Voting*

## Desirable, Viable, Feasible

Following our previous session, we used this framework to make sure the selected ideas not only meet user needs and preferences but are also practical for business and achievable with the resources available. For each idea and sketch, we evaluated its alignment with three key aspects: desirability, viability, and feasibility.

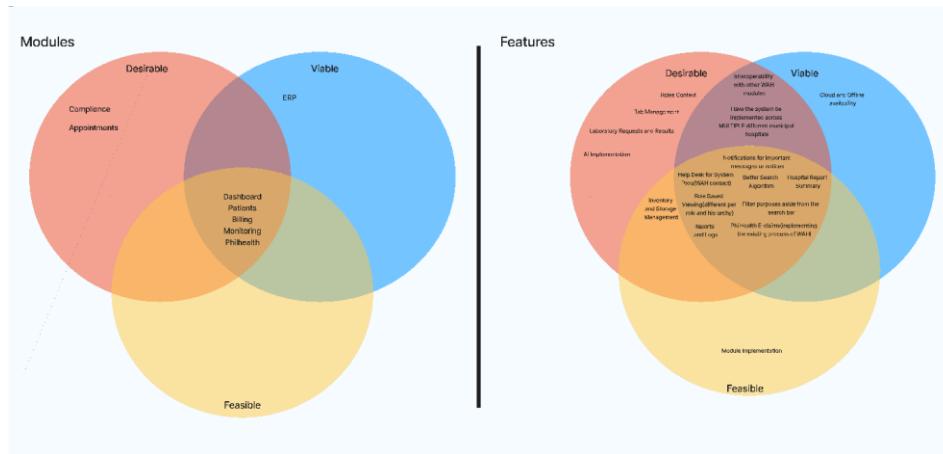


Figure 27: Venn Diagram for Desirable, Viable, Feasible

1. Will this feature make the daily tasks of Cuyapo Infirmary staff easier and improve their experience with the system?
2. Can this idea support WAH's goals and be sustained in the long run without adding unnecessary costs or complexity?
3. Do we have the tools, skills, and resources to build this feature into the system effectively?
4. Will this idea directly address the challenges we observed in the infirmary's workflow and bring meaningful improvements?

This assessment helps us focus on ideas that not only fit WAH's mission of improving healthcare access and efficiency but also respond to the challenges we saw at Cuyapo Infirmary, such as workflow issues and heavy administrative tasks. By looking at desirability, viability, and feasibility, we can narrow down the solutions that make the most sense. This way, we can use our resources wisely and work toward creating practical improvements that truly support both WAH and Cuyapo Infirmary.

#### **Stage 4: Prototype**

In the fourth stage of the Design Thinking process, we focus on prototyping. Each prototype is created with a specific audience in mind and designed to address their challenges. To test these ideas, we build mock-ups or near-functional models and gather feedback from users and stakeholders to see how well they work in practice.

We also use storyboards to visualize how clients, employees, and customers might interact with our solutions, helping us refine designs to fit real-world scenarios. From there, we develop a framework that balances desirability, viability, and feasibility, which guides the creation of our prototypes. For the mock-up design, we collaborate closely with clients, incorporating their preferences on concepts, colors, and design elements to ensure the result matches their vision.

This process bridges the gap between ideas and implementation, allowing us to spot challenges early and refine solutions before moving into full development.

#### **Story Boards**

A storyboard illustrates our collaboration with clients and their teams, giving us a clearer view of how they interact with the solutions we create.

