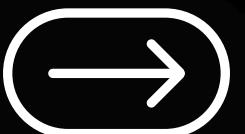




LPPO: Client Appointment and Monitoring Management System for Laguna Parole and Probation Office with SMS Notification

Presented by: Angeles | Lat | Montesa | Pino | Teano
Course: Bachelor of Science in Computer Science (BSCS)



BACKGROUND AND INITIAL SCOPE

BACKGROUND

The Laguna Parole and Probation Office helps people on parole or probation by tracking their progress and setting appointments. Before, they used manual methods which caused delays, missed appointments, and errors.

To solve this, the team developed a Client Appointment and Monitoring Management System with SMS Notification. The system allows clients to schedule appointments online and receive text reminders. It also helps the office monitor client progress more easily. This system makes the process faster, more accurate, and more efficient for both the office and its clients.

BACKGROUND AND INITIAL SCOPE

INITIAL SCOPE

- Registration Page
- Dashboard Page of the Admin
- Dashboard Page of the client
- Upload Requirements Page
- Profile Page
- Change Password Page
- Calendar Page
- Add Petitioner Page
- Petitioner List Page
- Clients Page
- User List Page
- List of the Probationer
- Denied Petitioner Page
- Completed Probationers Page
- Revoked Probationer
- View Details Page

KEY ENHANCEMENTS

(ADDED NEW FEATURES | CODE ENHANCEMENT AND FUNCTIONALITIES)

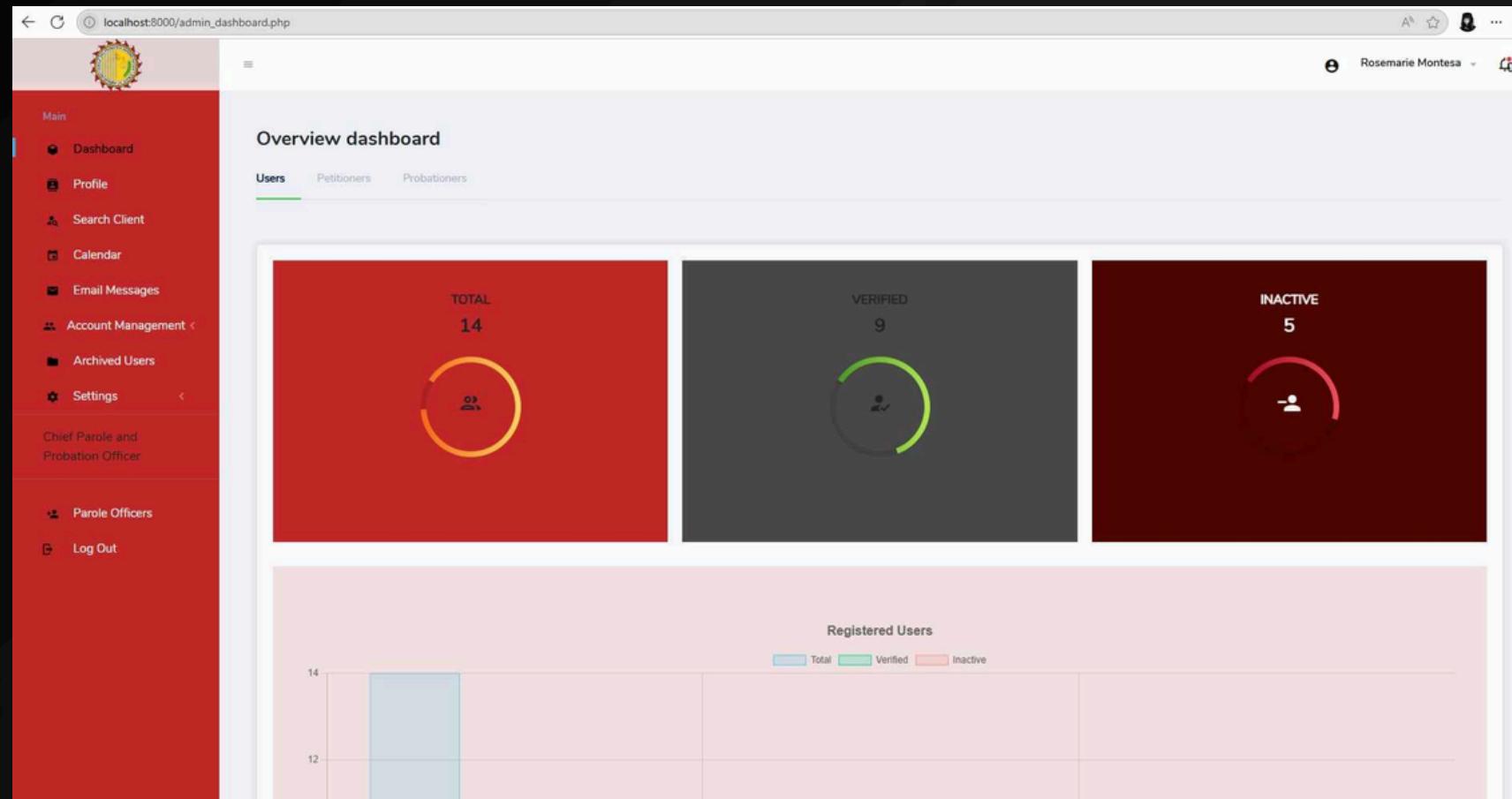
| Feature/Enhancement | CS Concept | What we did |
|---|-----------------------------------|---|
| LPPO Assistant Chatbot | <i>Machine Learning Algorithm</i> | This <i>simple chatbot</i> helps users interact with the system more efficiently compared to FAQ's with more limited information. |
| Email Code Verification OTP | <i>Security Enhancement</i> | Instead of using the usual XAMPP link for verification (as we've seen in the old system) <i>we implemented OTP for direct verification</i> . It's a more secure and convenient way for users to activate their account. |
| Real-time Search (Admin/Client) | <i>Automation</i> | As requested by the researchers, we created <i>real time search</i> , allowing users to see search results as they type. Helpful for fast data access. |
| Automated Parole Assignment + Officer Panel | <i>Automation</i> | Also recommended by the researchers, the goal of this feature is to <i>automatically assign clients to officers</i> based on certain conditions like location. |

