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# **FINAL PROJECT DOCUMENTATION**

**CS121: ADVANCED COMPUTER PROGRAMMING**

Submitted By:

**FRANZ LLOYD A.**

**DIAZ**



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**I. PROJECT OVERVIEW : EMPLOYEE TIMESHEET TRACKER | WORKTRACK**

The Employee Timesheet Tracker, or WorkTrack, is designed to provide a streamlined, accurate, and efficient method for tracking employee working hours, attendance, and specific time allocations. Many organizations face inefficiencies, inaccuracies, and challenges in resource management due to manual or outdated systems. Issues such as inaccurate payroll processing, reduced productivity, limited transparency, and compliance risks highlight the need for a better solution. WorkTrack addresses these concerns through its core functionalities and a beginner-friendly graphical user interface. Despite its limitations, the system is open to feedback and future improvements to enhance its usability and features.

Key functionalities include employee registration and profile management, allowing users to manage personal details and update contact information. Employees can log daily work hours, including time-ins/outs, total hours worked, and overtime, facilitating accurate payroll processing. The system is designed to be intuitive, with familiar buttons and keywords to ensure ease of use. However, certain features are excluded in the initial version, such as task management, scheduling, integration with other enterprise tools, mobile access, advanced security measures like biometric authentication, and performance tracking.

Target users include employees who need to track their work hours, system administrators managing user permissions and system maintenance, HR and payroll personnel using the data for compliance and payroll processing, and managers or supervisors responsible for approving timesheets and reviewing attendance data. By enabling employees to log hours accurately, the system simplifies payroll for HR teams and ensures compliance with labor regulations.

The project aims to achieve specific, measurable outcomes: reducing payroll processing time by 30% within three months of implementation, increasing timesheet accuracy to 98% within six months, and decreasing timesheet discrepancies by 40% within four months. These goals align with the core objectives of the system, ensuring that WorkTrack enhances productivity, accuracy, and transparency for both employees and organizations.



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## II. PYTHON CONCEPTS AND LIBRARIES

- **Python and CustomTkinter**

```
import customtkinter as ctk
```

- from “import customtkinter import as ctk” accesses the customtkinter library, Python’s tool for modernizing the creation of graphical user interfaces (GUIs) in WorkTrack’s main windows.

```
from tkinter import ttk # Import the ttk module for Treeview/Table
```

- “from tkinter import ttk”, I used the library of tkinter instead of customtkinter at making the table or the Treeview because of its traditional looks of it, of course my system has to look systemish.

```
from tkinter import messagebox # Import from ttk module for message box
```

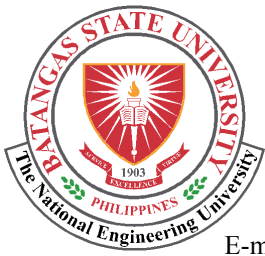
- “from tkinter import messagebox”, I also used the library of tkinter in order to show whenever the user is logging in and out, also for other function buttons
- 

```
from PIL import Image # from Pillow for the system image/logo
```

- “from PIL import Image”, from Pillow I used this submodule in order for the system to accept images and display them on how accordingly I want

```
import datetime
```

- “import datetime”, which provides classes for working with dates and times. I used this in order for the system to record the clock-ins/outs of the employee real time



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**MySQL**

```
import mysql.connector
```

- “import mysql.connector” a module to connect mysql to python. This module is needed in order to import registered users and their attendance per employee.

**III. SUSTAINABLE DEVELOPMENT GOALS**

The Employee Timesheet Tracker (WorkTrack) aligns with several Sustainable Development Goals (SDGs).

Firstly, it aligns with SDG 8: Decent Work and Economic Growth by promoting efficient resource allocation and ensuring accurate payroll processing, which guarantees fair compensation for employees. The system reduces administrative burdens and streamlines work processes, thus contributing to increased productivity and economic efficiency. It also helps ensure compliance with labor laws, fostering safe and secure working environments.

