

**Project: Criminal Occurrence Reporting App
(CORA)**

Team No.: Team 4

Class: CSE 3310.004 - Spring 2021

Module: System Requirements Analysis (SRA)

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Revision History

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1.0	03/18/2021	Alexander Martinez Andrew Valentincic Biruk Kebede Matthew Nguyen	Initial draft	
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1. Introduction and Project Overview

Group 4 has been tasked to design and implement a mobile application for neighborhoods/ places of work or communities. This android based application should allow users to report suspicious events that they encounter or observe for the intention of connecting users for establishing collectively safe surroundings for their area. In addition to the minimum set of requirements listed below, the mobile application is open to any recommendations in functionality as well as look & feel of the application.

2. Objectives

2.1 BUSINESS OBJECTIVES

The following is a list of business objectives:

Objective 1: System will require registration and will be password protected.

Objective 2: Member Registration: All members must provide the following information prior to using the system:

- First Name, Middle Name {Optional}, last Name
- Student/Student ID/Faculty/Staff ID
- Photo
- E-mail address
- Profession/Major

Objective 3: "Home Page" functionality must be supported that allows users to show nearby occurrences.

Objective 4: "Account Maintenance" functionality must be supported that allows user to close account and edit personal information and includes the following customer data:

- First Name, Middle Name {Optional}, Last Name
- Student/Student ID/Faculty/Staff ID
- Photo
- E-mail Address
- Profession/Major

Objective 5: "Forums" functionality must be supported that allows user to engage and participate with forums created and mediated by the administrators that includes the following:

- Text
- Photos

Objective 6: "Forum Messaging" functionality must be supported that allows users to reach out directly to each other (privatively).

Objective 7: "Event Type" functionality must be supported that allows the administrators to maintain the different suspicious events which include:

- Shootings
- Screams
- Loud tire noise
- Etc.

Objective 8: “Report” functionality must be supported that allows the user to report an event type with the following:

- Detailed information
- Photos
- Videos
- Etc.

Objective 9: “Occurrence Data” functionality must be supported that allows the user to see summarized information of the following:

- Overall Occurrence numbers in isolation
- Category Number of Members
- Etc.

Also allows the user to see that information graphically.

Objective 10: “Map” functionality must be supported that allows the user to see the statistical data on a map.

Objective 11: “911” functionality must be supported that allows the user to ask for emergency help in case they need it.

Objective 12: “Search” functionality must be supported that allows the user to search for occurrences in a zip code or address.

2.2 SYSTEM OBJECTIVES

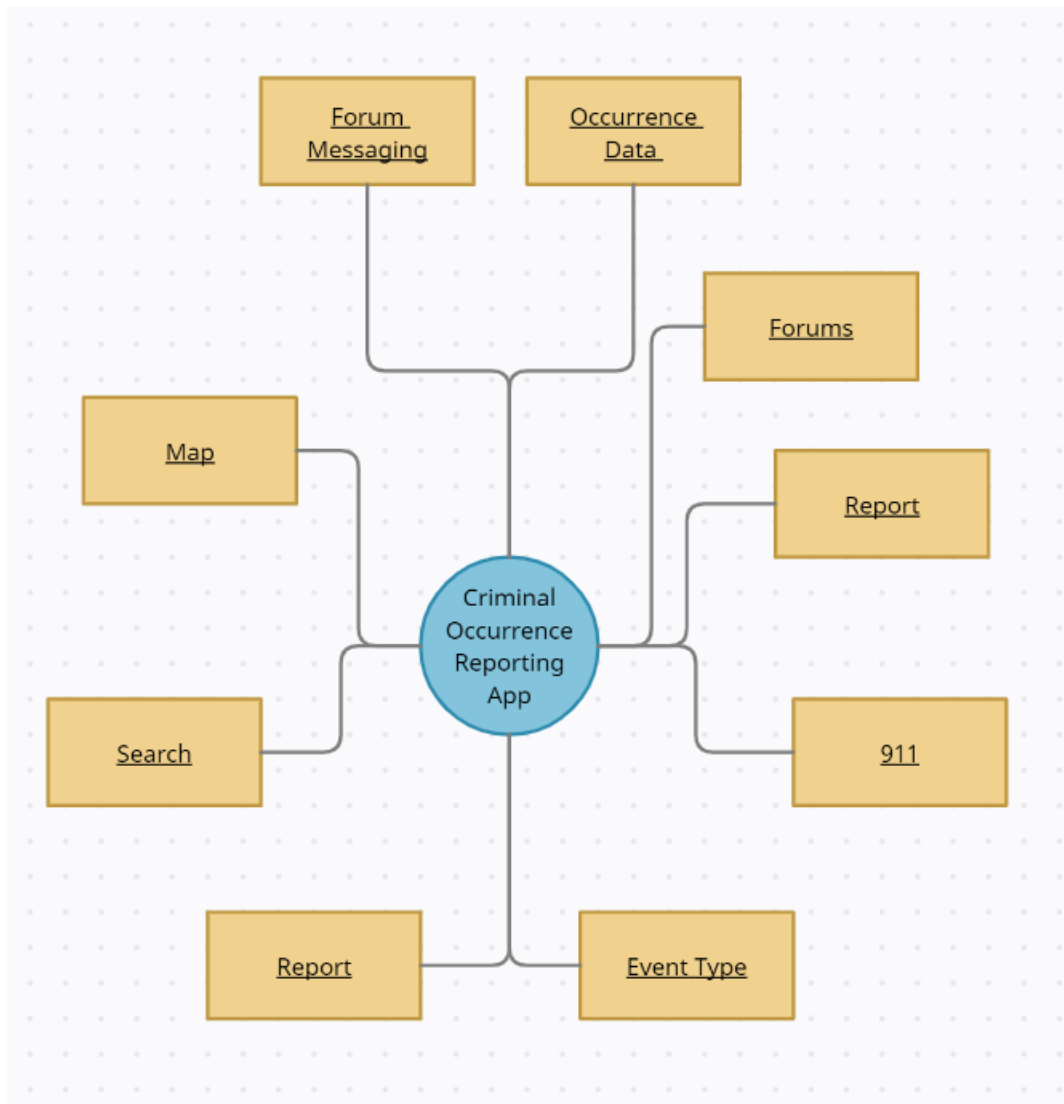
The following is a list of system objectives:

Objective 1: System will be an Android application.

