1) Introduction

Purpose Of Product

MoonEyes is a case management software for the Metro Detective Agency, designed in order to streamline the process of adding and managing investigation cases, along with their related information. Such information includes subjects, clients, and agents, each with their own identifying information. The product is designed to allow the Metro Detective Agency to shift from using filing cabinets and hundreds of disorganized sheets of paper to using a centralized application that keeps all information easily accessible and organized.

Operating Environment

MoonEyes has been designed to operate in the Windows operating system. It will manage a database located on the client's own computer. All computers with MoonEyes installed will route traffic through the client's device.

General Functionality

MoonEyes provides an extensive number of features to assist in the creation and modification of investigation cases, including:

- Authentication of users through login requiring username and password
- Creation of agents, clients, subjects, and investigation cases using the appropriate information
- Modification of the information of agents, clients, subjects, and investigation cases as needed
- Filtration of agents, clients, subjects, and investigation cases based on identifying information

Special Features:

- Navigation between pages is streamlined through the use of undo, redo, and reload buttons
- Accessing information of a particular case, subject, agent, or client is facilitated through clicking their respective boxes where present

Limitations

- MoonEyes is currently locally hosted on the client's computer. This means that all devices with MoonEyes installed must be on the same Wi-Fi network and connected to the client's IP address
- MoonEyes can be deployed in other branch offices; however, the databases will be separate for as long as it remains to be locally hosted

2) Installation

Physical Requirements

- Windows PC running windows 10 or higher
- 8 GB of RAM
- 8 GB of Storage
- 5th Gen Intel i3 CPU or equivalent

Copying and Backup Procedures:

It is always best practice to backup your necessary files into a separate drive before the installation of large updates; however, there is no strict need to do so before the installation of MoonEyes as it should not meaningfully interfere with any files already present on the device.

Software Installation Instructions

The MoonEyes senior design will be mainly responsible for the installation of MoonEyes on the client's computer as installation is an extensive process which includes setting up the database. In order to install MoonEyes on another computer and have it connect to the database hosted on the client's device, the following steps must be followed:

- Obtain the MoonEyes package, either from the client or the senior design team
- Obtain the IPV6 address of the client's computer using the following steps
    - Open Command Prompt on the client's computer
    - Type ipconfig
    - If there are 2 or more IPV6 addresses, choose the shorter one
- On the other computer, within the MoonEyes package, locate the MoonEyes.ddl.config file
- Open the file, and locate the field named "value"
- Change its contents to "http://client-ip-address:5012"

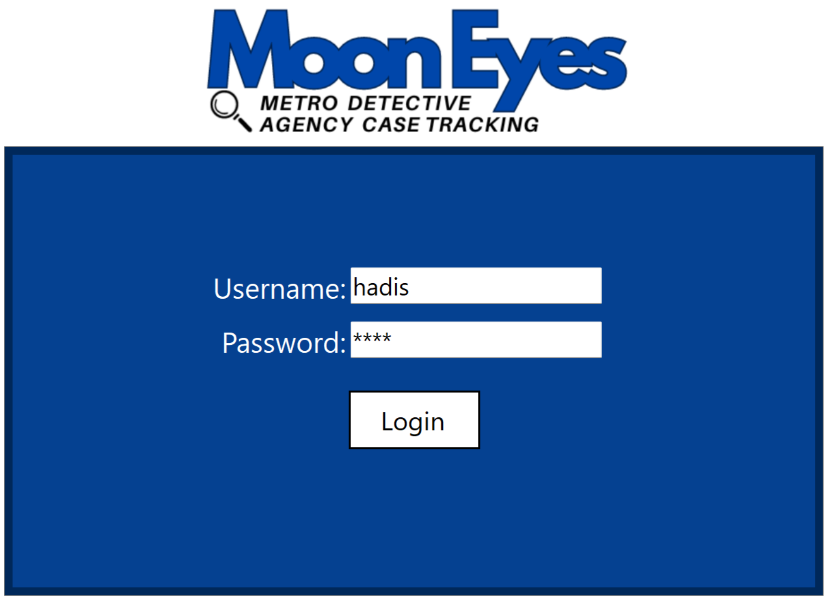
Note: IP addresses can change over time. In the case that another computer fails to connect to the database on the client's computer, check the client's IP address to see if it has changed. In the case that the address did change, please modify MoonEyes.dll.config as described above.

3) Tutorial

Walkthrough of Example Session with Explanations

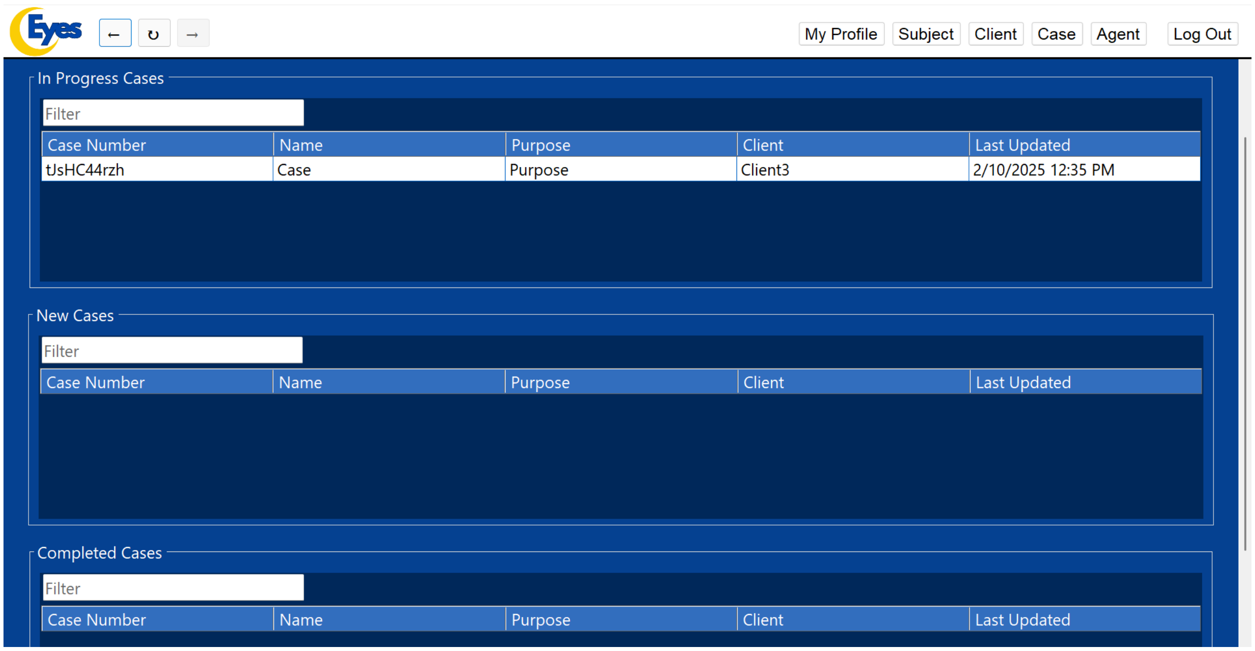
In this session, we will create an agent, subject, and a client. Next, we will create an investigation case using our newly created information. Additionally, we will update the investigation case by adding a report and a photo of a vehicle. Finally, we will generate a report that encompasses all of the details of the investigation case.

