

## **System Overview**

The purpose of this system is to provide users with an application to search and download criminal profiles from a criminal database. These criminal profiles are stored in JSON files. Users can create an account, whose profiles will also be stored in a JSON file. Users may download profiles and search for criminals using the system's search function. As shown in the completed design document diagrams, users with insufficient access levels are unable to update case info if they try. System administrators can edit these profiles as they need, shown in the admin portion of the profile sequence diagrams.

## **Environment Overview**

This system runs as a command line application and is written in java. This system will reside on secured devices and is intended to be used by law enforcement agents. Security access levels should be assigned to prevent unauthorized data transfer and modifications. If this system is used by a law enforcement agency such as a police department, field officers should have the lowest level of access because there is not proper physical security protecting the system (e.g., Laptop in a squad car in public). Only users whose systems reside in physically secure locations, such as a room with biometric access should have the credentials to modify or delete data in this system. Administrative functions should also be reserved for users with proper credentials such as forensic investigators.

## User Interface

Provide images showing how your console application will appear for every scenario of your application. Remember to include error cases.

E.g.

Login Screen:

```
Welcome to Crime Finder
Please login to use features of this application:
User ID:
203458
User Password:
*****

Welcome back John!
```

Initial Display:

```
Welcome to Crime Finder

Please select what you need to do:
1. Add data to store
2. Edit stored data
3. Remove stored data
4. Search
5. Logout
```

Add Data:

```
Adding some data to store.
What type of data are you storing?

1. Witness
2. Victim
3. Person of Interest
4. Suspect
5. Vehicle
6. Criminal
7. Crime
8. Evidence
```

You would then choose the data type you wish to add to the database, and add the related information.

Edit Data:

```
Editing stored data.  
What type of data are you editing?
```

1. Witness
2. Victim
3. Person of Interest
4. Suspect
5. Vehicle
6. Criminal
7. Crime
8. Evidence

You then choose the data type you wish to enter, enter the specific object you wish to edit, and add the edits to it.

Remove Data:

```
Removing some data.  
What type of data are you removing?
```

1. Witness
2. Victim
3. Person of Interest
4. Suspect
5. Vehicle
6. Criminal
7. Crime
8. Evidence

Next you would choose which type of data you'd like to remove, choose the specific object you'd like to remove, and the object is removed from the database.

Search:

Welcome to the Crime Finder Search!  
Choose an option for below

1. Witness
2. Victim
3. Person of Interest
4. Suspect
5. Vehicle
6. Criminal
7. Crime
8. Evidence

Next you would pick the data type you'd like to search for. Then choose the specific object, i.e. the Witness or Victim you want, and visit their profile.

Logout:

Thank you for logging out  
Goodbye

## Data Storage

The data will be stored in eight json files: person.json, personOfInterest.json, suspect.json, criminal.json, victim.json, witness.json, vehicle.json, and evidence.json, crime.json. Each json file holds an array of objects and each object has an identifier to go with it. Crime is the connection between all the json files. A crime has evidence, persons, persons of interest, suspects, victims, witnesses, criminals, and vehicles.

### crime.json

```
1  [
2    {
3      "dateCommitted":"01/20/2020",
4      "dateFiled":"01/25/2020",
5      "typeOfCrime":"Felony",
6      "description":"Aggravated Assault, Illegal Possession of firearm",
7      "location":"Olive Garden, 123 Wildwood Street New York, NY",
8      "dateCommitted":"01/20/2020",
9      "evidence":"Gun with Tony's fingerprints, Security camera footage",
10     "victims":"George Smith, Sally Smith",
11     "witnesses":"11111",
12     "personsOfInterest":"Tony Bologna, Cynthia Bologna",
13     "suspects":"Tony Bologna, Cynthia Bologna",
14     "users":"N/A",
15     "vehicles":"Honda_Bologna",
16     "isClosed":true,
17     "caseNumber":123456,
18     "evidenceFile":22222
19   }
20 ]
```

### user.json

```
1  [
2    {
3      "name":"Douglas Williams",
4      "userName":"dw0544",
5      "password":"1WE!@wssj@#ERD",
6      "job":"Forensic Investigator",
7      "badgeNumber":423348,
8      "location":"New York, NY",
9      "cases":123456,
10     "isAdmin":true
11   }
12 ]
```

Crime and User are two json files that are connected. Crime has a list of users that are working on the case and User has a list of cases.

