

**CSE 4028**

**Object Oriented Software Development**

**Project  
Review 2**

**TOPIC:** UML diagrams

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Slot: G1

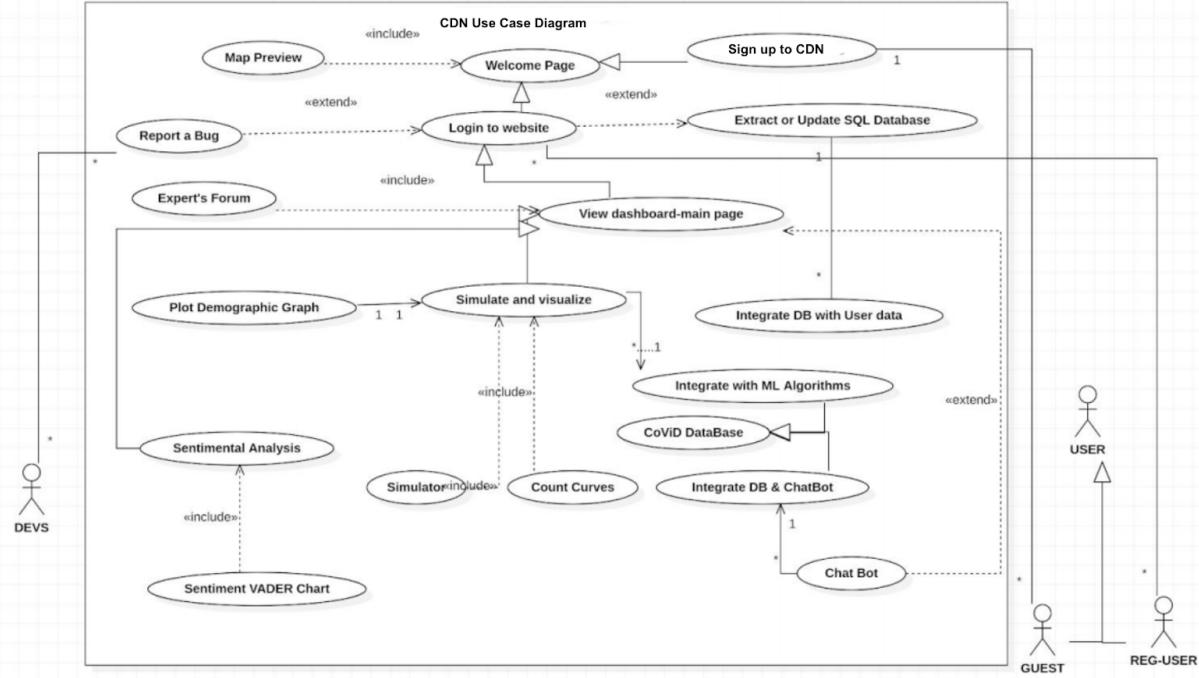
Date of submission: 7th June 2021 Tuesday

Faculty: Prof. P. Subbulakshmi

**Diagrams:**

1. Use-case diagrams
2. Class diagrams
3. Sequence diagrams
4. Activity diagrams
5. State diagrams
6. Data Flow Diagrams

# I) Use case diagrams



## Use Case Descriptions

### 1) CDN Login

<b>Use Case Name</b>	CDN Login
<b>Scenario</b>	Users Login to CDN
<b>Triggering event</b>	Enter Credentials and Login as guest
<b>Brief description</b>	Users can login to CDN website either as registered user or guest user
<b>Actors</b>	User, registered user, guest
<b>Related Use cases</b>	Welcome page, Login to CDN, Map Preview, Sign up to CDN

<b>Stakeholders</b>	Developers, Users
<b>Preconditions</b>	<p>Account must be signedUp or viewed as a guest.</p> <p>Stable Connection for faster Login.</p> <p>Browsers should have Script enabled for Map Preview.</p>
<b>Postconditions</b>	<p>Users have to gain entry to CDN if registered.</p> <p>If Unregistered User can SignUp to CDN for Notifications.</p> <p>Guest User can view the Map Preview</p>

## 2) CDN Database

<b>Use Case Name</b>	CDN Database
<b>Scenario</b>	The user, covid tweet database has to be integrated
<b>Triggering event</b>	Dashboard request for data
<b>Brief description</b>	Once User enters the CDN he can choose any option from Dashboard which requires Data to be integrated from DataBase Updated instantly with API.
<b>Actors</b>	Registered User
<b>Related Use cases</b>	Extract or Update SQL Database, Integrate DB with Userdata,Covid DataBase, Integrate DB with ML Algorithms,Integrate DB & ChatBot
<b>Stakeholders</b>	Developers
<b>Preconditions</b>	<p>Users must be logged in and registered.</p> <p>Stable connection for Live Updates.</p> <p>The Scripts embedded in the Html file have to be enabled in Browser.</p>

<b>Postconditions</b>	DataBase gets Integrated to ChatBot. DataBase gets Integrated to Dashboard. DataBase gets Integrated to Simulation
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### 3) Dashboard

<b>Use Case Name</b>	Dashboard
<b>Scenario</b>	Users can navigate through the Dashboard page or get an overview.
<b>Triggering event</b>	User logs in and navigates through the tools provided by CDN.
<b>Brief description</b>	Dashboard is the starting and overview page of CDN once the user logs in from here the Registered User can navigate to : Expert Forum, Simulation & Visualization, Report Forum, Demographic Map, Sentimental Analysis, ChatBot. It also has important Covid Contacts and a basic Live Counter.
<b>Actors</b>	Registered User
<b>Related Use cases</b>	<p>View-dashboard mainpage</p> <p>Expert Forum</p> <p>ChatBot</p> <p>Simulate &amp; Visualize</p> <p>Sentimental Analysis</p>
<b>Stakeholders</b>	Developers
<b>Preconditions</b>	<p>User's Browser must be able to load the latest HTML version.</p> <p>Moderate Internet activity is sufficient.</p> <p>Scripts must be enabled in Browser.</p>

<b>Postconditions</b>	<p>Users can choose to navigate to any of the Linked modules.</p> <p>Live Count numbers get displayed in the board , integrated from API.</p> <p>Users can view important Contact Info related to COVID-19.</p>
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#### 4) Simulate and Visualise

<b>Use Case Name</b>	Simulate and Visualise
<b>Scenario</b>	Simulate a Viral Spread Based on user input.
<b>Triggering event</b>	User can input for Simulation or Choice to Visualize
<b>Brief description</b>	Under Simulation the user can choose a Viral Simulation to depict how a virus spreads , or the User can choose to Visualize the data of the current CoVid Pandemic , review past status or current status.
<b>Actors</b>	Registered User
<b>Related Use cases</b>	Simulate & Visualize, Plot Demographic Graph, Simulator, Count Curves, Integrate with ML Algorithms.
<b>Stakeholders</b>	Developers
<b>Preconditions</b>	Stable internet connection to Simulate. Script enabled to take User input for nodes. Virus' R-0 value has to be either User inputted or chosen from COVID - 19 data.
<b>Postconditions</b>	<p>If User chooses to Visualize the data, show the demographic map, Count Curves.</p> <p>If User chooses to Simulate the virus, Execute the Viral simulation based on the User Input.</p>

## 5) Expert Forum

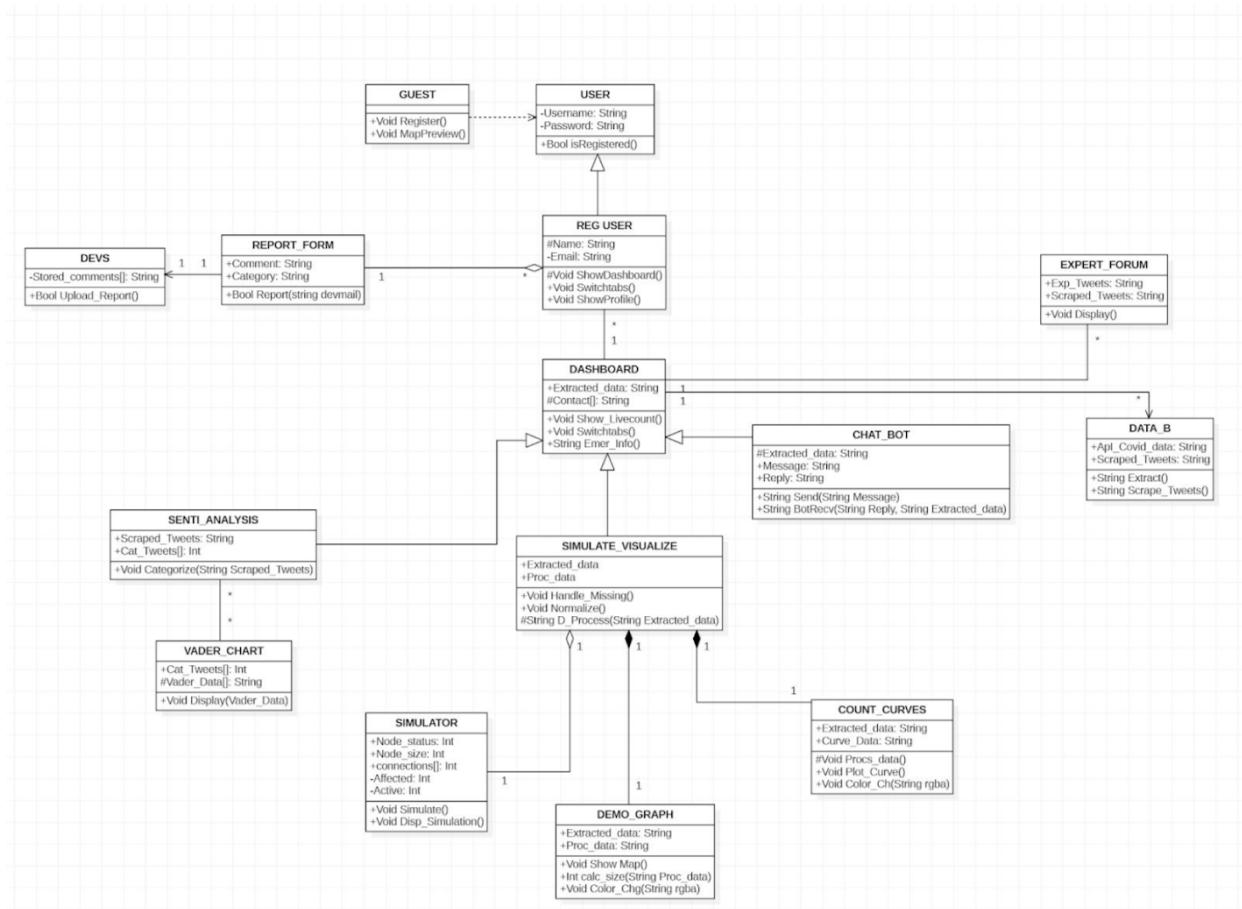
<b>Use Case Name</b>	Expert Forum
<b>Scenario</b>	View the Forum of Expert Tweets.
<b>Triggering event</b>	User chooses to View Expert Tweets
<b>Brief description</b>	Expert Forum shows a live tweet feed of experts , Media Outlets, Doctors and other trending CoVid related tweets of Experts.
<b>Actors</b>	Registered User
<b>Related Use cases</b>	Expert's Forum,View Dashboard-mainpage
<b>Stakeholders</b>	Developers
<b>Preconditions</b>	Non-interrupted internet connectivity for Live Updates. Script enabled browser on the end user side
<b>Postconditions</b>	Display a Live Tweet Feed that gets updated and scraped from Twitter

## 6) Sentiment Analysis

<b>Use Case Name</b>	Sentiment Analysis
<b>Scenario</b>	Sentimental Analysis of how people feel.
<b>Triggering event</b>	Registered User chooses to analyze sentiments of Tweets
<b>Brief description</b>	Sentimental Analysis will analyze how people feel about the current status of CoVid19 Pandemic, +ve if it has improved -ve if not, and generate a VADER chart for it using Vader tools.
<b>Actors</b>	Registered User
<b>Related Use cases</b>	Sentimental Analysis, Sentiment Vader Chart

Stakeholders	Developers
Preconditions	Live Tweet Feed must be scraped. End users must have a stable connection for live chart updates.
Postconditions	Display a Vader Chart with +ve -ve and Neutral mood of tweets regarding CoVid19 pandemic. Chart gets updated from the scraped tweets.

### CLASS DIAGRAM:

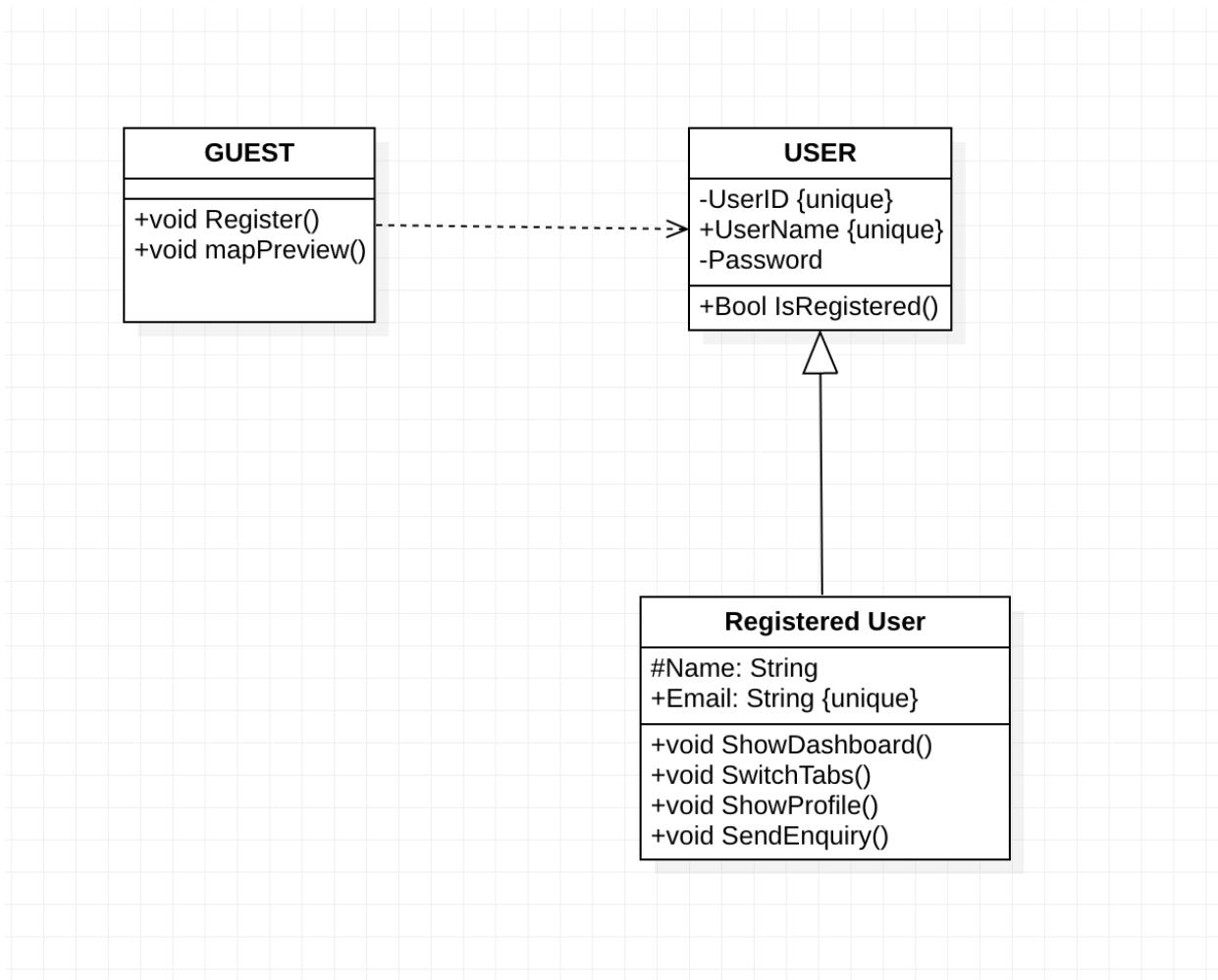


## II) Class diagrams

## Scrum\_1 - User Login and differentiating between guest and user

### Classes

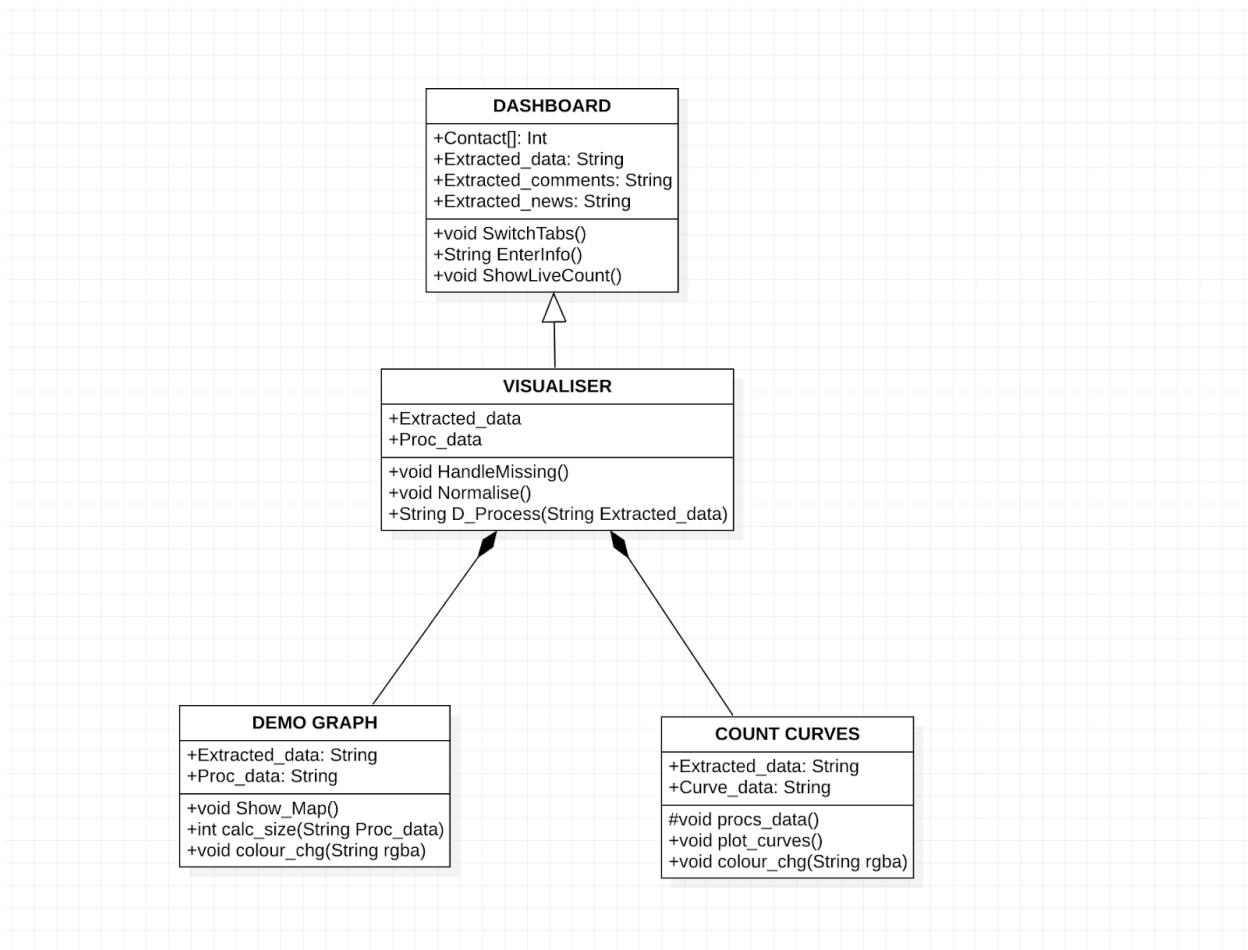
- Guest
- User
- Registered User



## Scrum 2 - Dashboard and Data visualization

### Classes

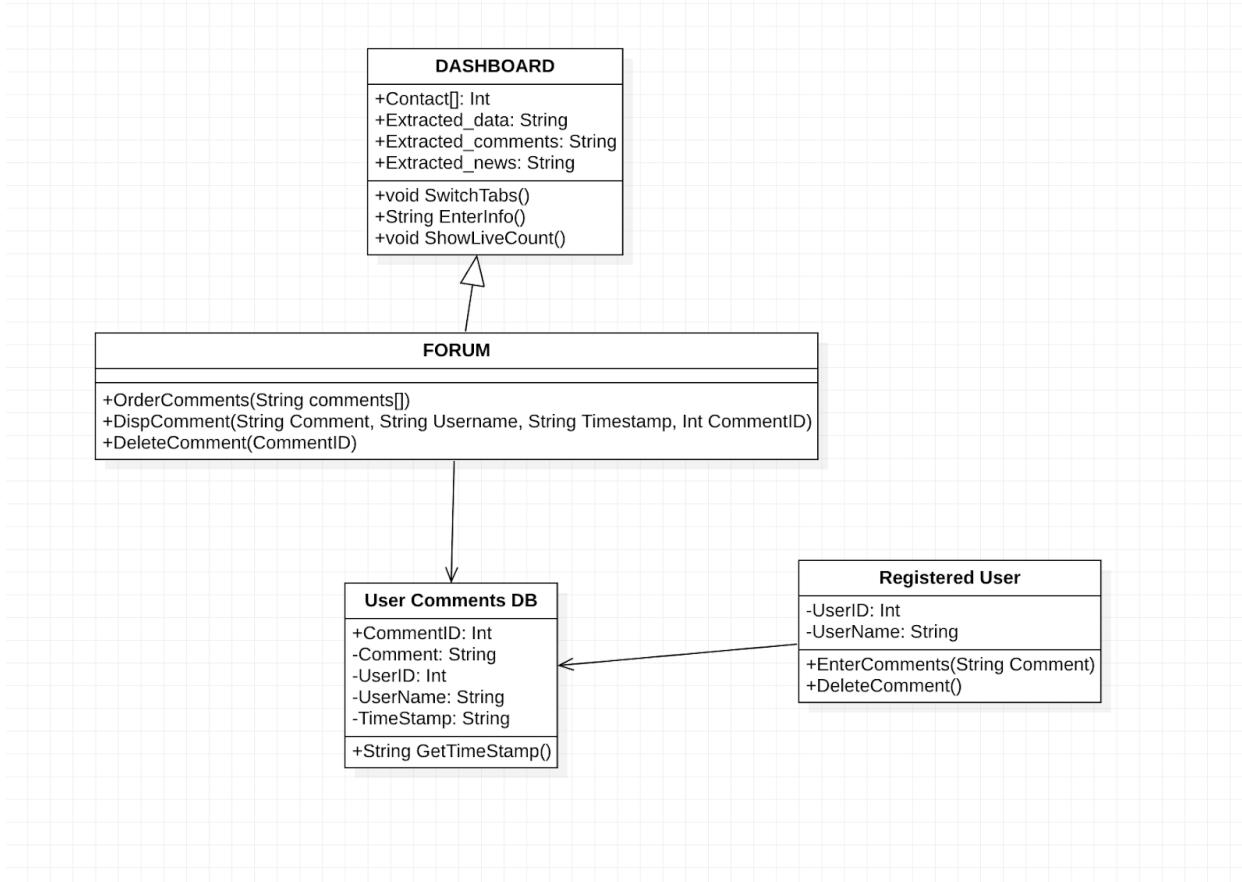
- Dashboard
- Visualiser
- Demo Graph
- Count Curves