| | | |
|---|------------------------------|--|
| Database Optimization (Officer, Area Assignment tables) | <i>Database Optimization</i> | We improved the database by adding normalized tables. We <i>added tables</i> and <i>more queries</i> for better data flow. |
| Email Recipient from API | <i>API Cloud Integration</i> | This connects to an external email API to handle email delivery. We use our <i>own Gmail API</i> , so we can have full access and control. |
| Assistant Bot Typing Animation | <i>UI/UX</i> | Just a <i>basic animation</i> , to make the chatbot look more interactive. |
| Toggle Password Visibility | <i>UI/UX</i> | Small <i>UI improvement</i> . |
| UI Redesign (Red-Yellow theme) | <i>UI/UX</i> | We changed the <i>UI to match the formal tone</i> needed for parole and probation work. |

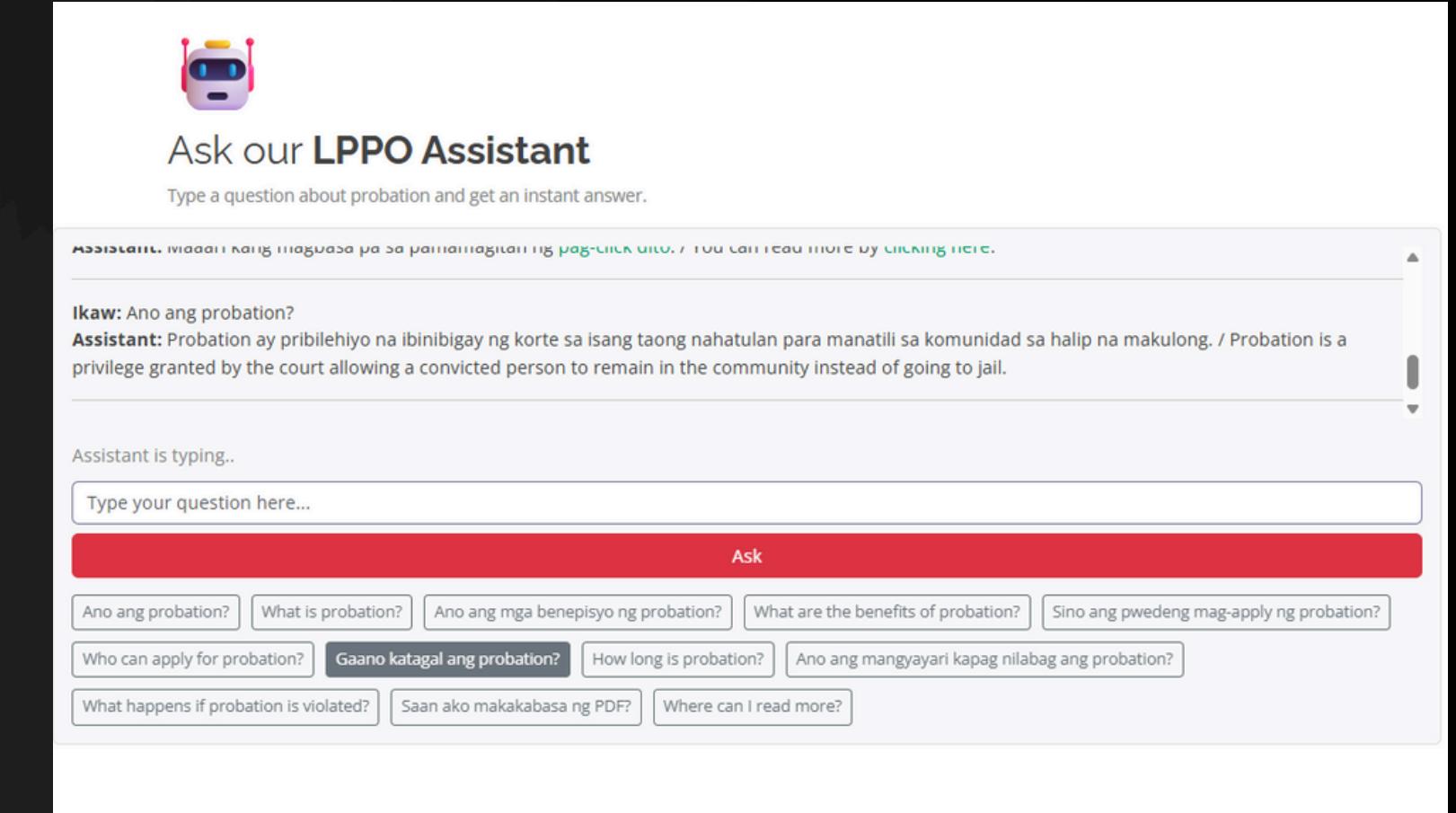
| | | |
|--------------------------------------|---------------------------|--|
| Client Status + Proper Message Popup | <i>Backend Management</i> | Improves the way users receive feedback on their actions. |
| CRUD Enhancement | <i>Backend Management</i> | The system doesn't have a complete set of <i>CRUD</i> so we added more CRUD functionality. |
| Denied and Revoked Sections | <i>Backend Management</i> | These features help organize user status better. |
| Archived User Section | <i>Backend Management</i> | We also added an archive <i>accounts</i> section so we can see inactive users easily. |

SCREENSHOTS

SAMPLE FUNCTIONALITY AND INTERFACE



