



## **TECHNOLOGICAL INSTITUTE OF THE PHILIPPINES**

### **FINAL PROJECT: CPE011 - DBMS**

A software application that  
utilizes CRUD integrated into a database

Presented to the Computer Engineering Department,  
Technological Institute of the Philippines, Quezon City Campus

In partial fulfillment of the requirements  
for the **CPE011/CPE21S5/DATABASE MANAGEMENT SYSTEMS**

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# **Chapter 1**

## **Project Background**

### **1.1 The Client and the Problem**

Several Filipinos are having a hard time when searching for emergency hotlines and contact information for different departments. This is because the updated emergency hotlines and information are not being properly introduced in the community. Not knowing the emergency hotlines may result in poor response in emergency situations resulting in greater loss. Not knowing the emergency hotlines may result in a poor response in emergency situations resulting in more significant casualties.

### **1.2 The Solution**

The solution is to make a program that will provide the user information about a department in a specific location. Information regarding the department is stored in a database which will be connected to the GUI to provide data. The program will supply a list of hotlines or contact information of specific sectors in a selected city depending on the user's location. The program will consist of two users: an Admin and a Guest. The admin can modify the information stored in the database. If the hotline is unresponsive, the admin can update it by replacing the old hotline to the latest hotline or delete the outdated hotline to prevent the user from calling the number. On the other hand, The user can only see the information of a specific information by inputting a location.

## **1.3 Project Objectives**

1. To Develop a program where the user can acquire information such as contact number, hotline number, department location, department type in times of emergencies.
2. To Develop a GUI that will provide the user ease when looking for information of a department in a specific city.
3. To Develop a database that handles the details of emergency hotline and will be connected to the GUI using python programming language.

## **1.4 Scope and Limitations**

The goal of this project is to give users data on several departments in a given city. Depending on the location that the user has chosen, the user will only be able to access basic information about a department, such as its kind, name, location, and contact information for the user to notify the chosen department for emergencies. The departments' information that was acquired is limited to Marikina City and does not extend beyond the city.

## **Chapter 2**

### **The Project**

#### **2.1 Software Design**

The main objective of the project design is to give the client a various updated hotline in different departments in a specific city. The client can search the location of the nearest department for convenience and faster response in emergency situations. The software design has an admin account to ensure the smooth flow of information from one part to another. The admin is responsible for creating a new hotline, updating the hotline if there are some emergency hotlines that are outdated and must be replaced by the latest hotline, the admin can also delete the emergency hotline if it is unresponsive.

#### **2.2 Software Flowchart**

Figure 1 represents the flowchart for the GUI. The flowchart includes different shapes where it represents functions such as Start/End, Decision, Process, Input/Output, Display and Store. The Shapes in the figure are used to represent the Workflow or Process of the GUI made by this group.