Objective 2: System will use Java.

Objective 3: User interface will be intuitive.

3. Project Context Diagram



4. Systems Requirements

The following sections detail the system requirements we devised to ensure the application we develop meets the specifications published in the project description. The requirements are grouped by subsystem. The categories include Login, Home Page, Account Maintenance, Profile Page, 911, Search, Map, Forums, Forum Messaging, Report Occurrence, Occurrence Data, and Occurrence Event Type.

4.1 "HOME PAGE" REQUIREMENTS

Requirement Title:	Home Page
Sequence No:	1
Short description:	Show nearby occurrences
Description:	The system shall show the nearby reported suspicious occurrences that users have submitted. The only listed occurrences are ones that happen in a 1-mile radius around the user's current location. This will be the first thing the user see's after logging in to the application.
Pre-Conditions:	The user must allow the application to use the phone's location.
Post Conditions:	N/A
Other attributes:	N/A

Requirement Title:	Home Page
Sequence No:	2
Short description:	Display a menu button
Description:	<p>The system shall show a menu button at the top right corner of the screen which will allow the user to redirect to the various functionalities of the application. "Profile Page", "Forums", "Forum Messaging", "Report Occurrence", "Occurrence Statistics", "Occurrence Graphs", "Map", "911", and "Search".</p>
Pre-Conditions:	N/A
Post Conditions:	Pressing one of the displayed functionalities will take you to the appropriate screen.
Other attributes:	Once the menu button is pressed a navigation bar slides from the right side of the screen to display the functionalities.

4.2 "LOGIN" REQUIREMENTS

Requirement Title:	Login
Sequence No:	1
Short description:	Accept Login Information
Description:	<p>The system shall have two text entry boxes on the splash page where the user will input their user name and password. The text boxes should be individually labeled with "User Name" and "Password". Each input area should allow 25 characters to be input. The text boxes will accept character input up to 25 characters in length.</p>
Pre-Conditions:	<p>The user will have navigated to the criminal occurrence report app.</p>
Post Conditions:	<p>Successful entry of user name and password will trigger entry to the homepage of the app.</p>
Other attributes:	<p>There must be a button labeled "Login" that will attempt to login the user when pressed.</p>

Requirement Title:	Login
Sequence No:	2
Short description:	Ability to create new user
Description:	<p>The system shall provide functionality such that when an unregistered user clicks on the "Create Account" button they are redirected to an account setup page that allows them to enter all required information and register their account.</p>
Pre-Conditions:	There must not be a user account already associated with the entered email address.
Post Conditions:	<p>Logs in user and navigates to homepage. Sends confirmation email to user</p>
Other attributes:	N/A

4.3 "SEARCH" REQUIREMENTS

Requirement Title:	Search
Sequence No:	1
Short description:	Searches for occurrences
Description:	<p>The system shall display a search bar asking the user to input a zip code or address. With the inputted data, the system will display all the occurrence reports with the same zip code or address.</p>
Pre-Conditions:	<p>The user must navigate to the search functionality from the homepage and the system must already have occurrence reports users have submitted.</p>
Post Conditions:	<p>The system must read the inputted data and display the occurrences reported with the same zip code or address.</p>
Other attributes:	N/A

4.4 “MAP” REQUIREMENTS

Requirement Title:	Map
Sequence No:	1
Short description:	A map to display event types and statistics of the local area.
Description:	<p>The map will show the city that the user has set in their profile page with different colored pins indicating different reports and occurrences in the city. The pin's colors will range from green to red, green indicating less serious events such as opportunity theft and red indicating things such as armed robbery or a shooting. In the upper left portion of the map there will be a button to pull up a drop-down menu to return to the home page or navigate to other possible features.</p>
Pre-Conditions:	The user has logged in and from the home page has selected map.
Post Conditions:	Once the user closes out of the map they will return to the homepage, if the user decides to use the menu to navigate to a separate page it will take them to the one they selected.
Other attributes:	N/A

Requirement Title:	Map
Sequence No:	2
Short description:	Display Pin Info
Description:	<p>If a user clicks on a pin, the map will display all reported information about the specific occurrence at that location. It should display as a pop up along the bottom of the screen and will show whenever the event happened. The pop up will have an exit button along the top of it.</p>
Pre-Conditions:	The user has clicked on a pin that was displayed on the map
Post Conditions:	Once the user closes the pop up it will return to normal map view
Other attributes:	<p>Preferably the exit button will be in the top left of the pop up</p>

4.5 “REPORT OCCURRENCES” REQUIREMENTS

Requirement Title:	Report Occurrence
Sequence No:	1
Short description:	User will report an occurrence.
Description:	<p>The user will select from a drop-down menu what type of crime occurred, after selecting the type of crime they will be asked to enter in to text boxes</p> <ul style="list-style-type: none">-Address / (Alternatively can use phone location)-Time / (Or use current time)-Any additional info to upload into text boxes-Any additional photos or videos they'd like to post it with-How dangerous/ severe the situation is (This will come in a drop-down box) <p>There will be a report button that uploads the report. There will be a menu button in the top left.</p>
Pre-Conditions:	The user will select “Report Occurrence” from the menu
Post Conditions:	<p>The app will let the user know that their report went through, the map will be updated, statistics will be updated and the user will be returned to the home screen. UNLESS the user exits, then the user will simply be returned to the home screen</p>
Other attributes:	The user cannot click report until a location is received a time is received, and an event is selected.