Secondly, the system supports SDG 9: Industry, Innovation, and Infrastructure by replacing outdated systems with modern digital solutions, emphasizing innovation. It creates an efficient infrastructure for time and attendance management, facilitating smoother operations within organizations.

Thirdly, the system contributes to SDG 16: Peace, Justice, and Strong Institutions by enhancing transparency in time tracking and payroll processing, reducing potential disputes, and fostering trust between employees and employers. By ensuring compliance with labor regulations, it helps create just and accountable practices within institutions.



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Lastly, SDG 10: Reduced Inequalities is indirectly supported by the system. By ensuring accurate time tracking and fair compensation, the system helps minimize payroll disparities and promotes equitable treatment of employees.

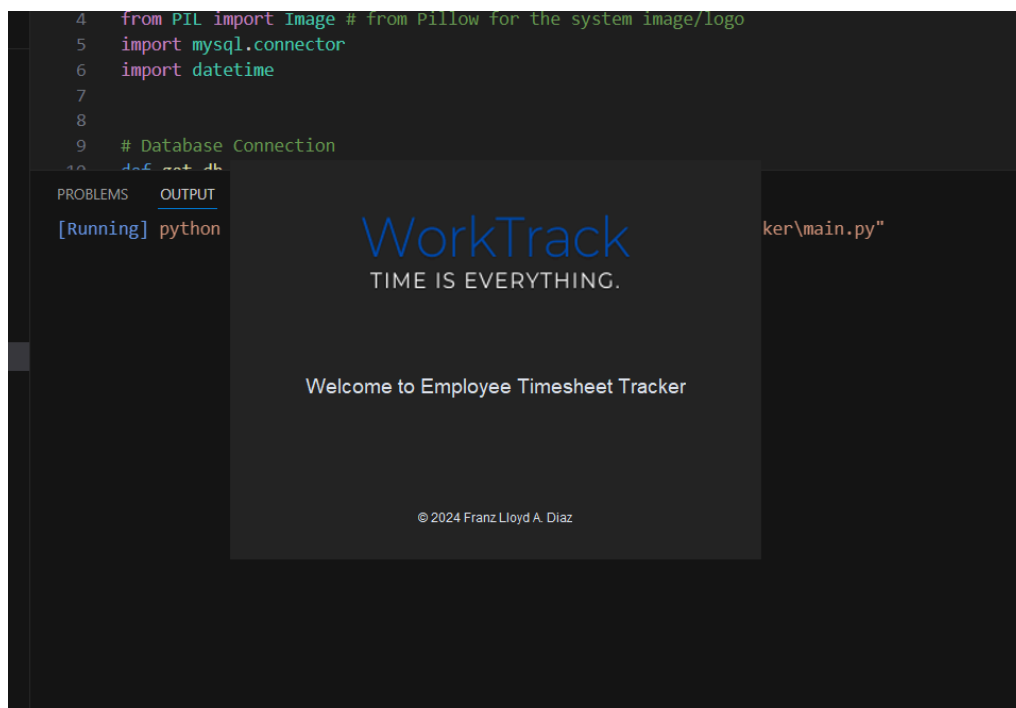
If additional features were incorporated, such as sustainability reporting like if they cannot attend due to certain weather or sickness, the system could further align with other SDGs, including SDG 3: Good Health and Well-being or SDG 13: Climate Action.

#### IV. PROGRAM/SYSTEM INSTRUCTIONS

##### ❖ Project Overview

- **WorkTrack:Employee Timesheet Tracker** provides a simple beginner-friendly user interface for the employees to interact with. The system offers a basic structure towards the log-in window, navigating through the registration and admin window, then the main window.

##### ❖ Splash Window



The system displays the system's logo or name to reinforce brand identity.