Step 1: Logging in to MoonEyes



- Use your username and password to login to the application. Both of these will be provided by the client
- After entering the information in both fields, press “Login” to login

Step 2: The Dashboard Page and Navigation Bar



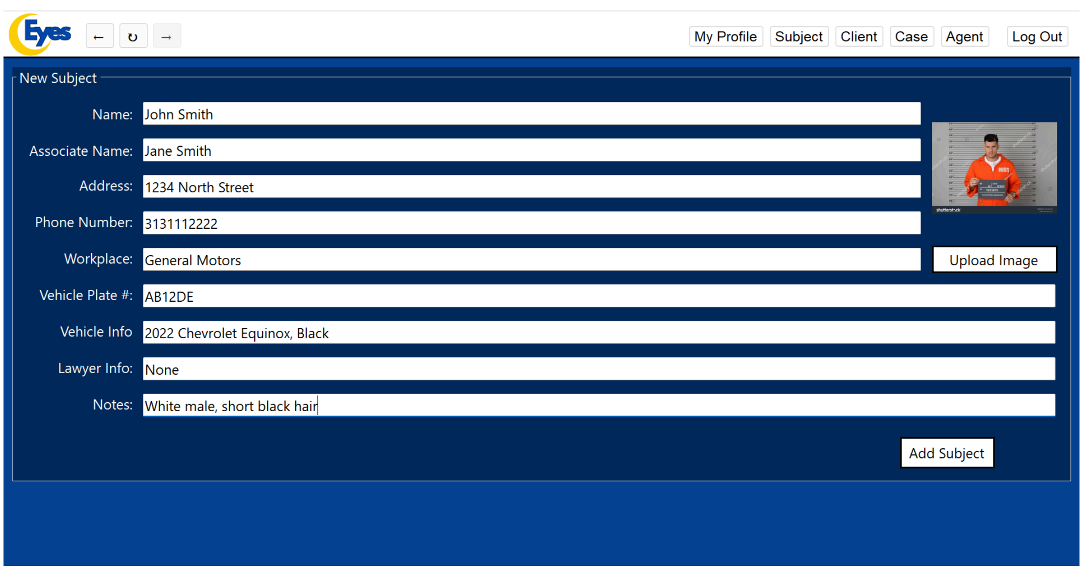
- After Logging in to the application, you will be redirected to the dashboard page
- The Dashboard page shows you can quick overview of the cases assigned to you, organized by status into new, in progress, and completed cases
- At the top of the screen is the navigation bar (covered in more detail later)

- For this example, we will start by creating a subject. Navigate to the subject page by clicking the "Subject" Button in the Navigation bar

Step 3: The Subject Filter Page

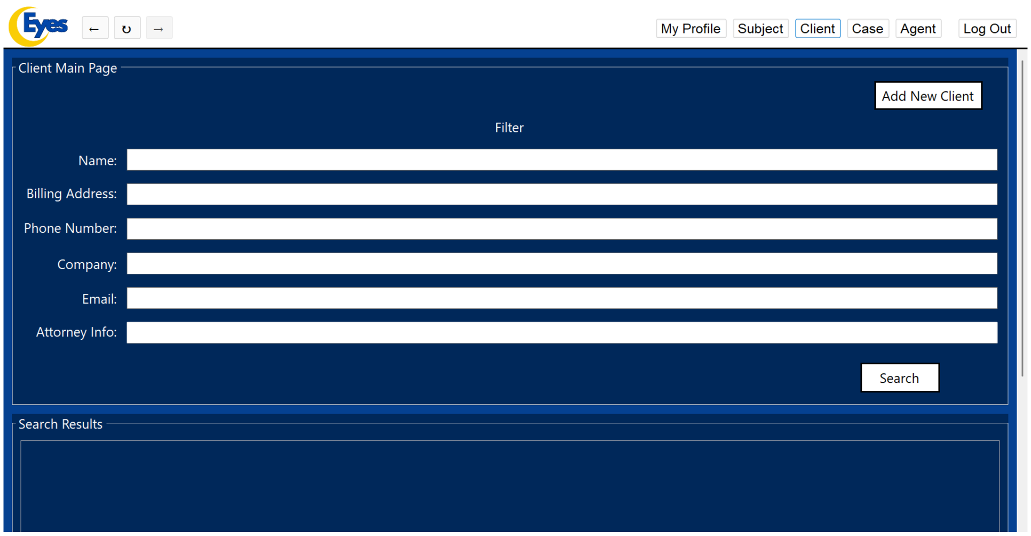
- After pressing on “Subject” you will be redirected to the subject filter page
- This page will be covered in detail later
- Press the “Add new Subject” Button

Step 4: Add New Subject



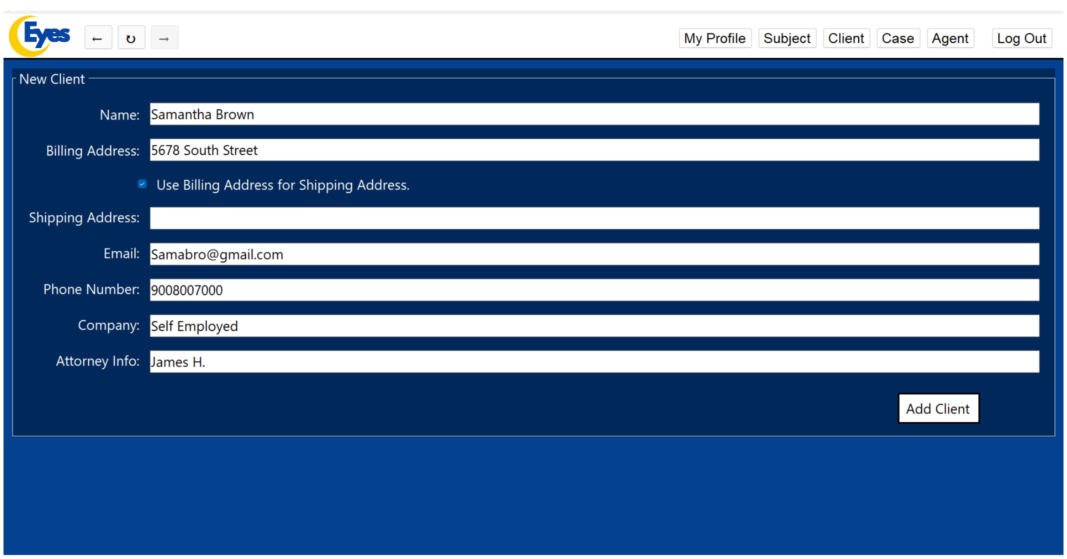
- After pressing on “Add Subject” you will be redirected to the subject creation page
- In this page, we will create a subject using the information shown in the above photo
- Additionally, we will add a photo of the subject using the “Upload Image” button
- Press “Add Subject” in the bottom right corner to finalize subject creation
- Press the “Client” button in the navigation bar. We will begin to create a new client for the next step

Step 5: The Client Filter Page



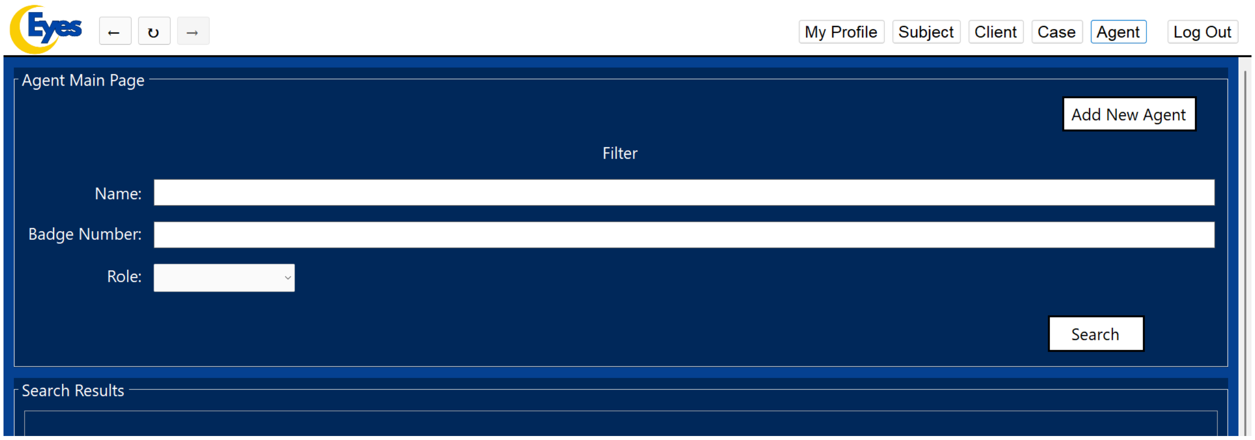
- After pressing on “Client” you will be redirected to the client filter page
- This page will be covered in detail later
- Press the “Add New Client” Button

Step 6: Add New Client



- After pressing on “Add Client” you will be redirected to the client creation page
- In this page, we will create a client using the information shown in the above photo
- Press “Add Client” in the bottom right corner to finalize client creation
- Press the “Agent” button in the navigation bar. We will begin to create a new agent for the next step