## suspect.json

```
1  [
2    {
3      "suspectId":1,
4      "firstName":"Tony",
5      "lastName":"Bologna",
6      "phone":"1234567890",
7      "email":"tony@bologna.net",
8      "caseNumber":"123456",
9      "age":51,
10     "gender":"M",
11     "race":"W",
12     "dateOfBirth":"03/12/70",
13     "relationship":"Wanted for the shooting of George Smith",
14     "address":"1234 Street St, New York, NY, 22222",
15     "eyeColor":"Green",
16     "currentHairColor":"black",
17     "naturalHairColor":"black",
18     "height":"6'1\"",
19     "weight":220,
20     "tattooDescription":"'Do not touch my family' on forearm",
21     "physicalDeformities":"stab wound on lower abdomen",
22     "nicknames":"Mr. T, Don T",
23     "footSize": 11.5,
24     "clothesSeenIn": "Suit and tie, diamond studded rolex",
25     "associated":"Cynthia Bologna"
26   }, {
27     "suspectId":2,
28     "firstName":"Cynthia",
29     "lastName":"Bologna",
30     "phone":"0987654321",
31     "email":"cynthia@bologna.net",
32     "caseNumber":"123456",
33     "age":48,
34     "gender":"F",
35     "race":"W",
36     "dateOfBirth":"10/26/73",
37     "relationship":"Wanted for the assault of Sally Smith",
38     "address":"1234 Street St, New York City, NY 22222",
39     "eyeColor":"Hazel",
40     "currentHairColor":"black",
41     "naturalHairColor":"black",
42     "height":"5'8\"",
43     "weight":150,
44     "tattooDescription":"N/A",
45     "physicalDeformities":"Burn mark on left cheek",
46     "nicknames":"Mrs. T",
47     "footSize": 9.5,
48     "clothesSeenIn": "White dress",
49     "associated":"Tony Bologna"
50   }
51 ]
```

## victim.json

```
1  [
2    {
3      "victimId":1,
4      "firstName":"George",
5      "lastName":"Smith",
6      "phone":"1111111111",
7      "email":"georgesmith@gmail.com",
8      "caseNumber":"123456",
9      "relationshipWithSuspect":"Shot by Tony Bologna",
10     "medicalHistory":"Broken arm 04/28/1997, Gunshot wound 01/20/2020",
11     "ifHospital":true,
12     "isDeceased":false
13   }, {
14     "victimId":2,
15     "firstName":"Sally",
16     "lastName":"Smith",
17     "phone":"2222222222",
18     "email":"sallysmith@gmail.com",
19     "caseNumber":"123456",
20     "relationshipWithSuspect":"Assaulted by Cynthia Bologna 01/20/2020",
21     "medicalHistory":"N/A",
22     "ifHospital":false,
23     "isDeceased":false
24   }
25 ]
```

Victim and suspect are another two of the json file connections. The victim has a variable that states which suspect they are related to and why.

## person.json

```
1  [
2    {
3      "personId":1,
4      "firstName":"Tony",
5      "lastName":"Bologna",
6      "phone":1234567890,
7      "email":"tony@bologna.net",
8      "caseNumber":123456
9    }, {
10     "personId":2,
11     "firstName":"Cynthia",
12     "lastName":"Bologna",
13     "phone":0987654321,
14     "email":"cynthia@bologna.net",
15     "caseNumber":123456
16   }
17 ]
```

## witness.json

```
1  [
2    {
3      "witnessId":1,
4      "firstName":"Jeffery",
5      "lastName":"Jackson",
6      "phone":5555555555,
7      "email":"jjack@comcast.net",
8      "caseNumber":123456,
9      "address":"6437 Avenue Rd, New York City, NY, 12345",
10     "statement":"Mr. Jackson witnessed Tony Bologna shoot George Smith right after Cynthia Bologna assaulted Sally Smith"
11   }
12 ]
```



