

## Section 1: Metadata

*to be filled by the student*

### 1.1. Project Information to be filled by the student

Title: Case Management System for a District Reporting Cell	
Section: L1	Instructor: Umer Tariq

### 1.2. Student(s) Information

Name: Maha Ozair	ID: mo08695
Section:L1	Batch:2027

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Section: L1	Batch:2027

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Section: L1	Batch: 2027

**Submission guideline:** Save your project proposal as a pdf file and rename as Project Proposal\_L1\_ProposedTitle where L1 is to be replaced with your section

## Section 2: The Project

*to be filled by the student*

**2.1. Project Description:** *Please provide a brief introduction of the project including its scope.*

Our project is a Case management system where we use a database to efficiently store and access information about cases filed at a district reporting cell.

Police stations throughout Karachi have to record cases that are filed in that location and this case management system is made for stations to manage the flow and track the progress of cases in a more efficient manner. The primary aim of this management system is to assist local law enforcement, particularly the police, by providing them with technological tools ultimately facilitating faster crime control and resolution.

The system introduces role-based access control so the records will be editable only for the members/officers of the organization so that they can add, update and delete records in the database. While the staff will have view-only access to the records and any amendment requests from a staff member will have to be reported then approved by an officer before being implemented. The system will allow the staff to swiftly search for the desired database by using search filters and results catered to these so they can quickly make changes and view them. Additionally, the integrity and accuracy of data can be ensured as it is being checked by members and staff who can point out any discrepancies to improve the results of our system. Once a case has been completely dealt with the officers can choose to remove it from the database to avoid clutter. It also allows the officer to directly enter the details of a new case in the database which can later be verified too and ensures data security.

By digitizing the process, the system ensures that all relevant information about ongoing cases is stored in a centralized database, making it easier to access, track, and update records as the cases progress. This centralized repository also enhances data security, ensuring that only authorized personnel can make changes.

### 2.2 Functional Requirements

*This section describes each function/feature provided by your system. These functions are logically grouped into modules based on their purposes. The users in your system must be categorized such as client, customer or administrator etc. These users will be accessing the database with the level of access that they are authorized with.*

Sample functional Requirements:

#### **Module 1: Registrations**

- Function 1: Register an account

The system lets users register an account on the website as a client and as a customer.

– Function 1a: Register as a client. The register form prompts the user to enter their details i.e. Name, Email, Password. The form is submitted and an unverified client account is created. The user receives a link on their email address which completes account verification.

– Function 1b: Register as a customer. The register form prompts the user to enter their details i.e. Name, Email, Password. The form is submitted and an unverified customer account is created. The user receives a link on their email address which completes account verification.

#### **Module 2: Buying and Selling**

- Function 1: Only client type users can upload item(s) to sell .A registered client can upload an item to sell through the mobile application. The system prompts the client for item photos, item category and item details and the item is added to the item inventory.

- Function 2: Add item to cart. A certain button on the item page prompts the system to add the item to the user's cart. All consequent item(s) added without checkout, are added to the same cart unless cleared.

- Function 3: Clear item from cart .The system allows the user to remove a previously added item from the cart. If cart is empty, the checkout link is no longer accessible.

#### **Module 1: Registration**

Function 1: Login /Sign up to the system

Function 1 a: Police officers will login to the system using their officer ids and passwords, they will already have an account within the database.

function 1 b: Any public user i.e lawyers, government officials, visitor will have to first create an account using the sign up functionality and then login using those credentials whenever they want to access the system.

#### **Module 2: Searching**

Function 2 : Searching

**Function 2 a: Search as a Guest**

Users can search for a specific record in the database using the filter options in the search combo box, the items in the table will change according to those filters.

**Function 2 b: Officer searching**

Officers will have a similar functionality but they will have access to all the information of search in addition to a button for adding a new report.

**Module 3: Reporting****Function 3: Error Reporting**

Only for users (staff). When a user selects the view button a screen emerges with only the data viewable by the public, after which the user can click on the report push button to report any discrepancy in the database, this request will then get verified and processed accordingly.

**Module 4: Updating database****Function 4: Update**

searching for the record and clicking on an item in the table the officer can choose to update the record, after which a new screen will open showing the current contents of the field which when clicked will be editable and can be changed, this can be used for changing assignments on a case or updating progress.

**Function 5: delete**

After selecting an item from the table the officer can click a button to delete that item from the record, after which a confirmation box will open and if clicked yes the item will be removed indefinitely.