The screenshot shows the 'Overview dashboard' for an administrative system. The left sidebar includes links for Main, Dashboard, Profile, Search Client, Calendar, Email Messages, Account Management, Archived Users, Settings, Chief Parole and Probation Officer, Parole Officers, and Log Out. The main area displays three circular statistics: 'TOTAL 14', 'VERIFIED 9', and 'INACTIVE 5'. Below these are three stacked bar charts under the heading 'Registered Users' showing the distribution of users by status: Total (14), Verified (12), and Inactive (2).



The screenshot shows the 'Ask our LPPO Assistant' interface. It features a Q&A section where the user asks 'Ikaw: Ano ang probation?' and the assistant responds: 'Assistant: Probation ay pribilehiyo na ibinibigay ng korte sa isang taong nahatulan para manatili sa komunidad sa halip na makulong. / Probation is a privilege granted by the court allowing a convicted person to remain in the community instead of going to jail.' Below this is a text input field 'Type your question here...' and a red 'Ask' button. A list of pre-defined questions is provided at the bottom.

ASSISTANT: Imaan ka ng ilagasa mo sa pamamagitan ng [pag-click dito](#). / You can read more by clicking here.

Ikaw: Ano ang probation?

Assistant: Probation ay pribilehiyo na ibinibigay ng korte sa isang taong nahatulan para manatili sa komunidad sa halip na makulong. / Probation is a privilege granted by the court allowing a convicted person to remain in the community instead of going to jail.

Assistant is typing..