## Scrum 3 - Forum Development

Classes:

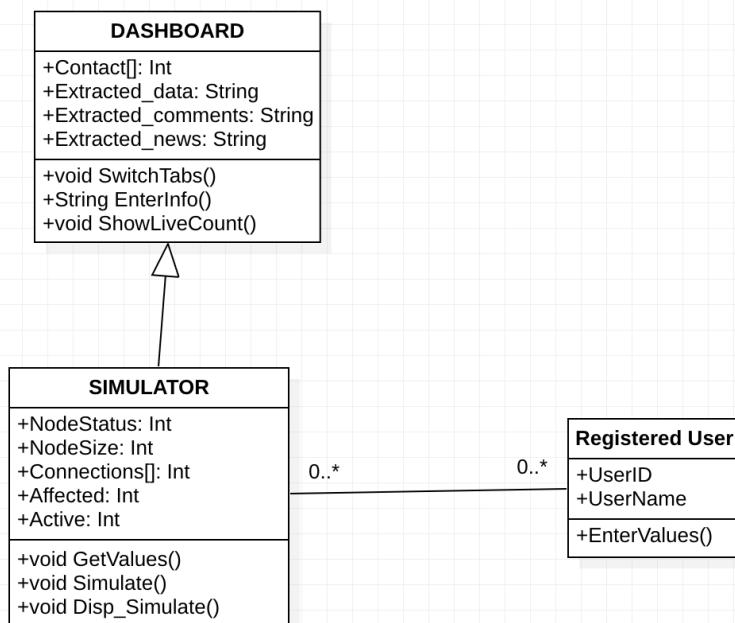
- Dashboard
- Forum
- User comments DB
- Registered user



## Story 4 - Simulator Development

Classes:

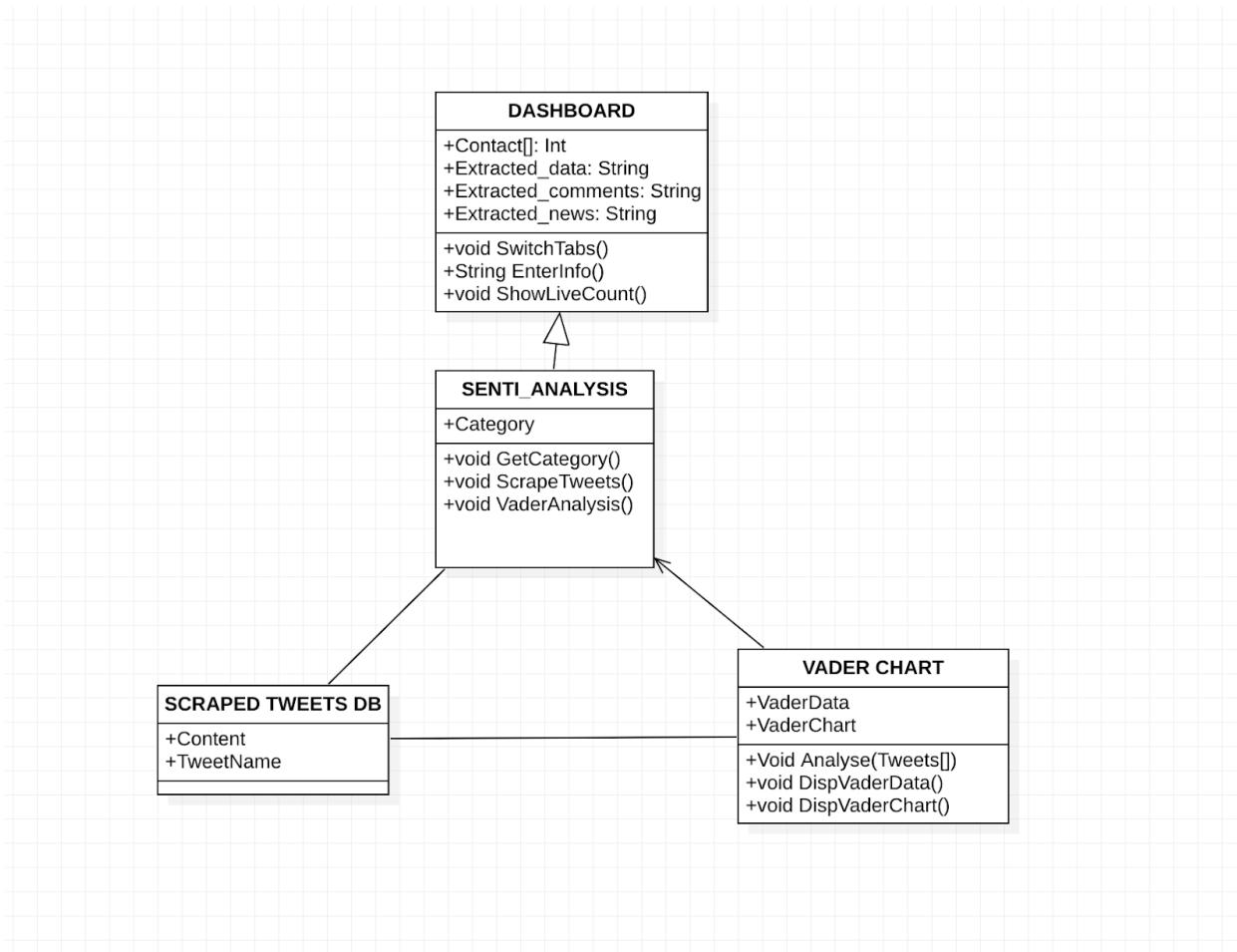
- Dashboard
- Simulator
- Registered user



## Story 5 - Sentiment Analysis

Classes:

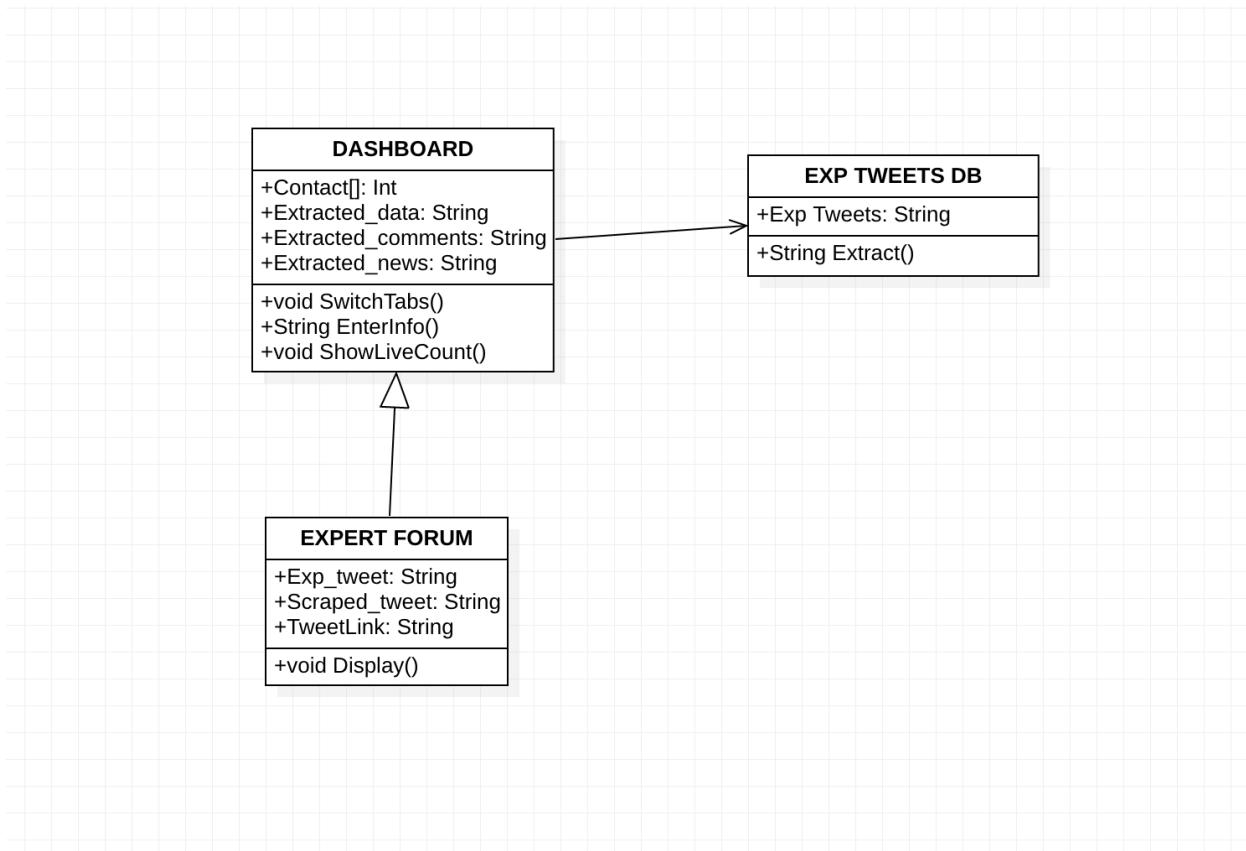
- Dashboard
- Vader\_chart
- Scrapped tweets DB
- Senti\_analysis



## Story 6 - Expert Tweets Scraping and display

Classes:

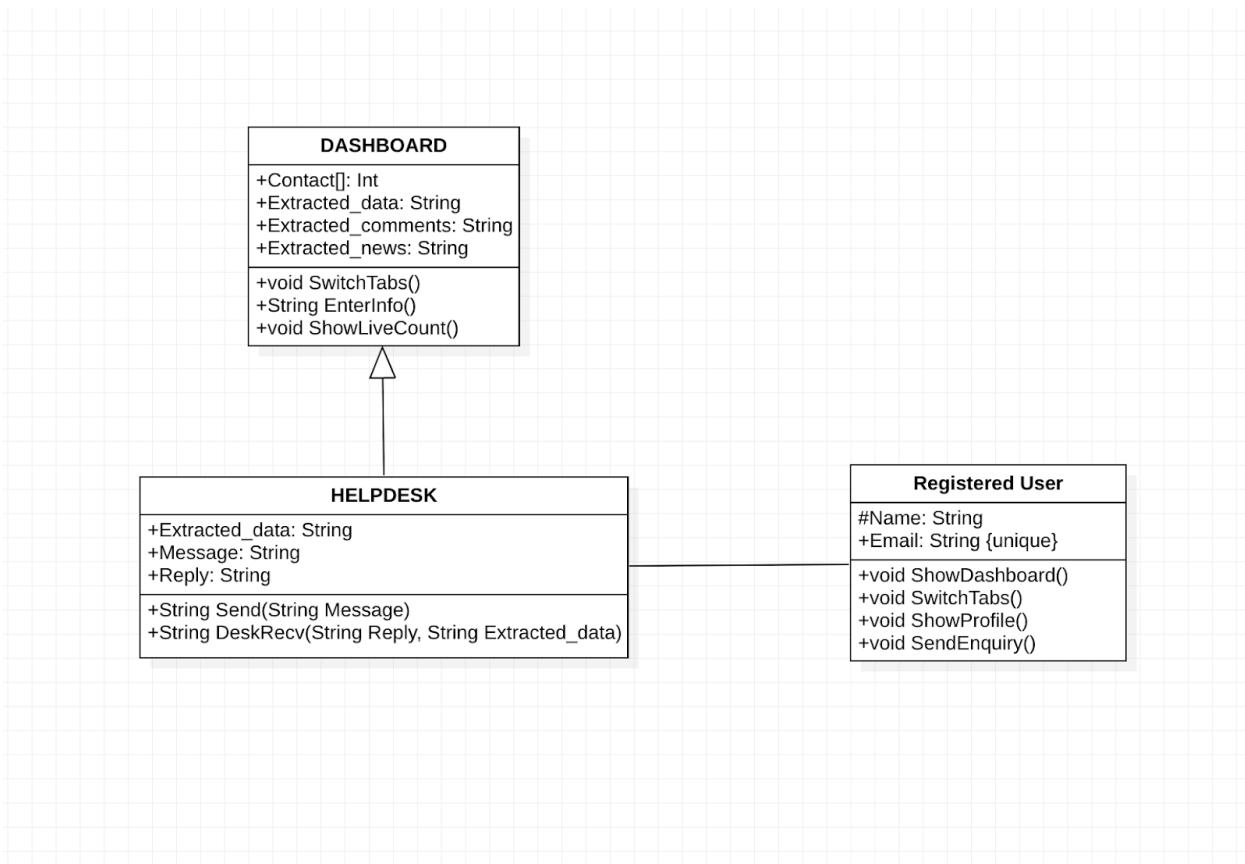
- Dashboard
- Exp\_tweets DB
- Expert forum



## Story 7 - Helpdesk

Classes:

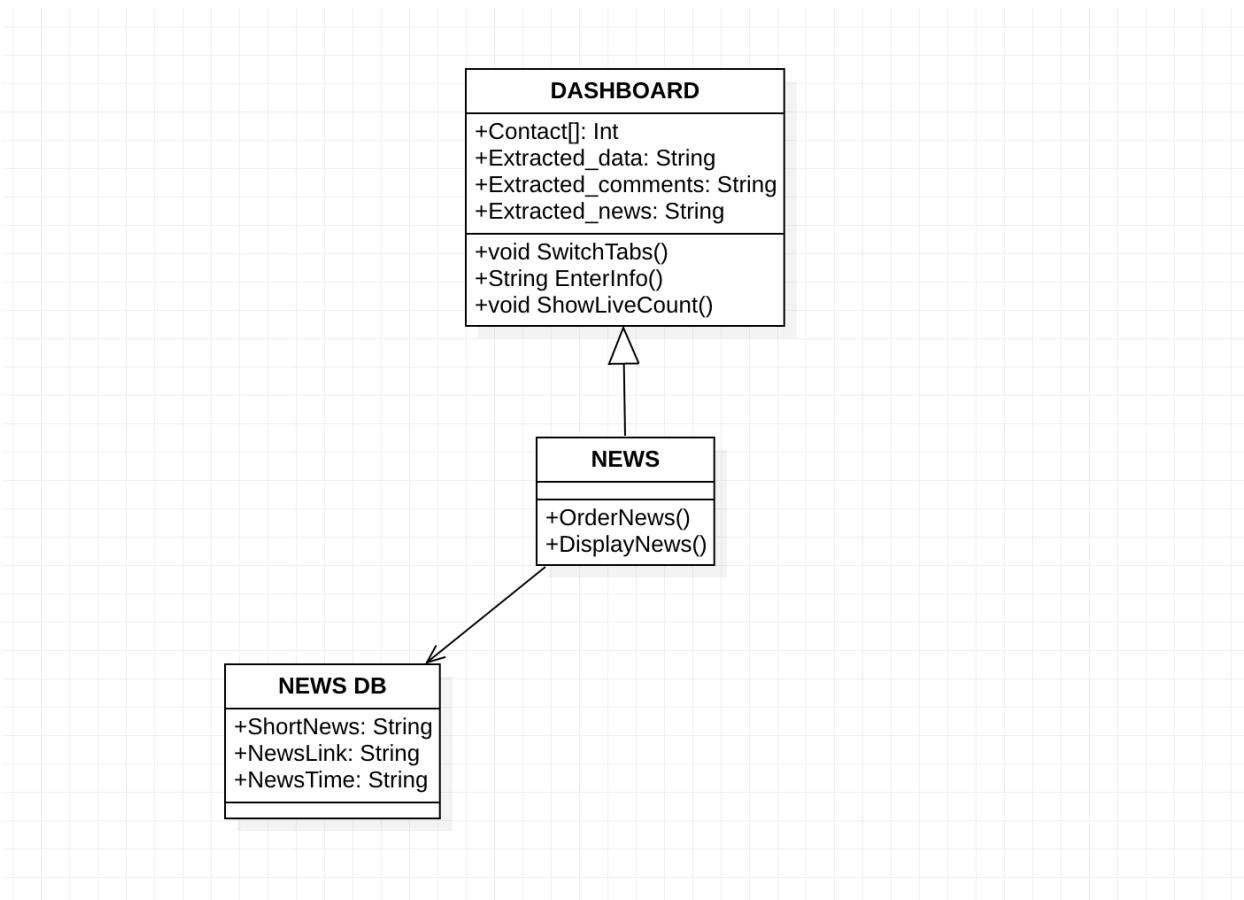
- Dashboard
- Help Desk
- Registered user



## Story 8 -News Scraping and display

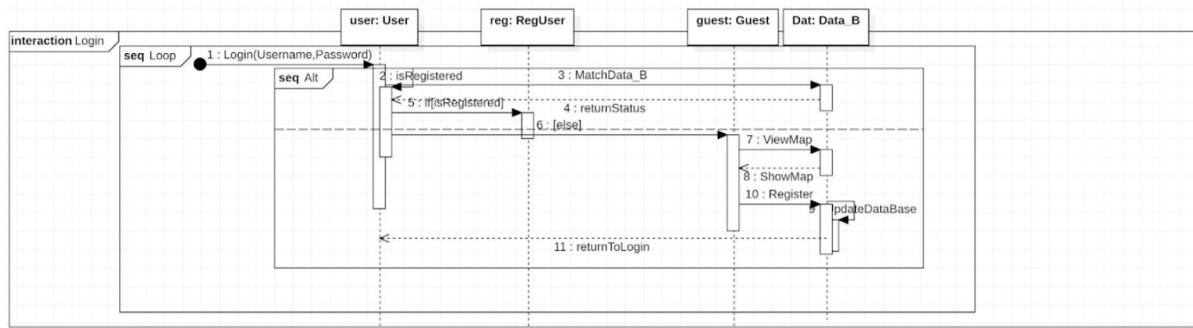
Classes:

- Dashboard
- News
- News DB



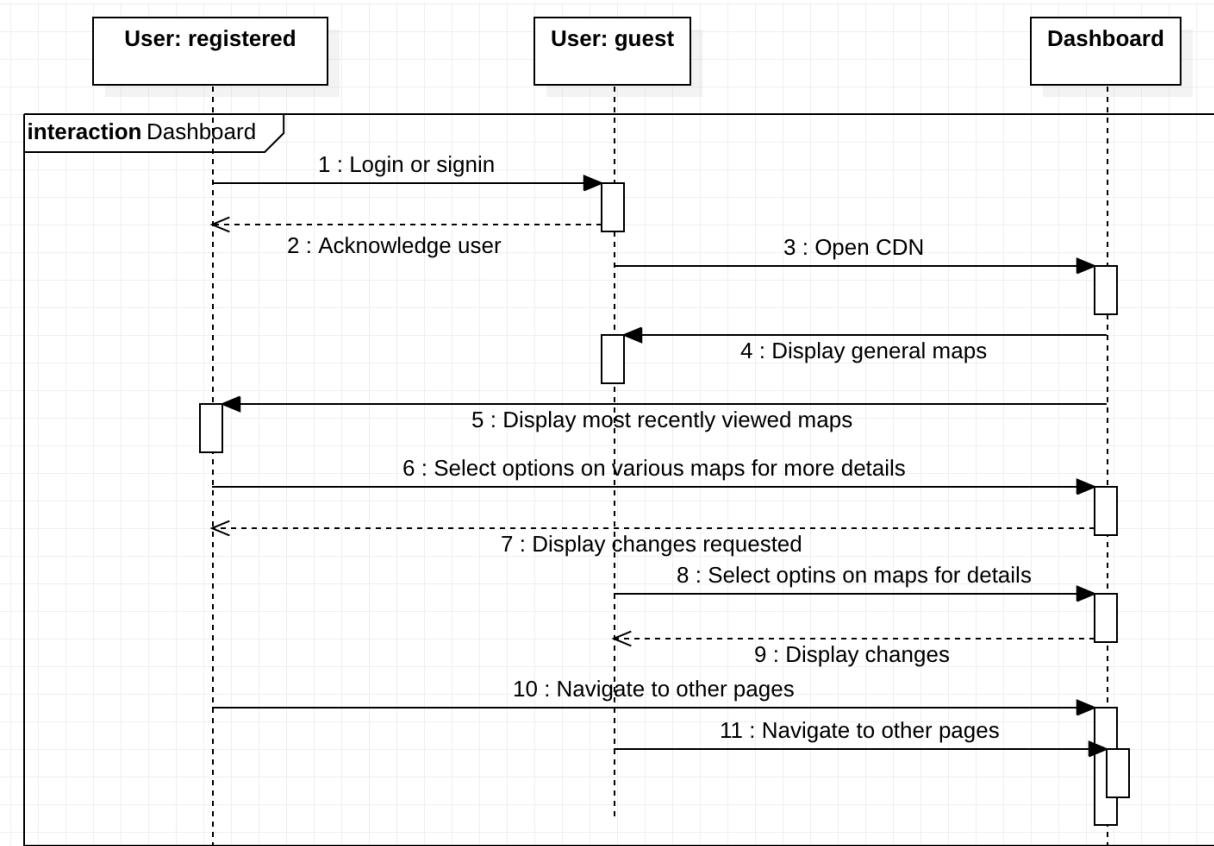
### III) Sequence diagrams

#### I) Login/sign-up or registration

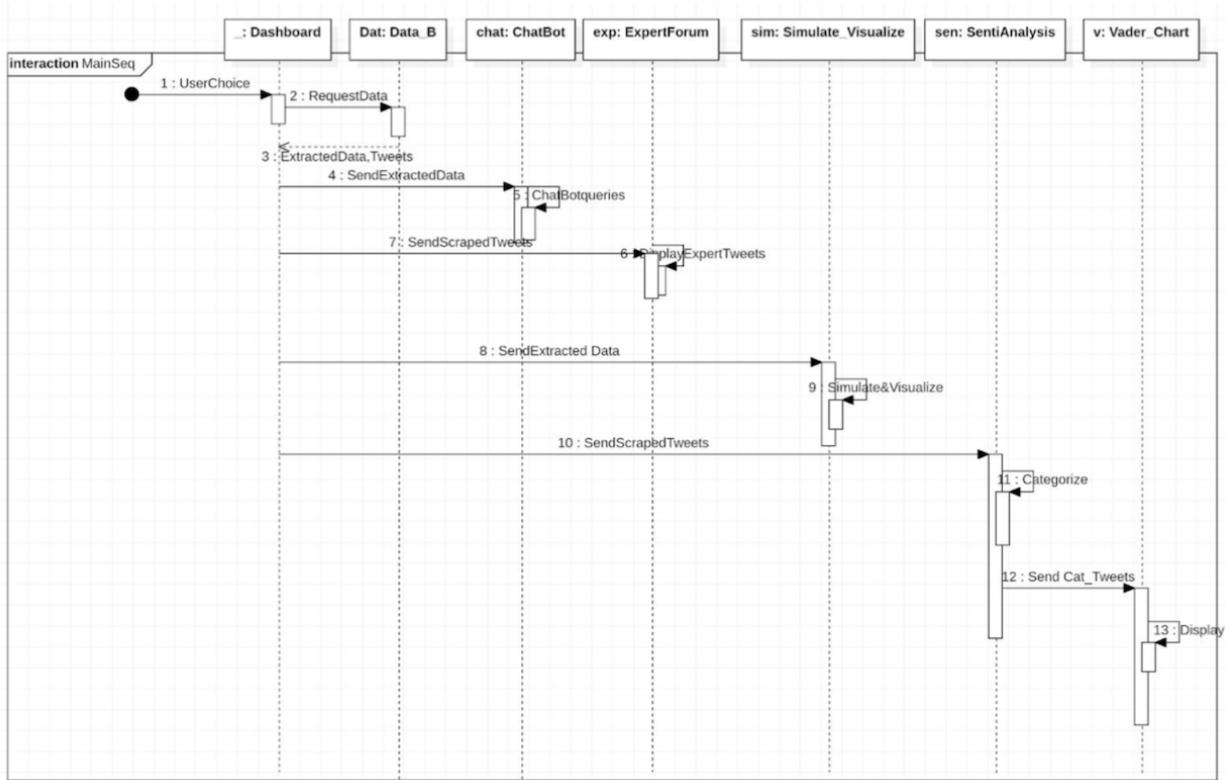


#### II) Dashboard and data visualisation

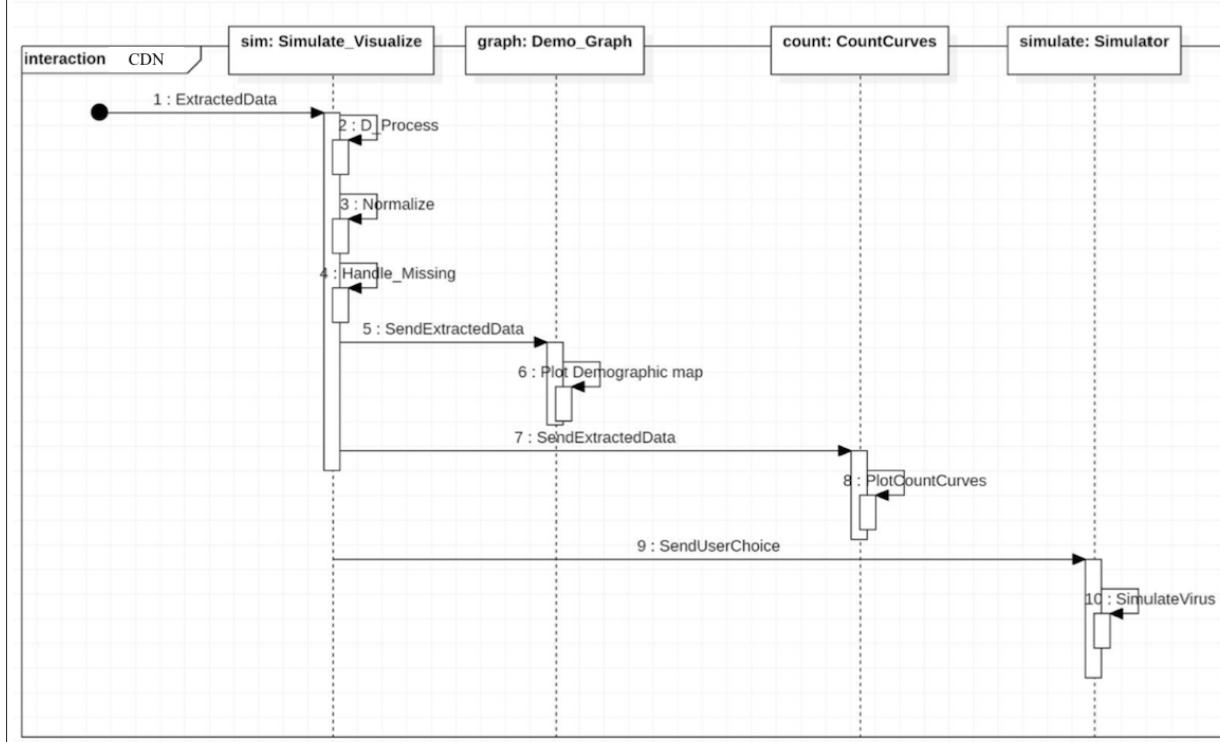
##### II) a) Dashboard:



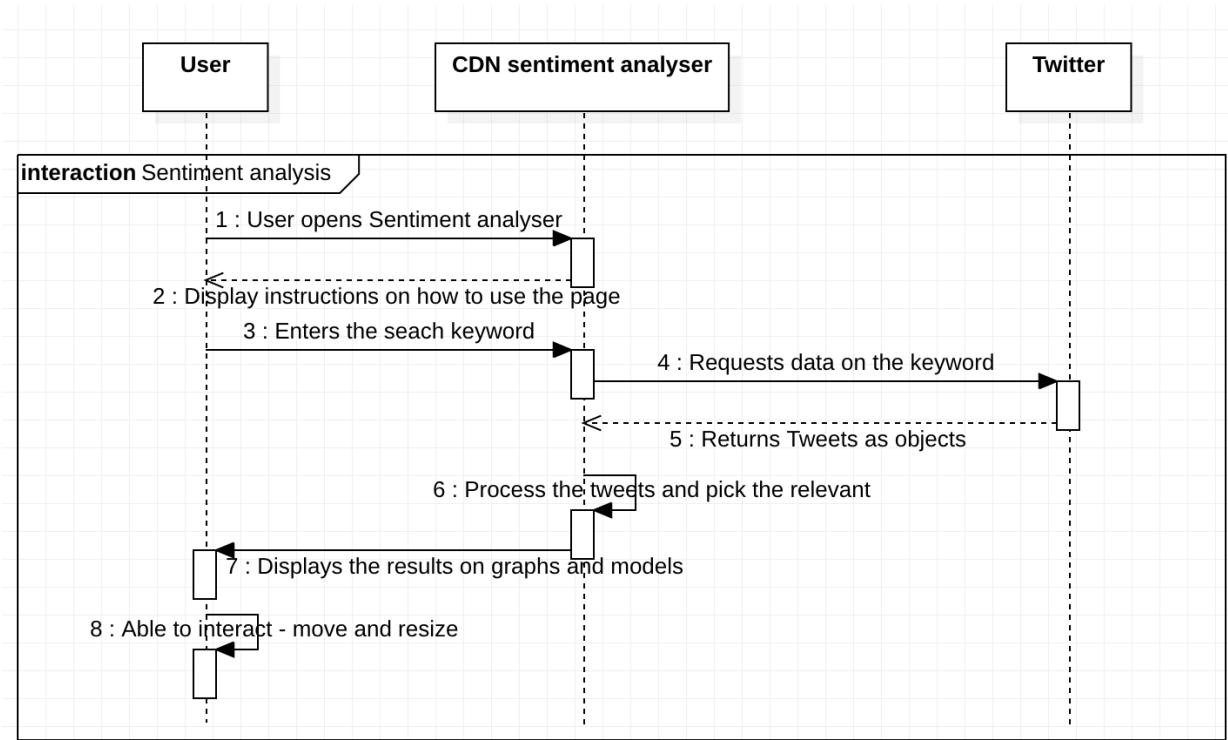
II) b) Main sequence



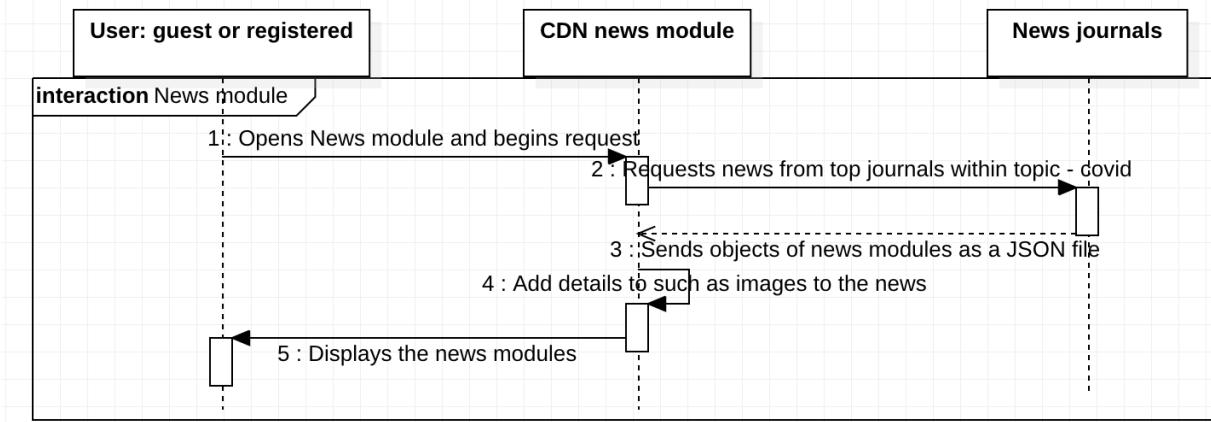
II c) Maps sequence - Dashboard



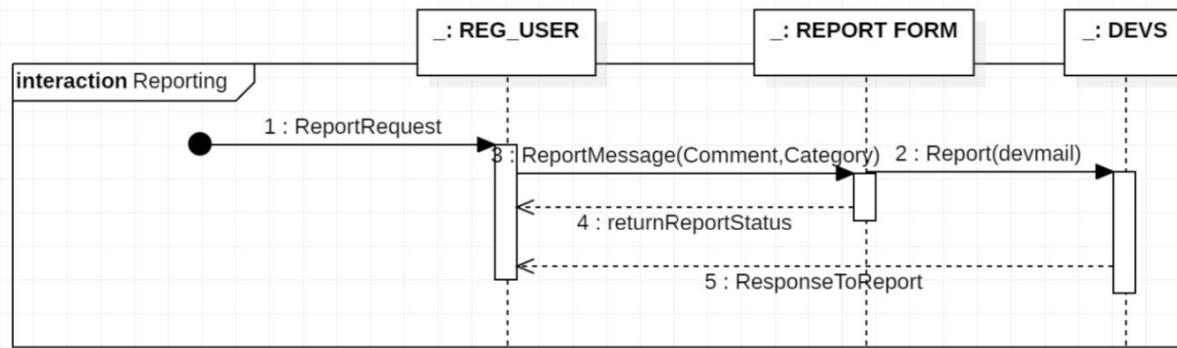
III) Sentiment analysis



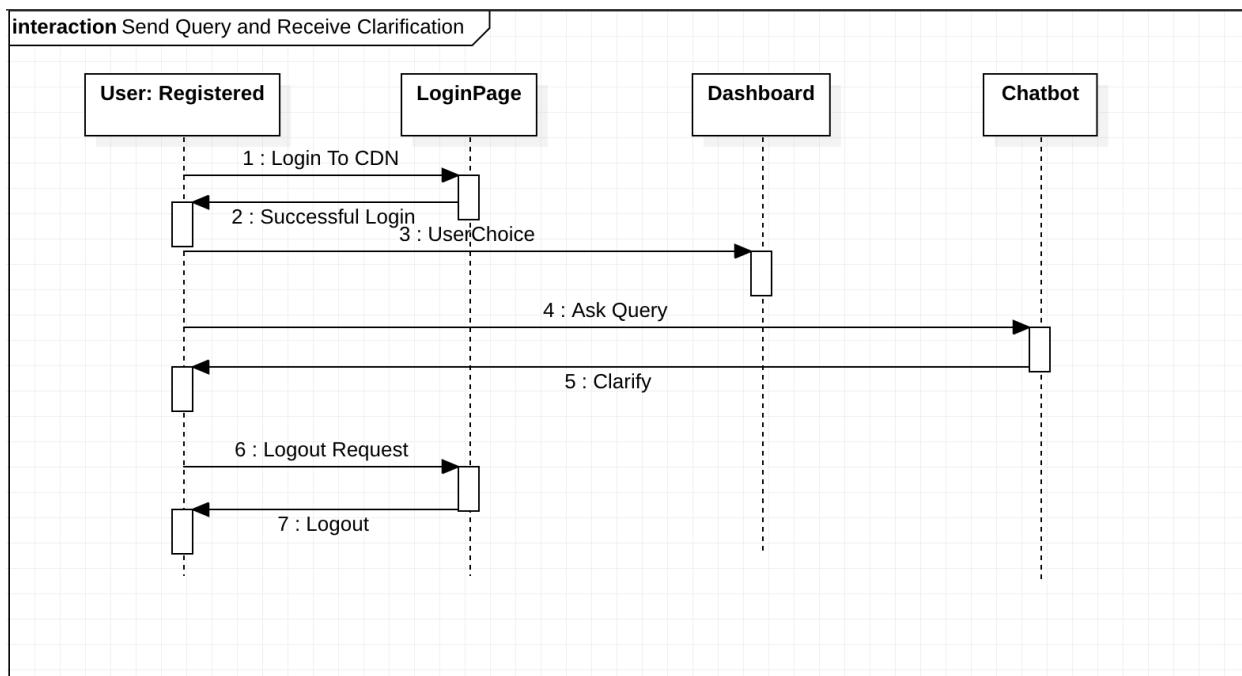
#### IV) News module



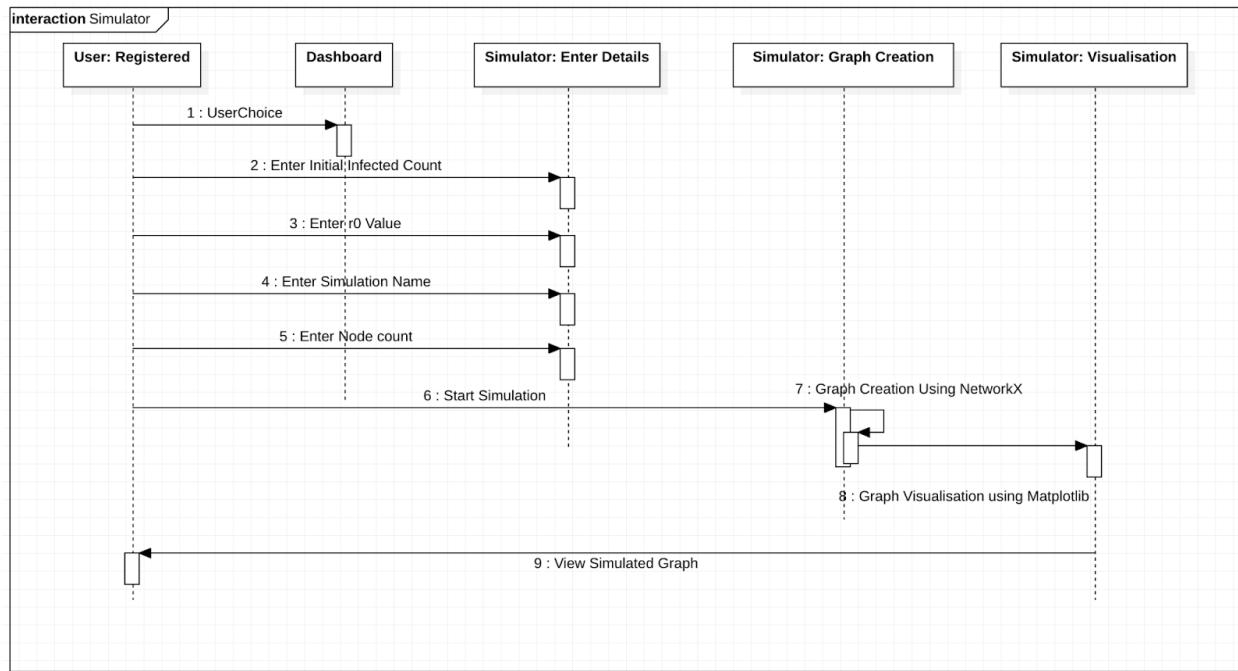
#### V) Report



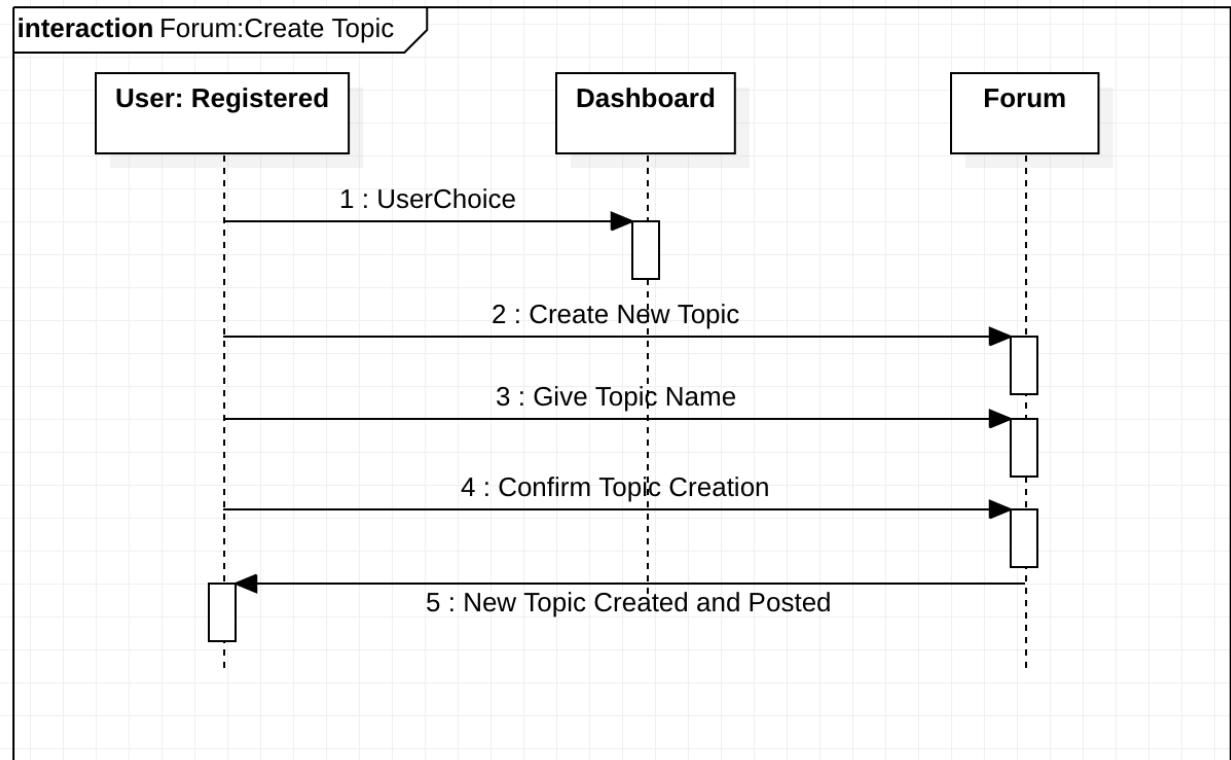
## VI) Helpdesk

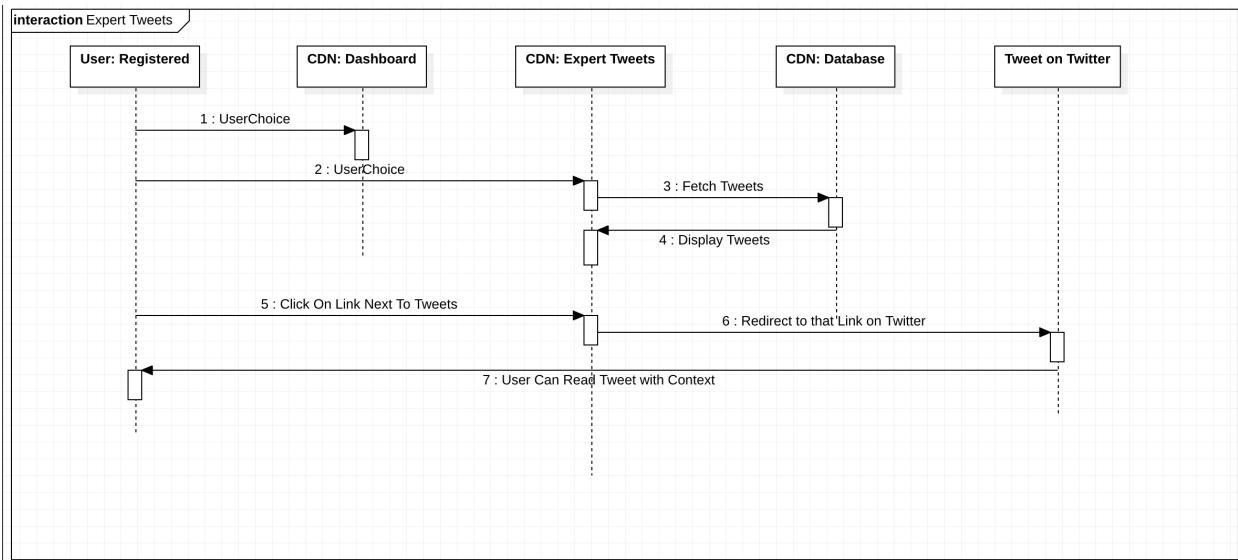
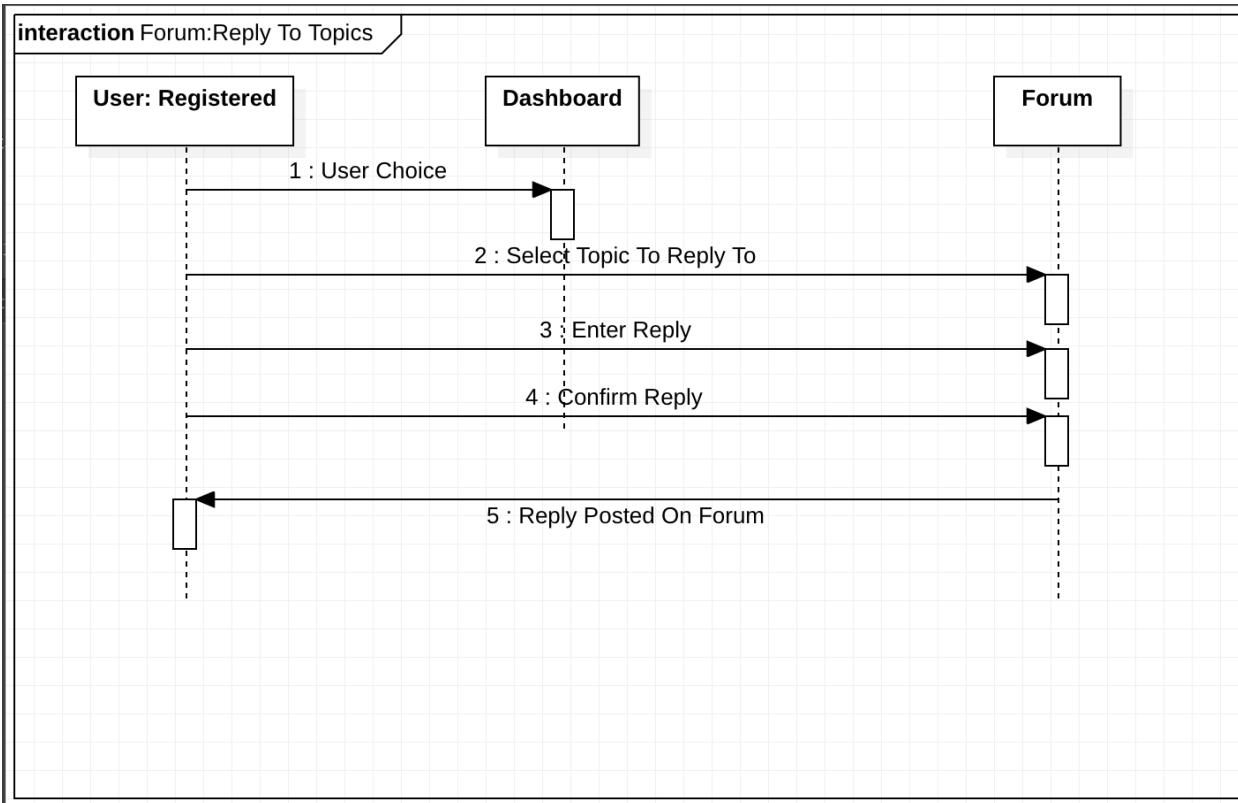