##### **Elaine Cruz**



Figure 28: Story Board for Administrator

## Dr. Antonio Reyes

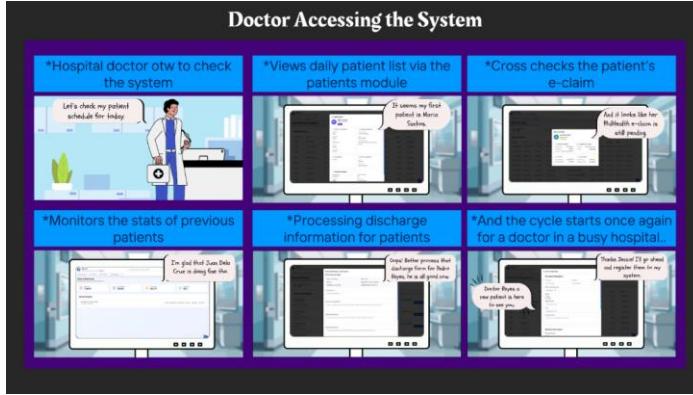


Figure 29: Story Board for Doctor

## Nurse Maria Lopez

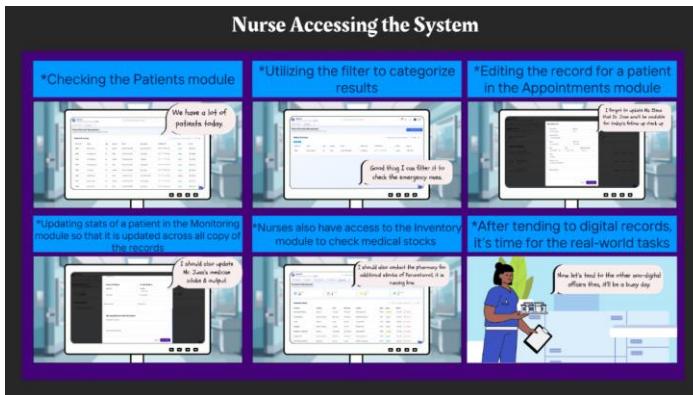


Figure 30: Story Board for Nurse

## Ana Gutierrez

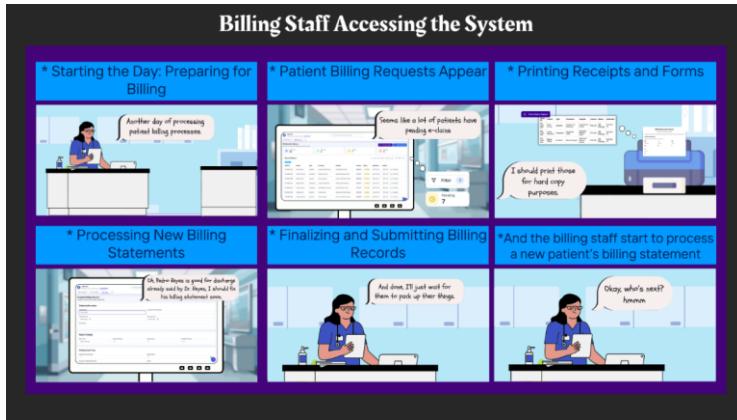


Figure 31: Story Board for Billing Staff

## Kevin Ramos

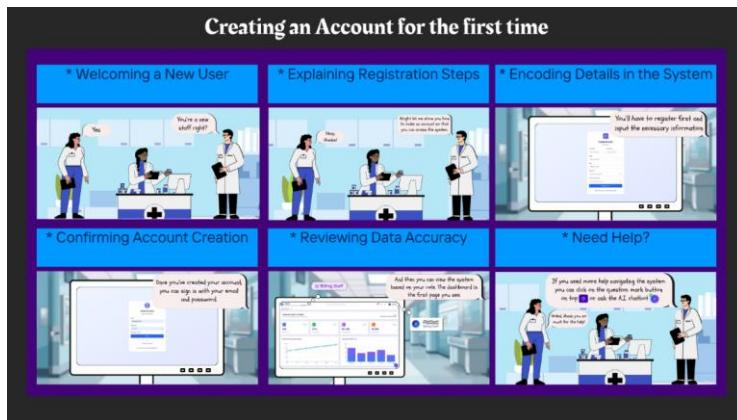


Figure 32: Story Board for Creating an Account for the First Time

## Erika Santos

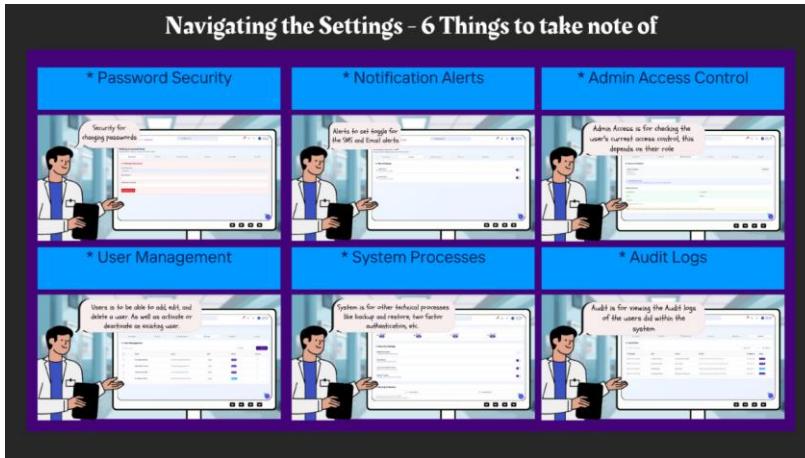


Figure 33: Story Board for Navigating the Settings - 6 Things to Take Note of

## Janelle Cruz

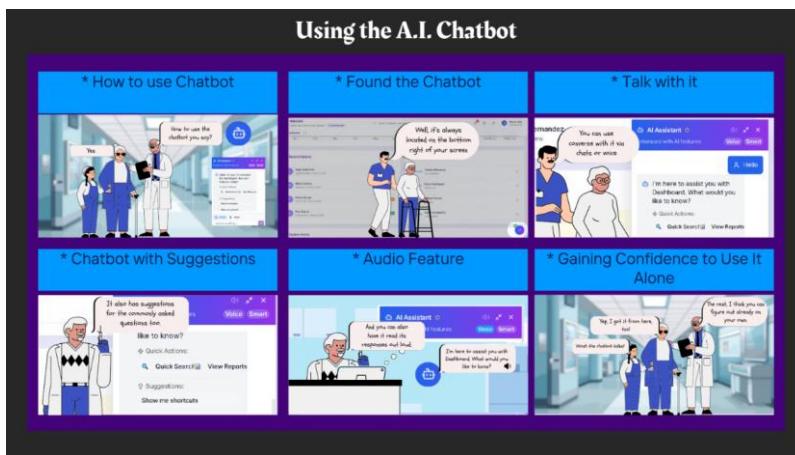


Figure 34: Story Board for Using the A.I. Chatbot

## Mockup Design

Mockup designs allow us to translate ideas into something visual and concrete. They give both our team and our clients a clearer picture of how the system might look and feel. Instead of just imagining the features, clients can see them represented and provide feedback early on. This back-and-forth helps us refine details and ensure that the final design is practical, user-friendly, and aligned with client expectations.