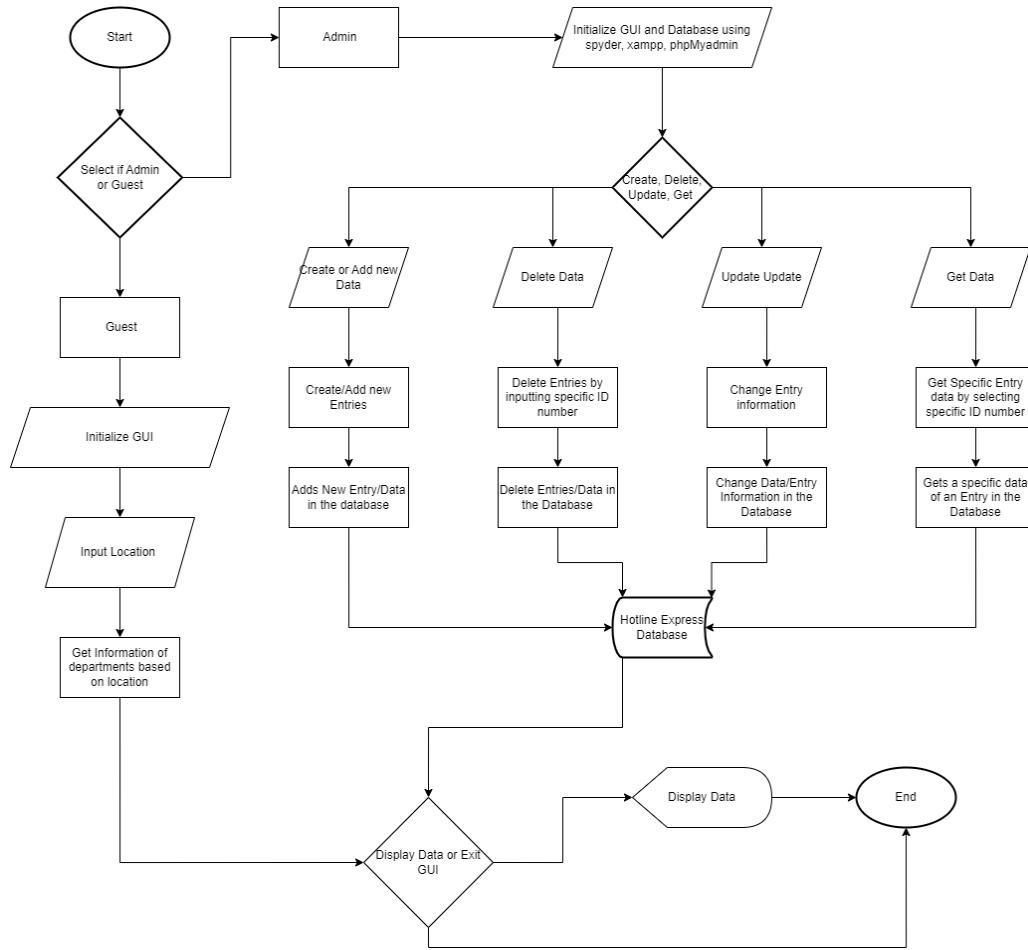


Figure 1. GUI Flowchart Diagram

The figure above will first have the shape of a sphere which represents the initialization of GUI. Once the GUI pops up on the Users screen it will then lead to a decision as to whether the user is an admin or a guest. Once the user is done choosing the GUI will start running and the user can now proceed in using the GUI. If the user selects Admin, the user will be presented with a number of options, including the ability to modify the database and access a graphical user interface (GUI) from which the user can create, add, delete, update, and retrieve data or information. On the other hand, if the user chooses "Guest," the user will only have the option of getting data about different departments from the GUI, which will be displayed once the user has inputted the desired location. Once done with using the GUI the user can freely exit or end the program.

## 2.3 Database Design

### 2.3.1 Logical Design (ER Diagram)

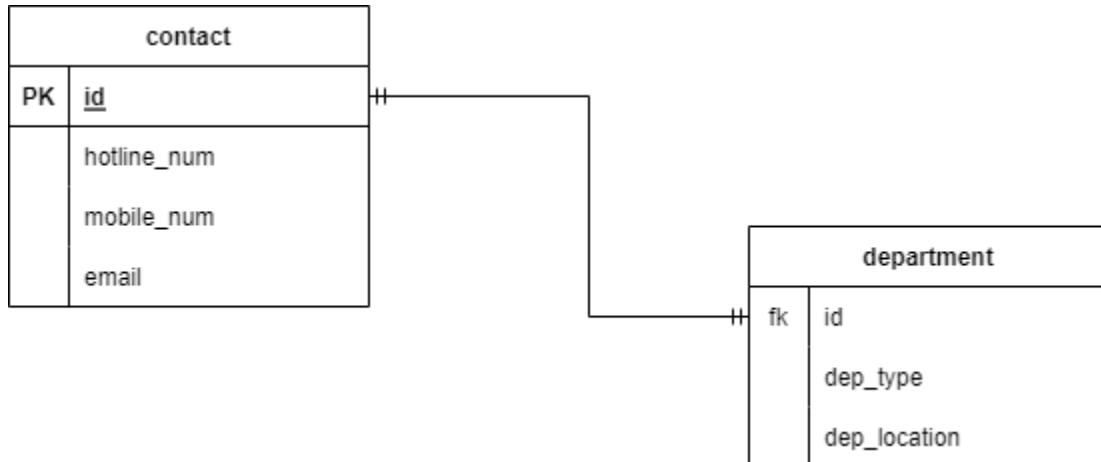


Figure 2 Database ER Diagram

The ER diagram will consist of 2 tables where in both tables will have a relationship with one another. The tables will have a relationship of one is to one. For each department in different places there will be mandatory contact information such as the department's hotline number, contact number and email.

### 2.3.2 Physical Design

Implementing a database requires a physical design to further increase the efficiency and performance of the GUI program and database. The developers created a local-based database to easily acquire data and avoid relying on the internet for accessing the database. Using Python for the GUI program and PHPMyAdmin for the database, the developers gained efficiency in modifying the data stored in the database.

### 2.3.3 Data Dictionary

TABLE CONTACT

Pk/Fk	Field Name	Caption	Data type	Field Size
Pk	id	Unique Id	INT	100
	hotline_num	Dep_contact	VARCHAR	100
	mobile_num	Dep_contact	VARCHAR	100
	email	Dep_contact	VARCHAR	100

TABLE DEPARTMENT

Pk/Fk	Field Name	Caption	Data type	Field Size
Fk	id	Unique Id	INT	100
	dep_type	Type of Department	VARCHAR	100
	dep_location	Location of Department	VARCHAR	100