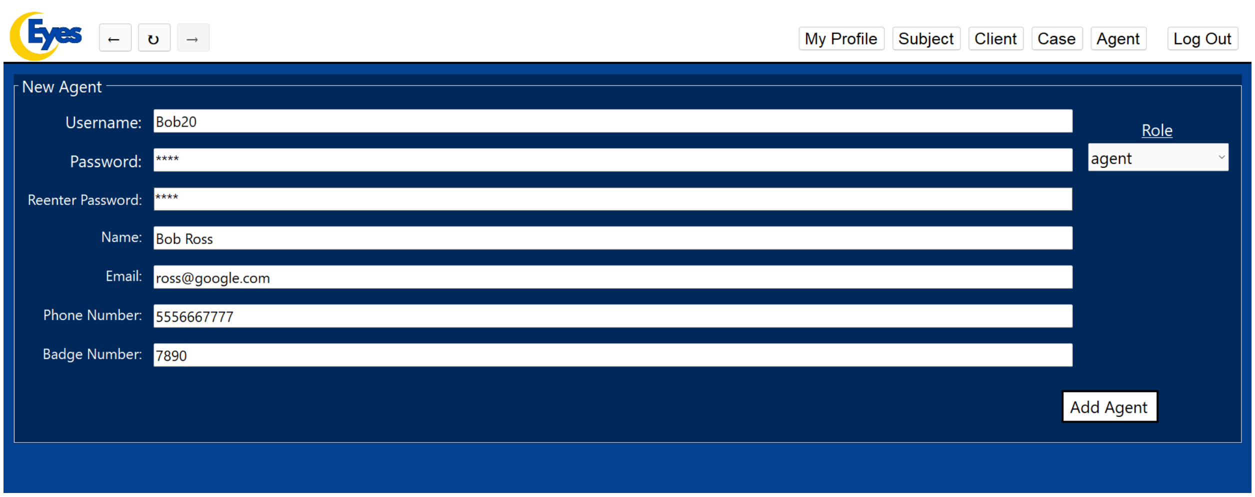
Step 7: Agent Filter Page



- After pressing on “Agent” you will be redirected to the agent filter page
- This page will be covered in detail later
- Press the “Add New Agent” Button (ADMIN ONLY)

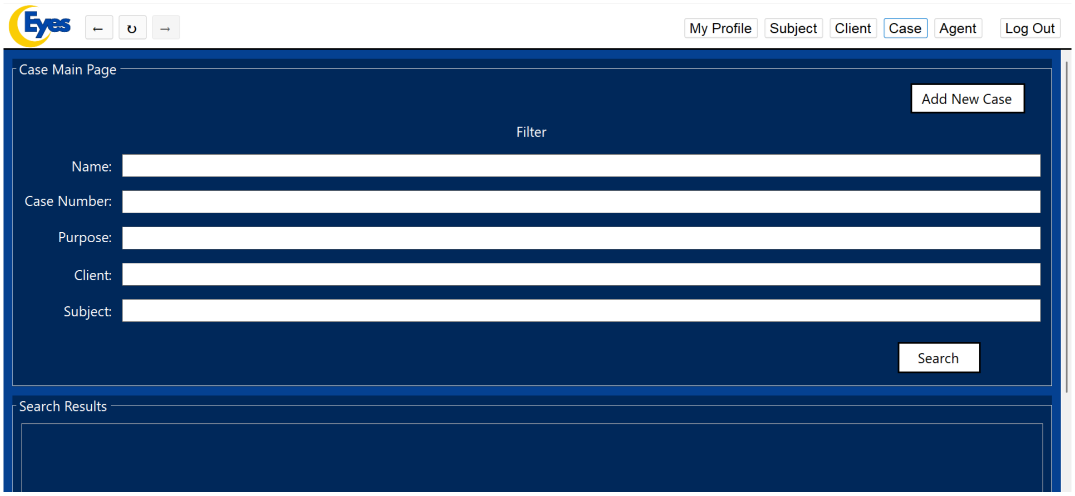
Note: Adding new agents is a functionality limited to admin users.

Step 8: Add New Agent (ADMIN ONLY)



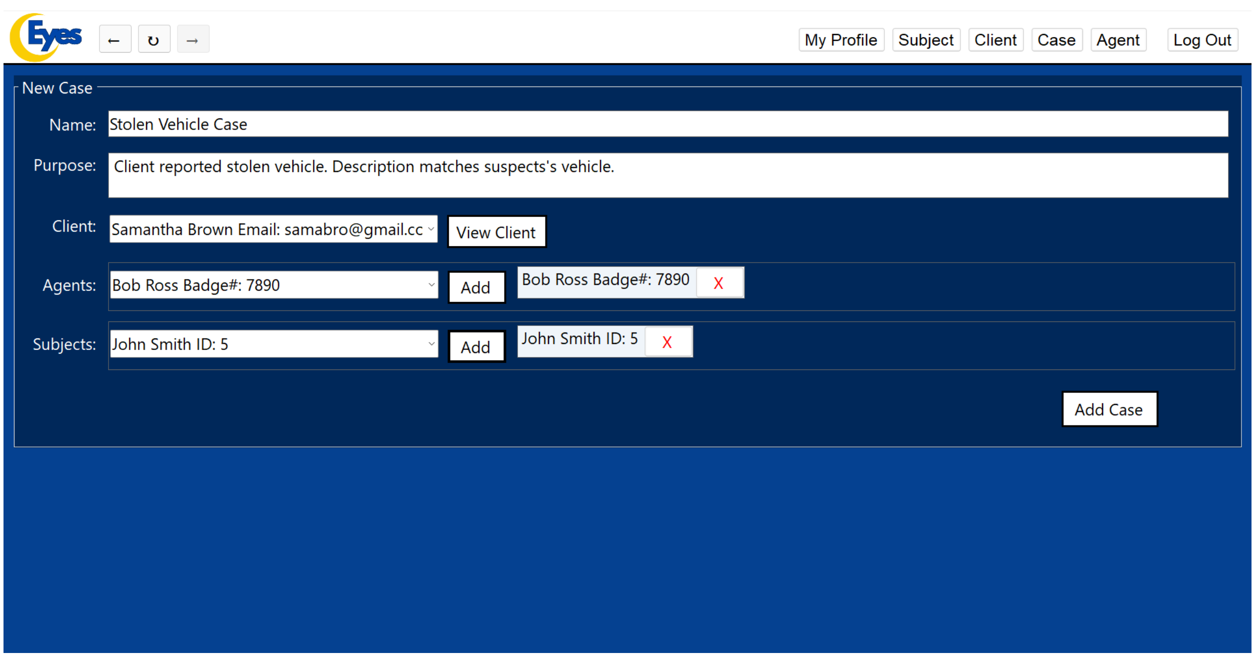
- After pressing on “Add Agent” you will be redirected to the agent creation page
- In this page, we will create an agent using the information shown in the above photo
- Press “Add Agent” in the bottom right corner to finalize client creation
- Press the “Case ” button in the navigation bar. We will now create an investigation case using our information

Step 9: The Case Filter Page



- After pressing on “Case” you will be redirected to the case filter page
- This page will be covered in detail later
- Press the “Add New Case” Button

Step 10: Add New Case



- After pressing on “Add Case” you will be redirected to the case creation page
- In this page, we will create an case using the information shown in the above photo
- For both the “Agents” and “Suspects” fields, make sure to press “Add” after selection to add the respective person to the case
- Press “Add Case” in the bottom right corner to finalize client creation

Our case is now created as is visible to the agents it is assigned to.