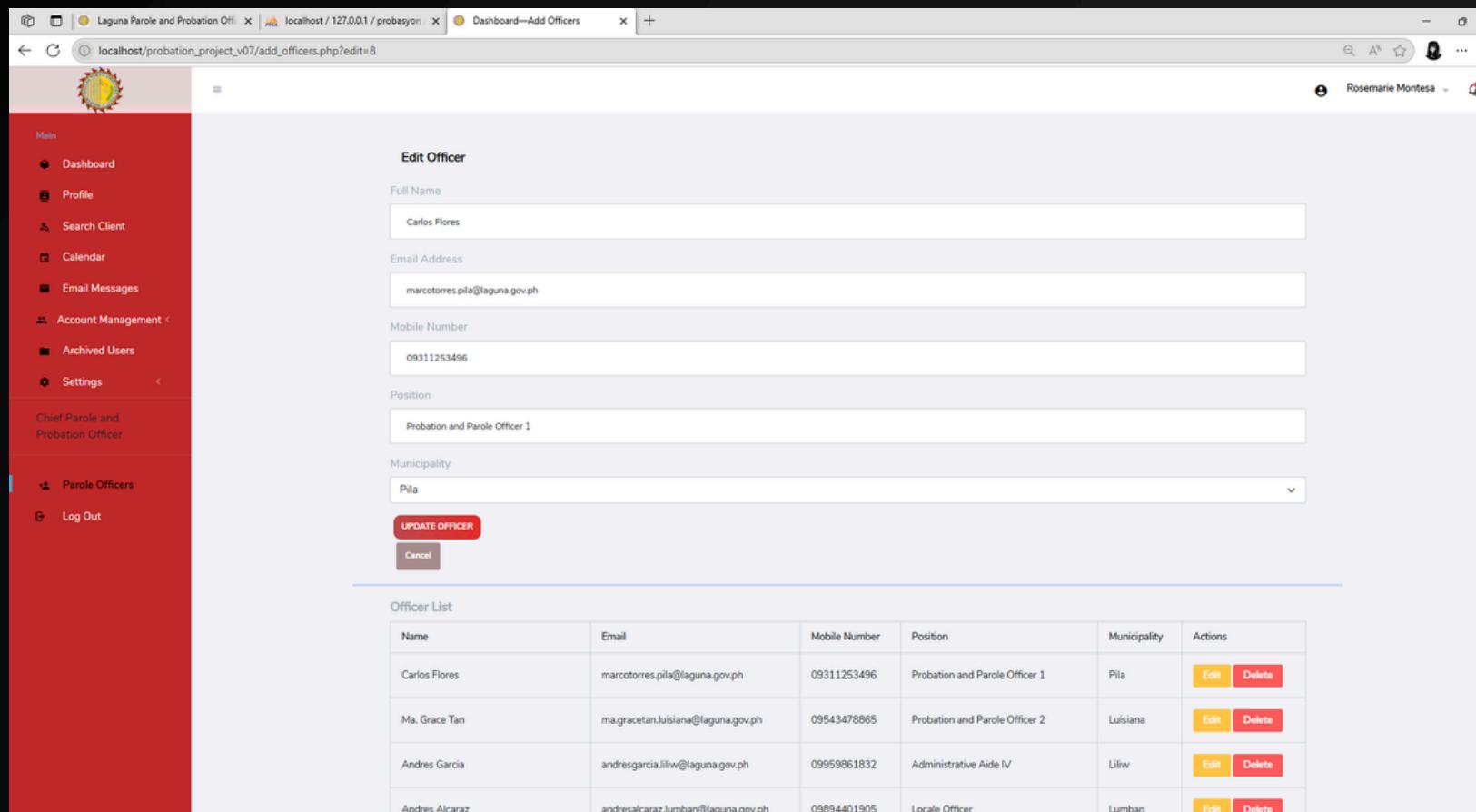
Type your question here...