## personOfInterest.json

```
1  [
2    {
3      "poiID":1,
4      "firstName":"Tony",
5      "lastName":"Bologna",
6      "phone":1234567890,
7      "email":"tony@bologna.net",
8      "caseNumber":123456,
9      "age":51,
10     "gender":"M",
11     "race":"W",
12     "dateOfBirth":"03/12/70",
13     "relationship":"Wanted for questioning in the George Smith shooting",
14     "address":"1234 Street St, New York City NY, 22222"
15   }, {
16     "poiId":2,
17     "firstName":"Cynthia",
18     "lastName":"Bologna",
19     "phone":0987654321,
20     "email":"cynthia@bologna.net",
21     "caseNumber":123456,
22     "age":48,
23     "gender":"F",
24     "race":"W",
25     "dateOfBirth":"10/26/73",
26     "relationship":"Wanted for questioning in the Sally Smith assault.",
27     "address":"1234 Street St, New York City NY, 22222"
28   }
29 ]
```



## suspect.json

```
1  [
2    {
3      "suspectId":1,
4      "firstName":"Tony",
5      "lastName":"Bologna",
6      "phone":1234567890,
7      "email":"tony@bologna.net",
8      "caseNumber":123456,
9      "age":51,
10     "gender":"M",
11     "race":"W",
12     "dateOfBirth":"03/12/70",
13     "relationship":"Wanted for the shooting of George Smith",
14     "address":"1234 Street St, New York, NY, 22222",
15     "eyeColor":"Green",
16     "currentHairColor":"black",
17     "naturalHairColor":"black",
18     "height":"6'1\"",
19     "weight":220,
20     "tattooDescription":"'Do not touch my family' on forearm",
21     "physicalDeformities":"stab wound on lower abdomen",
22     "nicknames":"Mr. T, Don T",
23     "footSize": 11.5,
24     "clothesSeenIn": "Suit and tie, diamond studded rolex",
25     "associated":"Cynthia Bologna"
26   }, {
27     "suspectId":2,
28     "firstName":"Cynthia",
29     "lastName":"Bologna",
30     "phone":0987654321,
31     "email":"cynthia@bologna.net",
32     "caseNumber":123456,
33     "age":48,
34     "gender":"F",
35     "race":"W",
36     "dateOfBirth":"10/26/73",
37     "relationship":"Wanted for the assault of Sally Smith",
38     "address":"1234 Street St, New York City, NY 22222",
39     "eyeColor":"Hazel",
40     "currentHairColor":"black",
41     "naturalHairColor":"black",
42     "height":"5'8\"",
43     "weight":150,
44     "tattooDescription":"N/A",
45     "physicalDeformities":"Burn mark on left cheek",
46     "nicknames":"Mrs. T",
47     "footSize": 9.5,
48     "clothesSeenIn": "White dress",
49     "associated":"Tony Bologna"
50   }
51 ]
```