## Chapter 3

### Final Design

#### 3.1 Discussion of the Final Design

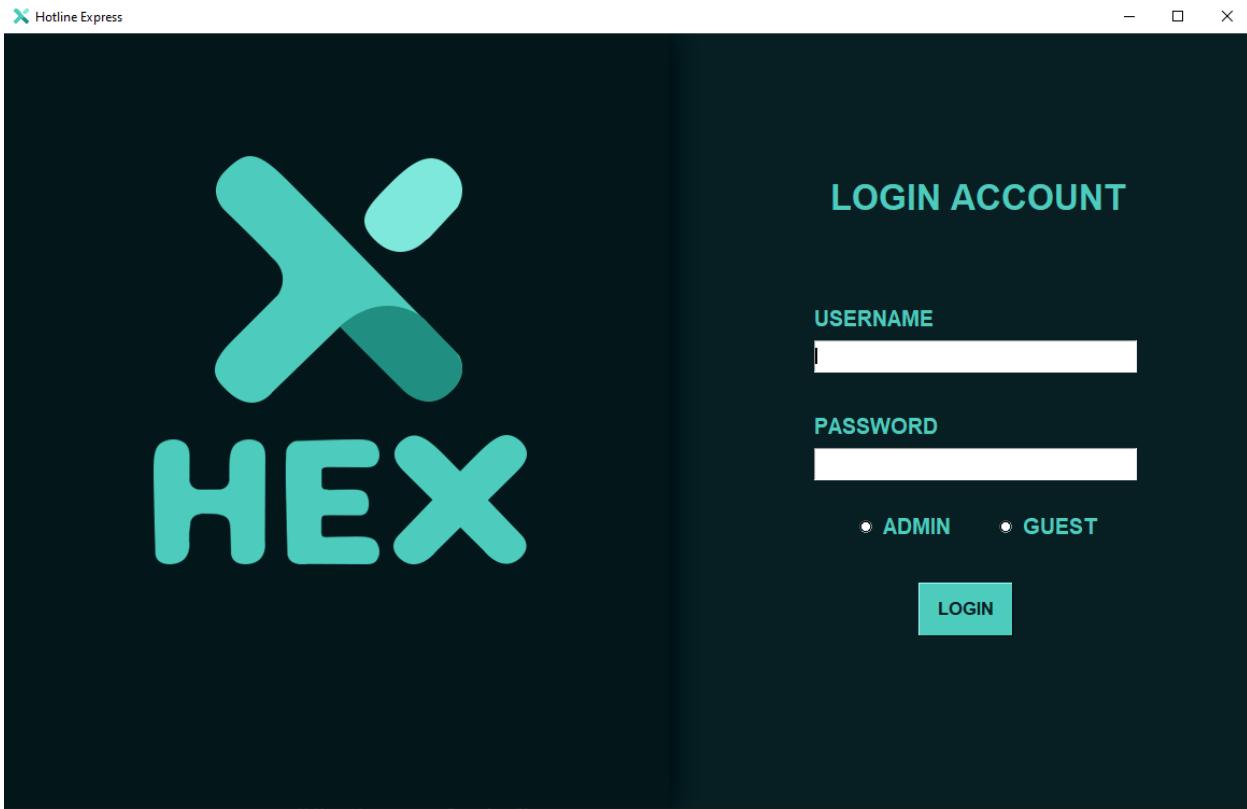


Figure 2. Login Screen

Figure 2. Once the application has been opened, this would be the first thing that the user would see. The program only has two accounts, one for the admin and one for the guest. This is where the user can choose whether to log in to the application as an admin or a user. To make it more specific, this is the Login screen.