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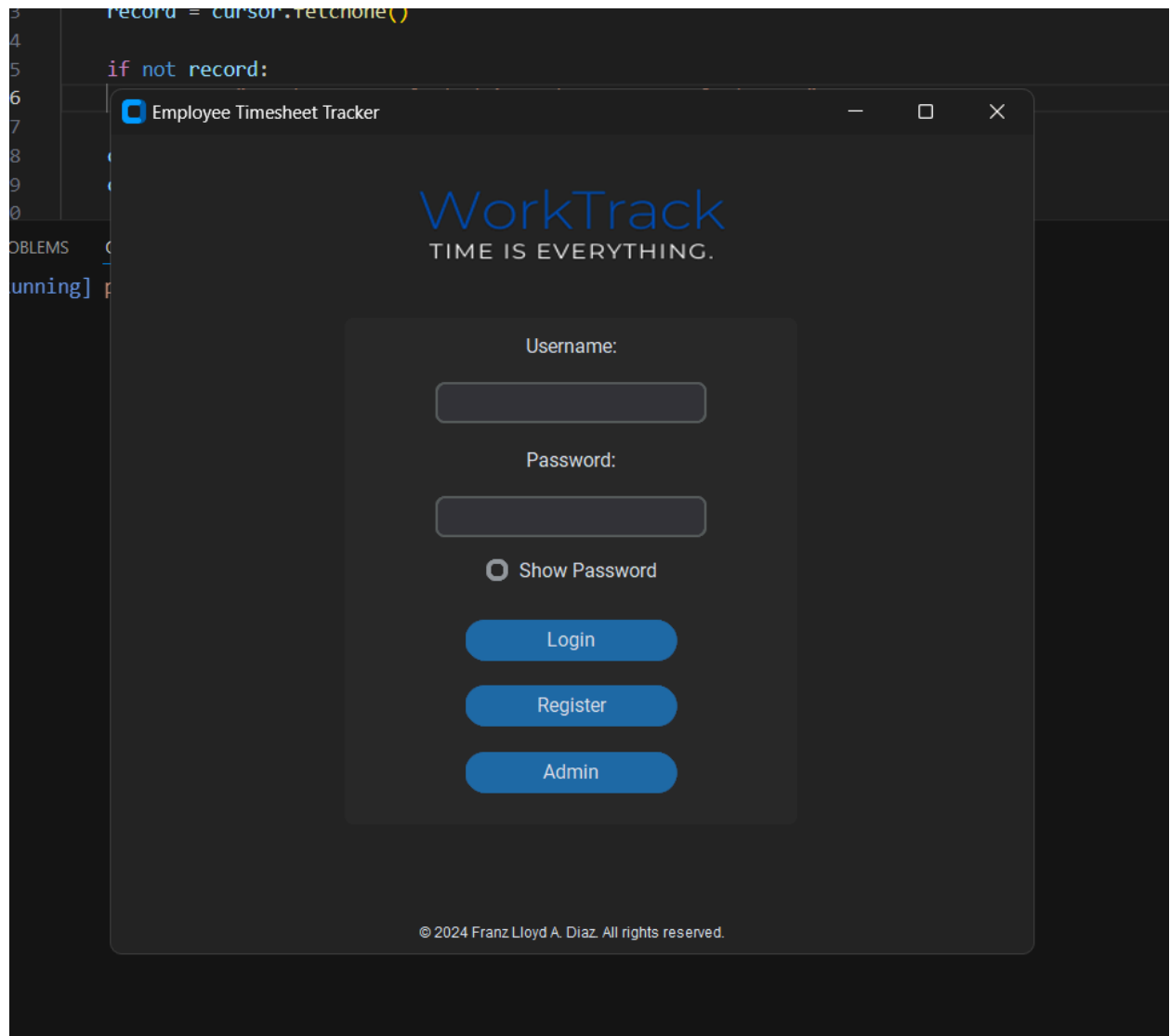
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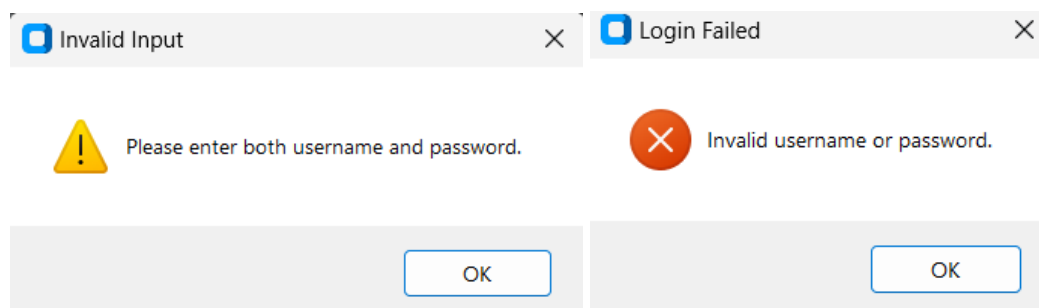
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Also to give a professional touch to the application.