## VII) Simulator



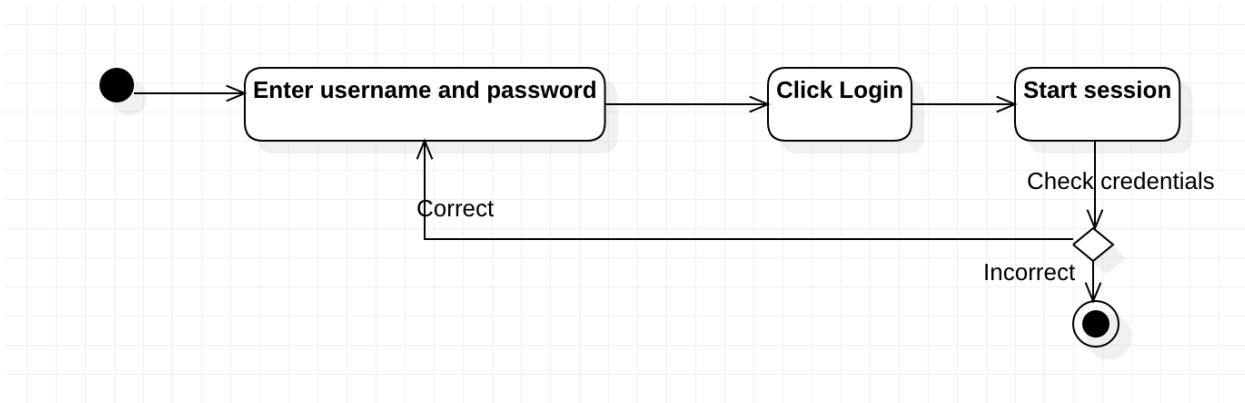
## VIII) Forum



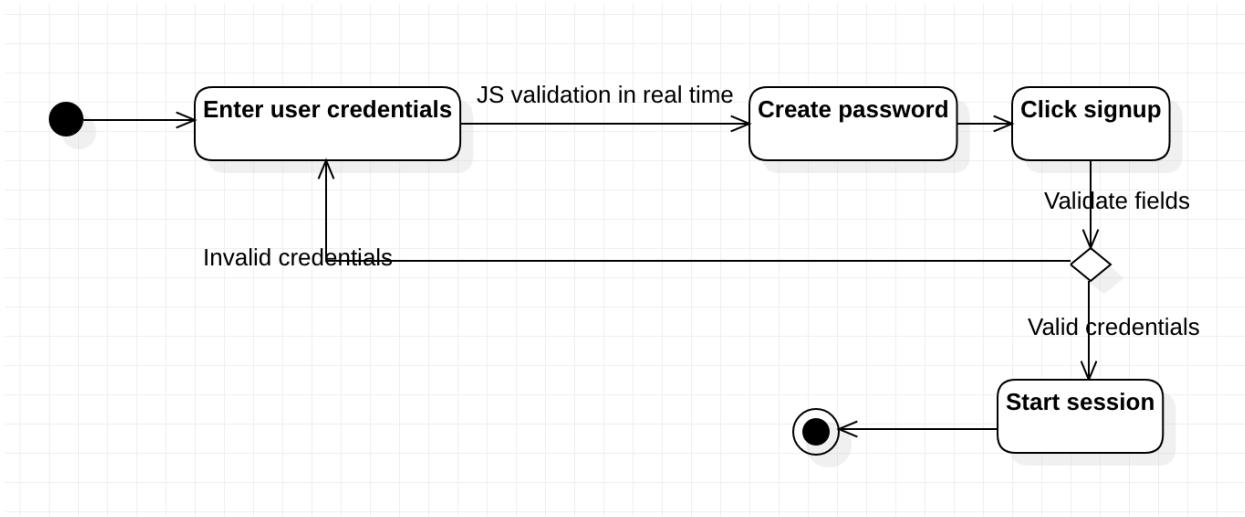


## IV) Activity diagrams

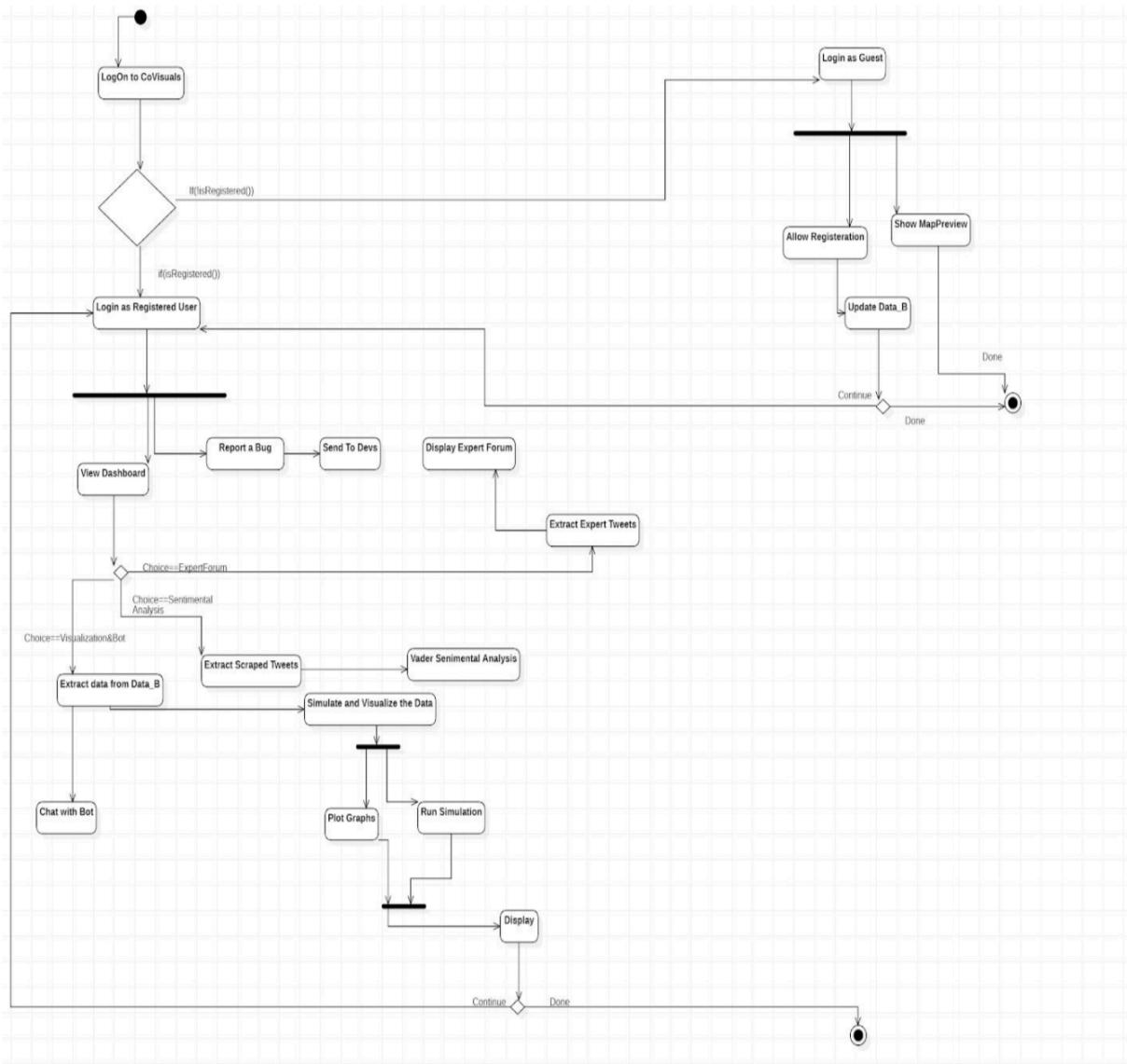
1) Login module



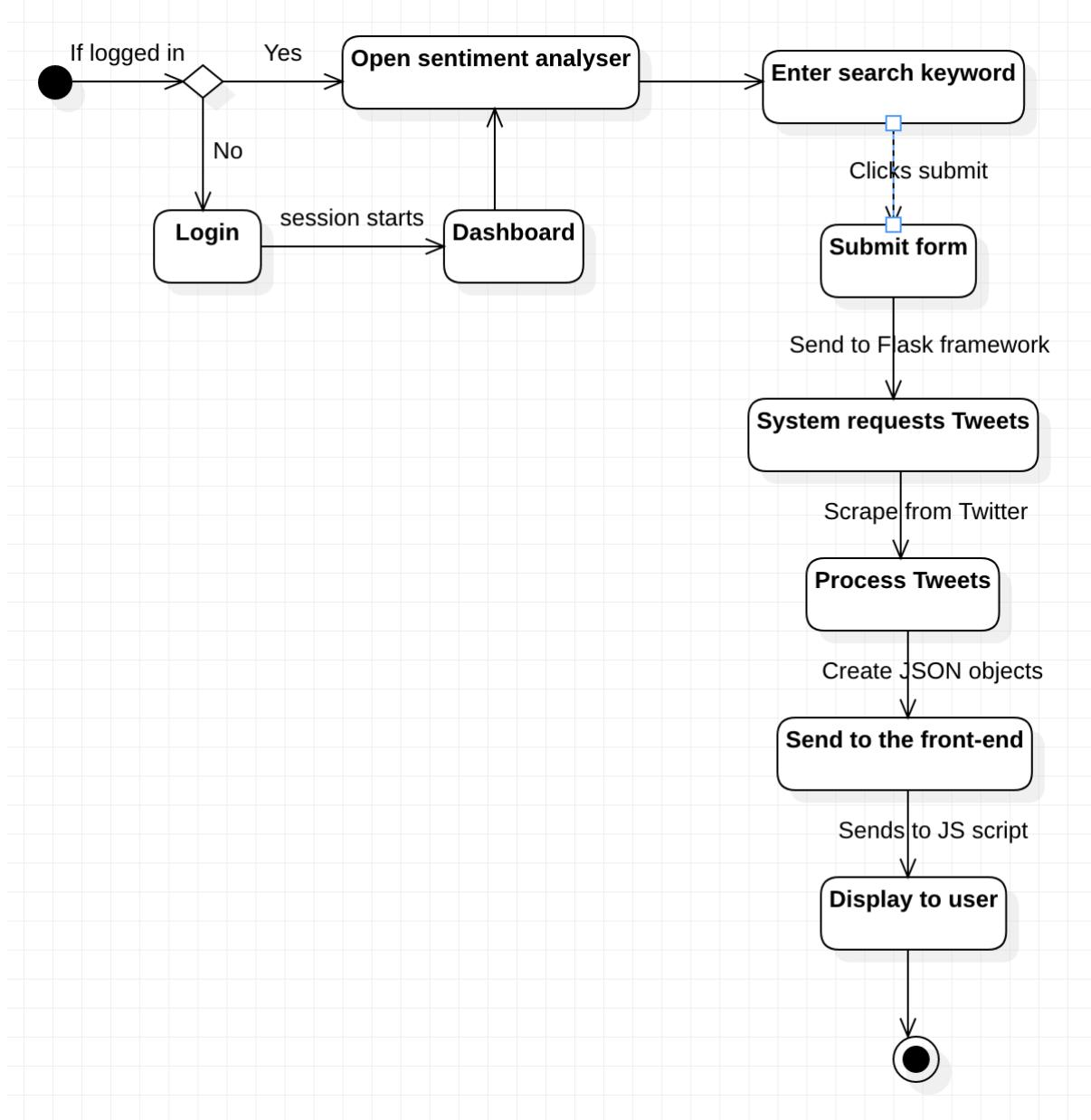
2) Register module



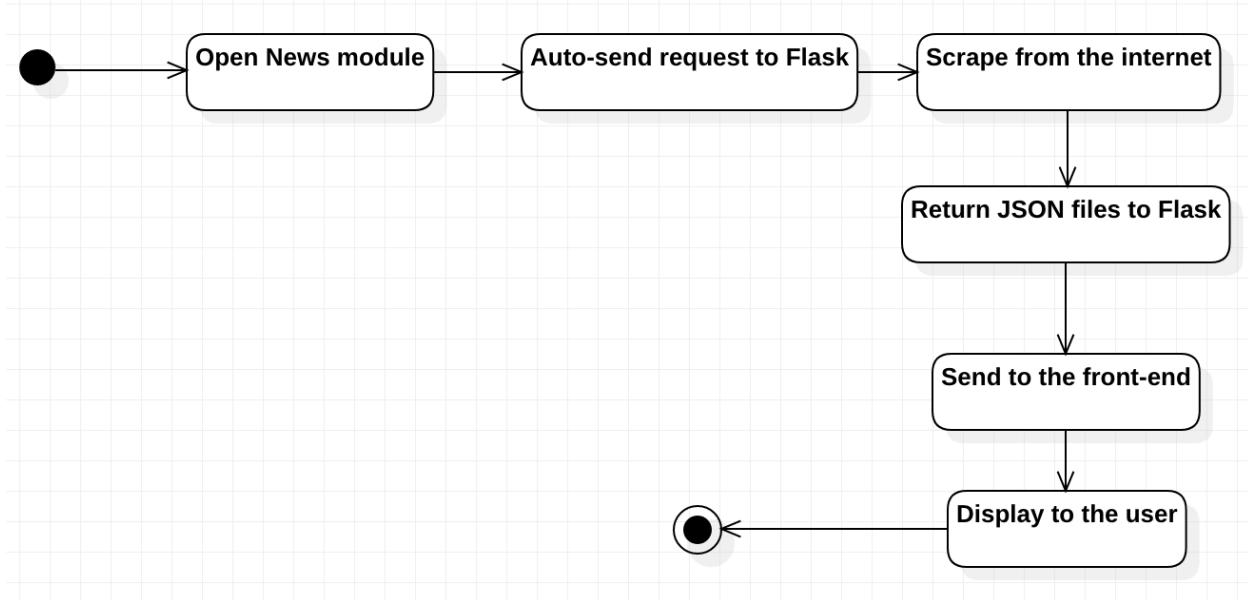
### 3) Dashboard Data Visualisation



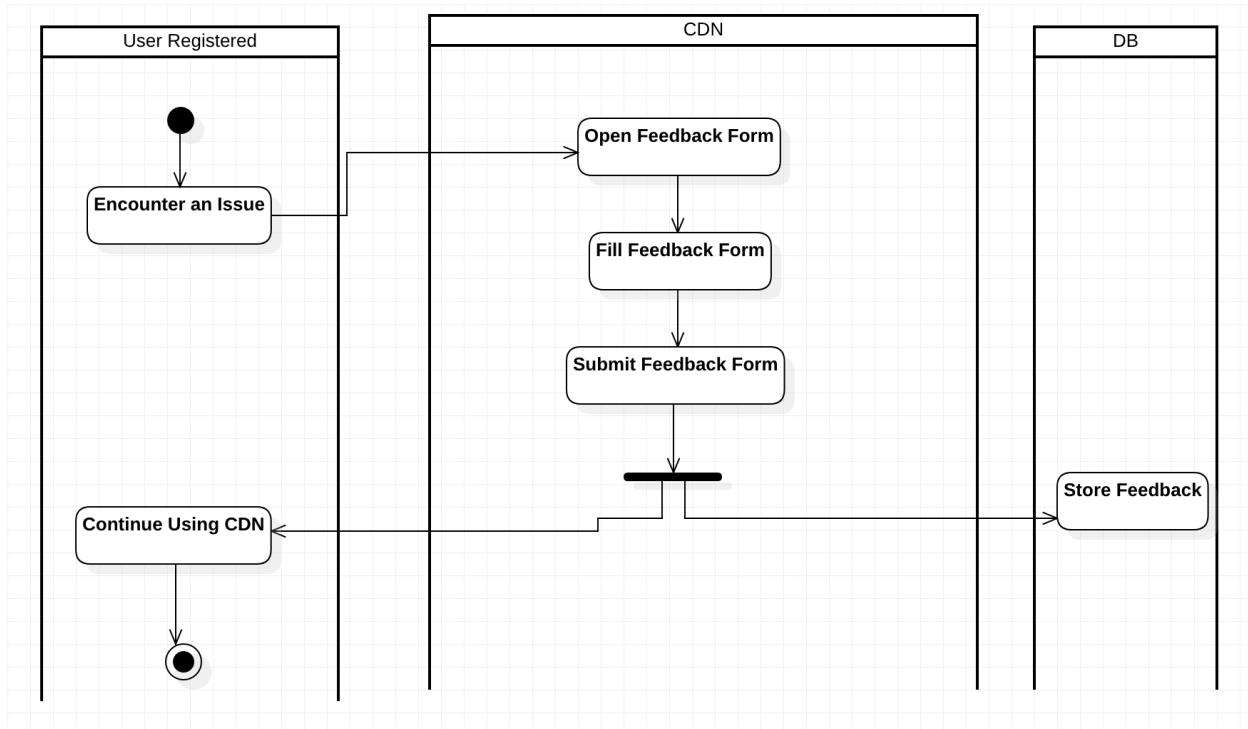
#### 4) Sentiment Analysis

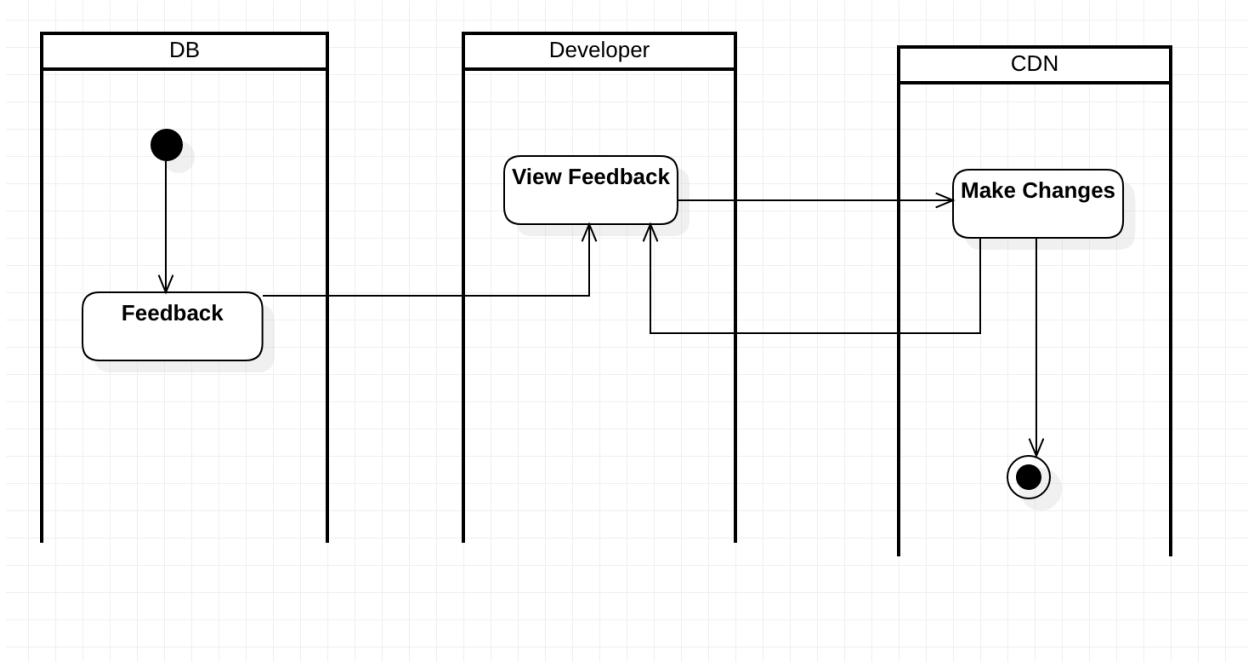


## 5) News module

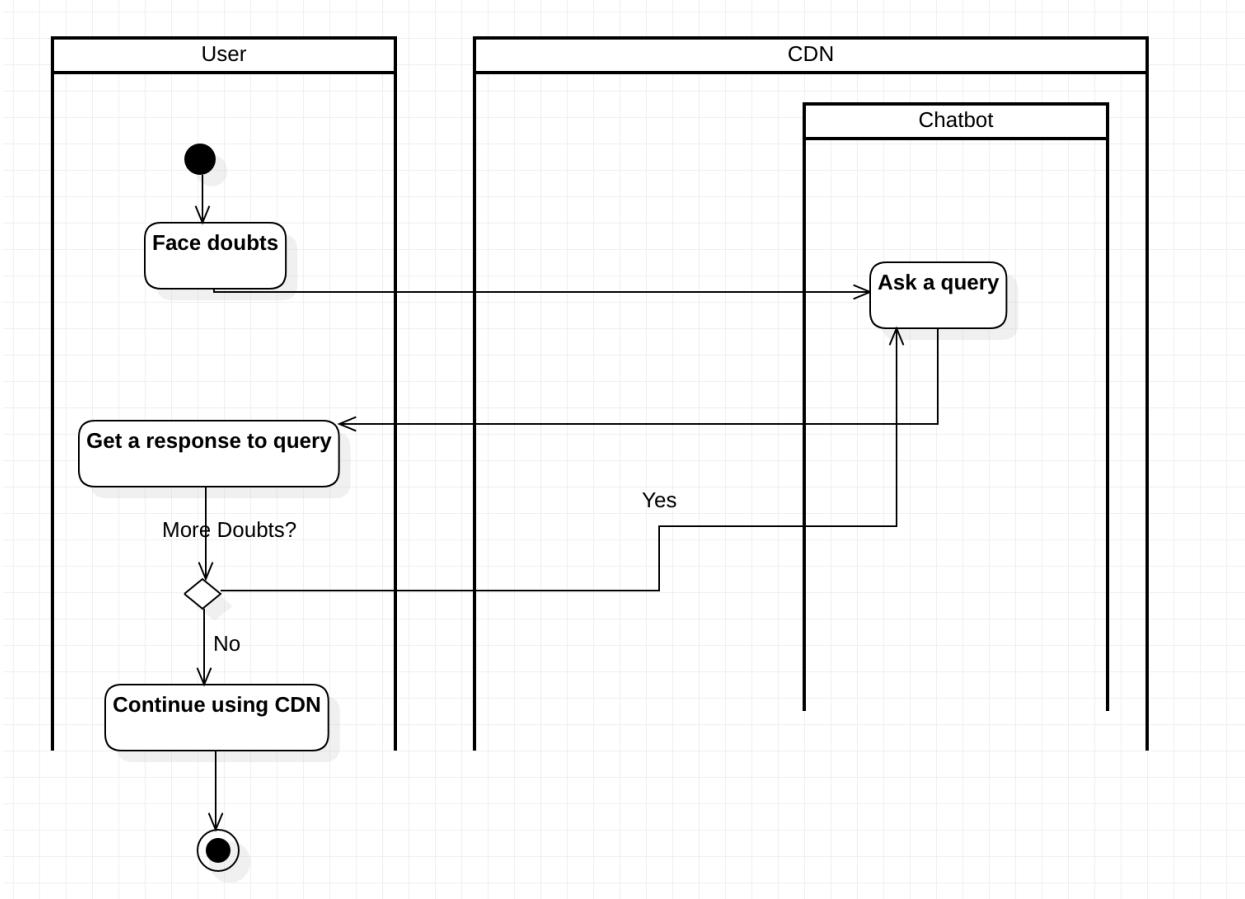


## 6) Feedback

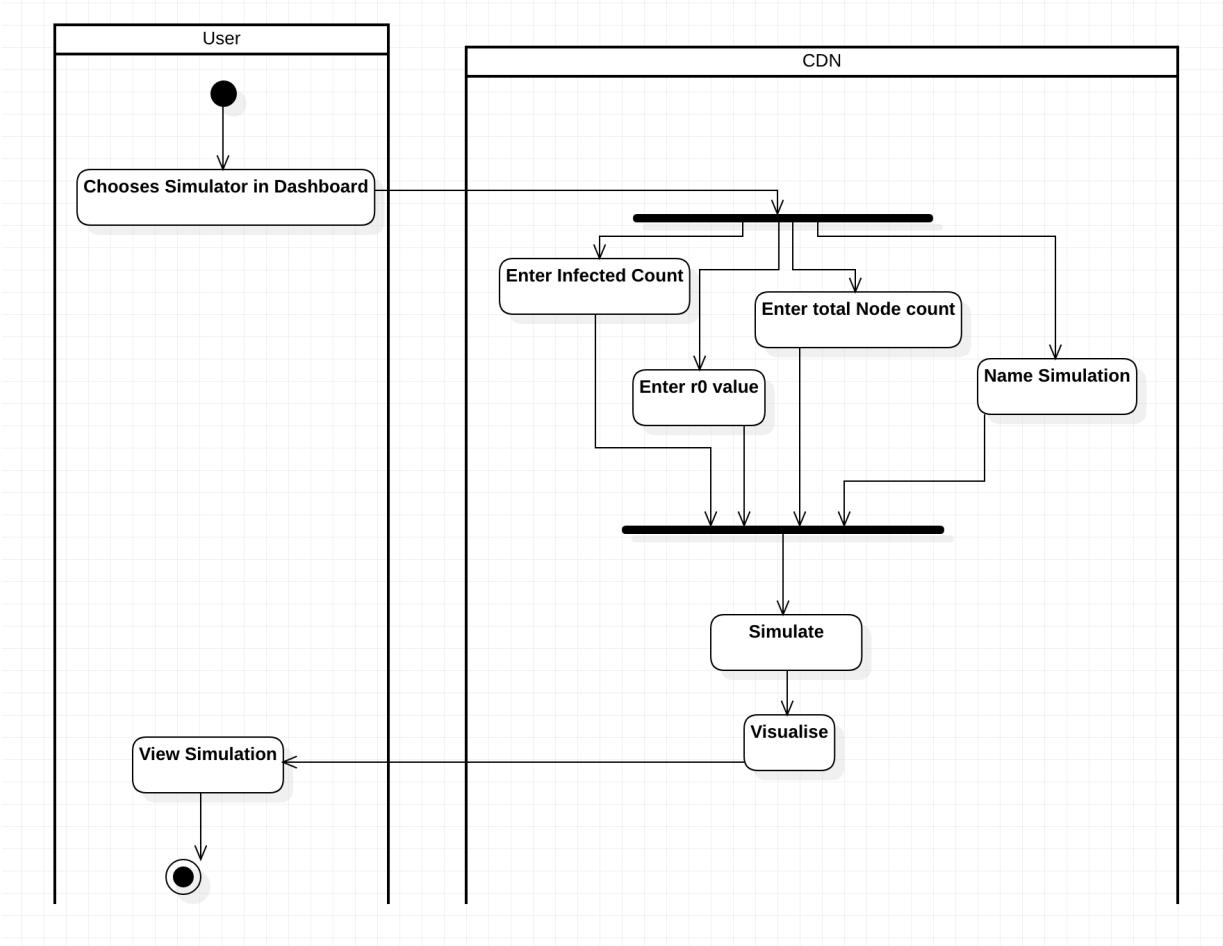




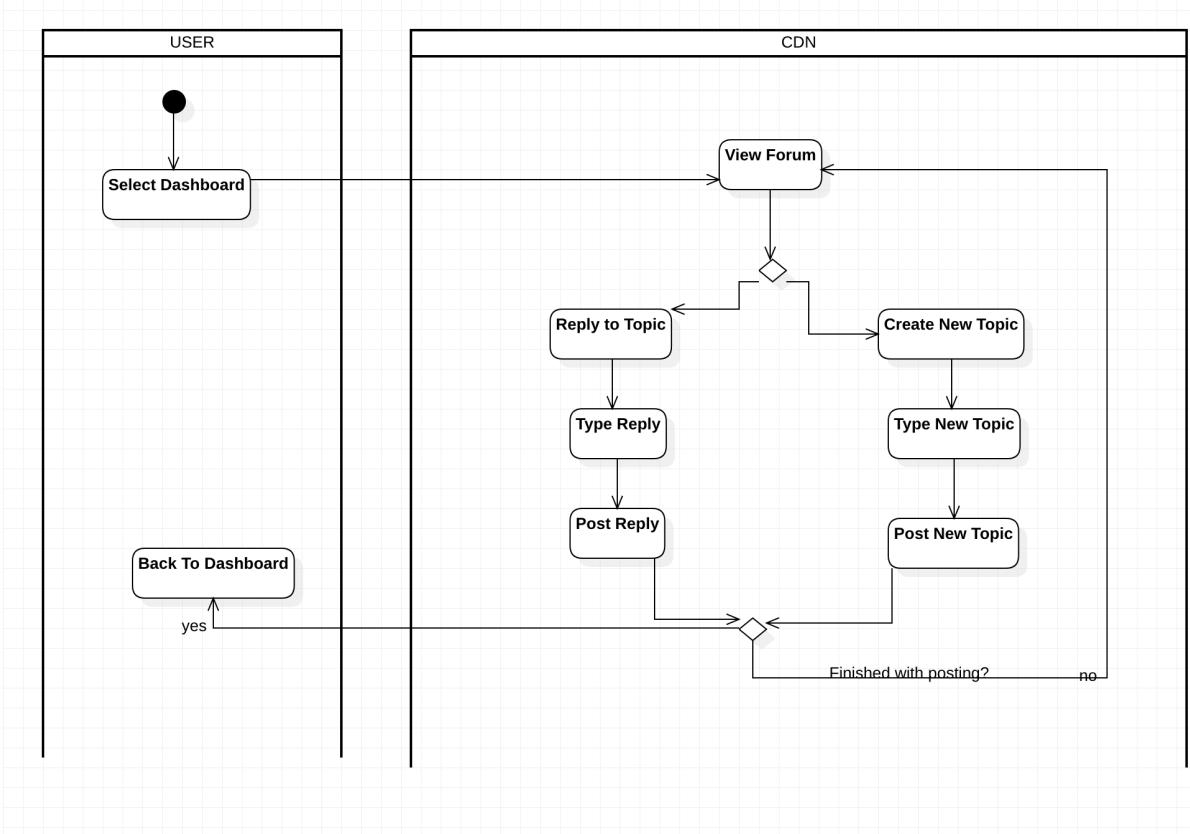