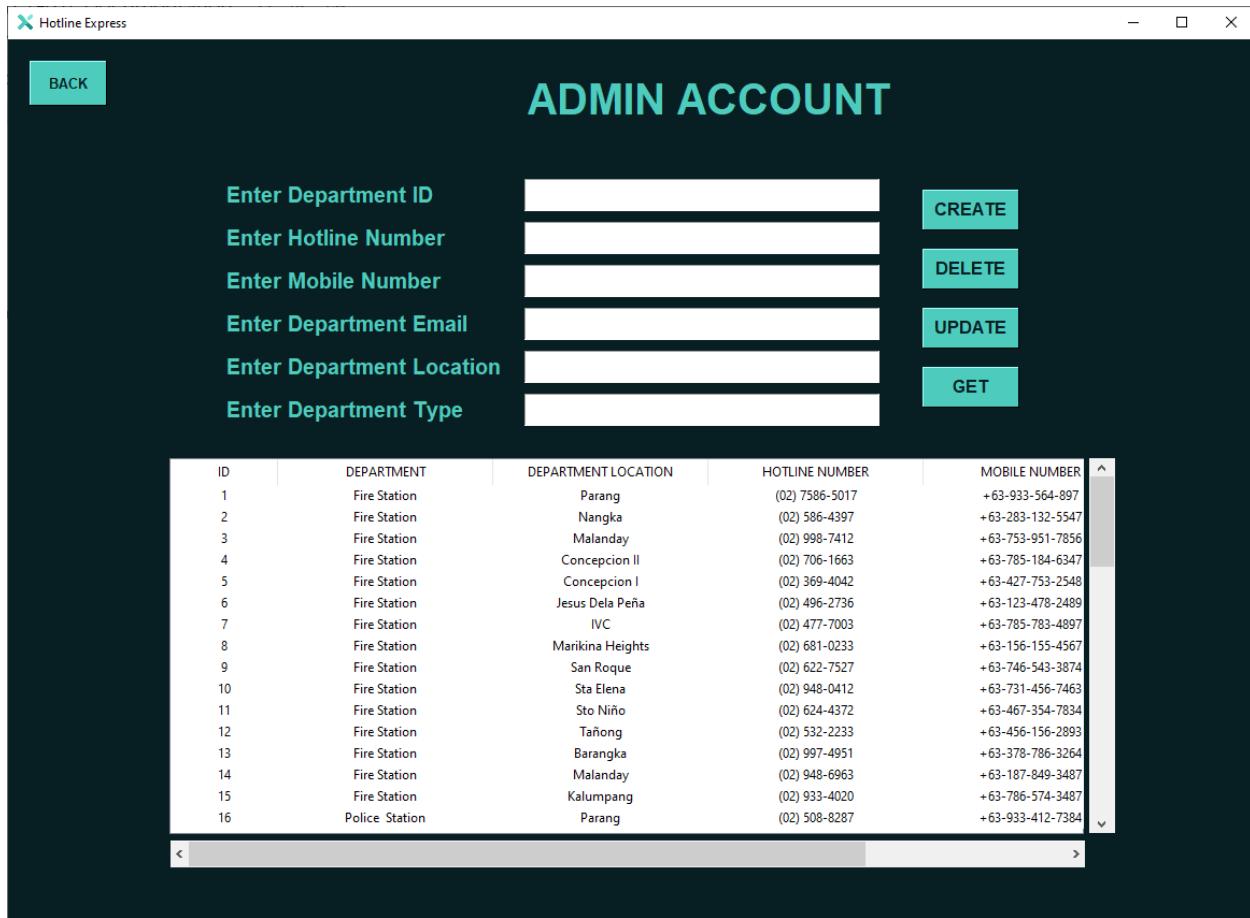


Figure 3. Admin Screen

Figure 3. When the user logged in as an admin, If the admin wishes to add up a new row by entering a value in the entry box then clicking the create button, admin can also delete a row by getting the id of the hotline then click delete button to delete a row where the id is equal to the department id. Admin accounts can also modify an entire row by getting the id first then editing the values in each column, after the admin is satisfied with the edited value then you can update an entire row by clicking the update button.

The screenshot shows a web application window titled "GUEST ACCOUNT". At the top left is a "BACK" button, and at the top right are standard window control buttons. Below the title, there is a search bar with the placeholder text "Find Department Location" and a "SEARCH" button to its right. The main content area is a table with the following columns: ID, DEPARTMENT, DEPARTMENT LOCATION, HOTLINE NUMBER, and MOBILE NUMBER. The table contains 23 rows of data, each representing a department location. The data is as follows:

ID	DEPARTMENT	DEPARTMENT LOCATION	HOTLINE NUMBER	MOBILE NUMBER
1	Fire Station	Parang	(02) 7586-5017	+63-933-564-897
2	Fire Station	Nangka	(02) 586-4397	+63-283-132-5547
3	Fire Station	Malanday	(02) 998-7412	+63-753-951-7856
4	Fire Station	Concepcion II	(02) 706-1663	+63-785-184-6347
5	Fire Station	Concepcion I	(02) 369-4042	+63-427-753-2548
6	Fire Station	Jesus Dela Peña	(02) 496-2736	+63-123-478-2489
7	Fire Station	IVC	(02) 477-7003	+63-785-783-4897
8	Fire Station	Marikina Heights	(02) 681-0233	+63-156-155-4567
9	Fire Station	San Roque	(02) 622-7527	+63-746-543-3874
10	Fire Station	Sta Elena	(02) 948-0412	+63-731-456-7463
11	Fire Station	Sto Niño	(02) 624-4372	+63-467-354-7834
12	Fire Station	Tañong	(02) 532-2233	+63-456-156-2893
13	Fire Station	Barangka	(02) 997-4951	+63-378-786-3264
14	Fire Station	Malanday	(02) 948-6963	+63-187-849-3487
15	Fire Station	Kalumpang	(02) 933-4020	+63-786-574-3487
16	Police Station	Parang	(02) 508-8287	+63-933-412-7384
17	Police Station	Nangka	(02) 622-7527	+63-933-564-897
18	Police Station	Malanday	(02) 942-1346	+63-283-132-5547
19	Police Station	Concepcion II	(02) 942-3618	+63-753-951-7856
20	Police Station	Concepcion I	(02) 942-0419	+63-785-184-6347
21	Police Station	Jesus Dela Peña	(02) 577-1174	+63-427-753-2548
22	Police Station	IVC	(02) 369-4042	+63-123-478-2489
23	Police Station	Marikina Heights	(02) 933-4020	+63-425-957-4352

Figure 4. Guest Screen

Figure 4. On the other hand, once you logged in as a user, you would be able to search the department location and some of its information. For example, when the user searched about the departments at Nangka, all the available data and information about Nangka would pop up. Also, if one ought to find the hotline for an incident or an emergency, one can search for what department can cater to their needs and emergencies.