❖ Login Window



A login window shows up in order for the user to authenticate themselves if they are registered or not.





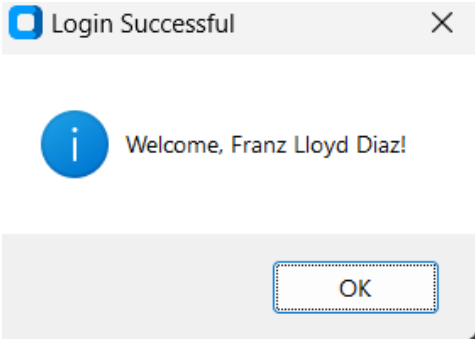
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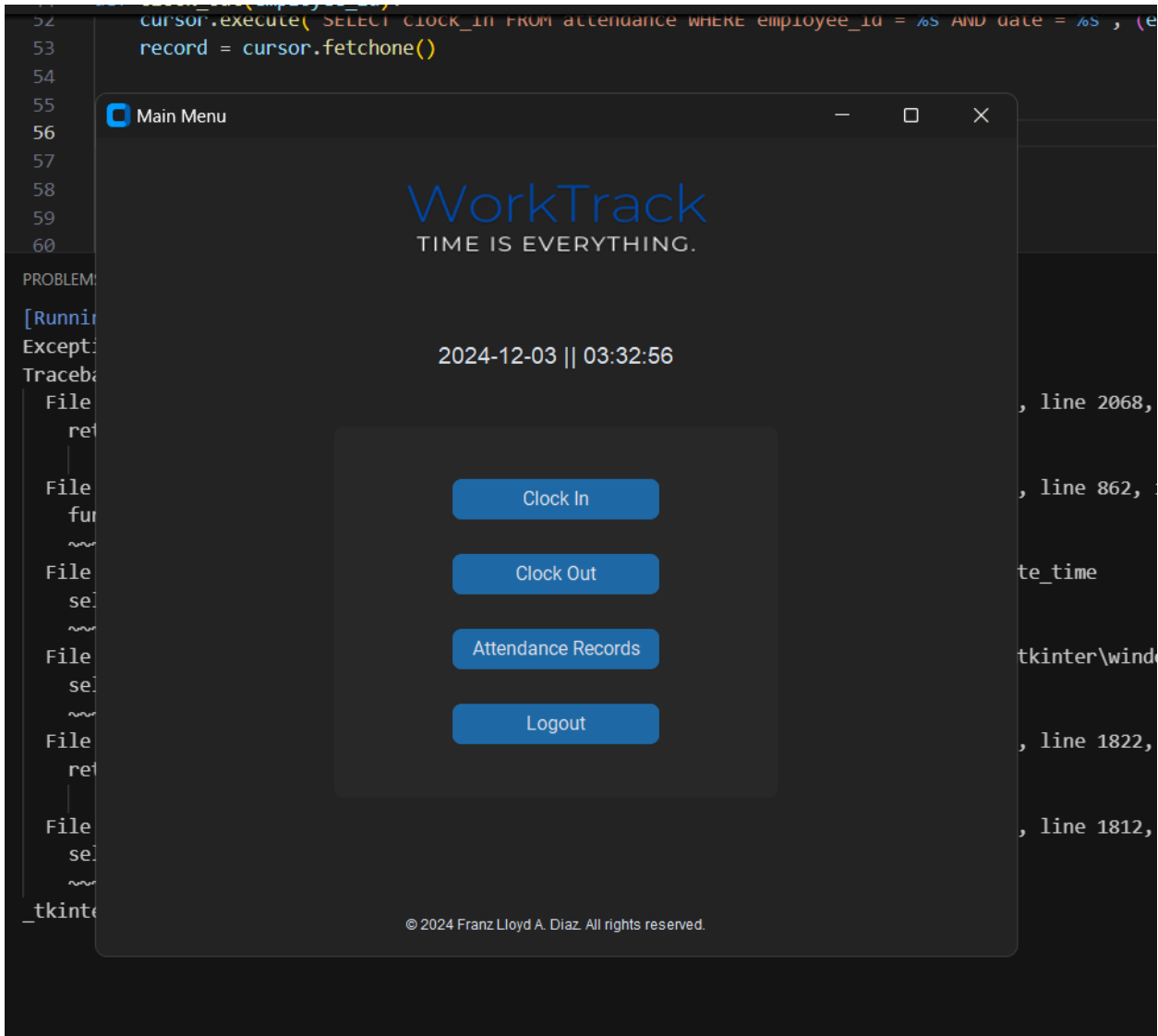
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A simple error and warning message comes up whenever the input boxes are empty or the username and password are invalid