### Login system

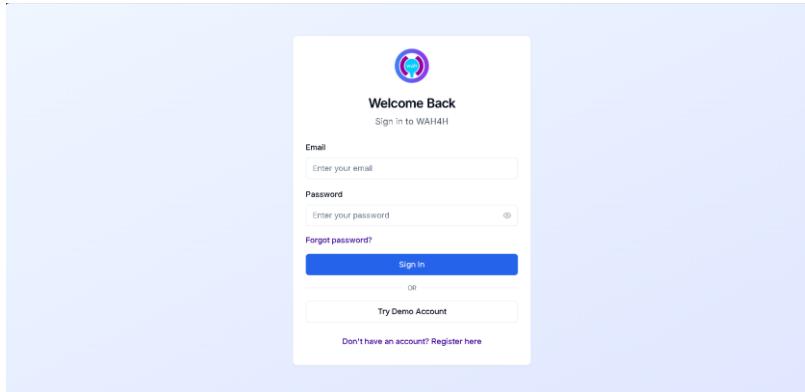


Figure 35: Mockup Design for Login Page

### Dashboard for Admin

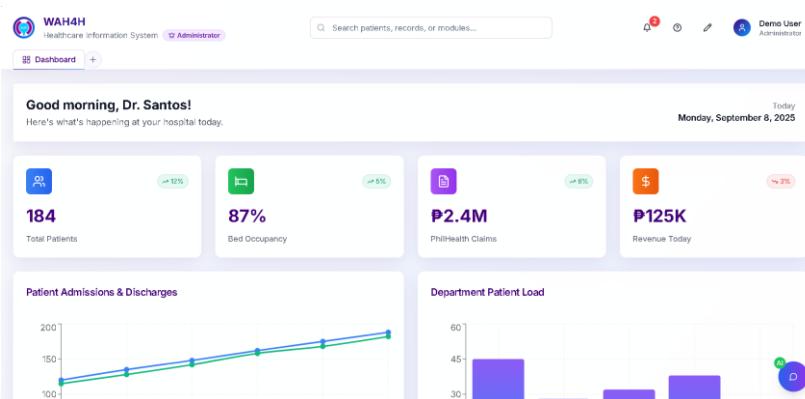


Figure 36: Mockup Design for Admin Dashboard

## Access Modules – Open New Tab

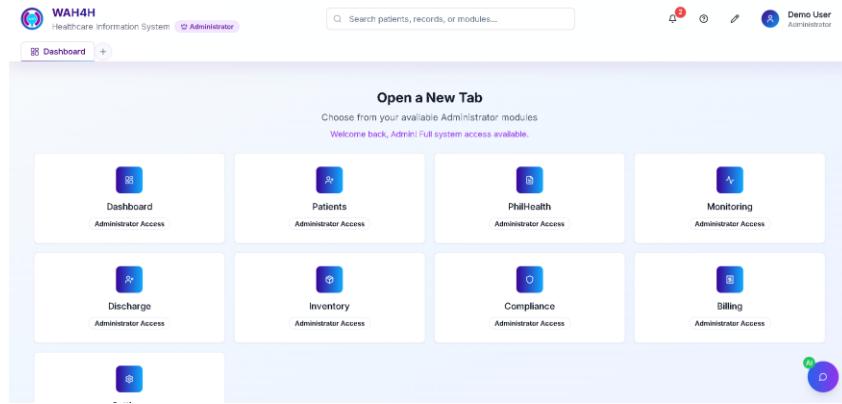


Figure 37: Mockup Design for Opening a New Tab

## Patient Records Management Module

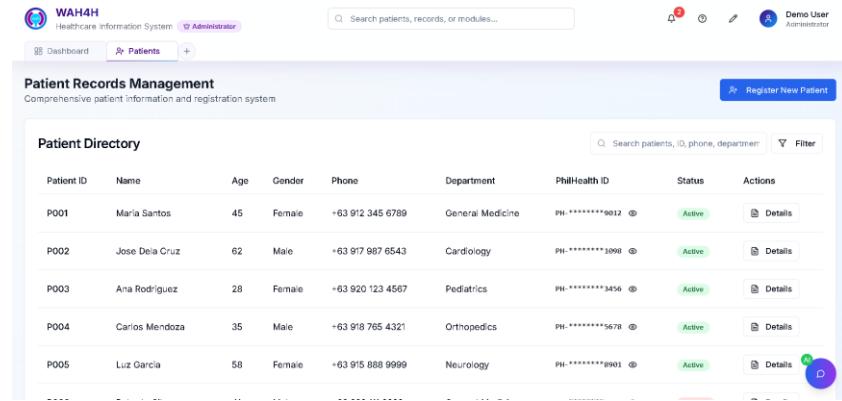


Figure 38: Mockup Design for Patient Records Management

## Patient Records Management – Patient Registration

The screenshot shows a 'Patient Registration' modal window. It includes fields for First Name, Last Name, Birth Date, Gender (Male/Female), Contact Number, Email, and Complete Address. Below the modal is a 'Patient Directory' table with columns for Patient ID and Name, listing entries P001 through P005. A sidebar on the right shows a list of patients with Active status and a 'Details' button.

Patient ID	Name
P001	Maria Santos
P002	Jose Dela Cruz
P003	Ana Rodriguez
P004	Carlos Mendoza
P005	Luz Garcia

Figure 39: Mockup Design for Patient Registration

## PhilHealth Claims Module

The screenshot shows a 'PhilHealth Claims' dashboard. It displays statistics for Total Claims (20), Approved (9), Pending (7), and Rejected (4). Below this is a 'Recent Claims' table with columns for Claim ID, Patient, Type, Procedure, Hospital, Amount, Status, Submitted Date, and Actions. Each row shows a claim with its details and status indicators.

Claim ID	Patient	Type	Procedure	Hospital	Amount	Status	Submitted	Actions
PH-2024-001	Juan Dela Cruz	Outpatient	Consultation and Treatment	Metro General Hospital	₱15,000	Approved	2024-05-15	<a href="#">View</a> <a href="#">Download</a>
PH-2024-002	Maria Santos	Inpatient	Surgery and Recovery	City Medical Center	₱45,000	Pending	2024-05-18	<a href="#">View</a> <a href="#">Download</a>
PH-2024-003	Pedro Reyes	Emergency	Emergency Treatment	Emergency Care Clinic	₱8,500	Rejected	2024-05-10	<a href="#">View</a> <a href="#">Download</a>
PH-2024-004	Ana Rodriguez	Maternity	Delivery and Postnatal Care	Women's Health Center	₱25,000	Approved	2024-05-12	<a href="#">View</a> <a href="#">Download</a>
PH-2024-005	Carlos Mendoza	Outpatient	Diagnostic Tests	Specialist Medical Clinic	₱12,000	Pending	2024-05-20	<a href="#">View</a> <a href="#">Download</a>