Step 11: View Dashboard Page and Logout

- Return to the dashboard page by pressing the MoonEyes Logo at the top left of the screen
- You will notice that the case just created is not present. This is because we assigned the case to the agent we just created, and thus it is only visible to them
- Press Logout to logout of your current account

Step 12: Login as New Agent

- Fill in the fields with the username and password of the newly created agent
- Only admins know this information since only they can create new agents
- Press the “Login: button

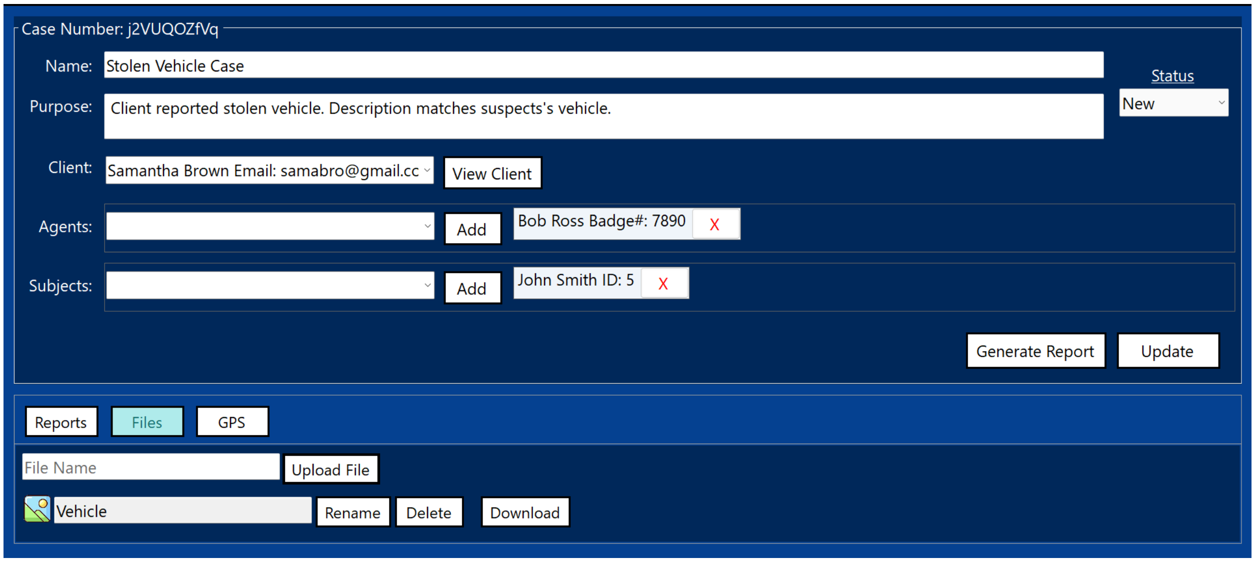
Step 13: Dashboard Page with New Case

- Once redirected to the dashboard page, you will now notice that our newly created case is visible
- Double click the name of the case to view its information

Step 14: Adding a Report

- Once redirected to the case information page, navigate to the bottom of the page where you will see and press the “Reports” button
- Type in a report as seen in the above photo
- Press “Add Report”
- You will see that the report is now added and timestamped

Step 15: Adding a File (Photo)



- Press the “Files” Button
- Type in a file name, in this case, “Vehicle”
- Press “Upload File”
- You will be prompted with you computer’s file explorer, select the appropriate file
- You will see that the photo is now uploaded to the case

Step 16: Generate a Report

Metro Detective Agency
Case Number: j2VUQOZfVq generated for Bob Ross:7890 on 4/15/2025 11:49:48 PM

Case Details

Property	Value
Name	Stolen Vehicle Case
Case Number	j2VUQOZfVq
Status	New
Purpose	Client reported stolen vehicle. Description matches suspects's vehicle.

Client Details

Property	Value
Name	Samantha Brown
Phone Number	9008007000
Email	samabro@gmail.com
Billing Address	5678 South Street
Shipping Address	5678 South Street
Company	Self Employed
Attorney Info	James H.

Subject Details

Property	Value
Name	John Smith
Phone Number	3131112222
Address	1234 North Street
Workplace	General Motors
Associate Name	Jane Smith
Vehicle Plate	AB12DE
Vehicle Info	2022 Chevrolet Equinox, Black
Lawyer Info	None
Notes	White male, short black hair

Page 1 of 2

Metro Detective Agency
Case Number: j2VUQOZfVq generated for Bob Ross:7890 on 4/15/2025 11:49:48 PM

Agent Reports

Agent Name	Badge Number	Content
Bob Ross	7890	Seen Near Henry Ford College

We will now generate a report that contains all of the information created and added to the case thus far

- Press the “Generate Report” button
- Type in a name for the report and select the desired location on your device
- A file containing the investigation case information will be created and stored on your device

Please note that anything put in the “Files” section (such as the photo) will not be carried over into the report.

Help Facilities Provides

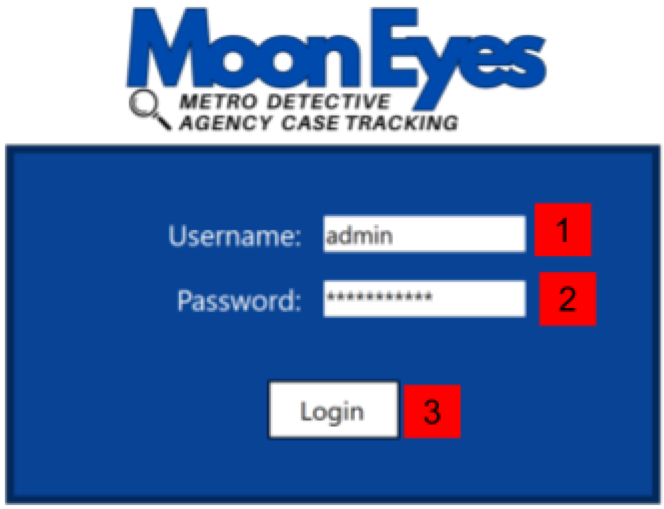
Team email addresses:
hadis@umich.edu
lmahmed@umich.edu
luisjr@umich.edu
salatiel@umich.edu

4) Detailed instructions

Operation of Product + How to Run All Product Functions

4.1) Login Page

The login page will be shown as soon as you launch the application. You can use the login page to login to your account.



1) Username Field: Enter your username into the field (usually provided by an admin)
2) Password Field: Enter your password into the field (usually provided by an admin)
3) Login Button: After entering your username and password into the respective fields, press the login button in order to log into your account. Optionally, you can press the "Enter" key while in the password field (2) in order to login

4.2) Dashboard Page

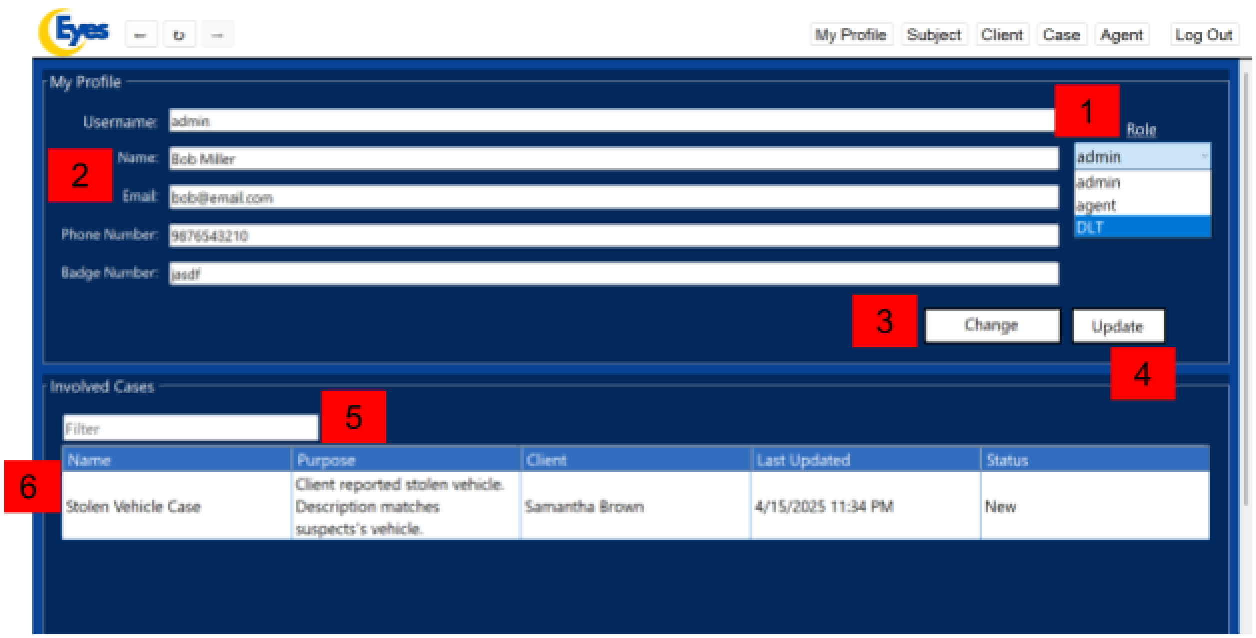
After logging in, you will be directed to the dashboard page. You can use the dashboard page to view all the cases that are assigned to you. Additionally, you can press on some of the case's info in order to access them specifically.