## criminal.json

```
1  [
2    {
3      "id":123456,
4      "firstName":"Tony",
5      "lastName":"Bologna",
6      "phone":1234567890,
7      "email":"tony@bologna.net",
8      "caseNumber":123456,
9      "age":51,
10     "gender":"M",
11     "race":"W",
12     "dateOfBirth":"03/12/70",
13     "relationship":"The man who shot George Smith",
14     "address":"1234 Street St, New York City NY 22222",
15     "eyeColor":"Green",
16     "currentHairColor":"black",
17     "naturalHairColor":"black",
18     "height":"6'1\"",
19     "weight":220,
20     "tattooDescription":"'Do not touch my family' on forearm",
21     "physicalDeformities":"stab wound on lower abdomin",
22     "nicknames":"Mr. T, Don T",
23     "footSize": 11.5,
24     "clothesSeenIn": "Suit and tie, diamond studded rolex",
25     "associated":"Cynthia Bologna",
26     "incarcerated":true,
27     "numberOfCrimes":1,
28     "allCrimes":"123456"
29   }, {
30     "id":234567,
31     "firstName":"Cynthia",
32     "lastName":"Bologna",
33     "phone":0987654321,
34     "email":"cynthia@bologna.net",
35     "caseNumber":123456,
36     "age":48,
37     "gender":"F",
38     "race":"W",
39     "dateOfBirth":"10/26/73",
40     "relationship":"The woman who assaulted Sally Smith",
41     "address":"1234 Street St, New York City NY 22222",
42     "eyeColor":"Hazel",
43     "currentHairColor":"black",
44     "naturalHairColor":"black",
45     "height":"5'8\"",
46     "weight":150,
47     "tattooDescription":"N/A",
48     "physicalDeformities":"Burn mark on left cheek",
49     "nicknames":"Mrs. T",
50     "footSize": 9.5,
51     "clothesSeenIn": "White dress",
52     "associated":"Tony Bologna",
53     "incarcerated":true,
54     "numberOfCrimes":1,
55     "allCrimes":"123456"
56   }
57 ]
58 1
```

## victim.json

```
1  [
2    {
3      "victimId":1,
4      "firstName":"George",
5      "lastName":"Smith",
6      "phone":1111111111,
7      "email":"georgesmith@gmail.com",
8      "caseNumber":123456,
9      "relationshipWithSuspect":"Shot by Tony Bologna",
10     "medicalHistory":"Broken arm 04/28/1997, Gunshot wound 01/20/2020",
11     "ifHospital":true,
12     "isDeceased":false
13   }, {
14     "victimId":2,
15     "firstName":"Sally",
16     "lastName":"Smith",
17     "phone":2222222222,
18     "email":"sallysmith@gmail.com",
19     "caseNumber":123456,
20     "relationshipWithSuspect":"Assaulted by Cynthia Bologna 01/20/2020",
21     "medicalHistory":"N/A",
22     "ifHospital":false,
23     "isDeceased":false
24   }
25 ]
```

## vehicle.json

```
1  [
2    {
3      "licensePlate":"LEQ827",
4      "color": "Dark Green",
5      "make":"Hudson Motor Car Company",
6      "modelYear":1933,
7      "modelName":"Essex Terraplane",
8      "damage":"No damage, near mint condition"
9    }
10 ]
```

## evidence.json

```
1  [
2      {
3          "evidenceID":22222,
4          "weapons":"Glock 19 with illegal silencer",
5          "drugs":"N/A",
6          "descriptionOfScene":"Blood on ground, video evidence"
7      }
8  ]
```

## user.json

```
1  [
2      {
3          "name":"Douglas Williams",
4          "userName":"dw0544",
5          "password":"1WE!@wssj@#ERD",
6          "job":"Forensic Investigator",
7          "badgeNumber":423348,
8          "location":"New York, NY",
9          "cases":123456,
10         "isAdmin":true
11     }
12 ]
```