Figure 40: Mockup Design for PhilHealth Claims

## PhilHealth Claims Module – Print Claims Report

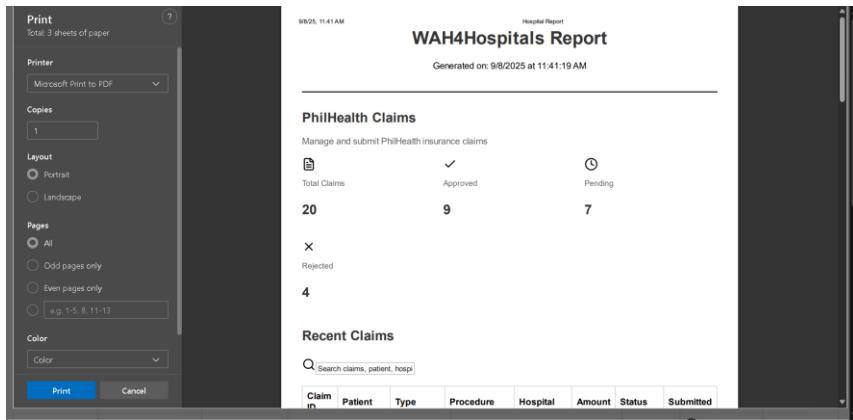


Figure 41: Mockup Design for Print Claims Report

## Patient Monitoring Module

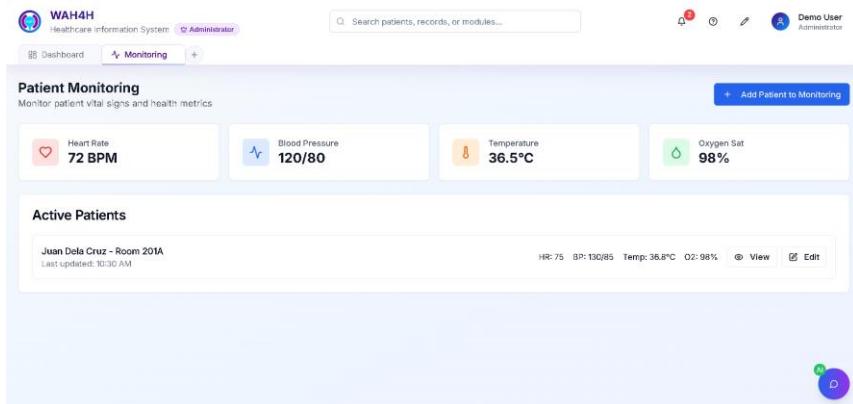
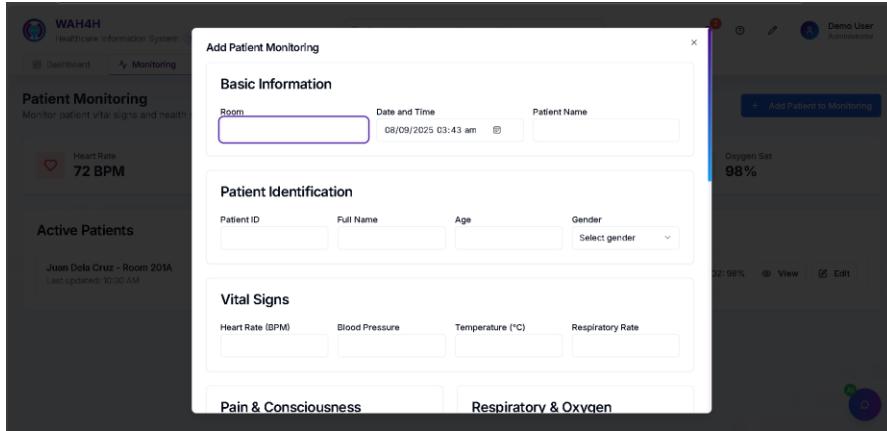


Figure 42: Mockup Design for Patient Monitoring

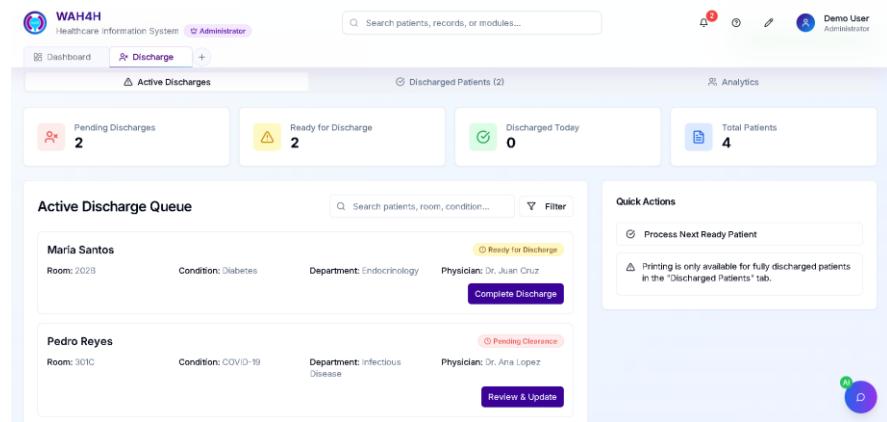
## Patient Monitoring – Add Patient Monitoring



The mockup shows a modal window titled "Add Patient Monitoring". It has three main sections: "Basic Information" (Room: Room 123, Date and Time: 08/09/2025 03:43 am, Patient Name:), "Patient Identification" (Patient ID: 12345, Full Name: John Doe, Age: 30, Gender: Male), and "Vital Signs" (Heart Rate (BPM): 72, Blood Pressure: 120/80 mmHg, Temperature (°C): 37.0, Respiratory Rate: 18). There are tabs for "Pain & Consciousness" and "Respiratory & Oxygen" at the bottom. A sidebar on the left shows "Active Patients" with Juan Dela Cruz in Room 201A.

Figure 43: Mockup Design for Add Patient Monitoring

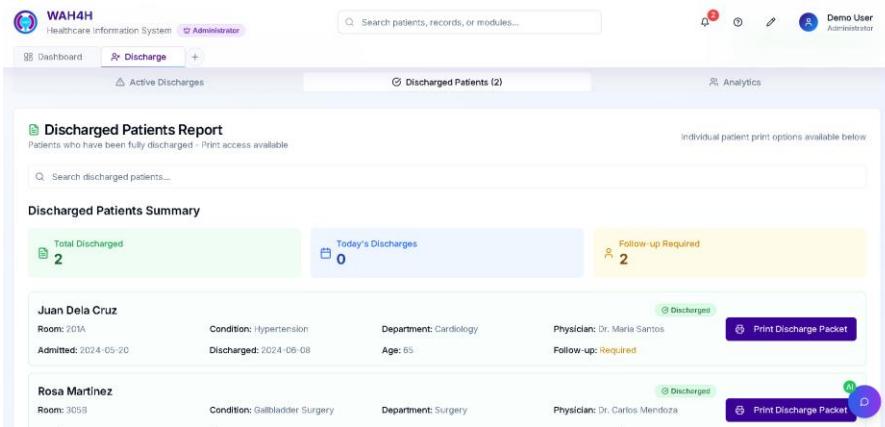
## Discharge Module (Active Discharges)



The mockup shows the Discharge module interface. At the top, there are tabs for "Dashboard", "Discharge" (selected), and "Analytics". Below the tabs, there are four summary cards: "Pending Discharges" (2), "Ready for Discharge" (2), "Discharged Today" (0), and "Total Patients" (4). The main area is divided into two sections: "Active Discharge Queue" and "Quick Actions". The "Active Discharge Queue" lists patients: Maria Santos (Room: 202, Condition: Diabetes, Department: Endocrinology, Physician: Dr. Juan Cruz) and Pedro Reyes (Room: 301C, Condition: COVID-19, Department: Infectious Disease, Physician: Dr. Ana Lopez). For each patient, there are buttons like "Ready for Discharge" (for Maria) or "Pending Clearance" (for Pedro). The "Quick Actions" section contains a button for "Process Next Ready Patient" and a note about printing availability.