1) MoonEyes Logo: You can click on the MoonEyes logo at any time during running the application in order to return to the dashboard page (the page above)
2) Previous Button: You can press this button anytime to return to the previous page that you were on. The data of the current page will be saved should you return using the "Next" button
3) Reload Button: You can press on this button anytime to reload the current page
4) Next Button: You can press on this button after pressing the "Previous" button in order to return to the page that you were on before pressing the "Previous" Button
5) My Profile Button: You can press this button anytime to navigate to your profile page (covered in more detail later)
6) Subject Button: You can press on this button anytime to navigate to the Subject Filter page (covered in more detail later)

7) Client Button: You can press on this button anytime to navigate to the Client Filter page (covered in more detail later)
8) Case Button: You can press on this button anytime to navigate to the Case Filter page (covered in more detail later)
9) Agent Button: You can press on this button anytime to navigate to the Agent Filter page (covered in more detail later)
10) Logout Button: You can press this button anytime to log out of the application, returning you to the login page
11) Case Filter: You can use this field to search for a specific case within the table of cases below it using identifying information
12) In Progress Cases: This table shows you the cases assigned to you that are currently in progress, you can click on the case number, name, and client in order to view more information about the case or the client.
13) New Cases: This table shows you the cases assigned to you that are new, you can click on the case number, name, and client in order to view more information about the case or the client.
14) Completed Cases: This table shows you the cases assigned to you that are completed, you can click on the case number, name, and client in order to view more information about the case or the client.
15) Due for Deletion Cases: This table shows you the cases assigned to you that are due for deletion, you can click on the case number, name, and client in order to view more information about the case or the client.

4.3) My Profile Page

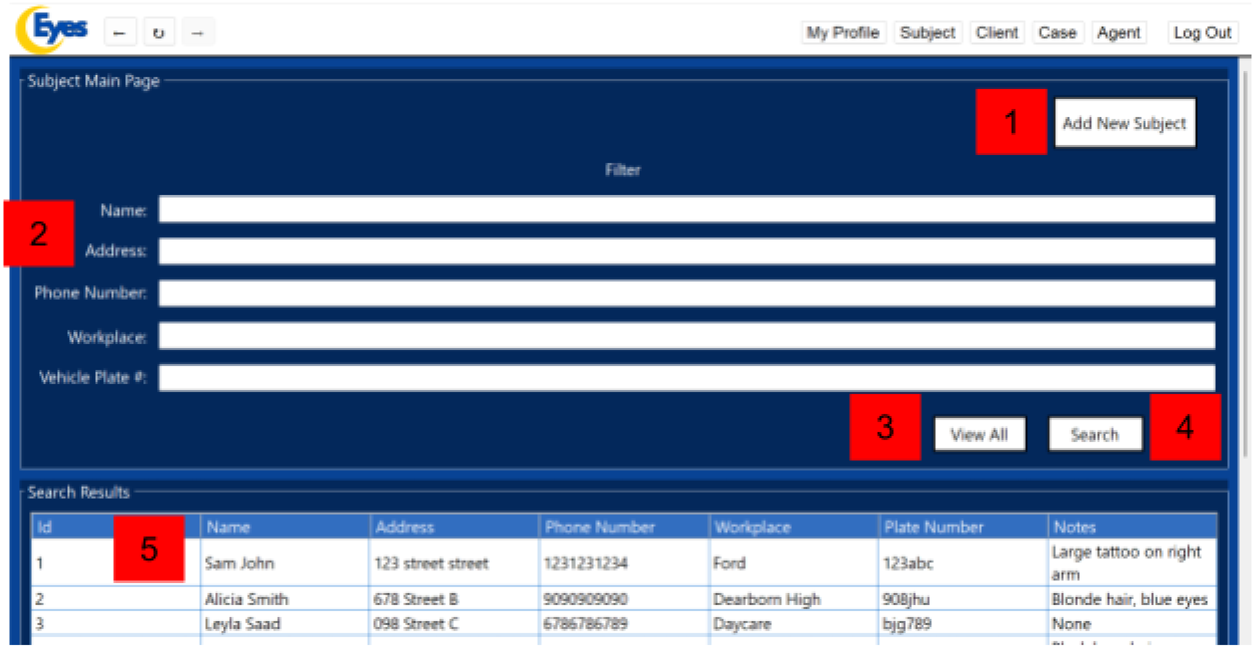
This page is used to view and modify information related to agents. Note that only admin accounts are able to modify passwords and account roles.



1) Agent Role: ADMIN ONLY, use this dropdown to select the role of the agent. Roles include admin, agent, and DLT (For deletion).
2) Information Fields: These fields include username, name, email, phone number, and badge number. They can be modified as required, then the “Update” button should be pressed to save changes.
3) Change Password Button: ADMIN ONLY, use this button to change the password of the profile being viewed.
4) Update Button: Press this button to apply changes made to any of the fields in (2)
5) Involved Cases Filter: You can use this filter to search the cases that the profile being viewed is involved in
6) Involved Cases: This table shows cases that are currently assigned to the profile being viewed. You can click on the name and client fields in order to view that information.

4.4) Subject Filter Page

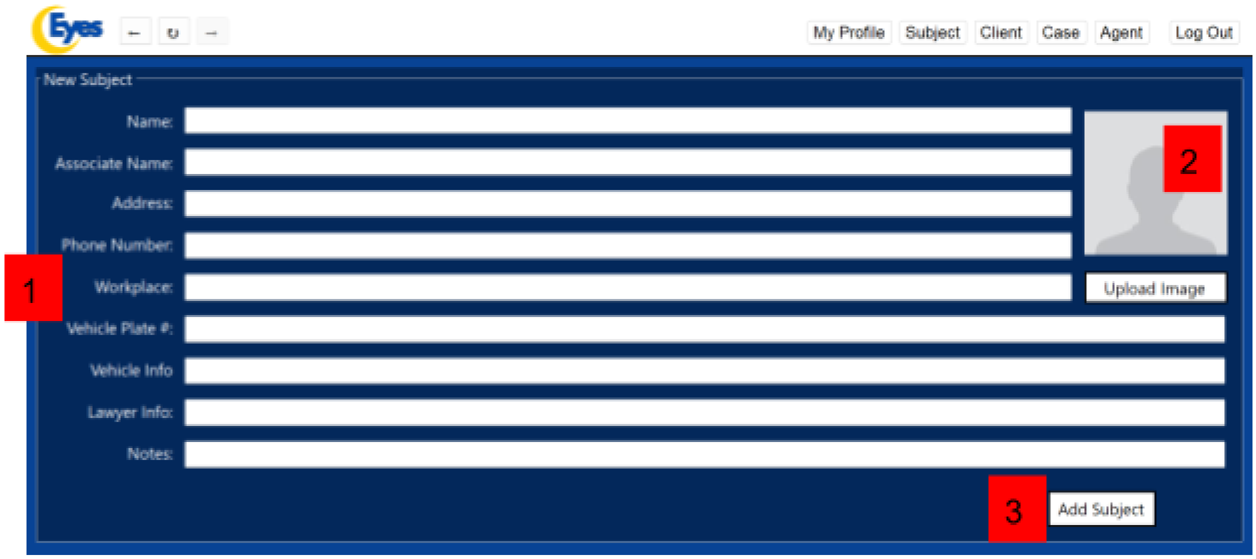
This page is used to filter (search) through subjects by identifying information



1) Add New Subject Button: Press this button in order to navigate to the "Add New Subject" page (covered in more detail later)
2) Search Categories: You can use any of the fields (Name, address, phone number, workplace, vehicle plate #) in order to search for a specific subject. Note that you can use one, many, or none of the fields for the search
3) View All Button: Press this button to view all of the subjects currently in the database
4) Search Button: After filling out the field(s) in (2), press this button to execute a search
5) Search Results Table: After executing a search, the results will be shown in this table. You can click on any of the subjects to view their information (View Subject Page, covered in more detail later)