## 7) Helpdesk



## 8) Simulator

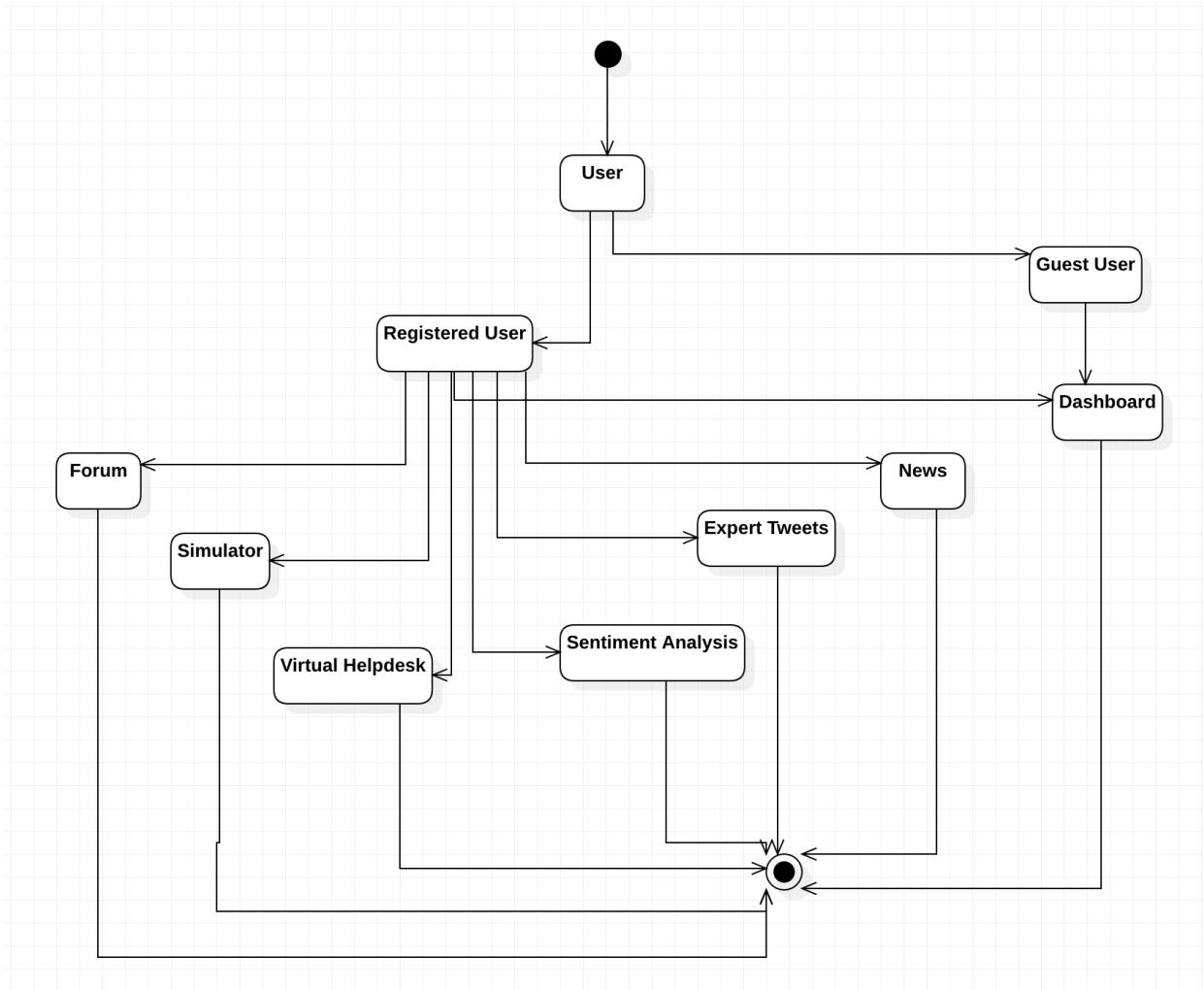


## 9) Forum

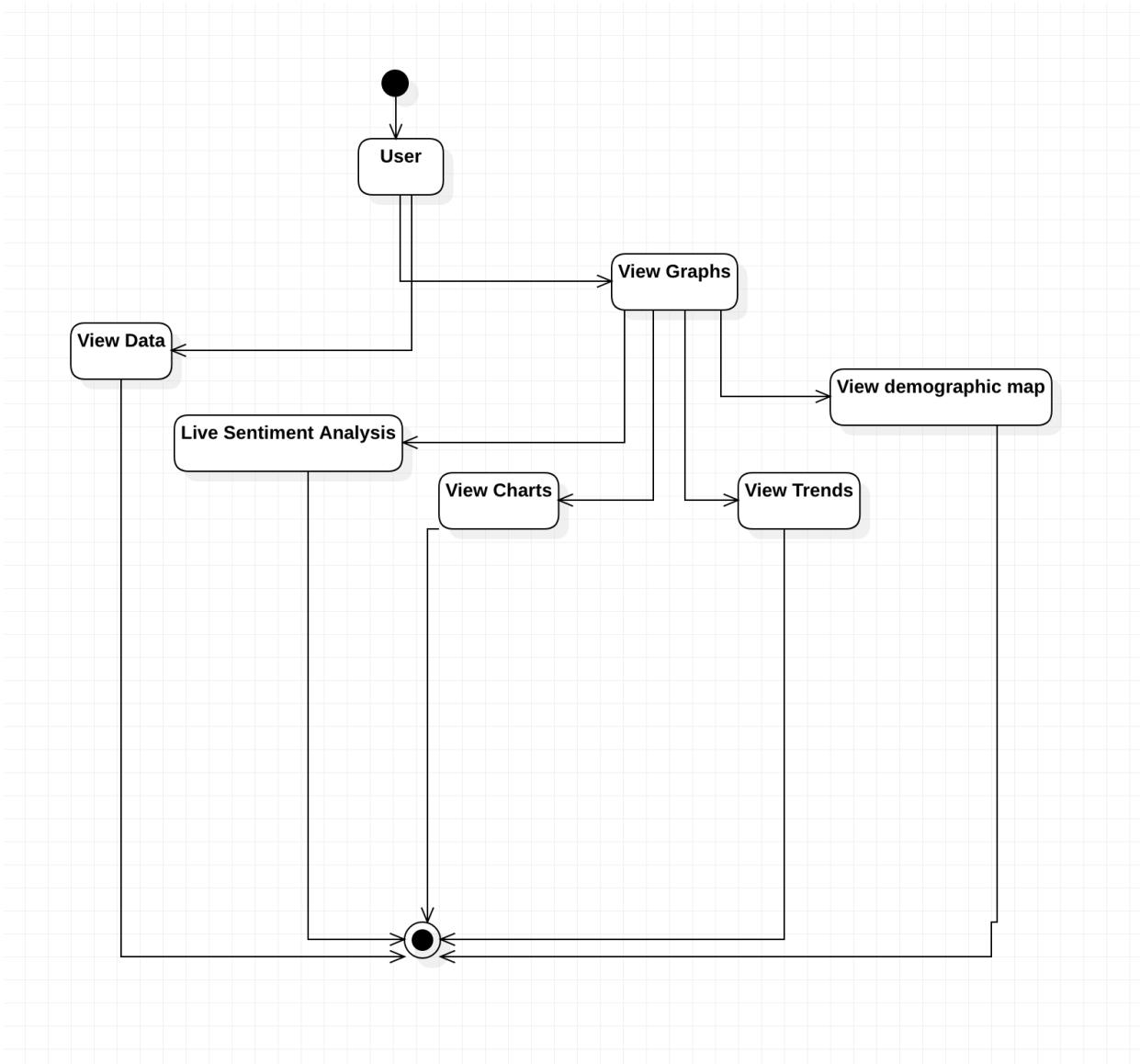


## V) State diagrams

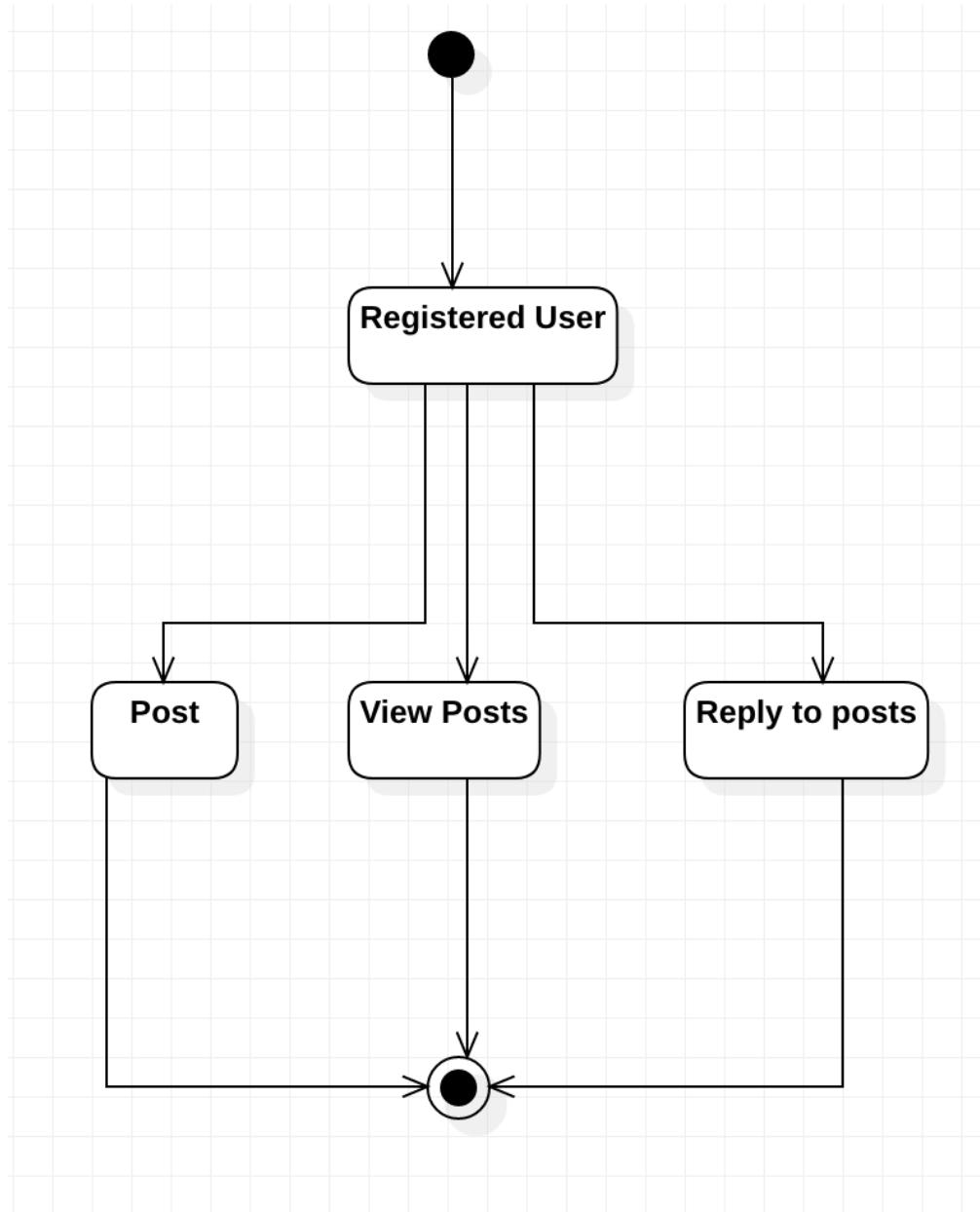
1) User login and sign up



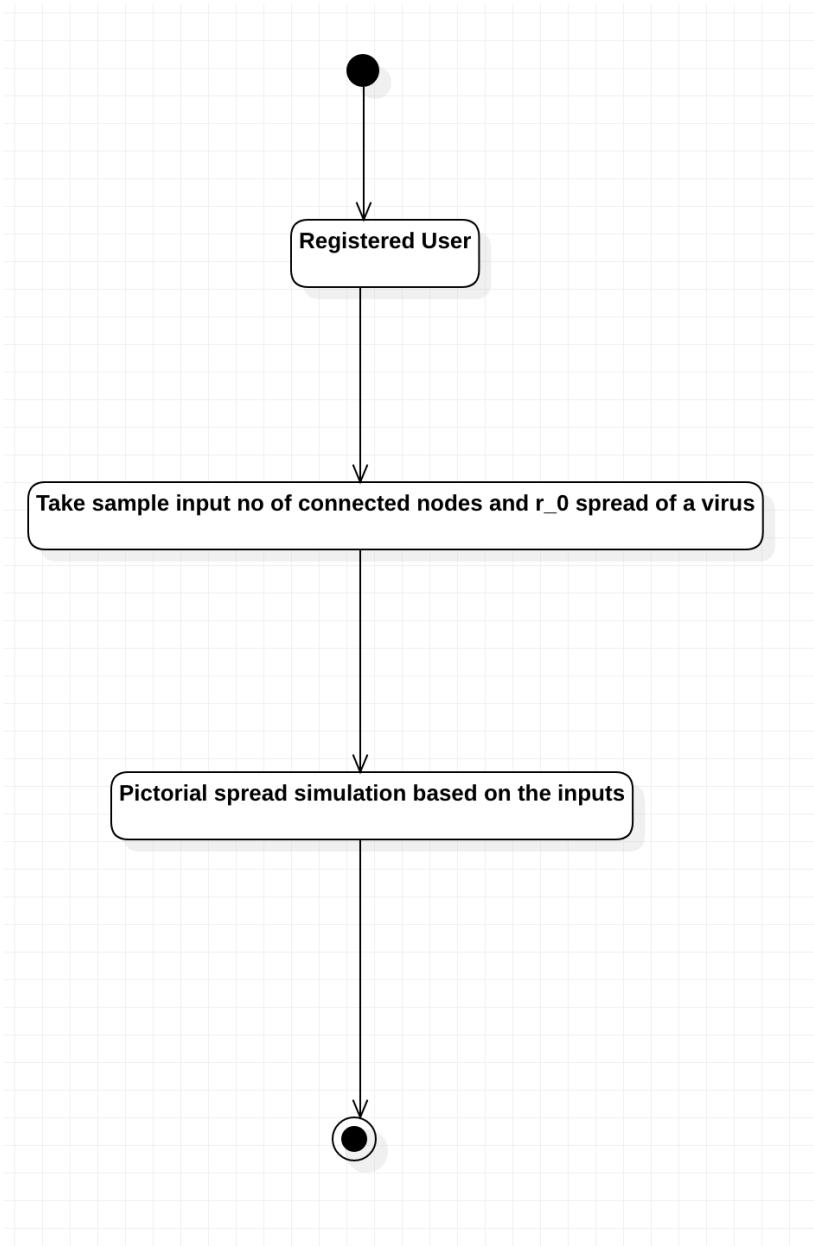
## 2) Dashboard



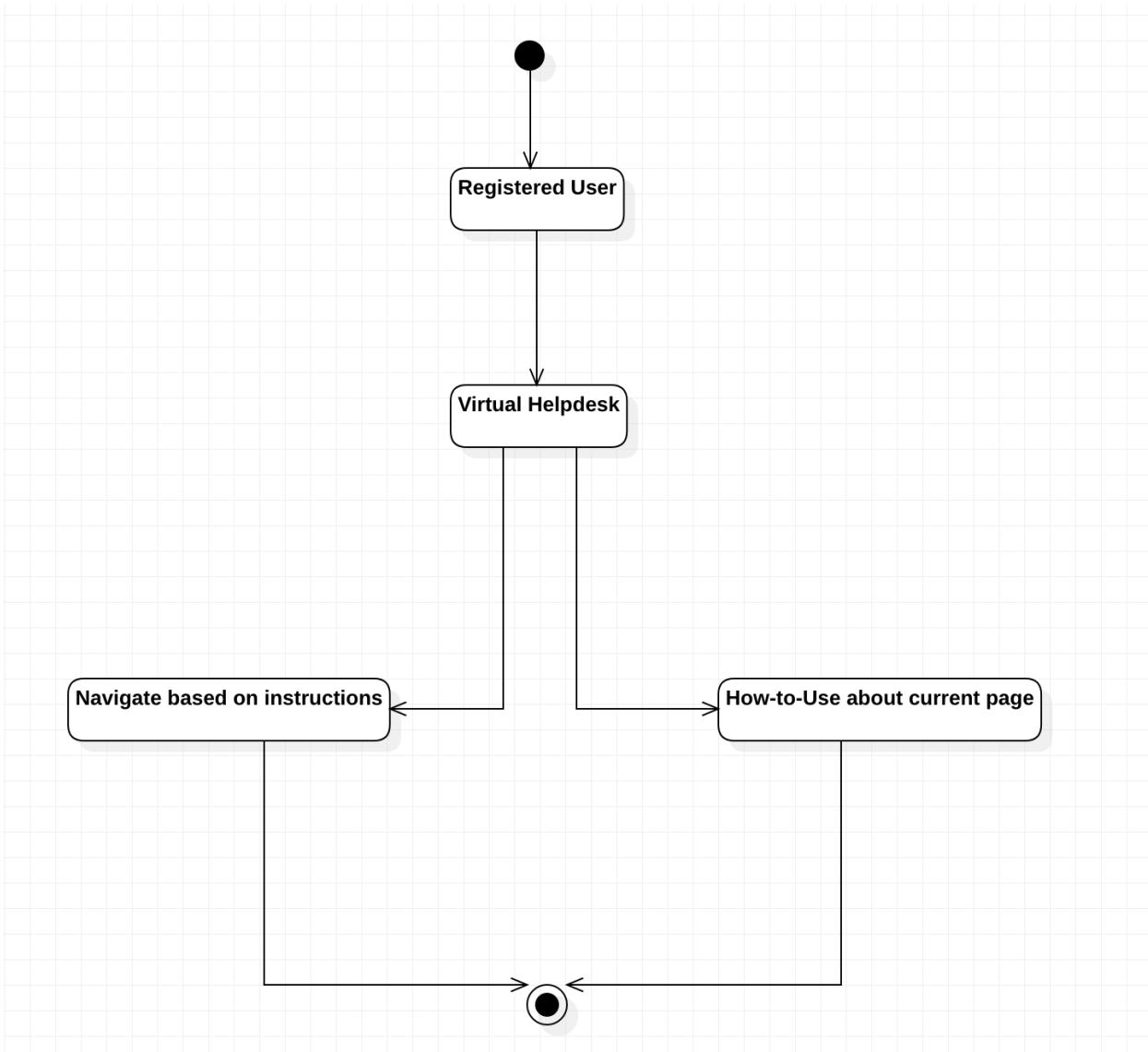
### 3) Forum



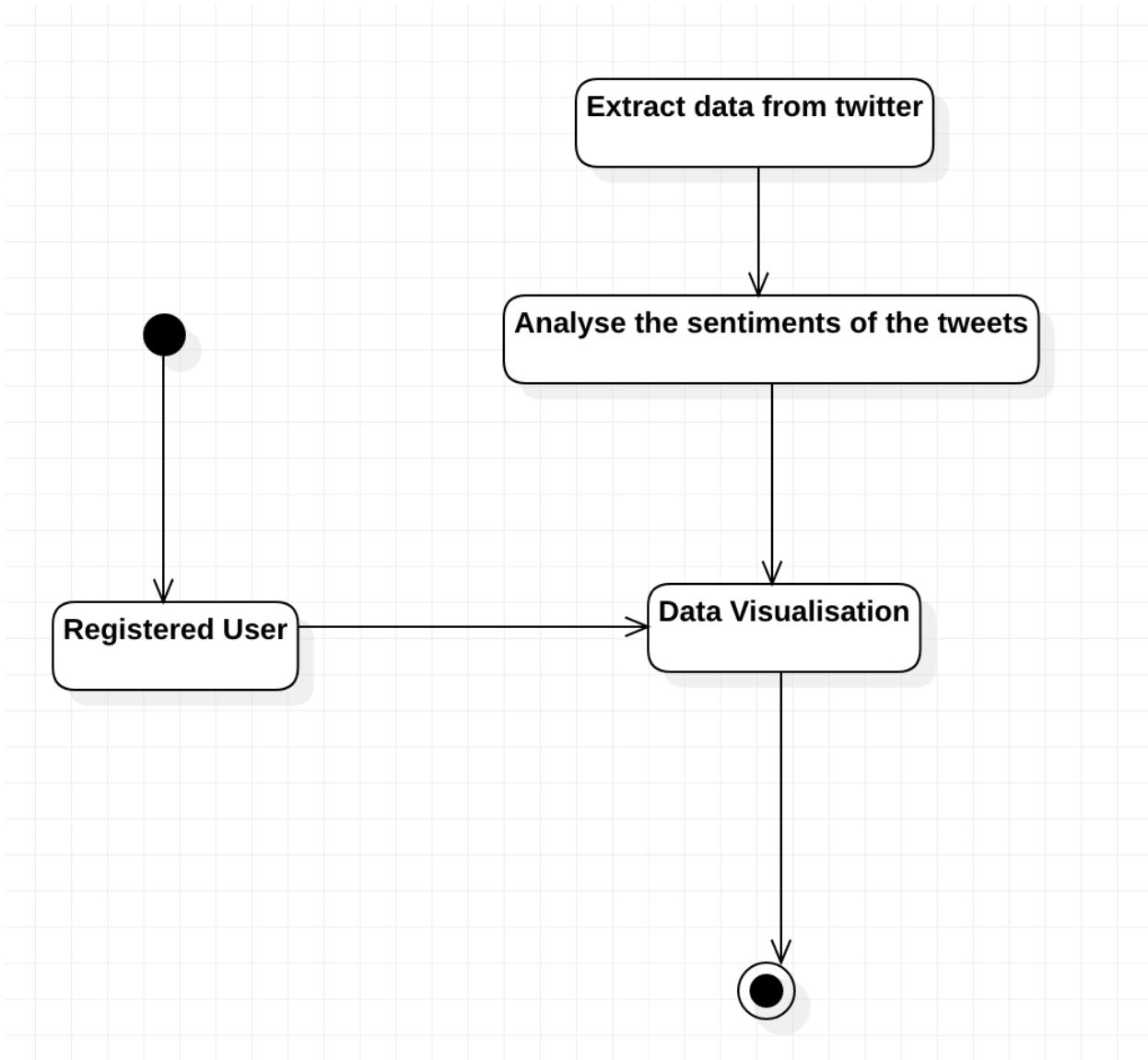
#### 4) Simulator



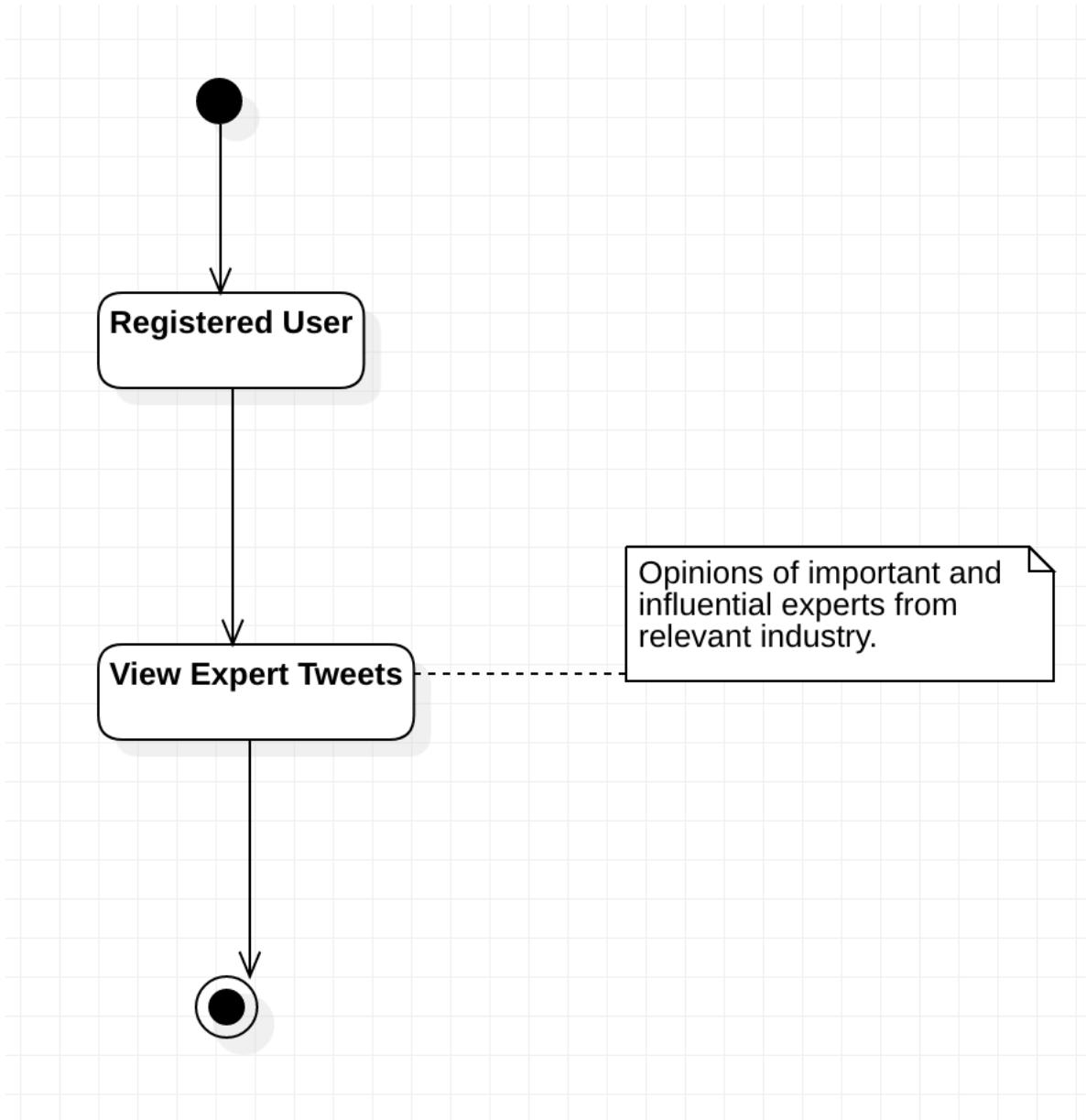
## 5) Virtual help-desk



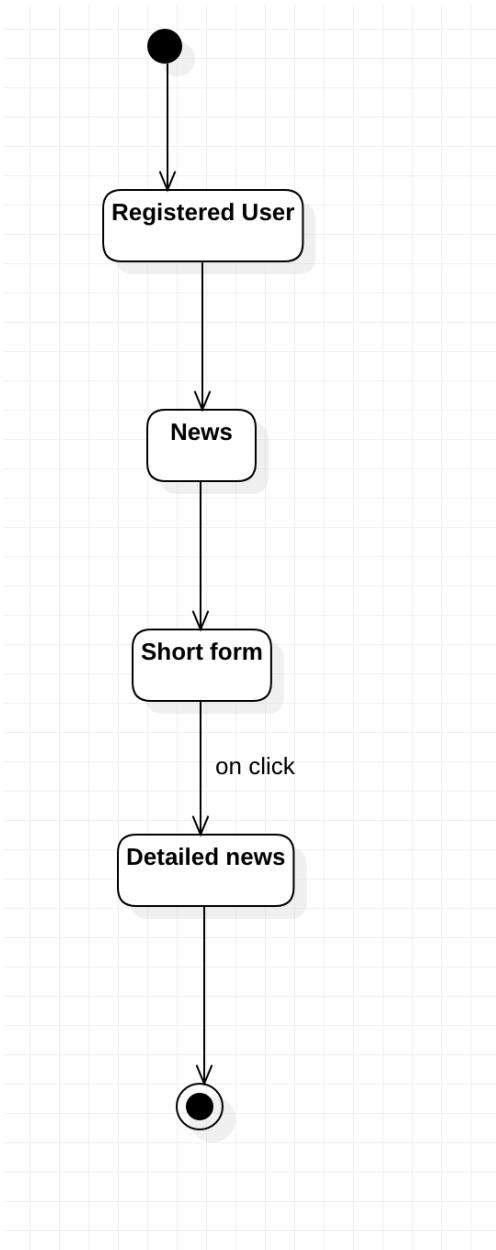
## 6) Sentiment analysis



## 7) Expert Tweets



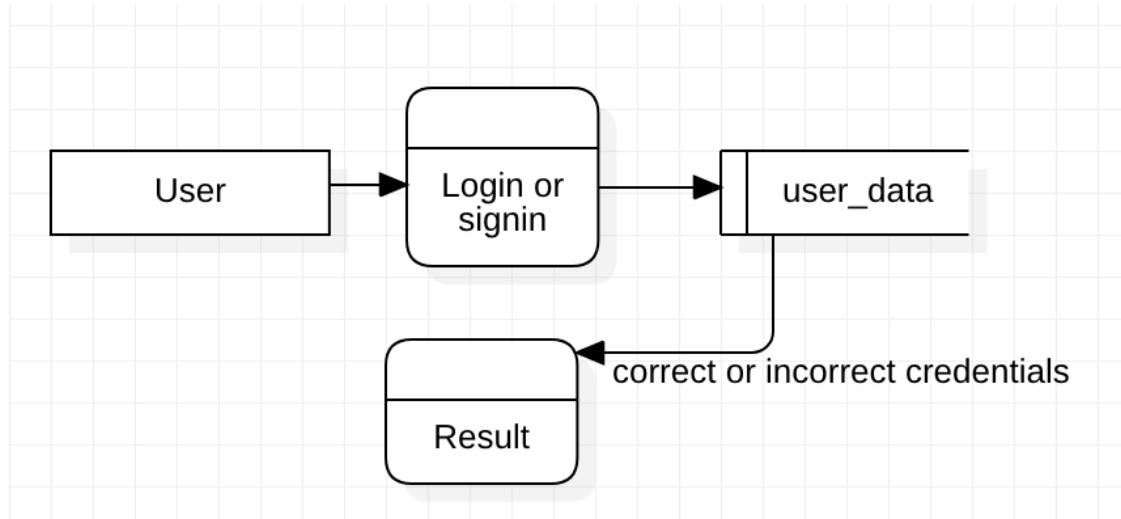