Figure 44: Mockup Design for Discharge

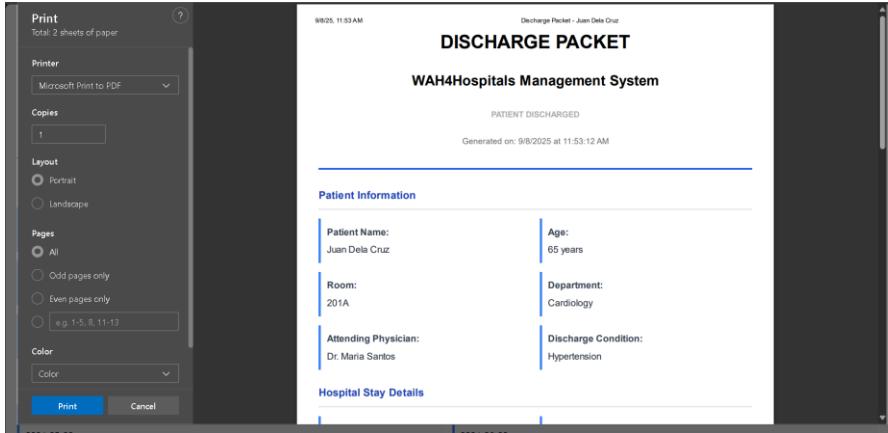
## Discharge Module (Discharged Patients)



The mockup shows a healthcare information system interface for managing discharged patients. At the top, there's a navigation bar with the WAH4H logo, search bar, and user profile for 'Demo User Administrator'. Below the header, a main menu includes 'Dashboard', 'Discharge' (selected), 'Active Discharges', 'Discharged Patients (2)', and 'Analytics'. The central area is titled 'Discharged Patients Report' and displays a summary for two patients: Juan Dela Cruz and Rosa Martinez. Each patient card includes details like room number, condition, department, physician, and follow-up status. Buttons for 'Print Discharge Packet' are visible next to each patient card.

Figure 45: Mockup Design for Discharged Patients

## Discharge Module (Discharged Patients – Print Discharge Packet)



This mockup illustrates the print dialog for generating a discharge packet. On the left, a 'Print' dialog box is open, showing settings for 2 sheets of paper, Microsoft Print to PDF as the printer, 1 copy, portrait orientation, all pages, and color. To the right, the 'DISCHARGE PACKET' document is displayed. The header includes the date (9/8/2025, 11:53 AM), document title ('Discharge Packet - Juan Dela Cruz'), and system name ('WAH4Hospitals Management System'). The 'PATIENT DISCHARGED' section shows the patient was generated on 9/8/2025 at 11:53:12 AM. The 'Patient Information' section lists the patient's name (Juan Dela Cruz, 65 years old, Room 201A, Cardiology, Dr. Maria Santos), attending physician, and discharge condition (Hypertension). A 'Hospital Stay Details' section is partially visible below.

Figure 46: Mockup Design for Print Discharge Packet

## Discharge Module (Discharged Patients Analytics)

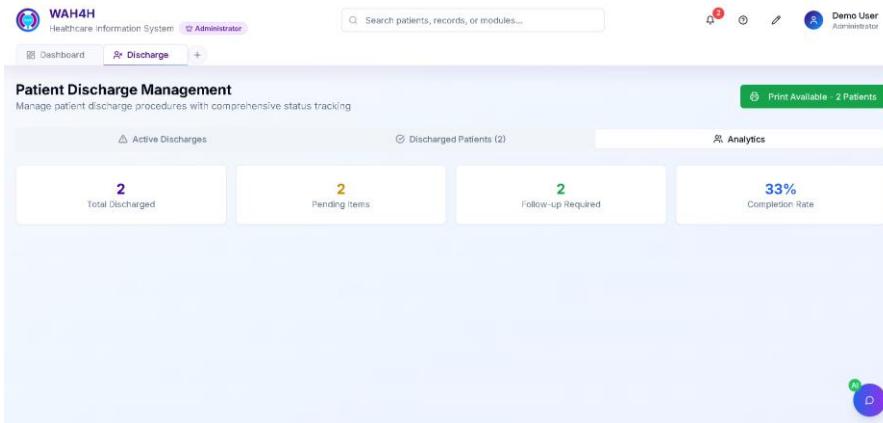


Figure 47: Mockup Design for Discharge Analytics

## Billing Management Module

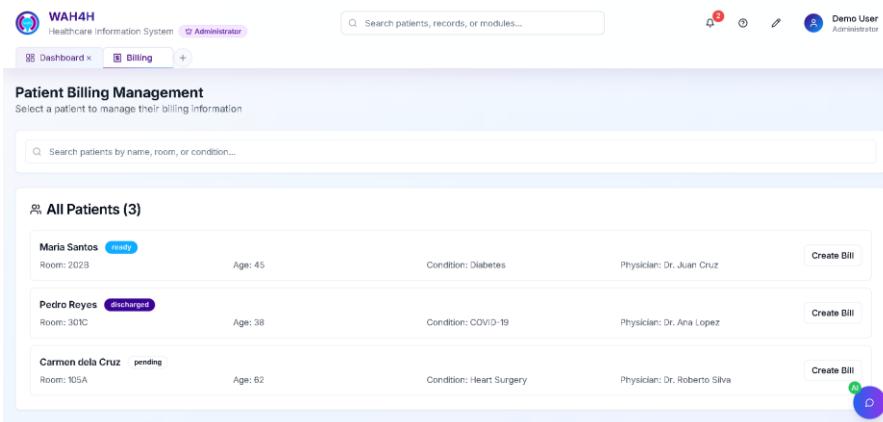
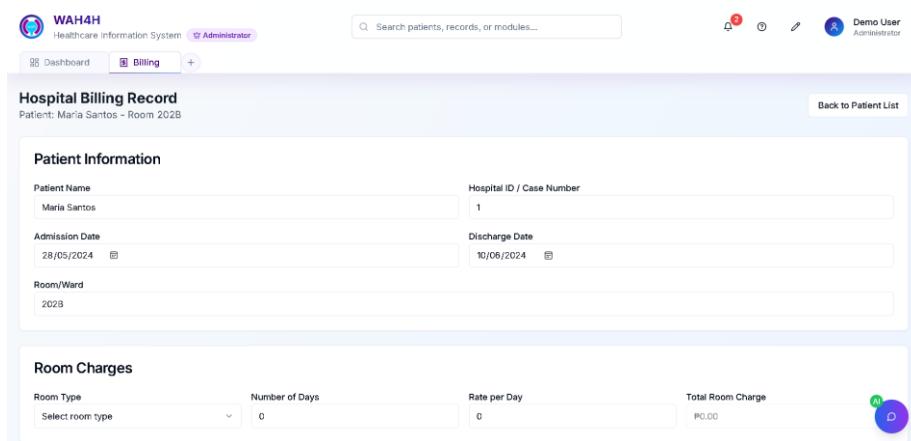