4.5) Add New Subject Page

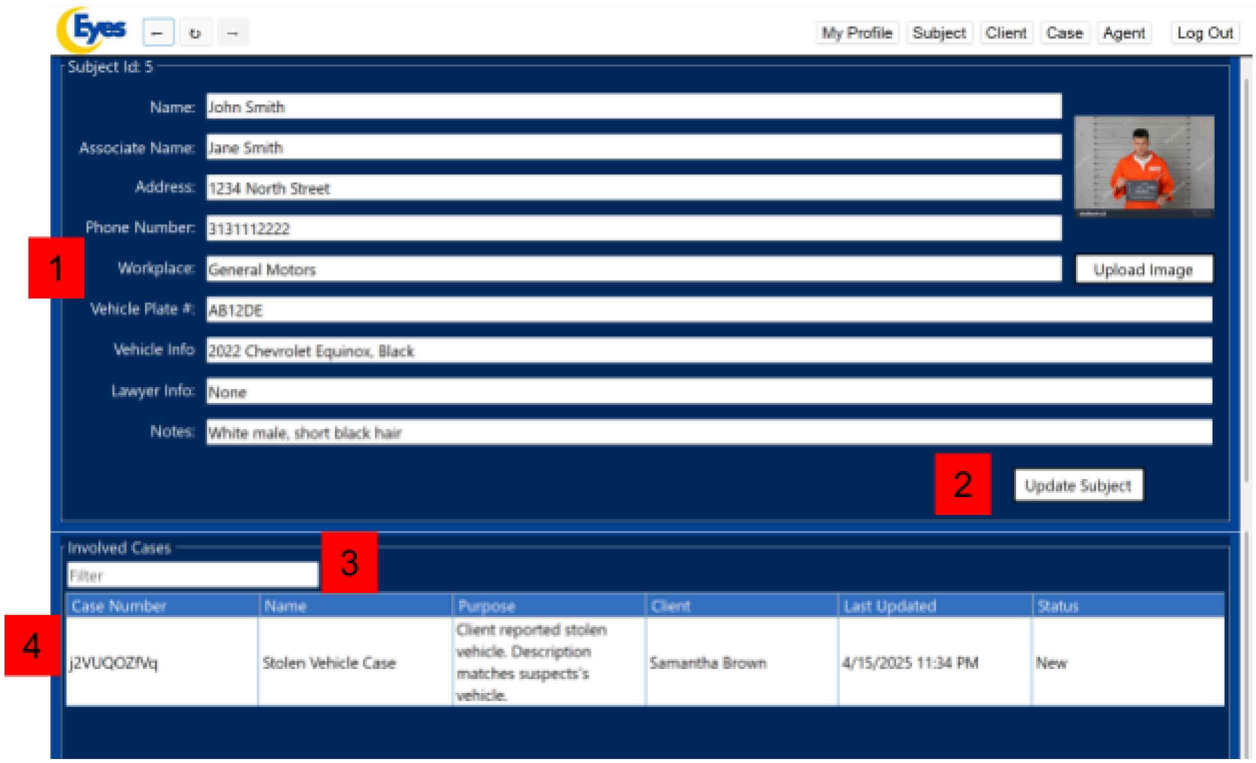
This page is used to add a new subject to the database by adding in identifying information



1) Information Fields: Fill out the information fields (Name, associate name, address, phone number, workplace, vehicle plate #, vehicle info, lawyer info, notes) for the subject
2) Upload Image: Optionally, select the “Upload Image” Button in order to add an image of the subject from your device
3) Add Subject Button: After filling out the fields (1), press this button to create a subject and add them to the database

4.6) View Subject Page

Use this page in order to view and edit information pertaining to a particular subject



1) Information fields: You can view or edit these fields pertaining to the current subject. Fields are the same as for when creating a subject.
2) Update Subject Button: If any of the fields in (1) are changed, press this button to save the changes made
3) Involved Cases Filter: You can use this filter to search the cases that the subject being viewed is involved in
4) Involved Cases: This table shows cases that the subject being viewed is involved with. You can click on the name and client fields in order to view that information.

4.7) Client Filter Page

This page is used to filter (search) through clients by identifying information

1) Add New Client Button: Press this button in order to navigate to the “Add New Client” page (covered in more detail later)
2) Search Categories: You can use any of the fields (Name, billing address, Phone number, Company, Email, Attorney info) in order to search for a specific client. Note that you can use one, many, or none of the fields for the search
3) View All Button: Press this button to view all of the clients currently in the database
4) Search Button: After filling out the field(s) in (2), press this button to execute a search
5) Search Results Table: After executing a search, the results will be shown in this table. You can click on any of the clients to view their information (View Client Page, covered in more detail later)

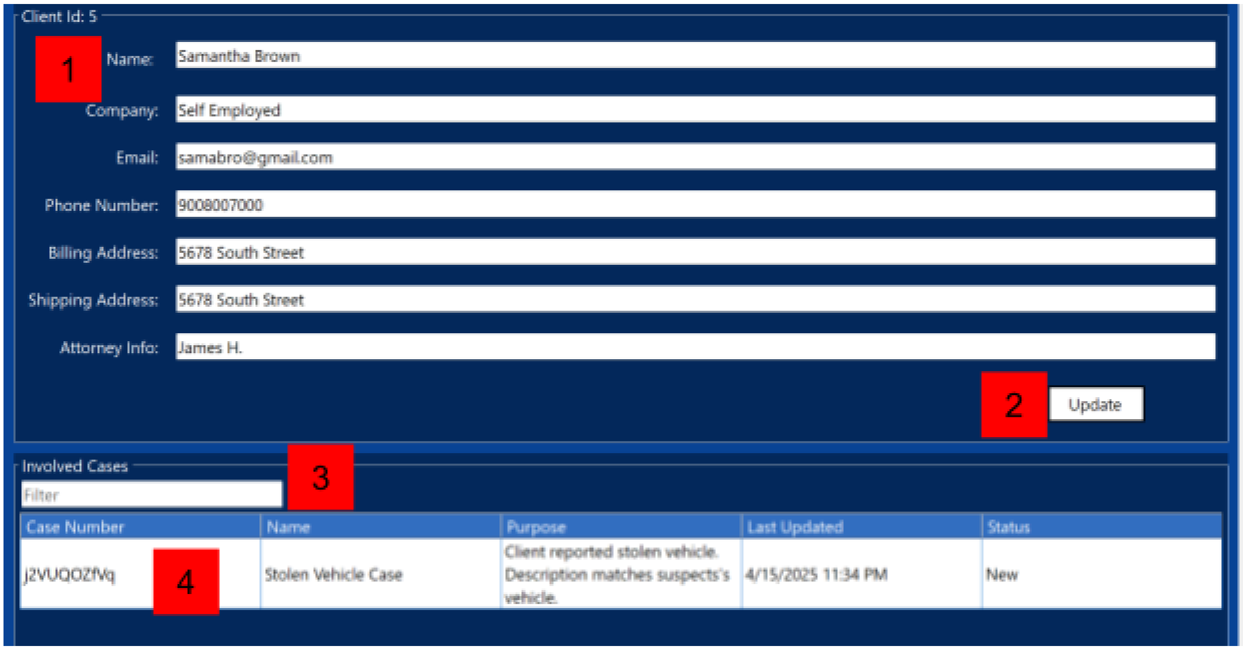
4.8) Add New Client Page

This page is used to add a new client to the database by adding in identifying information

1) Information Fields: Fill out the information fields (Name, billing address, shipping address, email, phone number, company, attorney info) for the client
2) Add Client Button: After filling out the fields (1), press this button to create a client and add them to the database