A login successfully message box shows up after the employee has logged in successfully.

❖ Main Window





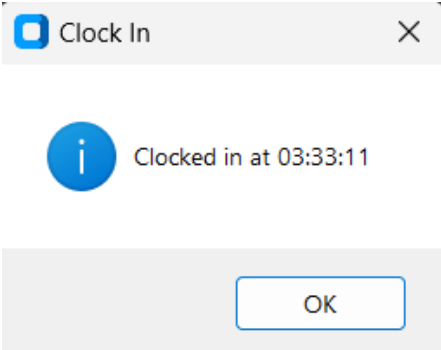
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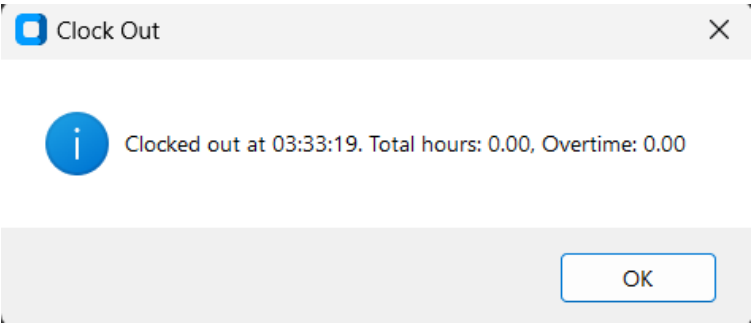
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This is the main window where the employee can time in and out, and also check their attendance records.



This message box appears after clicking on the clock in button.



This message box appears after clicking on the clock out button.

Attendance Records				
Date	Clock In	Clock Out	Hours Worked	Overtime
2024-12-03	3:33:11	3:33:19	0.00	0.00
2024-12-01	15:04:49	15:04:50	0.00	0.00





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This tabular window displays after they click on the Attendance records.

❖ Registration window

The screenshot shows a 'Registration Form' window titled 'WorkTrack' with the tagline 'TIME IS EVERYTHING.' The form contains the following fields and buttons:

- Username:
- Password:
- Full Name:
- Phone Number:
- Email:
- 
- 

At the bottom of the form, it says '© 2024 Franz Lloyd A. Diaz. All rights reserved.'

This window is where the employee has to go if they are not yet registered.