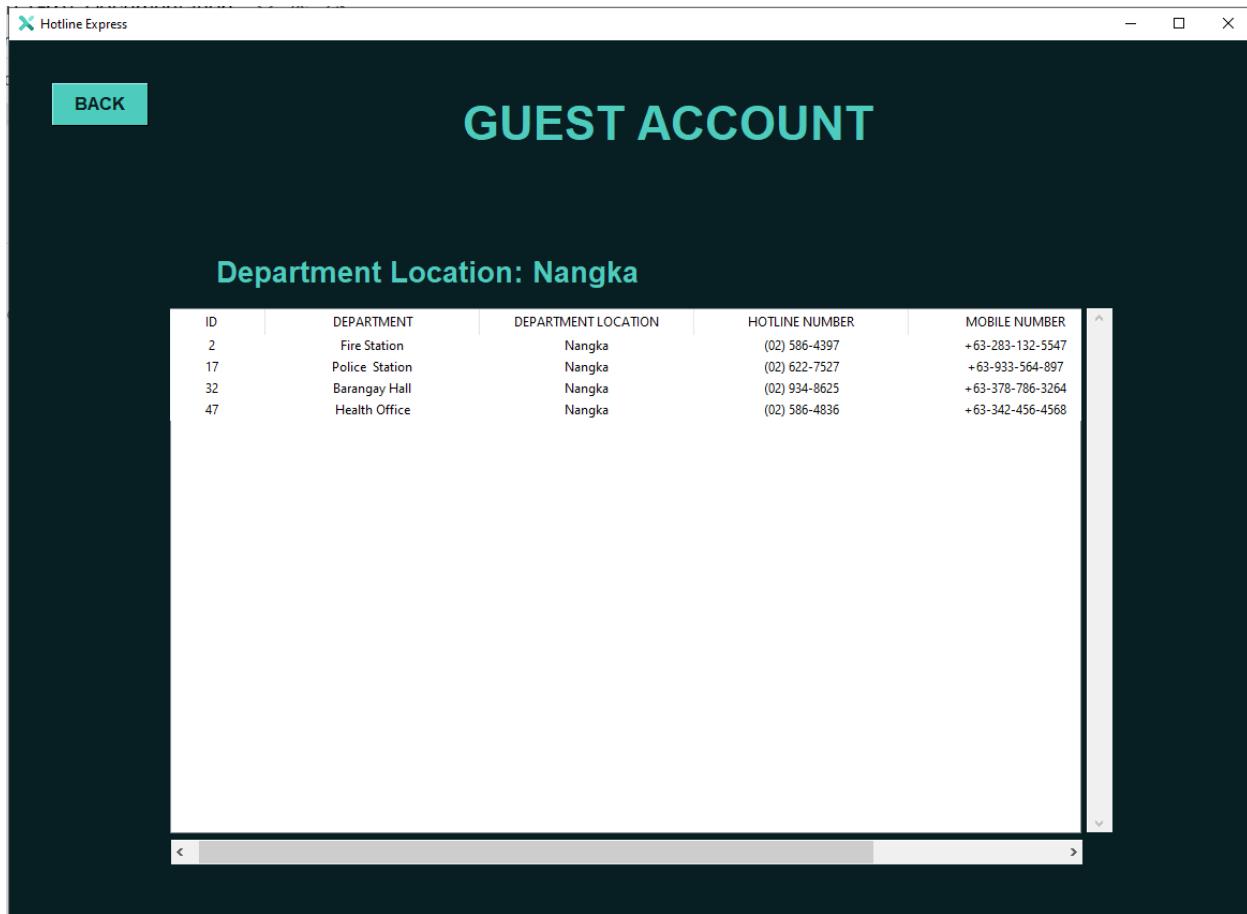


Figure 5. Searched Location

Figure 5 is where you search a specific barangay location in Marikina and the program will output all the information depending on the input value in the search bar. If the user wants to search another location, the user must click the back button to go back to the main frame of the guest account where the search bar is the screen.