Figure 48: Mockup Design for Billing Management

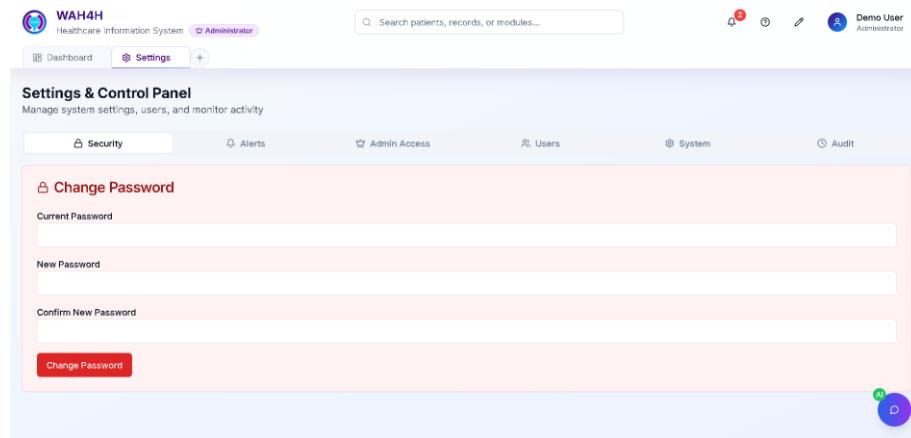
## Billing Management Module (Hospital Billing Record)



The mockup shows the 'Hospital Billing Record' page. At the top, there's a header with the WAH4H logo, a search bar, and user navigation. Below the header, a breadcrumb navigation shows 'Dashboard > Billing'. The main content area is titled 'Hospital Billing Record' and displays patient information for 'Patient: Maria Santos - Room 202B'. The 'Patient Information' section includes fields for Patient Name (Maria Santos), Hospital ID / Case Number (1), Admission Date (28/05/2024), Discharge Date (10/06/2024), Room/Ward (202B), and a 'Back to Patient List' button. The 'Room Charges' section shows a table with columns: Room Type (Select room type), Number of Days (0), Rate per Day (0), and Total Room Charge (P0.00). A blue circular icon with a white 'W' is located on the right side of the charges table.

Figure 49: Mockup Design for Hospital Billing Record

## Settings & Control Panel Module (Security)



The mockup shows the 'Settings & Control Panel' module under the 'Security' tab. The header includes the WAH4H logo, a search bar, and user navigation. The breadcrumb navigation shows 'Dashboard > Settings > Security'. The main content area is titled 'Settings & Control Panel' and describes it as 'Manage system settings, users, and monitor activity'. Below this, there are tabs for Security, Alerts, Admin Access, Users, System, and Audit. A large pink callout box highlights the 'Change Password' section, which contains fields for Current Password, New Password, and Confirm New Password, along with a red 'Change Password' button. A blue circular icon with a white 'W' is located on the right side of the callout box.

Figure 50: Mockup Design for S&CP Security

## Settings & Control Panel Module (Alerts)

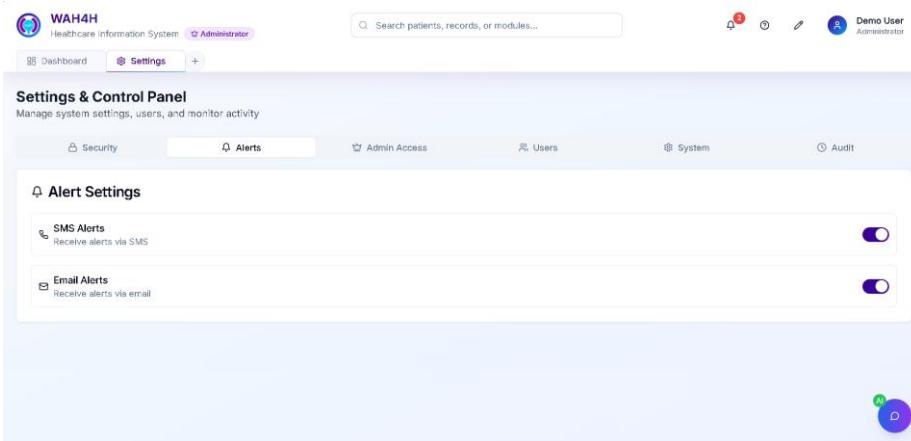


Figure 51: Mockup Design for S&CP Alerts

## Settings & Control Panel Module (Admin Access)

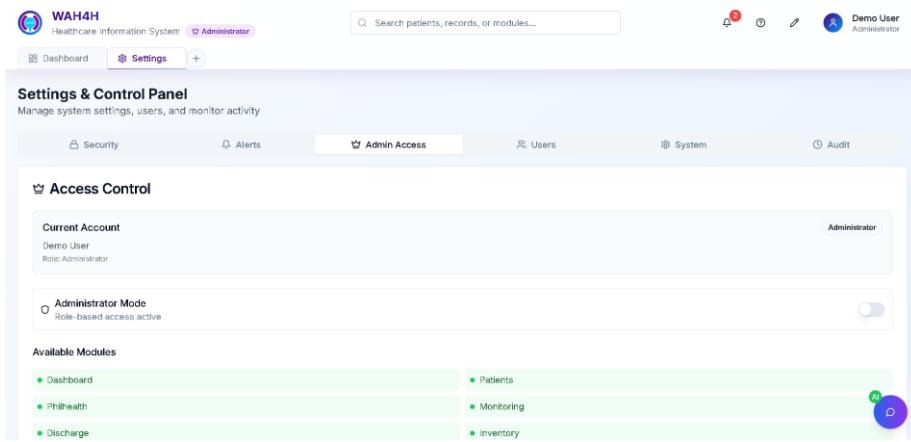


Figure 52: Mockup Design for S&CP Admin Access

## Settings & Control Panel Module (Users)

The screenshot shows the 'User Management' section of the S&CP module. At the top, there is a search bar labeled 'Search users...' and a dropdown menu set to 'All Roles'. A prominent purple 'Add User' button is located at the top right of the table area. The table itself has columns for Name, Email, Role, Status, and Actions. Five user entries are listed:

Name	Email	Role	Status	Actions
Dr. Sarah Johnson	sarah.johnson@hospital.com	Doctor	Active	...
Nurse Maria Garcia	maria.garcia@hospital.com	Nurse	Active	...
Admin John Smith	john.smith@hospital.com	Admin	Active	...
Dr. Michael Brown	michael.brown@hospital.com	Doctor	Inactive	...

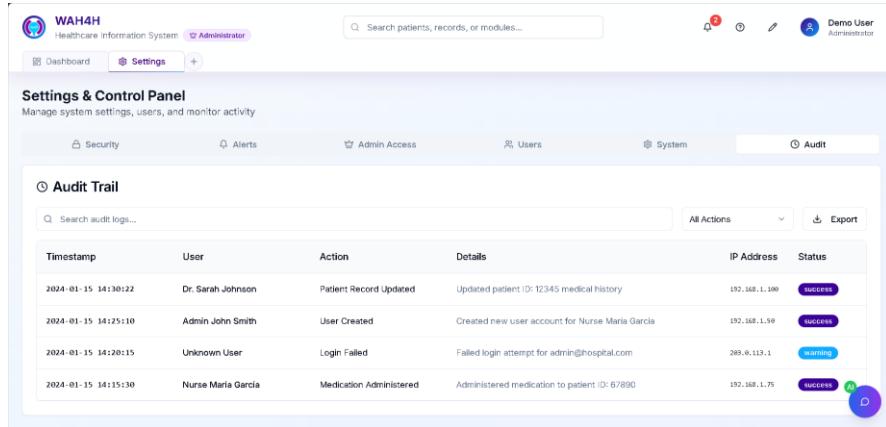
Figure 53: Mockup Design for S&CP Users

## Settings & Control Panel Module (System)

The screenshot shows the 'System Status' and 'Security Settings' sections of the S&CP module. In the 'System Status' section, four components are monitored: Database (online), Server (online), Network (online), and Security (secure). In the 'Security Settings' section, there are two main options: 'Maintenance Mode' (temporarily disable system access) and 'Auto Backup' (automatic daily system backups). A purple 'Save' button is located at the bottom right of the 'Auto Backup' section.

Figure 54: Mockup Design for S&CP System

## Settings & Control Panel Module (Audit)



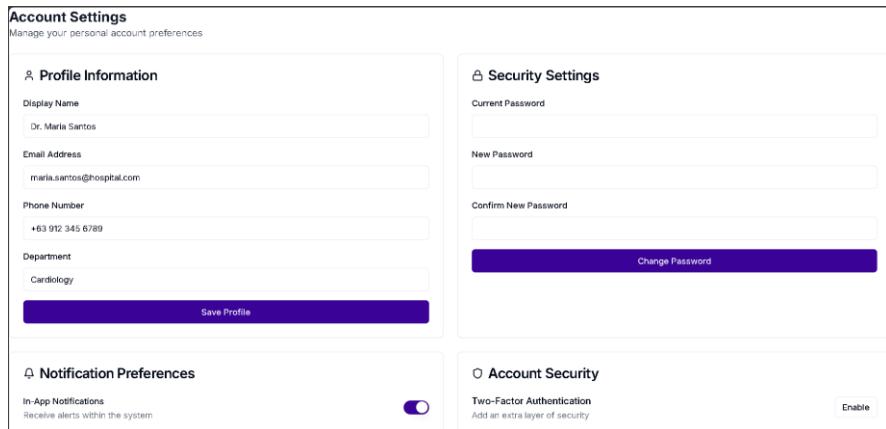
The mockup shows a web-based audit trail interface. At the top, there's a header with the logo 'WAH4H', a search bar, and user information for 'Demo User Administrator'. Below the header, a navigation bar includes 'Dashboard', 'Settings' (which is selected), and a '+' button. The main content area is titled 'Settings & Control Panel' with the subtitle 'Manage system settings, users, and monitor activity'. A sub-section titled 'Audit Trail' is shown, featuring a table of audit logs. The table columns are 'Timestamp', 'User', 'Action', 'Details', 'IP Address', and 'Status'. The data in the table includes:

Timestamp	User	Action	Details	IP Address	Status
2024-01-15 14:13:01:22	Dr. Sarah Johnson	Patient Record Updated	Updated patient ID:12345 medical history	192.168.1.100	success
2024-01-15 14:12:51:10	Admin John Smith	User Created	Created new user account for Nurse Maria Garcia	192.168.1.98	success
2024-01-15 14:12:01:15	Unknown User	Login Failed	Failed login attempt for admin@hospital.com	209.6.113.1	warning
2024-01-15 14:11:51:30	Nurse Maria Garcia	Medication Administered	Administered medication to patient ID: 67890	192.168.1.75	success

Below the table are several small circular icons with icons like a magnifying glass, a gear, and a plus sign.

Figure 55: Mockup Design for S&CP Audit

## Account Settings



The mockup shows the 'Account Settings' page. At the top, it says 'Account Settings' and 'Manage your personal account preferences'. The page is divided into four sections: 'Profile Information', 'Security Settings', 'Notification Preferences', and 'Account Security'.

- Profile Information:** Contains fields for 'Display Name' (Dr. Maria Santos), 'Email Address' (maria.santos@hospital.com), 'Phone Number' (+61 912 345 6789), and 'Department' (Cardiology). A 'Save Profile' button is at the bottom.
- Security Settings:** Contains fields for 'Current Password', 'New Password', and 'Confirm New Password'. A 'Change Password' button is at the bottom.
- Notification Preferences:** Contains a switch for 'In-App Notifications' (Receive alerts within the system).
- Account Security:** Contains a switch for 'Two-Factor Authentication' (Add an extra layer of security) with an 'Enable' button next to it.