## 8) News module



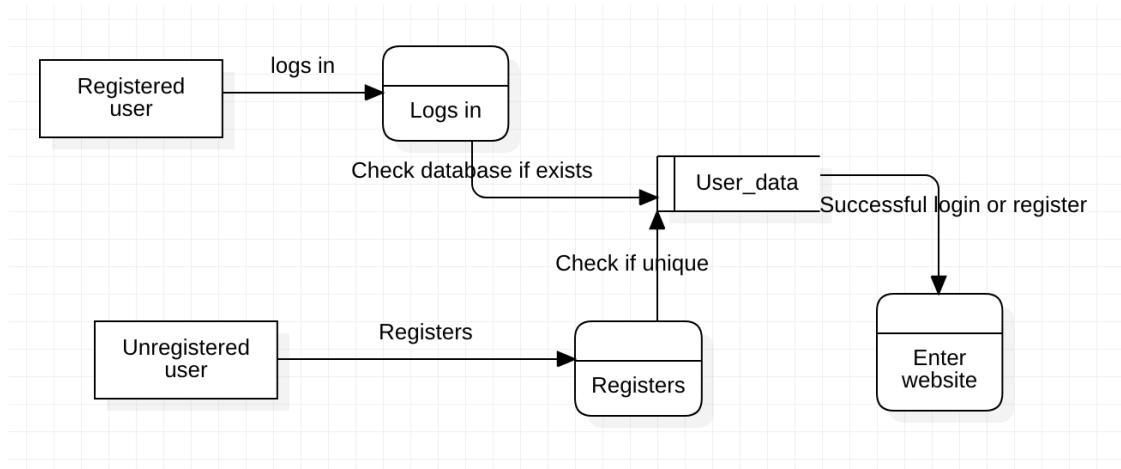
## VI) Data Flow Diagrams

### 1. Login and signup module

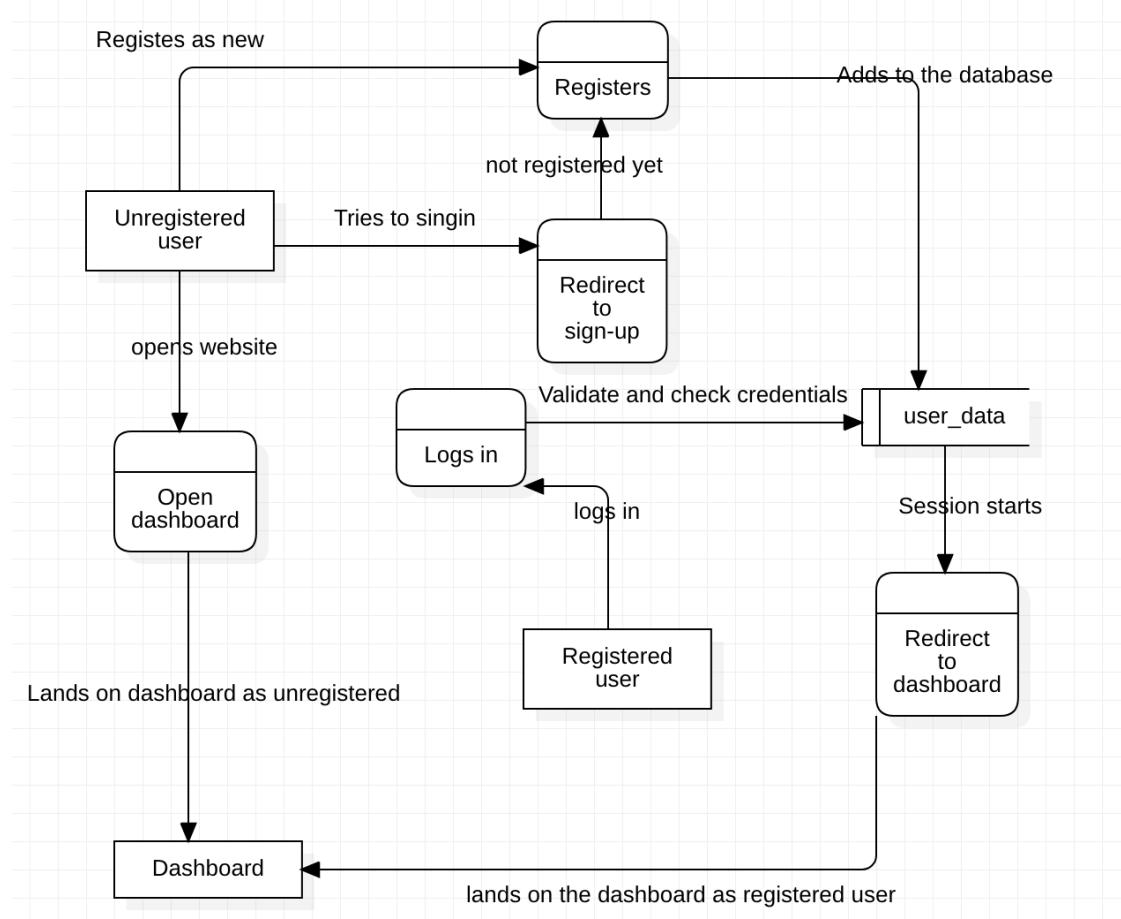
LVL-0



LVL-1

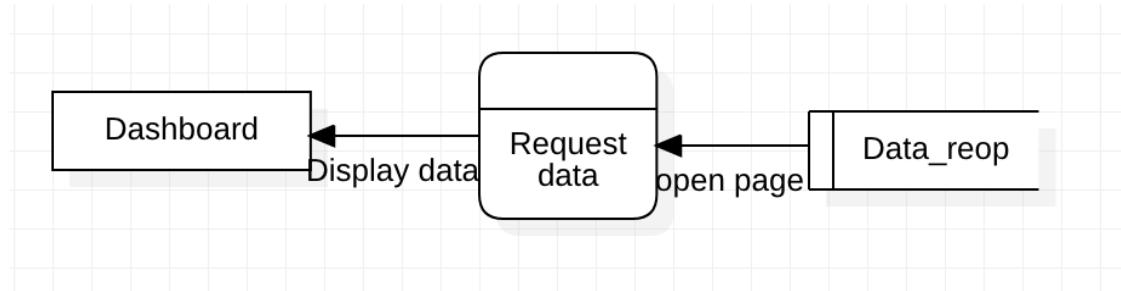


## LVL-2

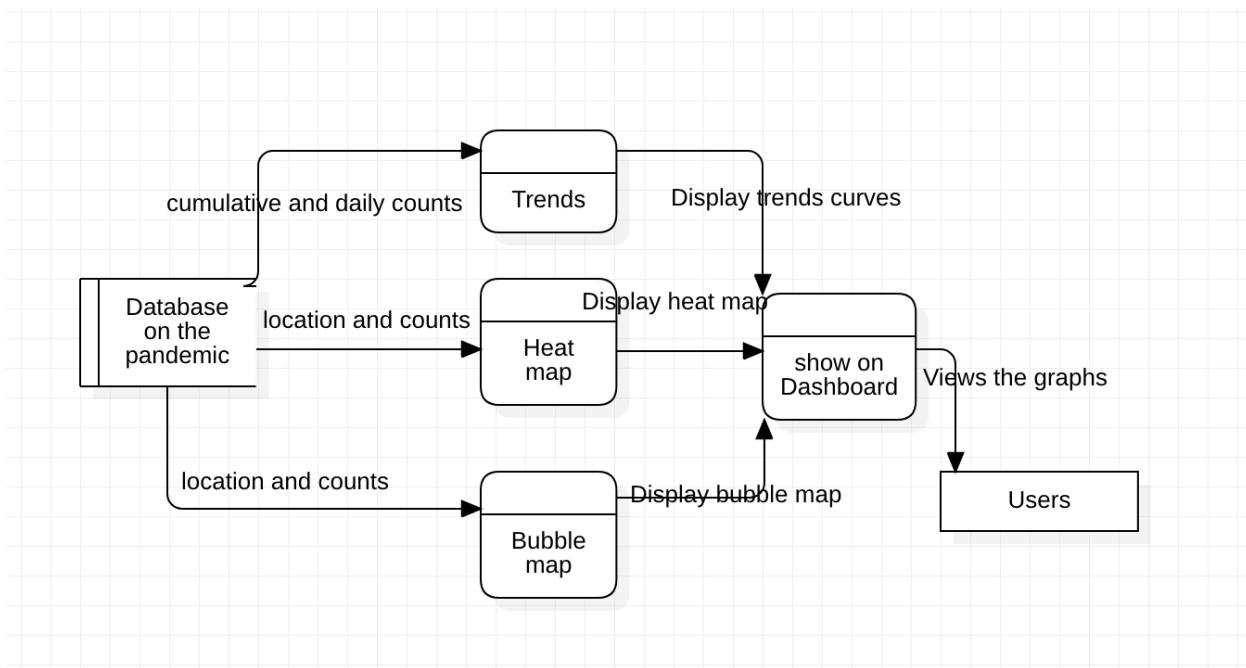


## 2. Dashboard and Data visualisation

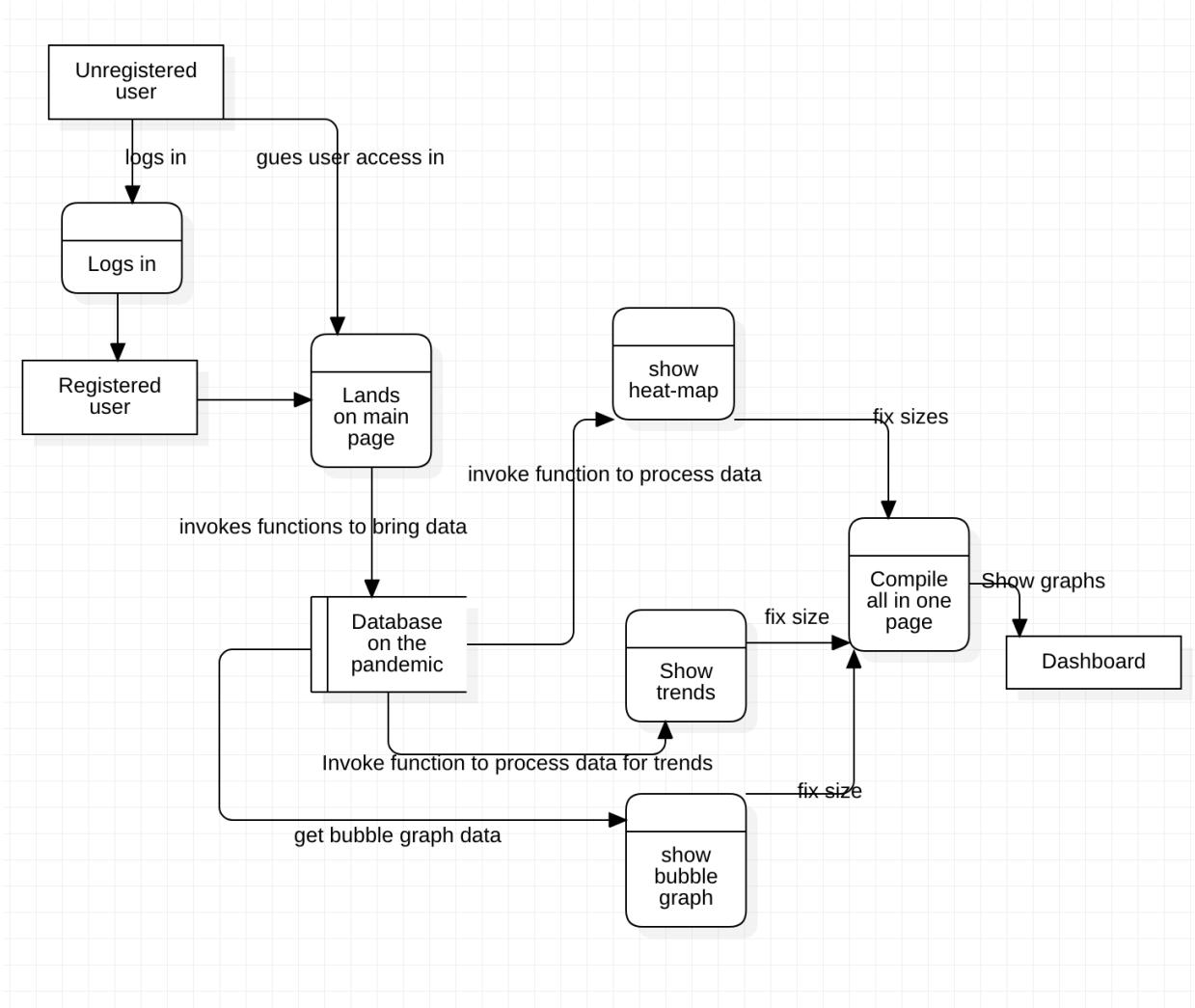
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LVL-1

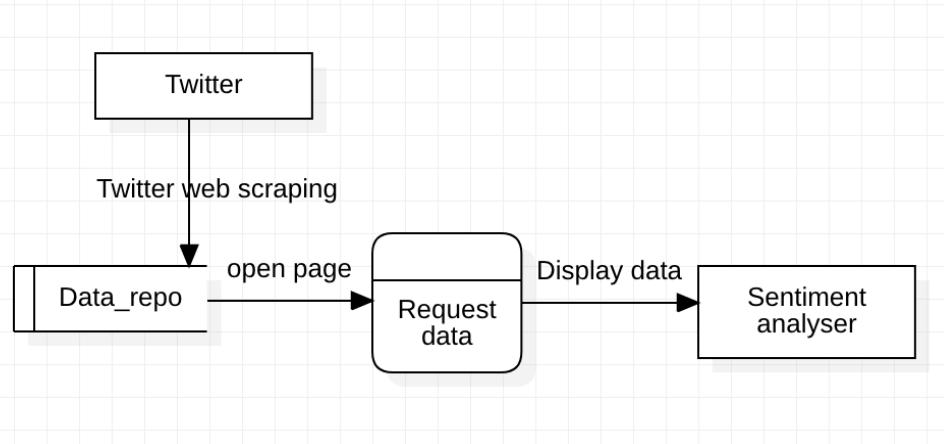


## LVL-2

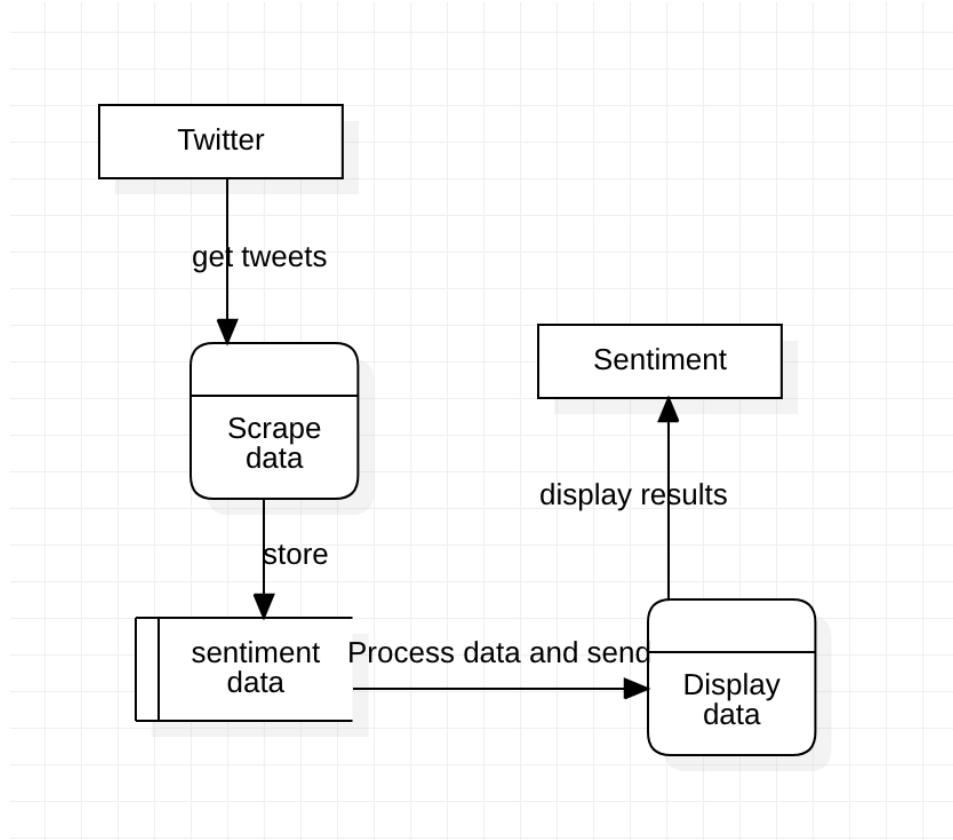


### 3. Sentiment analysis

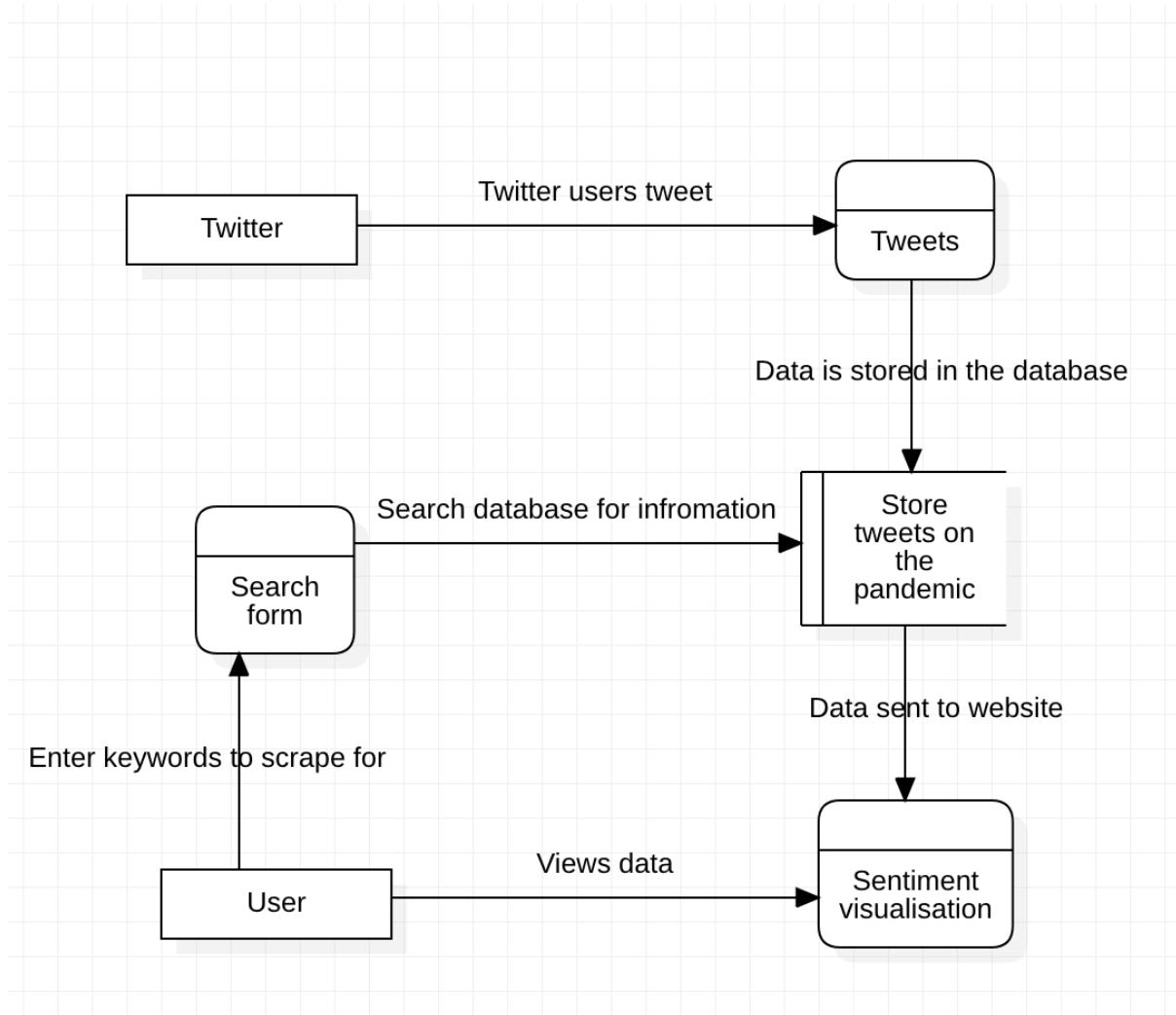
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LVL-1