4.9) View Client Page

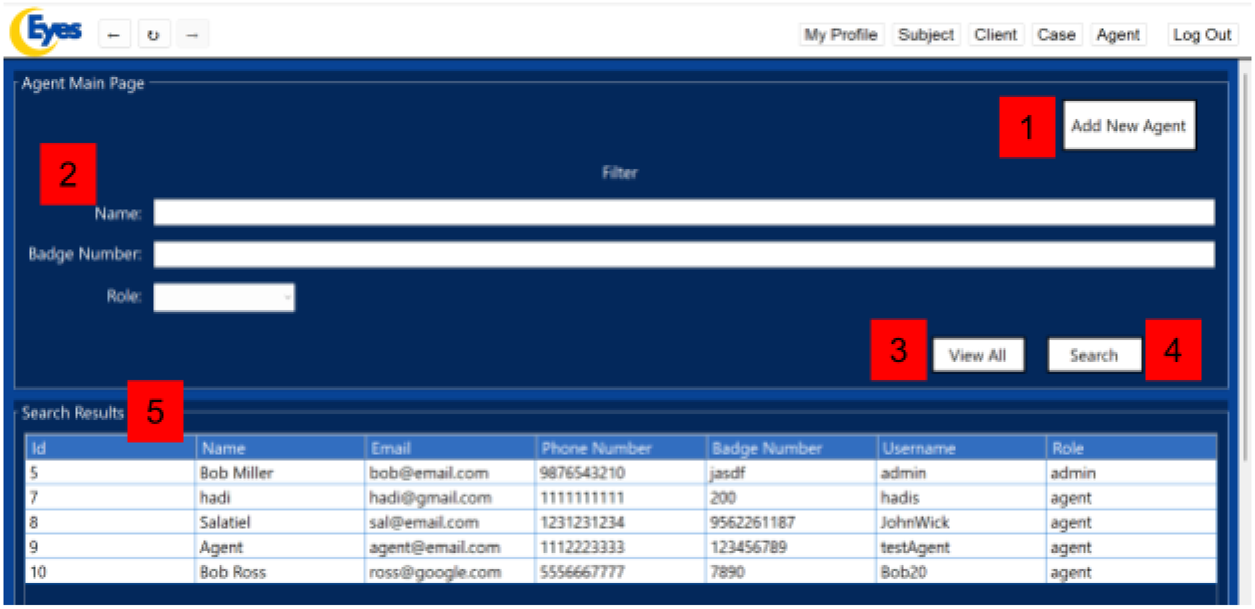
Use this page in order to view and edit information pertaining to a particular client



1) Information fields: You can view or edit these fields pertaining to the current client. Fields are the same as for when creating a client.
2) Update Client Button: If any of the fields in (1) are changed, press this button to save the changes made
3) Involved Cases Filter: You can use this filter to search the cases that the client being viewed is involved in
4) Involved Cases: This table shows cases that the client being viewed is involved with. You can click on the name field to view that case's information

4.10) Agent Filter Page

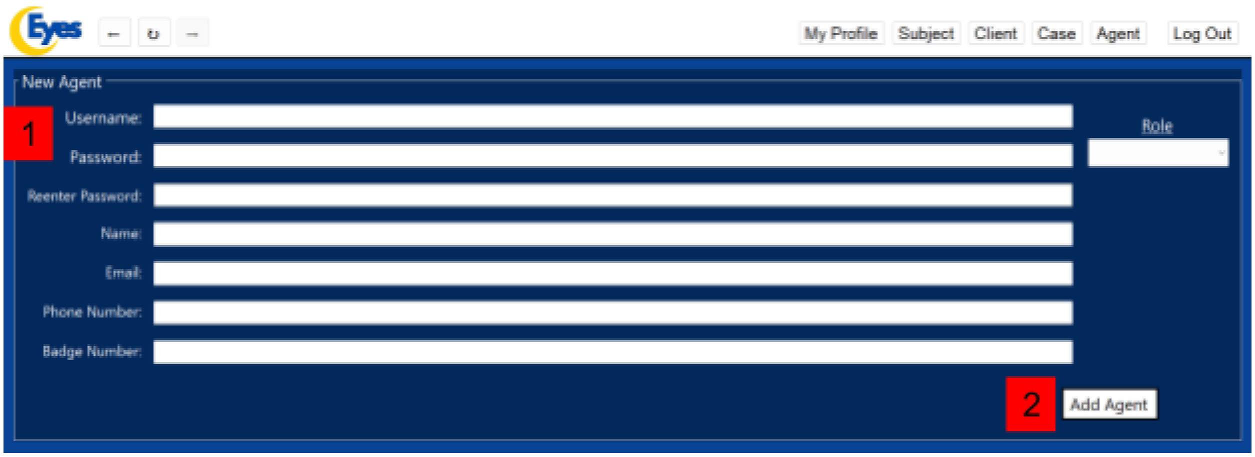
This page is used to filter (search) through agents by identifying information



1) Add New Agent Button: ADMIN ONLY, Press this button in order to navigate to the “Add New Agent” page (covered in more detail later)
2) Search Categories: You can use any of the fields (Name,badge number, role) in order to search for a specific agent. Note that you can use one, many, or none of the fields for the search
3) View All Button: Press this button to view all of the agents currently in the database
4) Search Button: After filling out the field(s) in (2), press this button to execute a search
5) Search Results Table: After executing a search, the results will be shown in this table. You can click on any of the agents to view their information (View Agent Page, covered in more detail later)

4.11) Add New Agent Page, ADMIN ONLY

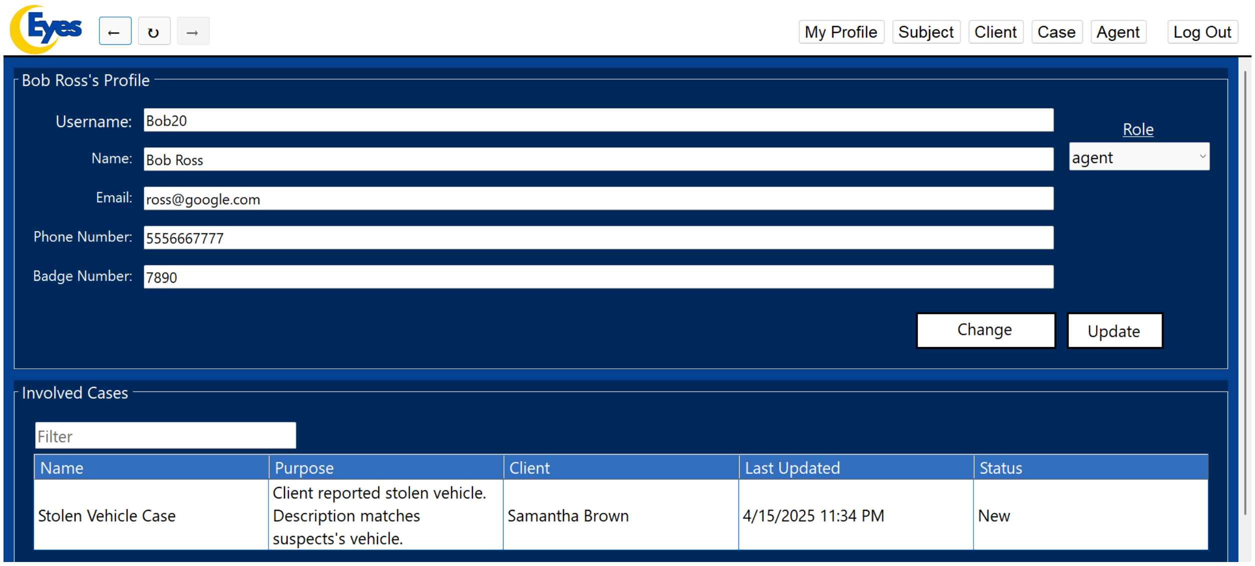
This page is used to add a new agent to the database by adding in identifying information



1) Information Fields: Fill out the information fields (Username, password, re-enter password, name, email, phone number, badge number, role) for the agent
2) Add Agent Button: After filling out the fields (1), press this button to create a agent and add them to the database