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 Invalid Input <span>×</span>	 Phone Number Taken <span>×</span>
 All fields are required.	 Phone number already exists.
<input type="button" value="OK"/>	<input type="button" value="OK"/>

 Username Taken <span>×</span>	 Phone Number Taken <span>×</span>
 Username already exists.	 Phone number already exists.
<input type="button" value="OK"/>	<input type="button" value="OK"/>

 Email Taken <span>×</span>	 Result <span>×</span>
 Email already exists.	 Registration Successful.
<input type="button" value="OK"/>	<input type="button" value="OK"/>

This warning message is displayed whenever the employee didn't input anything, if the phone number was taken for the administrator can call the employee for emergency, if the username exists for them to be unique, for the email to be unique, and the result message box will appear if they registered successfully.



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❖ Admin Window

Login Successful

i

Welcome Admin!

OK

53 record = cursor.fetchone()  
54  
55  
56  
57  
58  
59  
60  
PROBLEMS  
Runnin  
excepti  
traceba  
File  
ret  
File  
fun  
File  
sel  
File  
sel  
File  
ret  
File  
sel  
tkinte

Admin Dashboard

WorkTrack  
TIME IS EVERYTHING.

Admin Mode

View Attendance Records

View Registered Users

Logout

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”, line  
”, line  
ate\_time  
mtkinter  
”, line  
”, line

This is where the HR/System administrators/IT will be using to adjust the employees’ payroll system and check their attendance accordingly.



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All Attendance Records					
Employee ID	Date	Clock In	Clock Out	Hours Worked	Overtime
6	2024-12-01	15:04:44	19:57:22	4.88	0.00
8	2024-12-01	15:07:21	15:07:22	0.00	0.00
11	2024-12-01	15:07:16	15:07:17	0.00	0.00
10	2024-12-01	15:07:11	15:07:27	0.00	0.00
4	2024-12-01	15:05:11	15:05:12	0.00	0.00
3	2024-12-01	15:05:06	15:05:07	0.00	0.00
7	2024-12-01	15:05:01	15:05:02	0.00	0.00
2	2024-12-01	15:04:55	15:04:56	0.00	0.00
1	2024-12-01	15:04:49	15:04:50	0.00	0.00
12	2024-12-01	19:05:42	19:06:01	0.01	0.00

These are the attendance of all employees.

All Registered Users				
Employee ID	Username	Full Name	Phone Number	Email
1	franz123	Franz Lloyd Diaz	09053895203	franz123@gmail.com
2	lance123	Lance Edward Dela Rosa	094285723845	lance123@gmail.com
3	cj123	Cristian Joshua Javier	09485723485	cj123@gmail.com
4	brent123	Brent Draniel Aclan	09862348592	brent123@gmail.com
5	nica123	Eunica De Villa	09582384293	nica123@gmail.com
6	test1	test1	09832748293	test1@gmail.com
7	test2	test2	0942847283	test2@gmail.com
8	test3	test3	09242982984	test3@gmail.com
9	test4	test4	0955984934	test4@gmail.com
10	test5	test5	09382787242	test5@gmail.com
11	test6	test6	09482948298	test6@gmail.com
12	test7	test7	09489724293	test7@gmail.com
13	test8	test8	09498434834	test8@gmail.com

These are the registered employees.



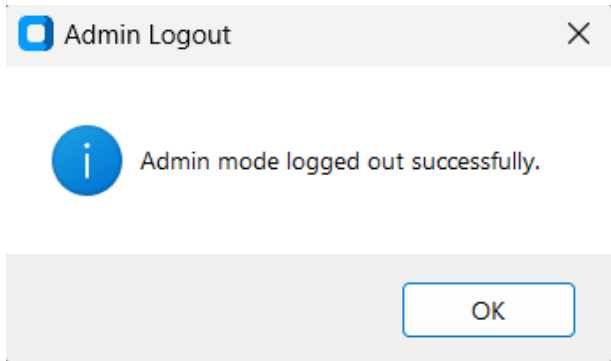
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A message box will appear after the admin logged out.