**Module 5: Adding****Function 6: adding report to database**

on the same screen as search there will be a button for adding a new report to the database, once clicked it will direct to a screen where all the fields will be empty and with validated entries that report will be added to the database.

**2.3. Planned Schedule:** *Kindly list the start/end dates and the timeline for the achievement of any intermediate milestones and the expected contribution to be made by the participant(s).*

Week 7: Making the final ERD

Week 8: Research on the requirements of the database and sample datasets

Week 9: Developing python files for the implementation of functions and event handlers

Week 10: Working on GUI and finalizing screens and outputs

Week 11: Adding validation for the data

Week 12 and 13: Implementing SQL

Week 14: Implementing the filter features and tailoring it to data

Week 15: Final touches

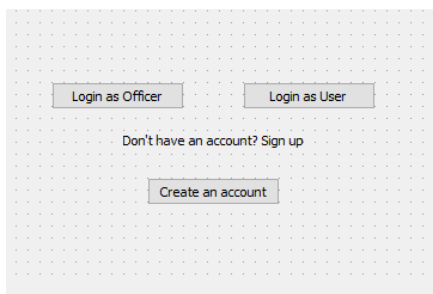
Week 16: Presentation

**2.4. Technology Stack:** *If you are utilizing any language or database besides PyQt and SQL Server, please complete this section; otherwise, leave it blank. Specify the programming language and database management system intended for constructing this application, as well as the application type (Desktop, Web, or Mobile).*

None.

**2.5. Screens:** *Provide images of all application screens, showcasing clear input and corresponding outputs. Ensure each image includes a concise caption explaining user action and expected/observed output. You can create these screens using Qt Designer.*

*When the user first wants to access the system they would have to decide role:*



## CS355 – Database Project Proposal Form

*If they do not already have an account:*

Create Account

Username:

CNIC No:

Email:

Password:

Confirm Password:

☐ Show Password

*Else login as a user (staff) or officer(member) depending on role and enter credentials*

Officer Log In

Officer ID:

Username:

Password:

User Login

Username:

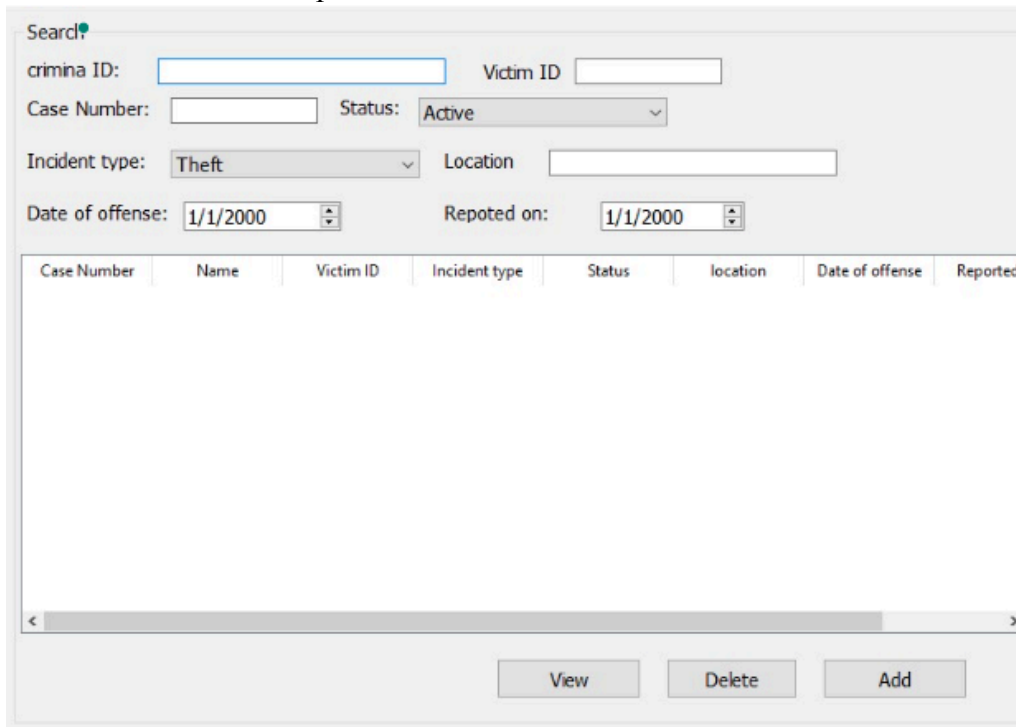
Password:

Officer(Member Screens) :

Main Screen:

The filters will run queries on the combined tables below, this will make it easier to find relevant information in all tables.