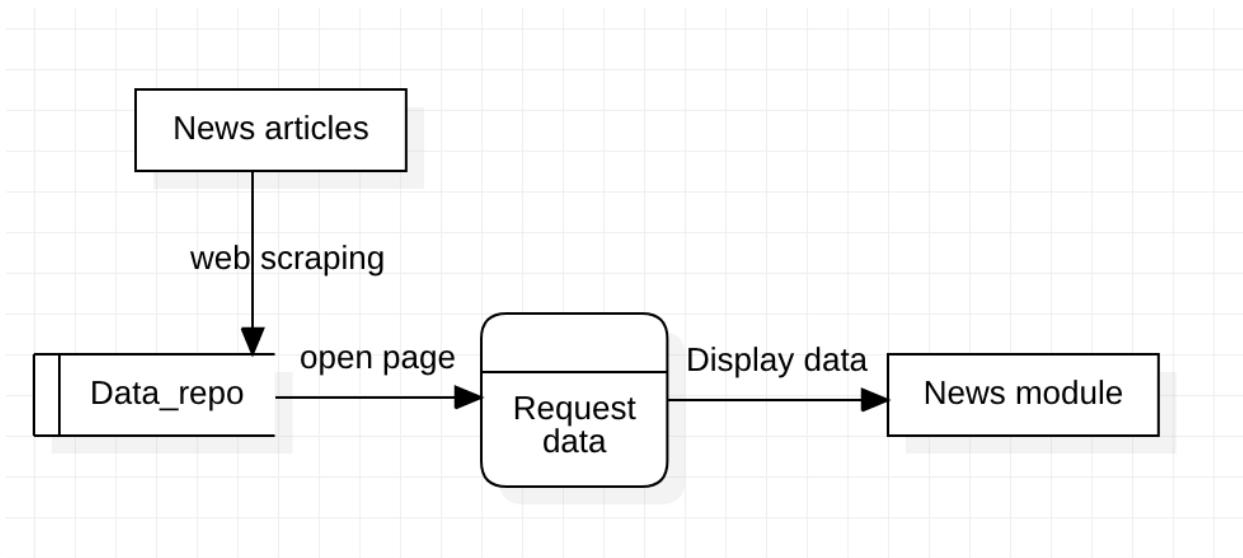


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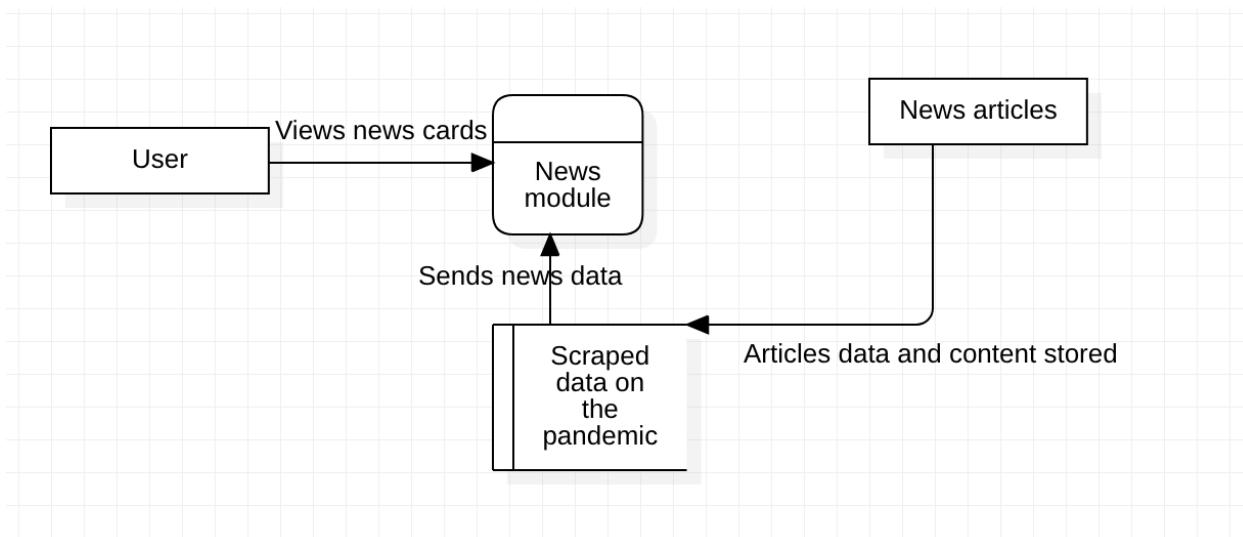


#### 4. News module

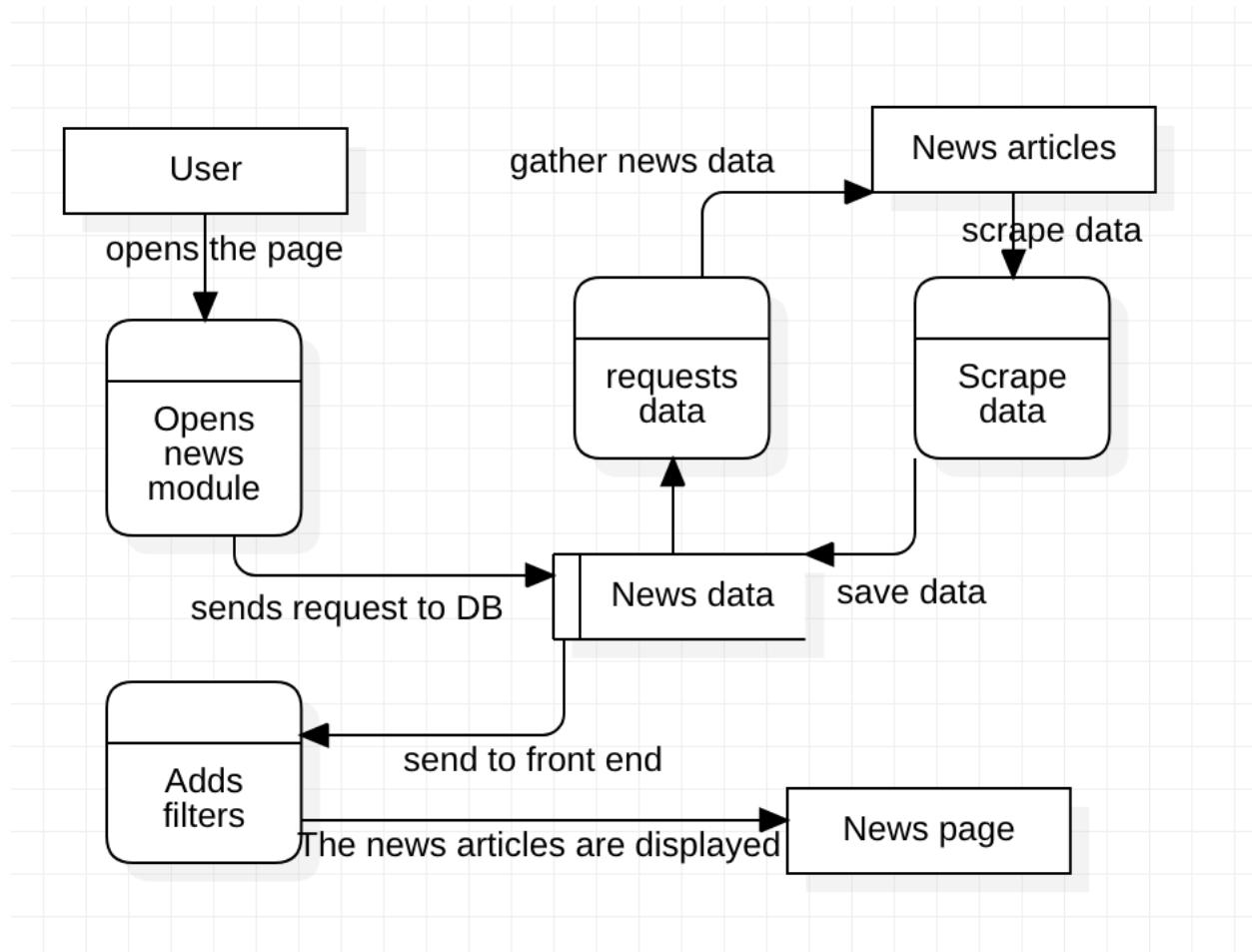
LVL-0



LVL-1

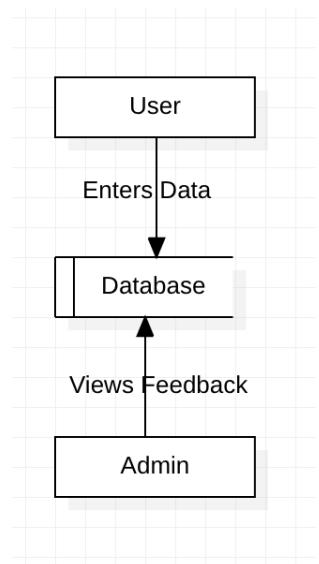


## LVL-2

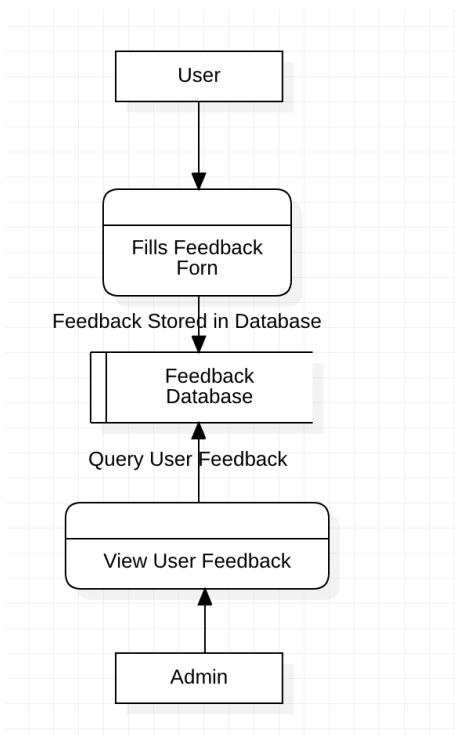


## 5. Feedback

LVL - 0

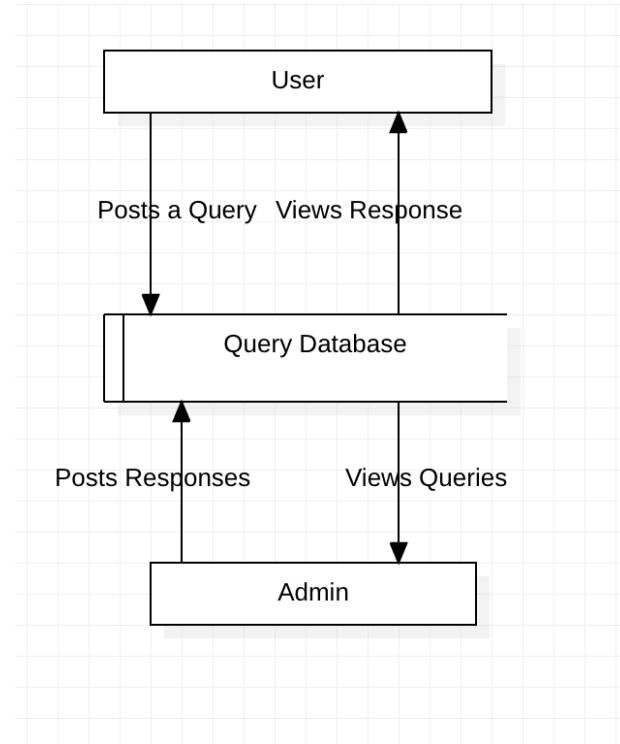


LVL 1

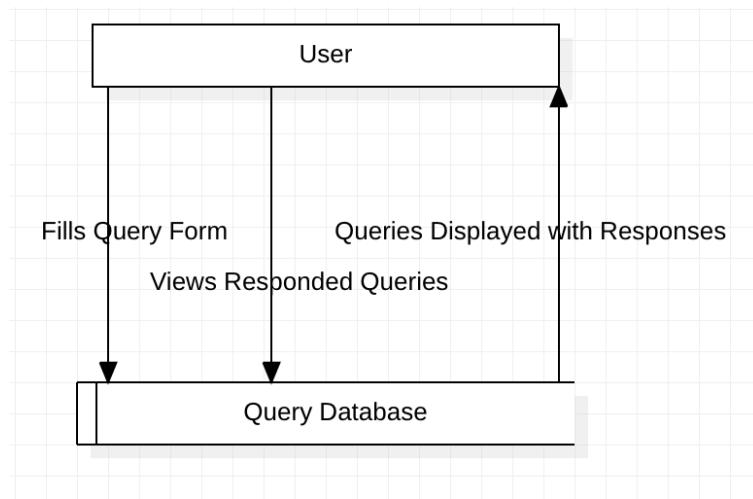


## 6. Helpdesk

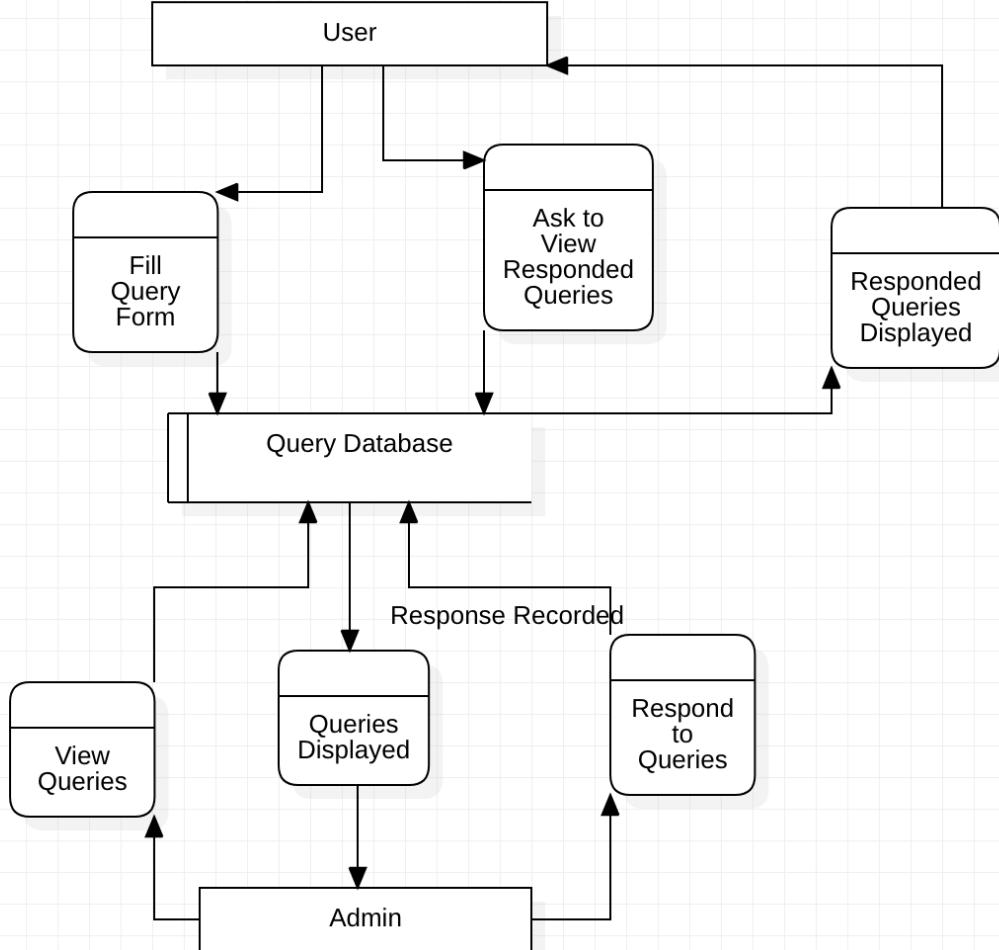
LVL - 0



LVL - 1

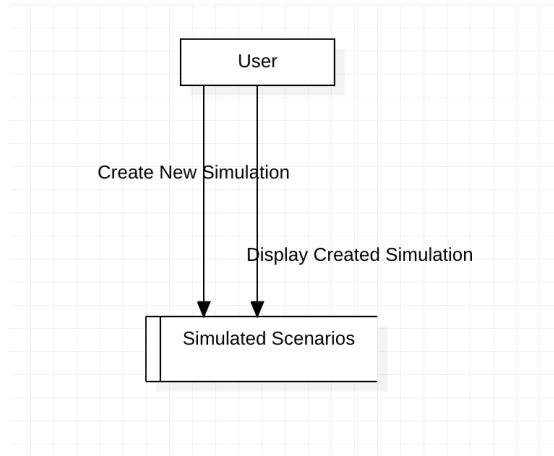


## LVL - 2

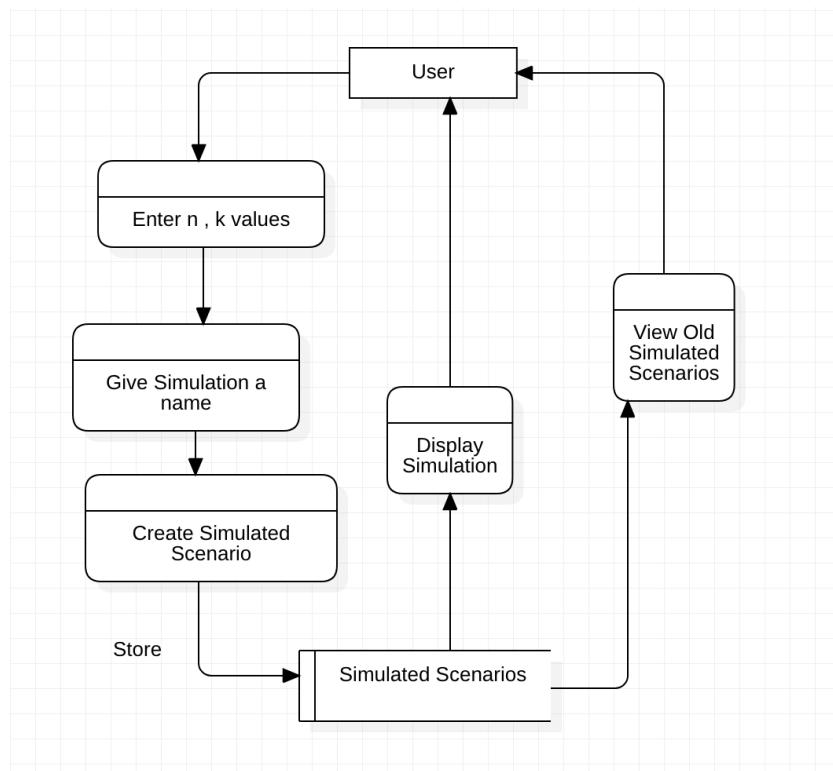


## 7. Simulator

LVL - 0

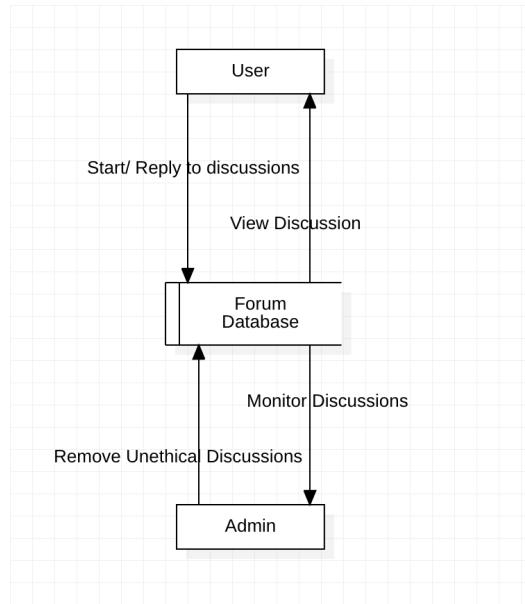


LVL - 1



## 8. Forum

LVL - 0



LVL - 1