### 3.2 UI Design - CRUD

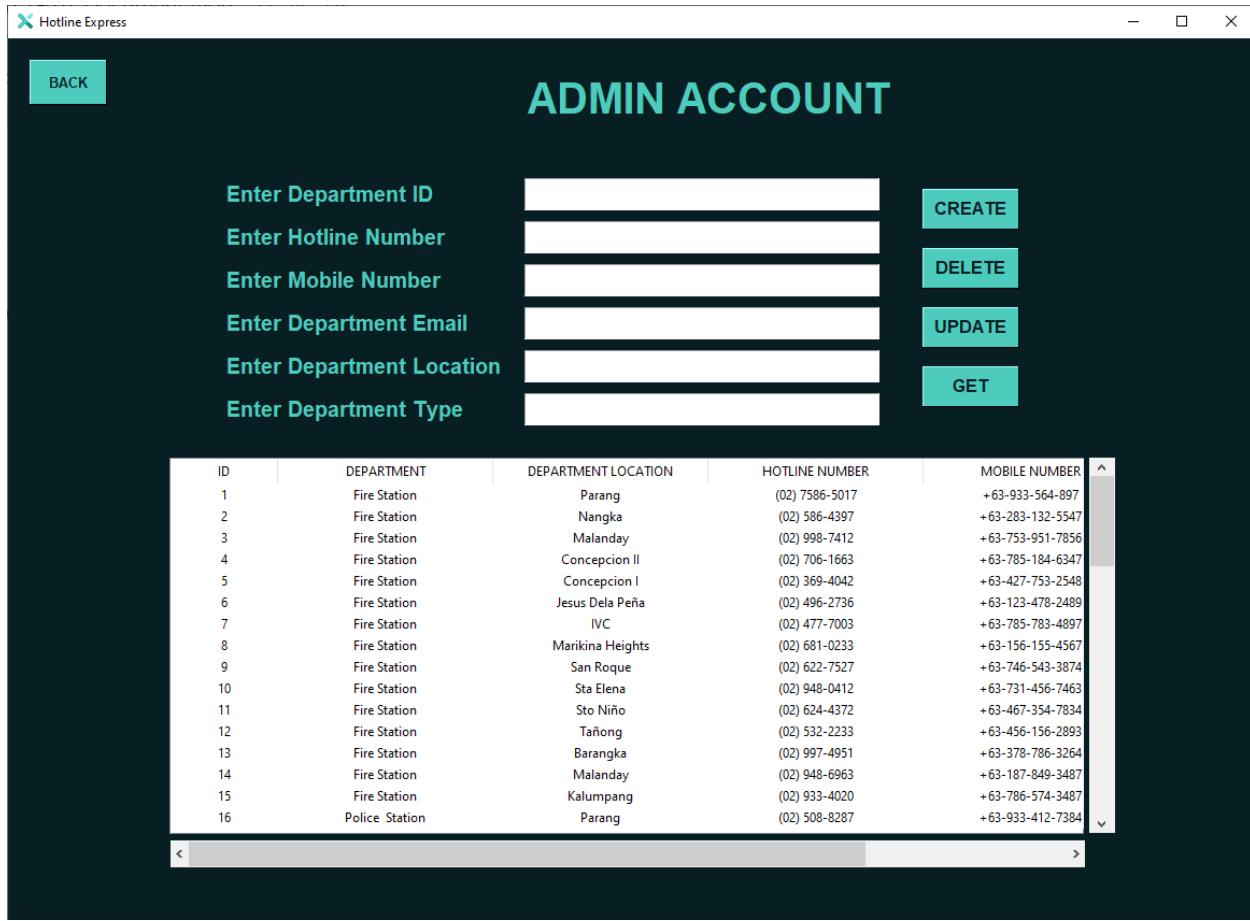


Figure 3. Admin Screen

The interaction of the software to the database can only execute from the admin account since admin is responsible for creating, deleting and updating the database. For creating a new row in the database the admin should enter a value in the six entrybox to satisfy the condition in creating a new row. For deleting and updating a row in the database the admin must get the department id before proceeding to delete and update function, if the admin got the id by entering the value in department ID entrybox and clicking the get button the value of the entire row will be inputted automatically in the entry box and the admin can update the value in each column by editing the value and click the update button. For deleting an entire row the admin must also get the department id then click the delete button to delete the entire row.