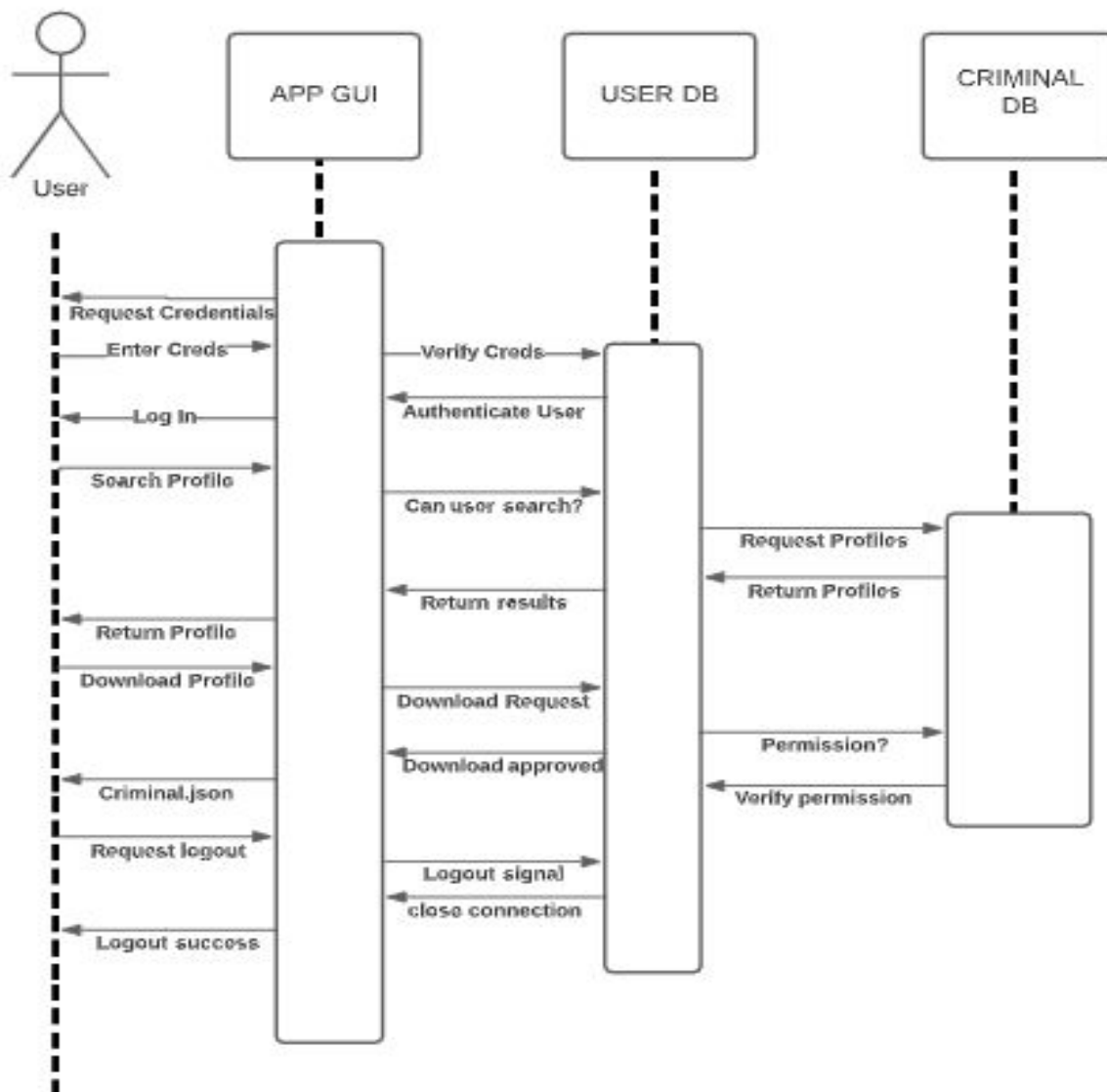
## crime.json

```
1  [
2      {
3          "dateCommitted":"01/20/2020",
4          "dateFiled":"01/25/2020",
5          "typeOfCrime":"Felony",
6          "description":"Aggravated Assault, Illegal Possession of firearm",
7          "location":"Olive Garden, 123 Wildwood Street New York, NY",
8          "dateCommitted":"01/20/2020",
9          "evidence":"Gun with Tony's fingerprints, Security camera footage",
10         "victims":"George Smith, Sally Smith",
11         "witnesses":11111,
12         "personsOfInterest":"Tony Bologna, Cynthia Bologna",
13         "suspects":"Tony Bologna, Cynthia Bologna",
14         "users":"N/A",
15         "vehicles":"Honda_Bologna",
16         "isClosed":true,
17         "caseNumber":123456,
18         "evidenceFile":22222
19     }
20 ]
```