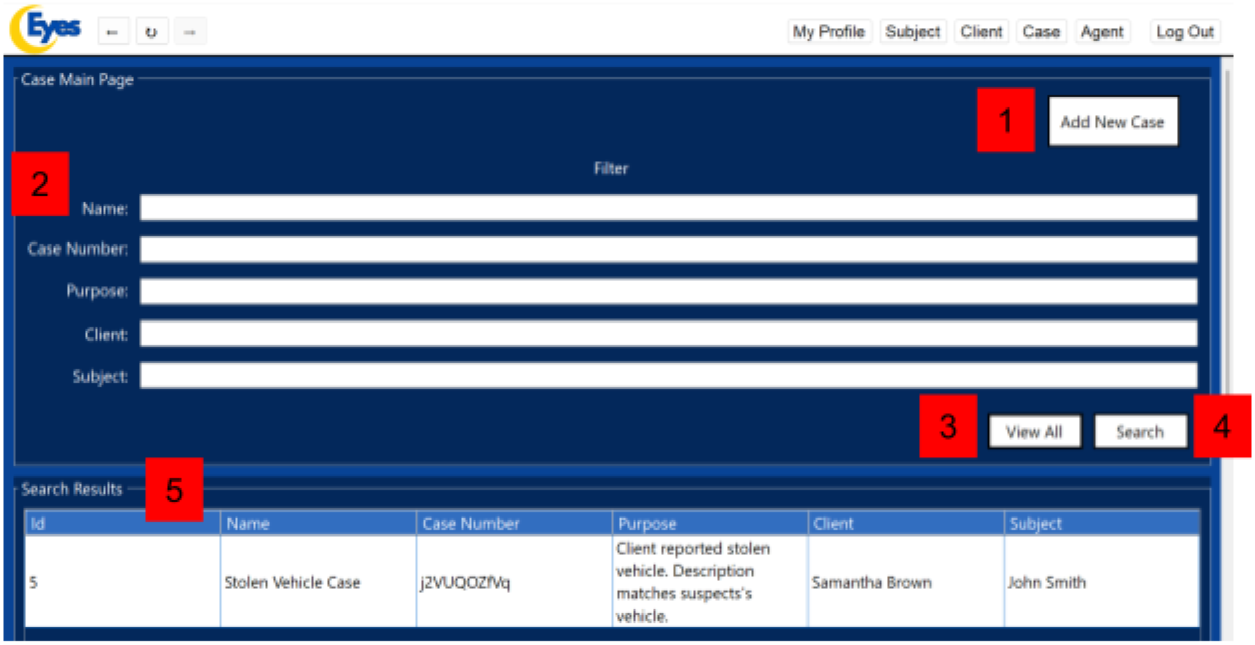
4.12) View Agent Page

Use this page in order to view and edit information pertaining to a particular agent. Note that the layout of this page is identical to the “My Profile” Page, as such, please refer to that section for a walkthrough of how to navigate the page.



4.13) Case Filter Page

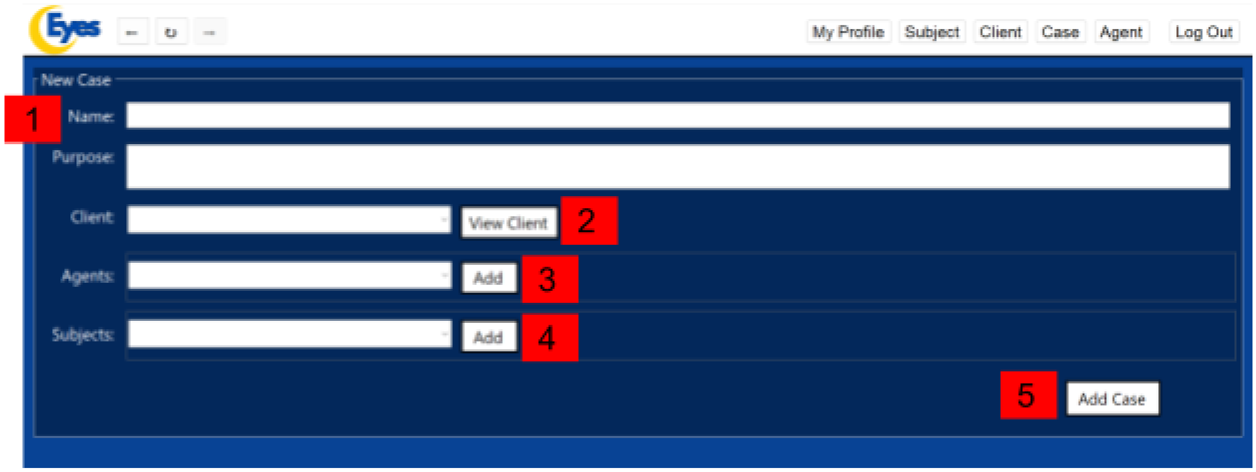
This page is used to filter (search) through investigation cases by identifying information



1) Add New Case Button: Press this button in order to navigate to the “Add New Case” page (covered in more detail later)
2) Search Categories: You can use any of the fields (Name, case number, purpose, client, subject) in order to search for a specific case. Note that you can use one, many, or none of the fields for the search
3) View All Button: Press this button to view all of the cases currently in the database
4) Search Button: After filling out the field(s) in (2), press this button to execute a search
5) Search Results Table: After executing a search, the results will be shown in this table. You can click on any of the cases to view their information (View Case Page, covered in more detail later)

4.14) Add New Case Page

This page is used to add a new investigation case to the database by adding in identifying information



1) Information Fields: Fill out the information fields (Name, purpose, client, agents, subjects) for the case
2) View Client Button: After selecting the client for the case, you can optionally select the “View Client” button in order to view that client’s information (View Client page, covered previously)
3) Add Button (Agents): After selecting an agent, press this button to add them to the case. Like this, multiple agents can be assigned to a case
4) Add Button (Subjects): After selecting a subject, press this button to add them to the case. Like this, multiple subjects can be added to a case
5) Add Case Button: After filling out the fields (1), press this button to create a case and add it to the database

4.15) View Case Page

Use this page in order to view and edit information pertaining to a particular investigation case.

1) Information fields: You can view or edit these fields pertaining to the current case. Fields are the same as for when creating a case.
2) Current Added Agents: You can press on any added agent in order to view their “View Agent” page (covered previously). You can also click on the “X” icon to remove them from the case
3) Current Added Subjects: You can press on any added subject in order to view their “View Subject” page (covered previously). You can also click on the “X” icon to remove them from the case
4) Status Dropdown: You can use the dropdown to change the case status between new, in progress, completed, and DLT

5) Generate Report Button: You can use this button to generate a pdf report of the case on your device detailing all information
6) Update button: If any case information is modified, press this button to save those changes
7) Reports Button: Press this button to access the reports section of the case
8) Report Field: You can type a new report in this field
9) Add Report: After typing a report, press this button to add the report to the case
10) Reports: This shows reports that have been added to the case. Agent names and timestamps are included
11) Edit Report Button: Press this button to edit a report. Note: You can only edit a report made by yourself. ADMIN accounts can edit any report
12) Delete Report Button: Press this button to delete a report. Note: You can only delete a report made by yourself. ADMIN accounts can delete any report
13) Files Button: Press this button to access the files section of the case
14) File Name Field: Use this field to give the file to be uploaded a name
15) Upload File Button: After giving a file name, press this button to upload a file from your device (Only documents and images are supported)
16) Files: This sections shows the files that are uploaded to the case
17) Rename File Button: Press this button to rename a file that has been uploaded to the case
18) Delete File Button: Press this button to delete a file that has been uploaded to the case
19) Download File Button: Press this button to download a file that has been uploaded to the case onto your device
20) GPS Button: Press this button to access the GPS locations section of the case
21) GPS Location Field: Use this field to add a visited location to the case, include start and end times
22) Add Location Button: After writing a GPS location, press this button to add the location to the case
23) Locations: This section shows the locations that have been added to the case
24) Rename Location Button: Press this button to change a location that is in the case
25) Delete Location Button: Press this button to delete a location that is in the case

Sample Output + Input For The Product

Please refer to (Tutorial) and follow the instructions of the example walkthrough to learn about examples of inputs and outputs for the product

Error Handling Supported by Product

MoonEyes handles errors through the use of error popups that show up on the screen and inform you of the nature of the error. These errors usually occur due to missing fields when creating a client or subject or due to incorrect formatting, such as the formatting of an email address. Common error messages include:

- Incorrect email address formatting
- Empty email
- Empty phone number
- Large phone number
- Unsupported characters in name
- Empty address
- Large address
- Incorrect role
- Incorrect filter input

5) Technical Details

Advanced Features

MoonEyes includes a number of advanced features that can streamline navigation and case management:

- Advanced filtering for clients, agents, suspects, and cases: You can search for any of these using a single field in the respective filter page or even multiple fields to narrow down results
- Navigation: MoonEyes supports navigation. In the navigation bar, you will notice an undo, redo, and reload button. Similarly to a web page, these buttons will allow you to move between pages that you've been through; however, the information within the fields of the previous pages will be saved, so you can move to a new page without losing progress on a previous page using the buttons in the navigation bar.
- Linking: Many of the fields in the MoonEyes application are dynamically linked to what they represent. You can press on the name of an agent, client, or subject in order to navigate to their information. You can also press on the name of an investigation to view and modify its information

Stringing these advanced features together can allow for quick and efficient management of case information. For example, you can be in the process of modifying a case's information, press on an added subject's name to view some information you need, use the navigation bar to go back to the case you were modifying, and continue from where you left off using the suspect's information.

Modification of product

MoonEyes is a sophisticated database management system. Modification of the product should only be done by the senior design team themselves or those with experience with databases and computer science. Modifying the product otherwise could lead to undesirable behavior or the application breaking down.

Support Information

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