### **3.3 Conclusion and Recommendation**

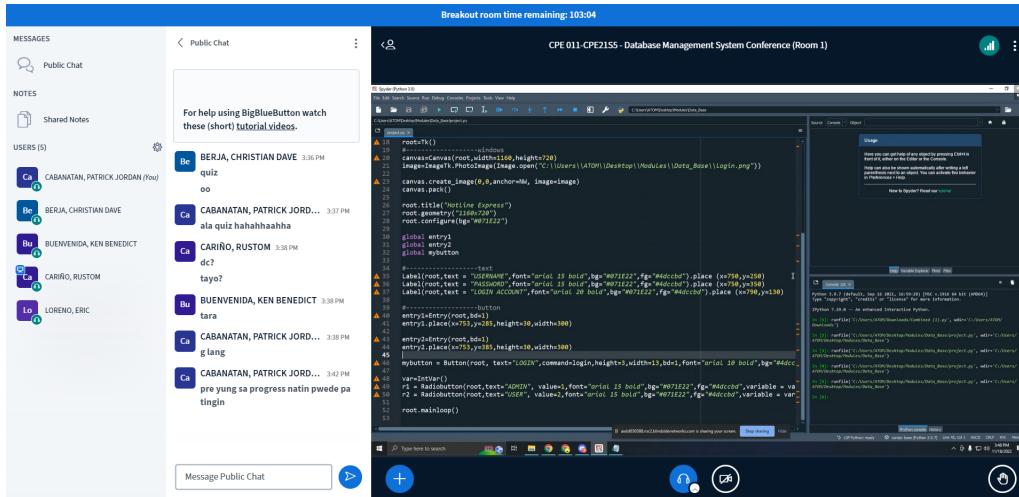
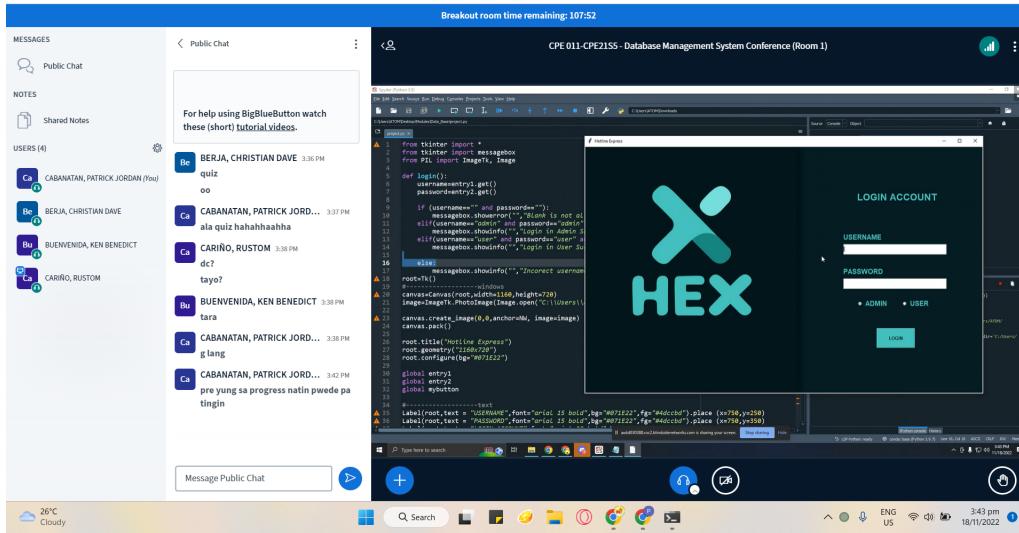
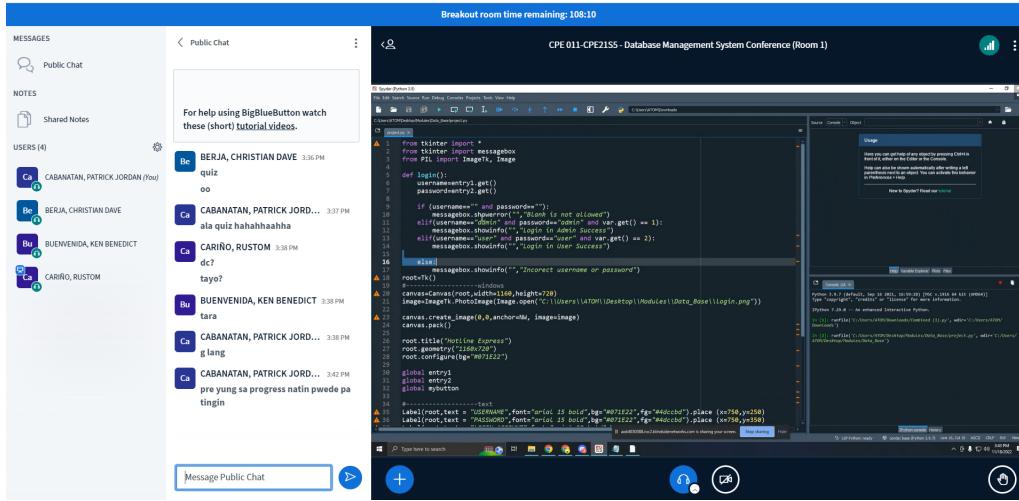
As different types of emergencies, disasters, and crimes occur, it is recommended to develop systemized and organized applications and programs that would be of help in this lingering problem. To improve the system of emergency hotlines and contact information of different hotlines, a program that provides the user information on different departments and their hotlines would be instigated. Thus, the developers constructed a software program as an answer and solution. With this, users and the client would easily acquire information such as the department's contact number, hotline number, location, and what type of emergency they cater to.