## Sequence Diagrams - Dynamic Model

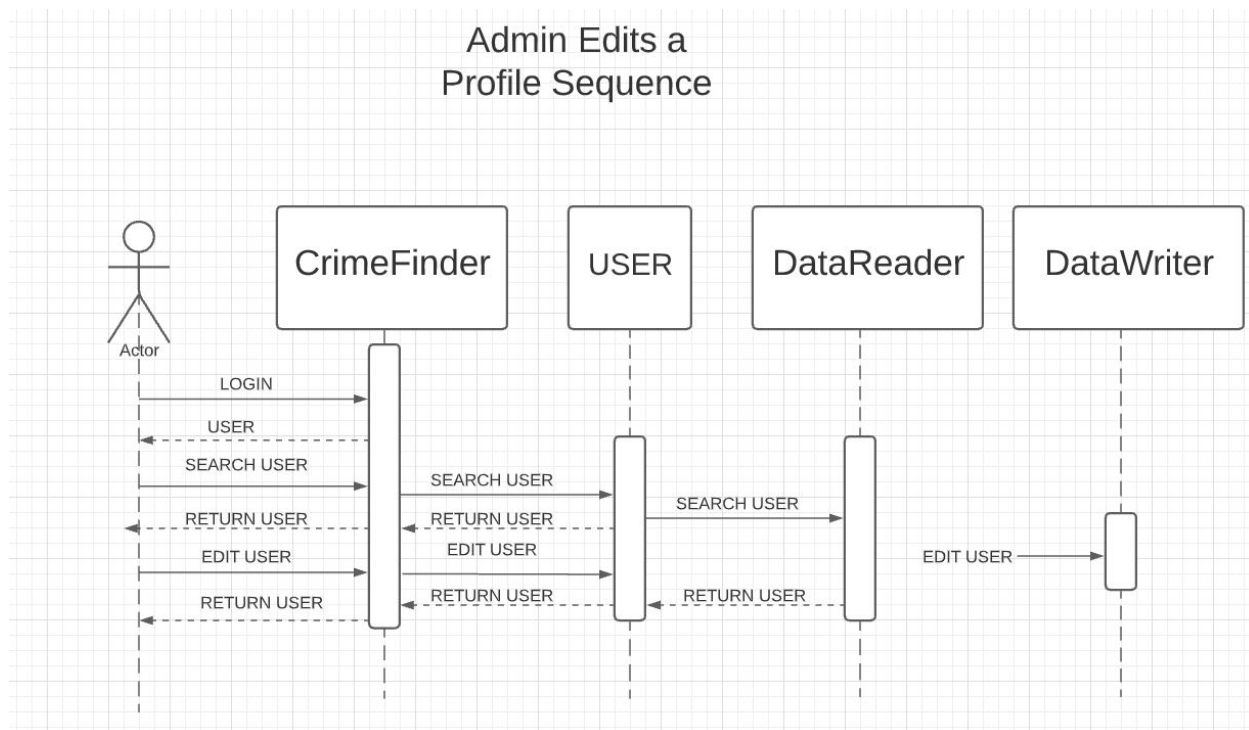
### Scenario Name: User downloads a criminal profile

**Scenario Description:** The user wants to download information regarding a criminal. First the user must enter their login information, which is processed by the system and the user is logged in. Next, they search for a profile, the system checks if they can do that, which they can, and then returns the desired profile. The user then requests to download the profile. The system checks if the user has permission to download it, which they do, and downloads the profile. The user then logs out.