Figure 56: Mockup Design for Account Settings

## **Conclusion**

In summary, the fourth stage of the Design Thinking process serves as a vital step in transforming ideas into workable solutions. Through prototyping, we create early models that can be tested and refined in partnership with our stakeholders. For this project, our efforts are directed toward addressing the unique challenges of Wireless Access for Health (WAH) and Cuyapo Infirmary, ensuring that the system we design is responsive to their needs. By engaging closely with healthcare staff and administrators, we gather input not only on system functionality but also on usability and design preferences, allowing the solution to reflect both practicality and local context.

This stage allows us to bridge the distance between conceptual thinking and real-world application. It gives us the opportunity to identify pain points, explore alternatives, and refine the design so that the end product is not just functional but also meaningful to those who will use it. Ultimately, this process ensures that our solution strengthens WAH's mission of advancing digital health while supporting Cuyapo Infirmary's commitment to providing efficient, patient-centered care.

## **Stage 5: Testing**

In the design thinking process, Stage 5 is typically called the "Test" stage. The Test stage is the final phase of the design thinking process, following the Prototype stages. In this stage, our focus shifts from creating prototypes to testing those prototypes with real users to gather feedback and insights. The primary goal of the Test stage is to ensure that the proposed solutions meet user needs, are user-friendly, and effectively address the identified problem or challenge. We collect qualitative and quantitative feedback from users. This feedback is essential for identifying what works well, what needs improvement, and any unexpected issues or challenges.

### **Feedback and Testing with Cuyapo Infirmary Staff**

During the onsite scoping activity at Cuyapo Infirmary on **May 14**, the project team presented a working prototype of the WAH4H system to the stakeholders from Wireless Access for Health (WAH). During this early demonstration, the stakeholders provided their general inputs in a discussion-oriented manner rather than through a formal evaluation.



Figure 57. Feedback and Testing with Cuyapo Infirmary

### 5.1 Client Feedback

From this session, several key points of feedback were noted:

- **Positive reception of UI and design:** The stakeholders appreciated the clean, intuitive, and user-friendly interface of the system. They emphasized that the design was more accessible compared to other HIS solutions currently available in the market.
- **Ease of navigation:** The prototype was seen as easier to navigate than competing systems, which they considered an advantage for user adoption, particularly for staff with varying levels of technical comfort.
- **Recommendation for additional modules:** The stakeholders expressed that while the current core modules addressed essential hospital workflows, additional modules would further strengthen the system's capacity and value for healthcare facilities.

This feedback validated the design choices made in the prototype while also highlighting opportunities for expansion. The positive reaction to the interface and navigation confirms that the system is aligned with the goal of usability, while the call for additional modules signals a need for scalability and adaptability to diverse hospital requirements.

## Group Related Project Artifact

### Project Artifact

#### Online Forms Stage 1 Empathize

<https://asiapacificcollege.sharepoint.com/:f/s/SSYADD1SS231T1AY2025-2026/ErT6jcK-2zVLIP|SdKvbF9UBVxfhex8mjXzzKsAzkv-qTA?e=DCkRSV>

**Commented [MC1]:** Ito ung compiled folder ng midterm deliverables

### Online Video

**Commented [MC2]:** Ito idk ano link dapat ilagay here

#### Stage 1 Empathize

<https://asiapacificcollege.sharepoint.com/:v/r/sites/SSYADD1SS231T1AY2025-2026/Shared%20Documents/G04%20Pseudoers/Recordings/MEETING%205%20-%20MOTM%205.mp4?csf=1&web=1&e=98fUKw&nav=eyJyZWZlcnJhbEluZm8iOnsicmVmZXJyYWx BcHAiOijTdHjIYW1XZWJBcHAiLCJyZWZlcnJhbFZpZXciOijTaGFyZURpYWxvZy1MaW5rIiwicmVmZXJyYWx BcHBQbGF0Zm9ybSI6IldlYiIsInJZmVycmFsTW9kZSI6InZpZXcifX0%3D>

#### Stage 2 Define

#### Stage 3 Ideate

[https://asiapacificcollege.sharepoint.com/:v/s/SSYADD1SS231T1AY2025-2026/EWLijkyQMqVJqNJ1\\_devB68BziJew97y8HOjn3gL9fE0hA?e=BIFNcR](https://asiapacificcollege.sharepoint.com/:v/s/SSYADD1SS231T1AY2025-2026/EWLijkyQMqVJqNJ1_devB68BziJew97y8HOjn3gL9fE0hA?e=BIFNcR)

#### Stage 4 Prototype

#### Stage 5 Testing

## **Individual Contributions**

### **Jhon Lloyd R. Nicolas**

#### **Stage 1**

- Charter
- DFD
- Communication with WAH
- Information gathering
- Facilitating meetings
- Prototype development

#### **Stage 2**

- Lorem Ipsum

#### **Stage 3**

- Lorem Ipsum

#### **Stage 4**

- Lorem Ipsum

#### **Stage 5**

- Lorem Ipsum

### **Elijah Josh R. Quibin**

#### **Stage 1**

- Objectives
- Use Case Diagram
- Initial Scoping
- Communication with Cuyapo Infirmary
- Stage 1 Empathize Interview
- Storyboard
- Theoretical Persona

- SSYADD Paper
- Facilitating Meetings

#### Stage 2

- Lorem Ipsum

#### Stage 3

- Lorem Ipsum

#### Stage 4

- Lorem Ipsum

#### Stage 5

-

**John Kenneth L. Jajurie**

## Stage 1

- Stakeholder Analysis
- SSYADD Paper
- Facilitating Meetings
- Prototype Development

## Stage 2

- Lorem Ipsum

## Stage 3

- Lorem Ipsum

## Stage 4

- Lorem Ipsum

## Stage 5

- Lorem Ipsum

**Mariyah Vanna Monique C. Chavez**

## Stage 1

- Scope
- OpenProject Management
- Storyboard
- Actual Persona
- Documents Organization
- Facilitating Meetings

## Stage 2

- Lorem Ipsum

## Stage 3

- Lorem Ipsum

#### Stage 4

- Lorem Ipsum

#### Stage 5

- Lorem Ipsum