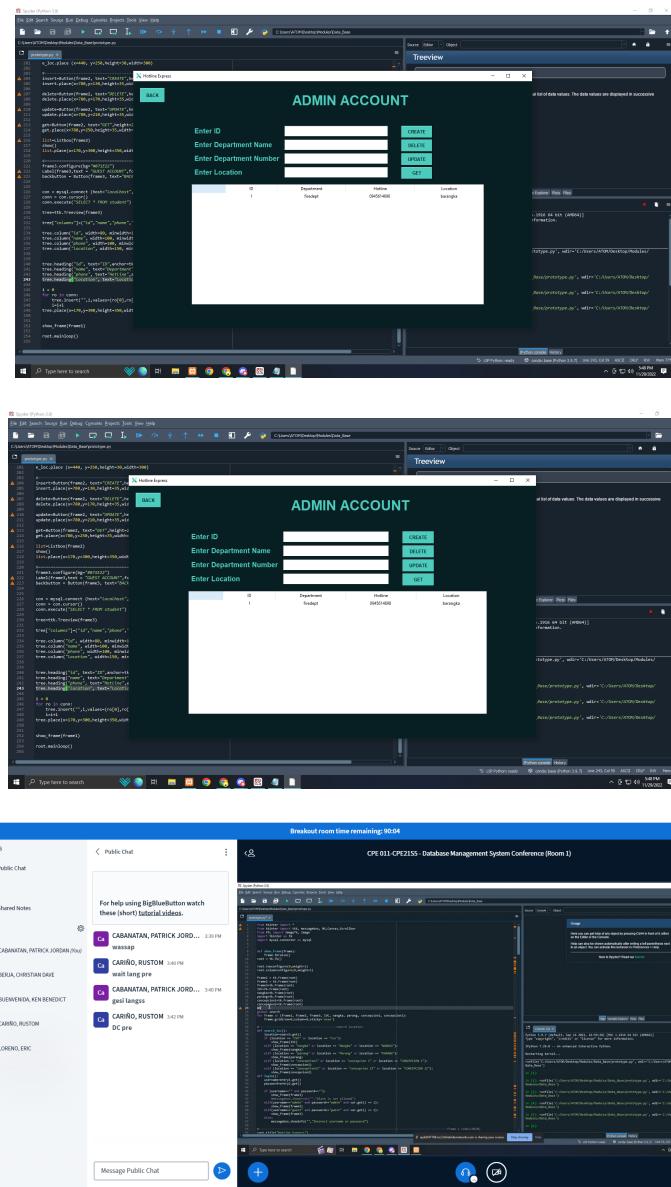
## Appendices

### 1. References

- a. Fauxcode- *Python Tkinter with MySQL database | GUI with MySQL CRUD*-[https://www.youtube.com/watch?v=d56sf29tSzw&ab\\_channel=Fauxcode](https://www.youtube.com/watch?v=d56sf29tSzw&ab_channel=Fauxcode)
- b. DJ Oamen-*How to Connect to MySQL Database, Insert, Update, Delete and Search in Python - Full Tutorial*-[https://www.youtube.com/watch?v=dxOPalX4qt4&ab\\_channel=DJOamen](https://www.youtube.com/watch?v=dxOPalX4qt4&ab_channel=DJOamen)
- c. Trinity software academy-*Display MySQL data in python table :Treeview with horizontal scrollbar*-[https://www.youtube.com/watch?v=CAvgilAxs\\_g&t=126s&ab\\_channel=Trinitysoftwareacademy](https://www.youtube.com/watch?v=CAvgilAxs_g&t=126s&ab_channel=Trinitysoftwareacademy)
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- e. Trinity software academy-*How to connect Python with MySQL database?*-[https://www.youtube.com/watch?v=\\_fu2z-6SbSU&ab\\_channel=Trinitysoftwareacademy](https://www.youtube.com/watch?v=_fu2z-6SbSU&ab_channel=Trinitysoftwareacademy)
- f. Codemy.com-*Search Database Treeview By Last Name - Python Tkinter GUI Tutorial 182*-[https://www.youtube.com/watch?v=odt87CeLlro&ab\\_channel=Codemy.com](https://www.youtube.com/watch?v=odt87CeLlro&ab_channel=Codemy.com)

## 2. Proof of Collaboration





### 3. GitHub link of codes use

[https://github.com/kbuenvenida/CPE21S5\\_CPE011\\_Grp1](https://github.com/kbuenvenida/CPE21S5_CPE011_Grp1)

### 4. Designer's Profile

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### **CAREER OBJECTIVE**

To hone my skills while I'm still studying Bachelor of Science in Computer Engineering and have the career that suits my ability to enter a company that can be used of what I learned and my set of skills.

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### **SKILLS AND EXPERIENCE**

- Proficiency in Microsoft Office
  - Python
  - MySQL
  - Researching
- 

### **PERSONAL INFORMATION**

Age: **19**

Height: **166 cm**

Birthday: **Jan 05, 2003**

Birth Place: **Antipolo**

Civil Status: **Single**

Citizenship: **Filipino**

Religion: **Catholic**

**NAME: KEN BENEDICT D.R BUENVENIDA**

**Address: BLOCK 1 LOT 25 ST. BENEDICT ST. GENESIS ROYALE 2  
SUBD. SAN ROQUE CAINTA, RIZAL**

**Email Add: qkbdrbuenvenida@tip.edu.ph**

**Contact #: 09682975077**



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### **CAREER OBJECTIVE**

Whilst studying a Bachelor of Science in Computer Engineering, this person was able to learn the basics and fundamentals of computers. Thus, he ought to find a job that is suitable for his experiences and learnings.

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### **SKILLS AND EXPERIENCE**

- **Able to manage time and can work under pressure.**
  - **Proficient in using Microsoft Office.**
  - **Capable of using C++.**
  - **Capable of using Python.**
- 

### **PERSONAL INFORMATION**

**Age: 20**

**Height: 174 cm**

**Birthday: September 21, 2002**

**Birth Place: San Mateo, Rizal**

**Civil Status: Single**

**Citizenship: Filipino**

**Religion: Catholic**

**NAME: PATRICK JORDAN A. CABANATAN**

**Address: 25D 15th Avenue Murphy Cubao Quezon City**

**Email Address: qpjacabanatan@tip.edu.ph**

**Contact #: 09761103744**



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### **CAREER OBJECTIVE**

To be a member of a highly motivated company that develops skills and capabilities of its members.

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### **SKILLS AND EXPERIENCE**

- C++ programming
  - Python programming
  - MySQL
  - Computer Troubleshooting
  - Proficiency in Microsoft Word, Powerpoint and Excel
- 

### **PERSONAL INFORMATION**

Age: 20

Height: 177 cm

Birthday: October 31, 2002

Birth Place: Manila

Civil Status: Single

Citizenship: Filipino

Religion: Roman Catholic

**NAME: RUSTOM CELZO CARIÑO**

**Address: #70 Paraiso st. Federico Vill. Parang Marikina City**

**Email Address: qrccarino@tip.edu.ph**

**Contact #: 09950021766**



### **CAREER OBJECTIVE**

Seeking a challenging career in a reputable company where I can gain new skills, broaden my knowledge, and put my expertise to use.

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### **SKILLS AND EXPERIENCE**

- C ++ Programming
  - Python Programming
  - Freelance
  - MySQL
- 

### **PERSONAL INFORMATION**

Age: 19

Height: 174 cm

Birthday: MARCH 20, 2003

Birth Place: Bolinao, Pangasinan

Civil Status: Single

Citizenship: Filipino

Religion: Methodist

**NAME: ERIC HUBILLA LORENO**

**Address: 437 Shoe Ave. Daang Bakal Brgy. Sto. Niño  
Marikina City**

**Email Address: ericloreno186@gmail.com**

**Contact #: 09994955137**



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### **CAREER OBJECTIVE**

To get an opportunity where I can make the best of my potential and contribute to the organization's growth.

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### **SKILLS AND EXPERIENCE**

- C++ Programming
  - Python Programming
  - MySQL
  - Proficiency in MS Powerpoint, MS Word, MS Excel, MS Publisher, and MS Access
- 

### **PERSONAL INFORMATION**

Age: 19

Height: 5'9

Birthday: November 06, 2003

Birth Place: Marikina City

Civil Status: Single

Citizenship: Filipino

Religion: Born Again Christian