Incident type refers to our category table in the ERD. These filters will help us access information across multiple tables.



Case Number	Name	Victim ID	Incident type	Status	location	Date of offense	Reported
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Add Crime Record :

## CS355 – Database Project Proposal Form

Crime Information	
Case Number	<input type="text"/>
Officer Reported	<input type="text"/>
Officer Assigned	<input type="text"/>
Status	<input type="text" value="Ongoing"/>
Reporting Date	<input type="text" value="01/01/2000"/>
Date of Offence	<input type="text" value="01/01/2000"/>
Location	<input type="text"/>
<input type="button" value="Proceed to Criminal Info"/>	
<input type="button" value="Proceed to Victim Info"/>	
<input type="button" value="Log Evidence"/>	

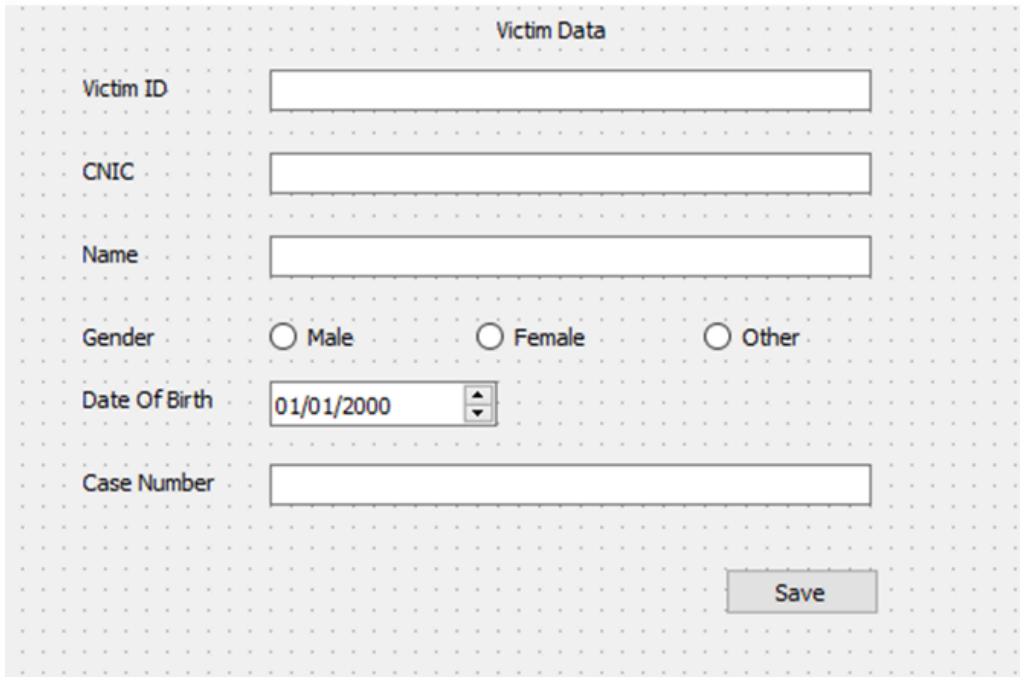
Each push button here, will allow the officer to update, add or view an entry in the respective table for evidences criminals or victims.

Adding/Updating Criminal Information:

Criminal Data	
Criminal ID	<input type="text"/>
CNIC	<input type="text"/>
Name	<input type="text"/>
Gender	<input type="radio"/> Male <input type="radio"/> Female <input type="radio"/> Other
Date Of Birth	<input type="text" value="01/01/2000"/>
Case Number	<input type="text"/>
Charges	<input type="text"/>
<input type="button" value="Save"/>	



Add/Update Victim Record:

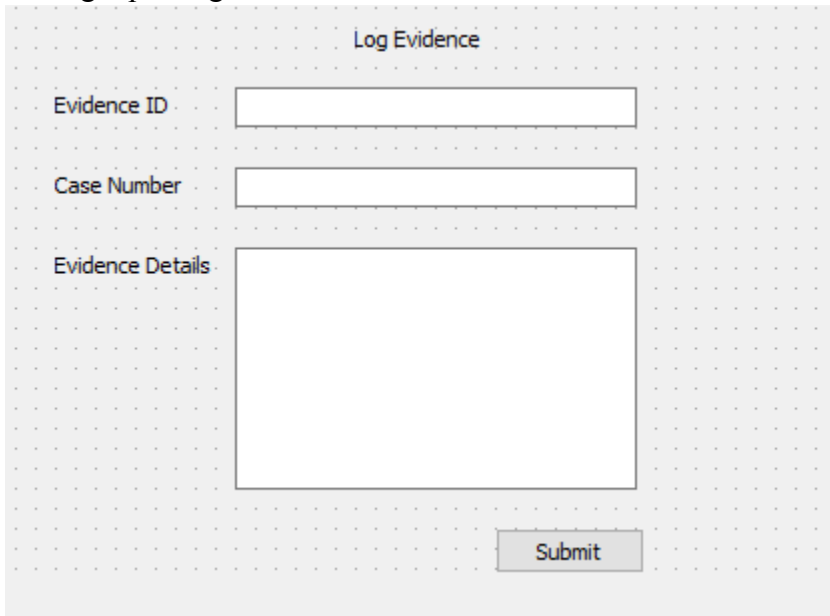


The form is titled "Victim Data" and is set against a dotted background. It contains the following fields and controls:

- Victim ID**: A single-line text input field.
- CNIC**: A single-line text input field.
- Name**: A single-line text input field.
- Gender**: Three radio button options labeled "Male", "Female", and "Other".
- Date Of Birth**: A date picker control showing "01/01/2000".
- Case Number**: A single-line text input field.
- Save**: A button located at the bottom right of the form.

entering relevant victim info, so the crimes can be searched for using that too.

Adding/Updating Evidence:



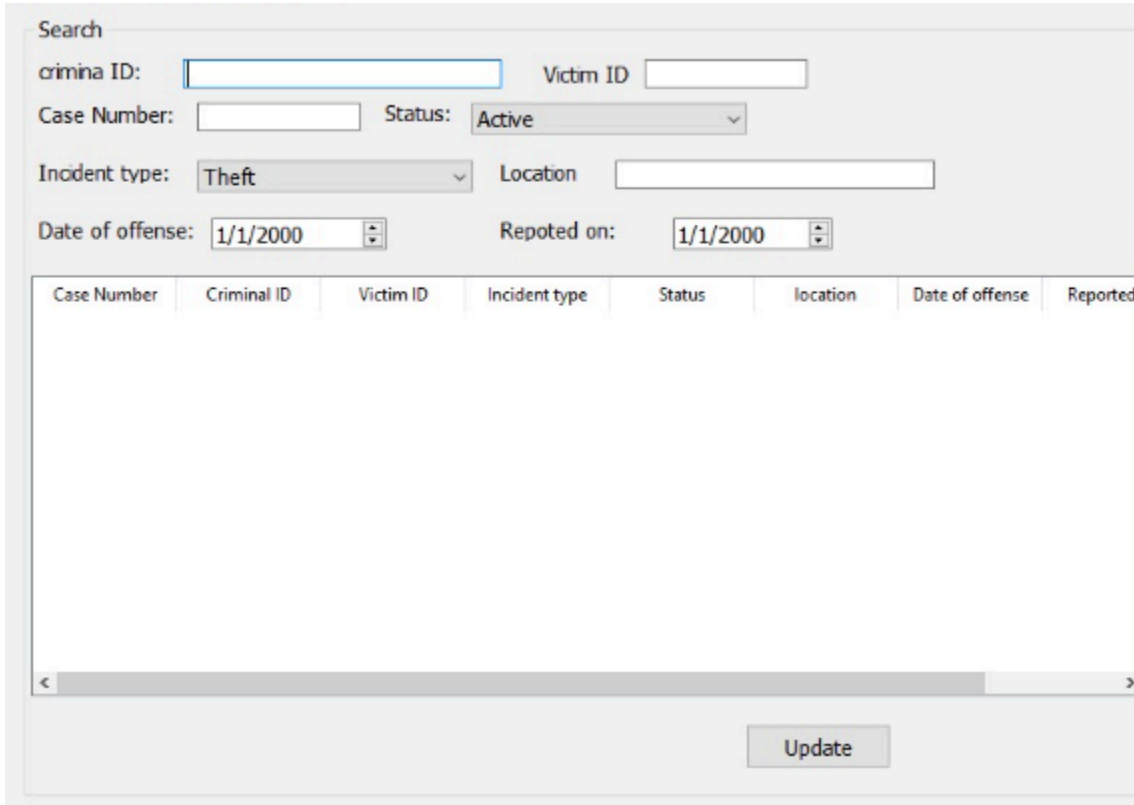
The form is titled "Log Evidence" and is set against a dotted background. It contains the following fields and controls:

- Evidence ID**: A single-line text input field.
- Case Number**: A single-line text input field.
- Evidence Details**: A large multi-line text area for detailed description.
- Submit**: A button located at the bottom right of the form.