4.6 “FORUM” REQUIREMENTS

Requirement Title:	Forum
Sequence No:	1
Short description:	Forum Creation
Description:	<p>Admins will be given a special option whenever they navigate to the “Forum” page, they will be given a “Create Forum” button in the menu. After clicking “create” the user will be required to enter in a textbox the title of the forum. After entering the title, the forum will be allowed to be created, but a description will be optional to upload into a much larger text box. After creation, the forum will record the user who created the forum and the time the forum was created, which will be displayed on the header of the forum.</p>
Pre-Conditions:	<p>The user must be an admin and navigate to the Forum page and click “Create Forum”, then the admin must enter a title and click create.</p>
Post Conditions:	<p>A forum will be added to the forum page which users can comment on.</p>
Other attributes:	N/A

Requirement Title:	Forum
Sequence No:	2
Short description:	Forum Viewing
Description:	<p>Users will be able to scroll through separate forums and they will move from the bottom of the screen to the top of the screen. Only the titles will appear before clicking on anything, but upon clicking on a forum the user will be able to see the description, title, time it was posted, who it was posted by, and comments.</p>
Pre-Conditions:	The user must navigate to the forum page.
Post Conditions:	<p>The user will remain on the forum page, but have:</p> <ul style="list-style-type: none"> - Scrolled through posts to older posts. - Have exited to the home page.
Other attributes:	N/A

Requirement Title:	Forum
Sequence No:	3
Short description:	Forum Commenting
Description:	The user will be able to comment from a forum by writing in a blank text box which will be at the bottom of every forum, there will be a max character count for each comment and the user after finishing typing will be able to hit enter or click post in order to finish posting their comment. each user will have a maximum amount of comments per forum in order to prevent spamming.
Pre-Conditions:	The user must navigate to a forum.
Post Conditions:	The user will return to normal forum viewing after receiving a message telling them their comment was successful.
Other attributes:	N/A

4.7 "FORUM MESSAGING" REQUIREMENTS

Requirement Title:	Forum Messaging
Sequence No:	1
Short description:	Method to send message.
Description:	<p>The system shall provide a chat functionality that allows users to reach out directly to each other (privately). Using this functionality, users should be able to send and receive messages with another user.</p> <ul style="list-style-type: none">- The forum message functionality should have a create new message button which should allow the user to type the username of the message receiver.- It should display previous conversations.
Pre-Conditions:	There must be multiple users signed up.
Post Conditions:	Message will be sent to the intended user.
Other attributes:	Error message should be displayed if unable to send the message.

4.8 “911” REQUIREMENTS

Requirement Title:	911
Sequence No:	1
Short description:	Method for users to reach out to the police for emergency help.
Description:	The system should provide a call 911 option in case of immediate emergency where time would be critical. This will allow users to save the time that would be lost to close the app and open the phone call application in order to call the police. This functionality will also make it easy for users to stay on the CORA application to provide information from the application to the 911 call attendant if needed.
Pre-Conditions:	User must have a working phone call service on their device and not just an internet connection.
Post Conditions:	The system will direct a call to 911.
Other attributes:	Error message will be displayed if unable to direct the call.

4.9 “PROFILE PAGE” REQUIREMENTS

Requirement Title:	Profile Page
Sequence No:	1
Short description:	A page that displays the user information.
Description:	<p>The system shall provide a personal profile pages which holds the following information of the user:</p> <ul style="list-style-type: none">– Name– Photo– Profession– UTA ID <p>The page should show the required information with an Asterix next to the field name. (Example UTA ID*_____)</p>
Pre-Conditions:	<ul style="list-style-type: none">– Two base profiles must exist, user (default) and administrator.– User should select profile type.– UTA ID should be 10 digits long.– The user/admin should be able to fill in all the required fields on the profile page.
Post Conditions:	<ul style="list-style-type: none">– Profile Page will be created.– Error message should be displayed if unable to create a profile.
Other attributes:	N/A

4.10 "ACCOUNT MAINTENANCE" REQUIREMENTS

Requirement Title:	Account Maintenance
Sequence No:	1
Short description:	A page that displays users account settings
Description:	The system shall a user to modify their personal information on the Profile page. This page will allow users to edit their personal information. This includes their first, last and middle name and ID. Their photo, email and Major or profession.
Pre-Conditions:	<ul style="list-style-type: none">- The user must already have created an account in the app.- Profile page.
Post Conditions:	<ul style="list-style-type: none">- When the user edits their information the only field that can be left blank is Middle Name- All other fields are required to save.
Other attributes:	N/A

4.11 "OCCURRENCE EVENT TYPE" REQUIREMENTS

Requirement Title:	Occurrence Event Type
Sequence No:	1
Short description:	The level of severity of the Occurrence
Description:	<p>When a user adds an occurrence, they can add a Event Type to it to show its severity. They can have one of 5 options. Minor, Low, Medium, High, and Severe. This will allow our users to quickly catalog how impactful the crime is to the community.</p>
Pre-Conditions:	<ul style="list-style-type: none">- The user must be trying to add/edit an occurrence.
Post Conditions:	<ul style="list-style-type: none">- The occurrence type will be checked to make sure it is valid.
Other attributes:	N/A