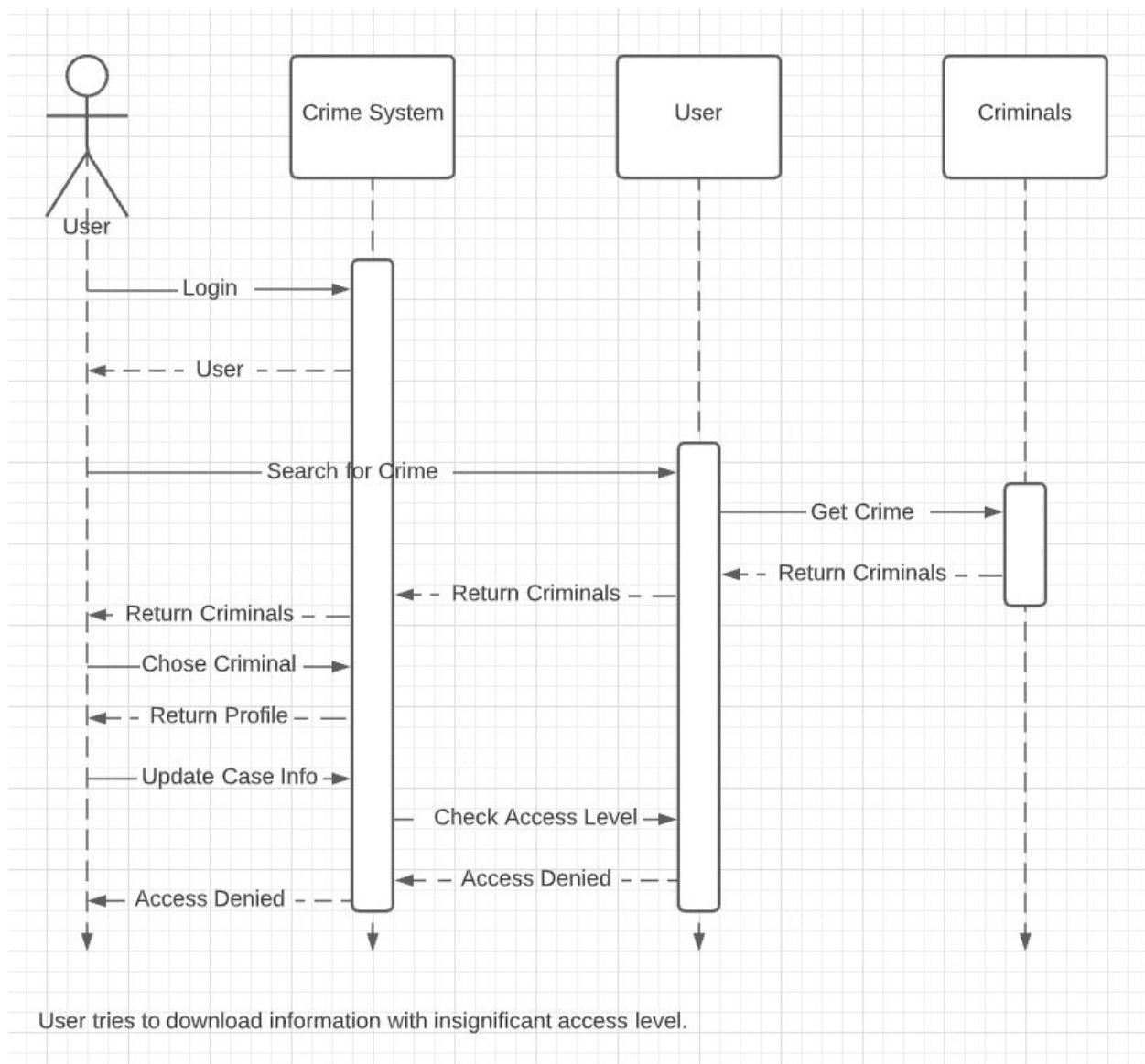
## Scenario Name: Admin Edits a Profile

**Scenario Description:** The goal of this sequence diagram is for an admin to edit another user's profile. To do so they must first login. The CrimeFinder app will return the user associated with the given login information. Next the user searches for the profile they want to edit. The CrimeFinder app checks the user to see if they can do that, then goes to the DataReader to read and return the data of the wanted user. The admin then edits the profile, which is sent through to the DataWriter to save the new edits. The edited user is then returned back to the admin.



## Scenario Name: User Tries to Update Case Info when they aren't Allowed

**Scenario Description:** In this scenario a generic user is trying to download a criminals profile, however, they do not have access to do that. The user first logs in, and the system checks for a user with that login information and logs them in. Next the user searches for a crime. The user will search for the crime, and then get a list of possible criminals that they may want. The user chooses which criminal they desire and the system returns their profile. The user then wants to update the case information, so they try to, but the system checks to see if they are allowed to do that, sees they cannot, and denies their ability to do it.





## **Class Diagram – Structural Design**