Evidence will be added to the evidence table, with each complete entry corresponding to a unique id.

User(Staff Screens) :

Main Screen:



Search

crimina ID:  Victim ID

Case Number:  Status:

Incident type:  Location

Date of offense:  Reported on:

Case Number	Criminal ID	Victim ID	Incident type	Status	location	Date of offense	Reported
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Update

Incident type section holds category of the crime.

Once the user clicks on a record they can report for any discrepancies, and report them to update it after approval is granted from an officer.

Crime Information

Case Number	<input style="width: 80%;" type="text"/>
Officer Reported	<input style="width: 80%;" type="text"/>
Officer Assigned	<input style="width: 80%;" type="text"/>
Status	<div style="border: 1px solid gray; padding: 2px; display: flex; justify-content: space-between; align-items: center;">Ongoing <span>▼</span></div>
Reporting Date	<div style="border: 1px solid gray; padding: 2px; display: flex; justify-content: space-between; align-items: center;">01/01/2000 <span>▲▼</span></div>
Date of Offence	<div style="border: 1px solid gray; padding: 2px; display: flex; justify-content: space-between; align-items: center;">01/01/2000 <span>▲▼</span></div>
Location	<input style="width: 80%;" type="text"/>

Report

Proceed to Victim Info

Proceed to Criminal Info

Log Evidence

The user can report any discrepancies in the 4 sections, these will be read only for this view.

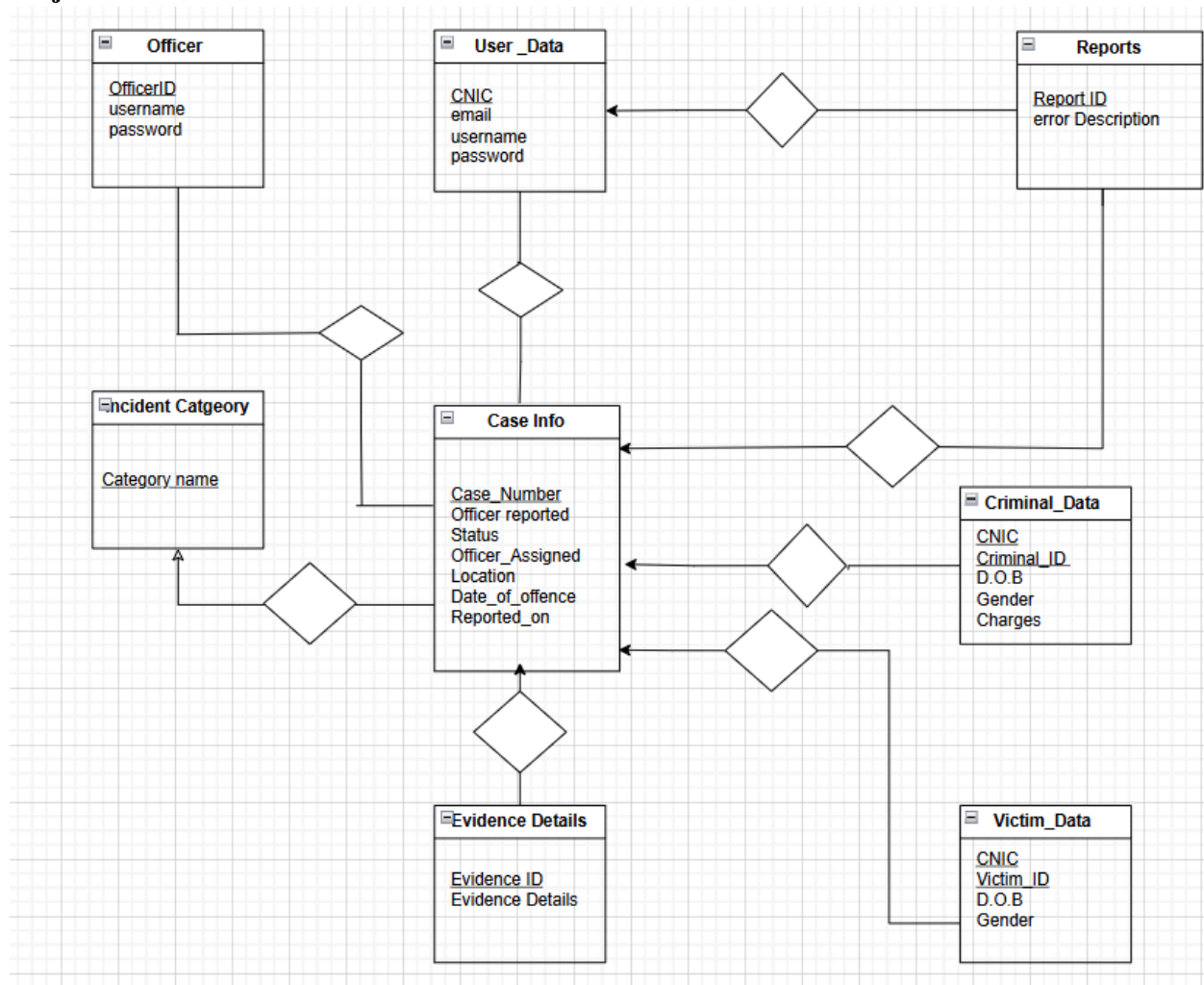
Report Screen:

Report

Please enter your report below:

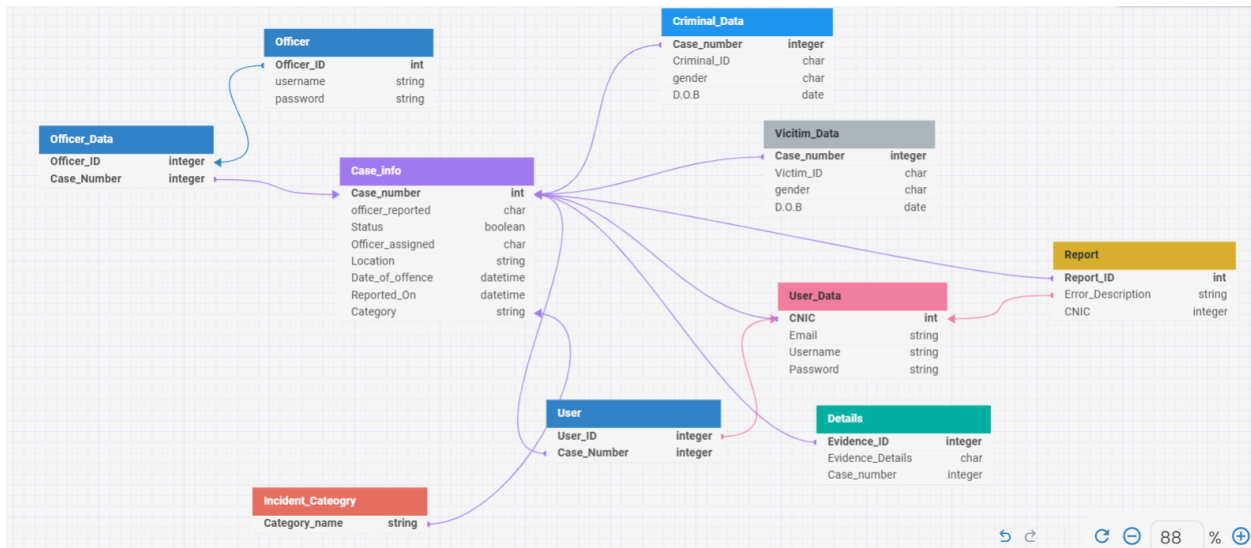
Enter

### Project ERD:



### Relational Schema:

## CS355 – Database Project Proposal Form



Public users must sign up for registration in order to view case information. All this information will be saved into the User\_Data table. At time of report submission, the reporting officer will also enter some case information which will be filled in the Case\_info table. This includes information that concern the evidence presented in the case, the offenders and victims of the case. Since a case file can contain more than one type of evidence and concern several people, specific tables have been created for this information.

Moreover, users are allowed to note any mistake or make corrections concerning a case or give an opinion. These submissions would be referred to the appropriate sections for further assessment or where they can provide more information. This functionality is represented with Report table related to the User\_Data table.