4.12 "OCCURRENCES DATA" REQUIREMENTS

Requirement Title:	Occurrence Data
Sequence No:	1
Short description:	This page will allow you to see metrics base off occurrence data.
Description:	<p>The Occurrence Data page will allow you to see metrics based off the occurrences that have been entered by the users. These include graphs of current occurrences by event type or category. You can also see metrics on users and see metrics based on their information.</p>
Pre-Conditions:	<p>-Users must provide for search parameters to see what the metrics based on their selections.</p>
Post Conditions:	N/A
Other attributes:	N/A

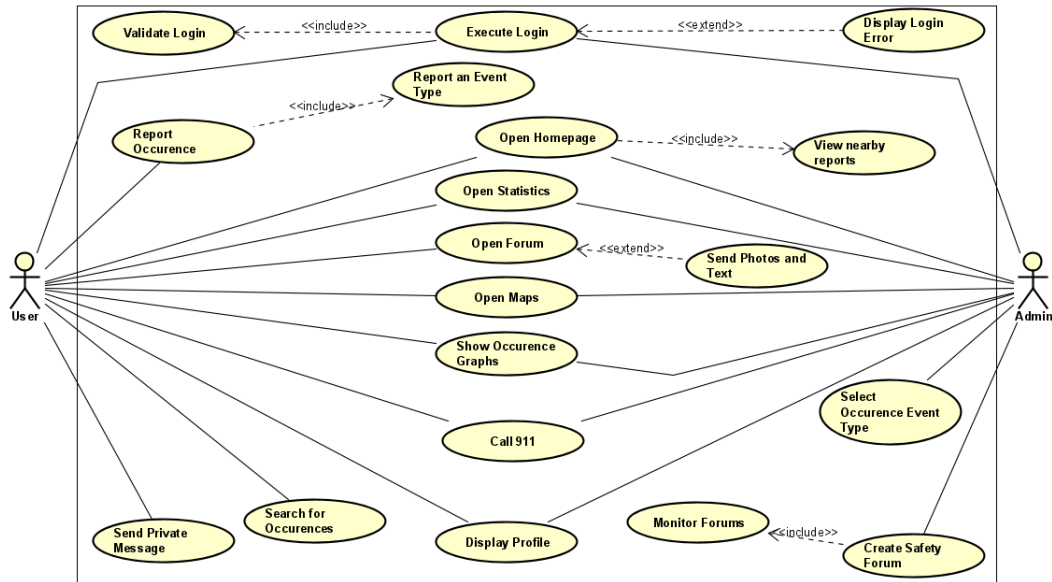
5. Software Processes and Infrastructure

5.1 HARDWARE AND INFRASTRUCTURE

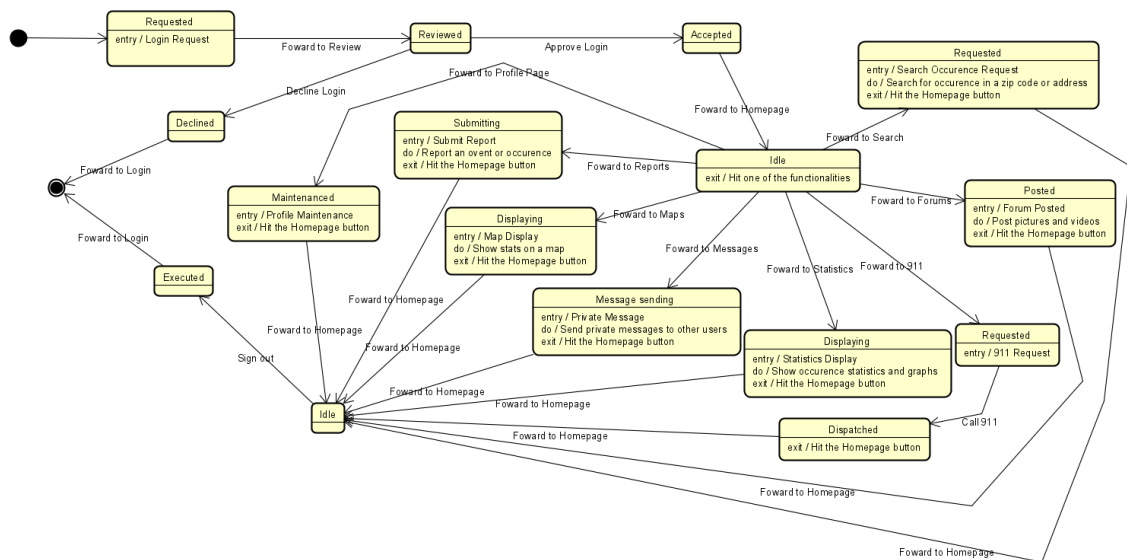
We will be using Android 10.0

5.2 UML DIAGRAMS

Use Case Diagram:

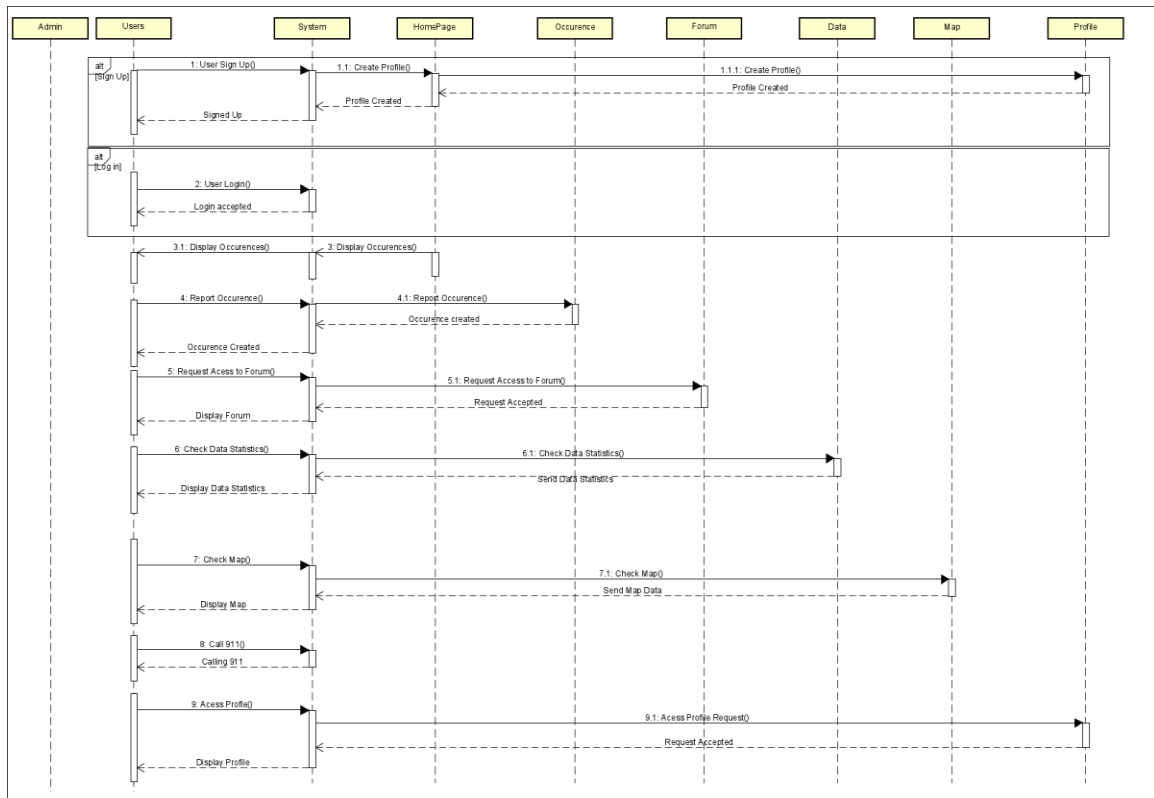


State Machine Diagram:

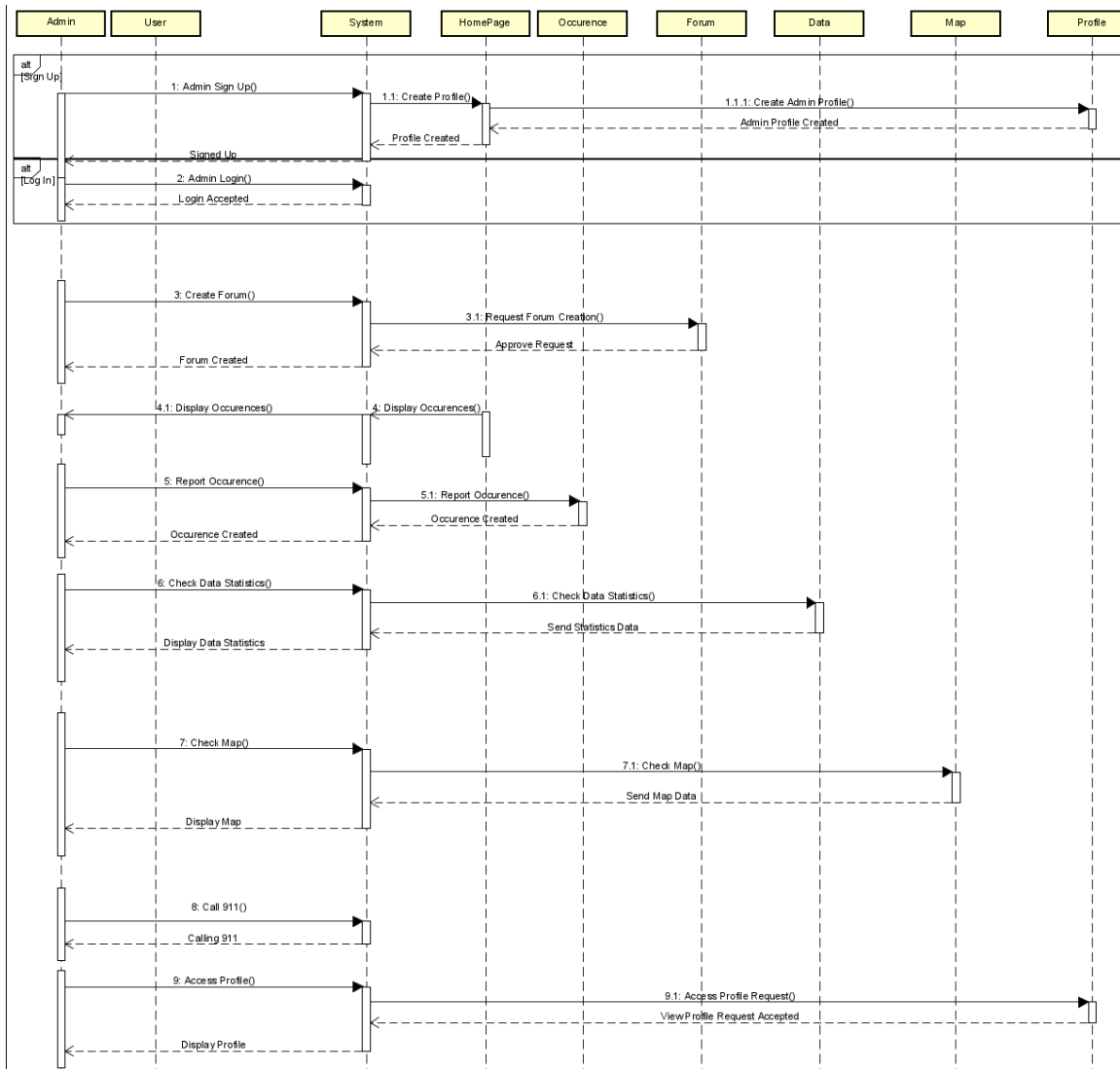


Sequence Diagrams:

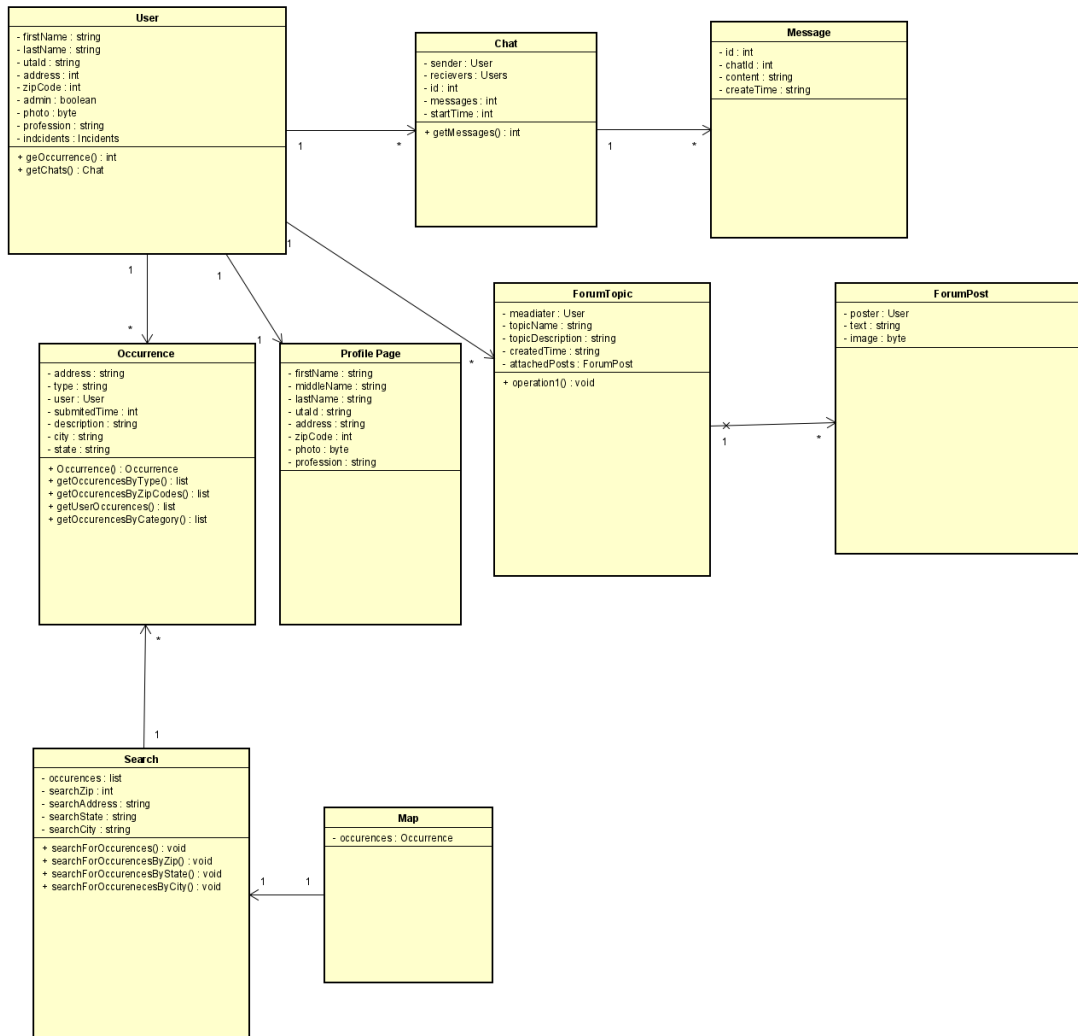
User Sequence Diagram:



Admin Sequence Diagram:

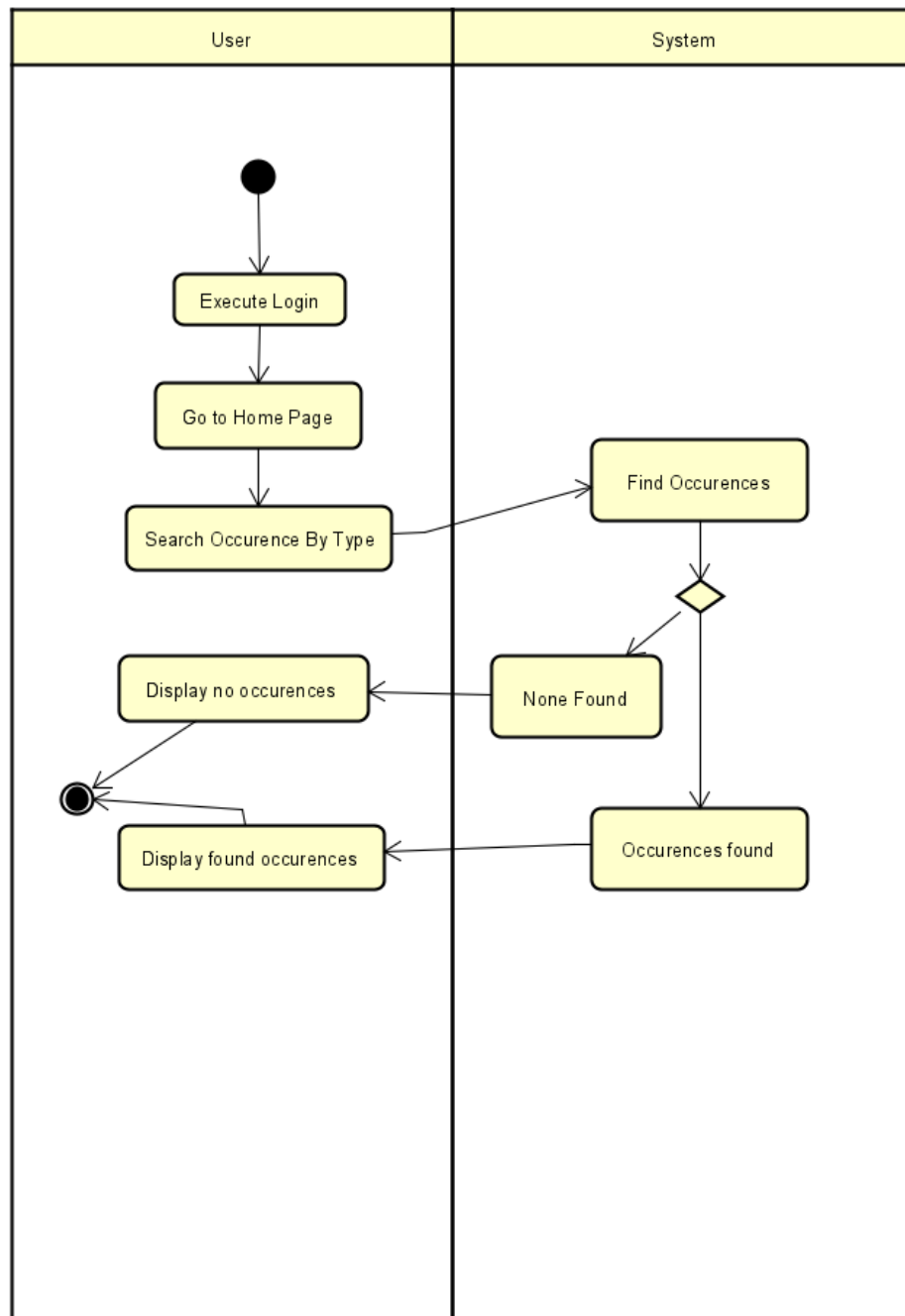


Class Diagram:

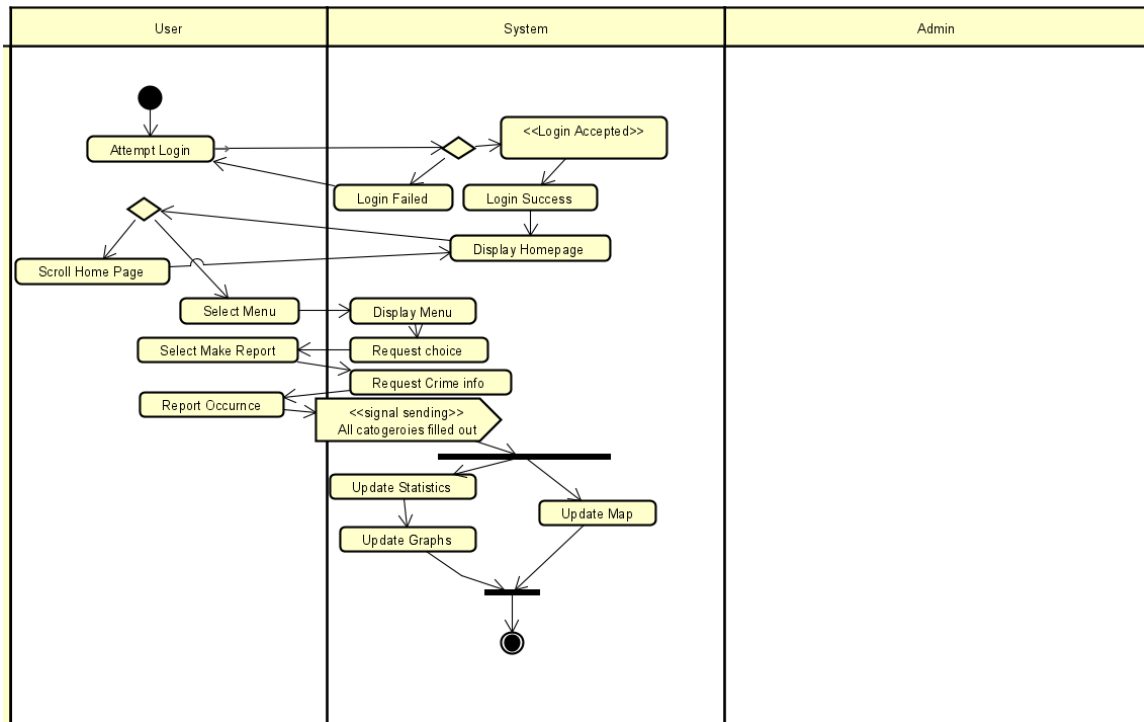


Activity Diagram:

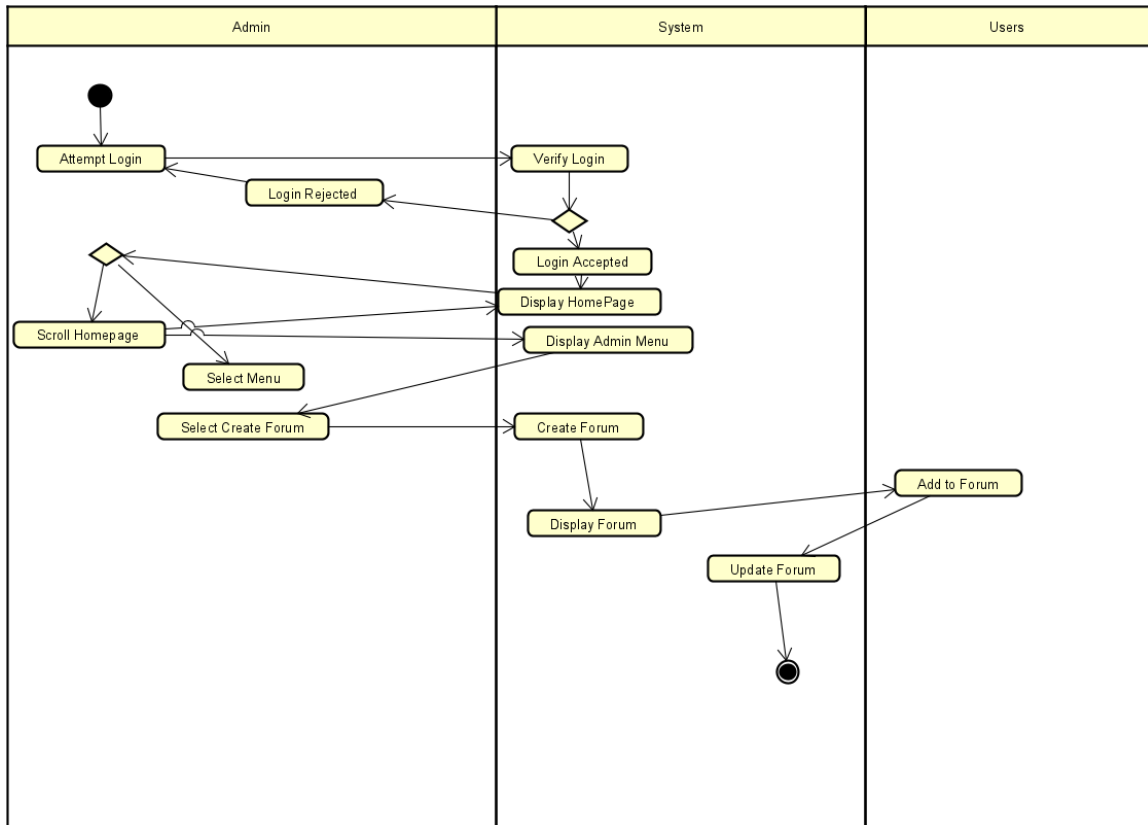
Search Occurrence Activity Diagram:



Reporting Occurrence Activity Diagram:



Forum Creation Activity Diagram:



5.3 CONCEPTUAL DATA MODEL - DATABASE

None

5.4 SCREEN SHOTS

Non-Available currently

5.5 TEST PLAN

The test plan will be provided at a later stage of the project.

6. Assumptions and Constraints

6.1 ASSUMPTIONS

The following is a list of assumptions:

- Ignore collecting money from external advertisement and general accounting
- Ignore compliance issues
- No post – project maintenance after initial release
- Contract negotiation and legal terms will not required
- Application used in United States
- There is an admin monitoring the postage in the forums

6.2 CONSTRAINTS

The following is a list of constraints:

- Team lacks android experience
- Schedule very aggressive
- Group members are not able to meet in-person

6.3 OUT OF SCOPE MATERIAL

The following is a list of “out of scope” material:

- Post Project maintenance is not covered

7. Delivery and Schedule

Task/Milestone Description	Anticipated Start Date	Anticipated End Date	Status	Comments
Prepare Requirements and UML diagram	2/09/2021	3/09/2021	Complete	Deliverable will be UL document. Increment 1 Deliverable
SRA document (Includes project objectives, Requirements and UML diagrams)	3/18/2021	3/30/2021	Complete	Deliverable will be the SRA document. All stakeholders agree on the content of the SRA by signing in section 8. Increment 2 Deliverable
Home page design and implementation	To Be Decided (TBD)	To Be Decided (TBD)	To Be Completed (TBC)	
Login and registration design and implementation	TBD	TBD	TBC	
Profile page design and implementation	TBD	TBD	TBC	
Forums design and implementation	TBD	TBD	TBC	
Forum Messaging design and implementation	TBD	TBD	TBC	
Report occurrence design and implementation	TBD	TBD	TBC	
Occurrence event type design and implementation	TBD	TBD	TBC	
Occurrence data design and implementation	TBD	TBD	TBC	
Map design and implementation	TBD	TBD	TBC	
911 design and implementation	TBD	TBD	TBC	

Search design and implementation	TBD	TBD	TBC	
Test case design	3/31/2021	4/13/2021	TBC	Increment 3 Deliverable
External Documentation (i.e. User Manual)		4/29/2021	TBC	
Project presentation	4/20/2021	4/29/2021	TBC	
Final Milestone: project delivery		4/29/2021	TBC	Increment 4 Deliverable

8. Stakeholder Approval Form

Stakeholder Name	Stakeholder Role	Stakeholder Comments	Stakeholder Approval Signature and Date
Rodrigo Augusto	Development Mgr		
Prajwal Gautam	Project Assistant		
Alexander Martinez	Developer		
Andrew Valentincic	Developer		
Biruk Kebede	Developer		
Matthew Nguyen	Developer		

Appendix:

None