Ask

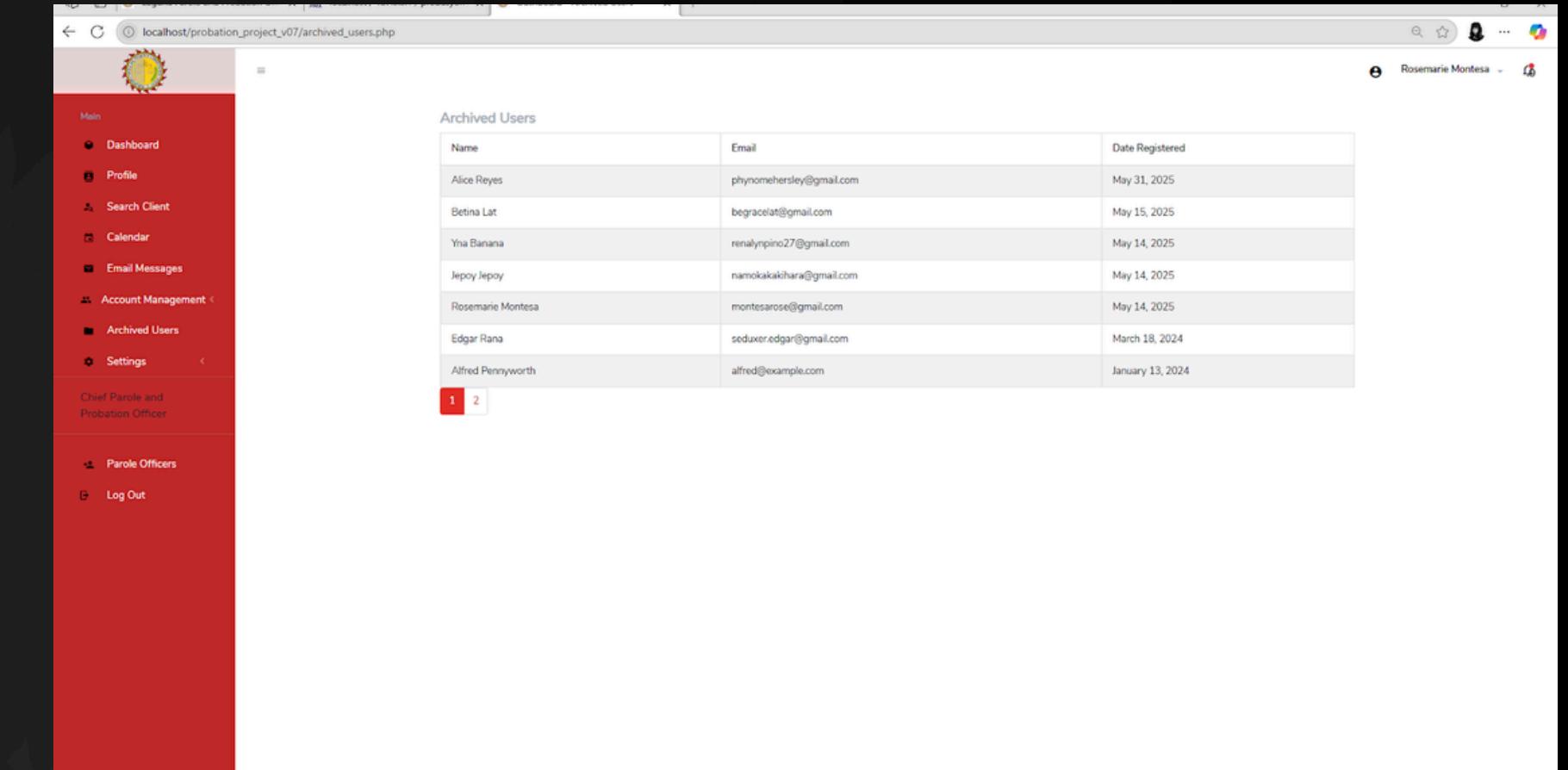
Ano ang probation? What is probation? Ano ang mga benepisyo ng probation? What are the benefits of probation? Sino ang pwedeng mag-apply ng probation?
Who can apply for probation? **Gaano katagal ang probation?** How long is probation? Ano ang mangyayari kapag nilabag ang probation?
What happens if probation is violated? Saan ako makakabasa ng PDF? Where can I read more?

SCREENSHOTS

SAMPLE FUNCTIONALITY AND INTERFACE



The screenshot shows the 'Edit Officer' form. It includes fields for Full Name (Carlos Flores), Email Address (marcotorres.pila@laguna.gov.ph), Mobile Number (09311253496), Position (Probation and Parole Officer 1), and Municipality (Pila). There is also a dropdown menu for 'Parole Officers'. At the bottom are 'UPDATE OFFICER' and 'Cancel' buttons.



The screenshot shows the 'Archived Users' page. A table lists users with the following data:

| Name | Email | Date Registered |
|-------------------|--------------------------|------------------|
| Alice Reyes | phynomehersley@gmail.com | May 31, 2025 |
| Betina Lat | begracelat@gmail.com | May 15, 2025 |
| Yna Banana | renalynpino27@gmail.com | May 14, 2025 |
| Jepoy Jepoy | namokakahiara@gmail.com | May 14, 2025 |
| Rosemarie Montesa | montesarose@gmail.com | May 14, 2025 |
| Edgar Rana | seduxer.edgar@gmail.com | March 18, 2024 |
| Alfred Pennyworth | alfred@example.com | January 13, 2024 |

LESSONS LEARNED

WHAT WE LEARNED IN THE PROCESS

Throughout the development of the system, we learned how important it is to use technology to solve real-world problems. By replacing manual processes with an online system, we made client monitoring and appointment scheduling faster and more accurate.

We learned **how to integrate and connect CS concepts** in a capstone project and combining both made us realize how they can be very helpful and convenient at the same time. We added useful features like the LPPO Assistant Bot, real-time search, archive accounts, reason sections for denied and revoked cases, professional email integration, password toggle, client status updates, message popups, and automated parole assignment as well as enhanced its UI interface. These improvements made the system easier to use and more reliable for both clients and staff.