Lab Session - II
Crime and Hazards Measuring Website
Group: 30

202001410 PATEL AYUSH SANJAYBHAI
202001447 VAKANI HETAV ABHAYBHAI
202001467 JAY GROVER
202001421 PATEL KUNJ RAKESH
202001446 GONDALIYA VENIL CHANDUBHAI
202001275 AYUSH JAIN
202001458 KRIS PATEL
202001264 HARSH SANJAY MAKWANA
202001466 KALP KINJALBHAI PANDYA
202001438 NARODIA JEET NILESHKUMAR
202001457 HITARTH VYAS

- **Need for the project solution**

1) The website fulfills the need of an excellent tool to collect and provide information(percentile scores) about crime and hazard profiles of the neighborhood to keep the property owners updated. It promotes transparency to the civilians.

2) It makes use of the crime statistics data by using and presenting it systematically and in an orderly manner and prevents users from making bad decisions of buying properties that may not have a good resale value.

3) Instead of using the file system approach as in using multiple registers and physically storing the data, the database would prove to be extremely useful and quicker to access since the data is completely digital.

4) The website is also useful to the police as it would help the police control their jurisdiction easier.

5) It also helps the real estate dealers as they usually don’t have the collective crime statistics data to support their claims.

6) It helps in stabilizing the rent prices and allows law enforcement agencies and city planners in decongesting the city by planning new areas and tracking growth or decline of crime in the city thereby improving public safety.

7) Aids the relevant state authorities like Fire, Medical, Road Safety etc. to be more alert for the more hazardous areas.

8) It allows ordinary users to list out grievances against certain properties and henceforth alert the relevant authorities.

- **Features:**

1) The system will have several roles with set privileges for each.

2) Users can search the crime statistics of any area they desire to live in.

3) The data is also sorted in accordance with the crimes committed towards renters and home-owners.

4) The statistics can also be useful to the authorities as it would help them to be on alert for some areas that might be more dangerous for the general citizen.

5) Would have a simple and elegant UI for ease of access.

6) The website will have tools for comparison of different crimes and hazards for different properties in an area.

7) Admin can add/delete a particular crime/hazard data in a particular area.

8) Admin would also have the access to all other features that a normal user can access.

9) Users(who are logged in) can post an event on the website and other users can upvote/downvote it.

- **Write down the Functional and Non-Functional Requirements of your project.**

    - ***Functional requirements:***

1) **User Authentication:**
   A system for registering and logging in users (according to priority, i.e. ordinary users and admins) to ensure secure access to the platform.

2) **Efficient Browsing:**
   Functionality for searching and sorting properties based on location, crime rate, hazard level, etc.

3) **Map/Graph-based property search:**
   An interactive map-based search system that allows users to visualize the location of properties in relation to crime hotspots and hazard areas.

4) **Visualization of crime and hazard data:**
   A system for visualizing crime and hazard data on a map using heat maps, graphs, and other graphical representations. The map will also show the connectivity status of the property with emergency services.

5) **Property rating over time:**
   A system for storing and displaying historical crime and hazard data for a property, including information about trends and patterns over time.

6) **Property comparisons:**
   A system that compares properties based on crime and hazard data, as well as other relevant factors like price, location, and amenities.

7) **Security and privacy:**
   A system for ensuring the security of sensitive information, such as crime and hazard data, while maintaining the secrecy of the user's privacy.

- ***Non-Functional Requirements:***

1) **Performance:**
   The system has to have low latency when displaying maps/graphs and data, low search and filter times and quick response times.

2) **Scalability:**
   The system needs to be scalable in order to manage growing data and new users as well as new features and functionalities.

3) **Usability:**
   The system must have an easy-to-use interface, be intuitive for users, and be as simple as possible to utilize.

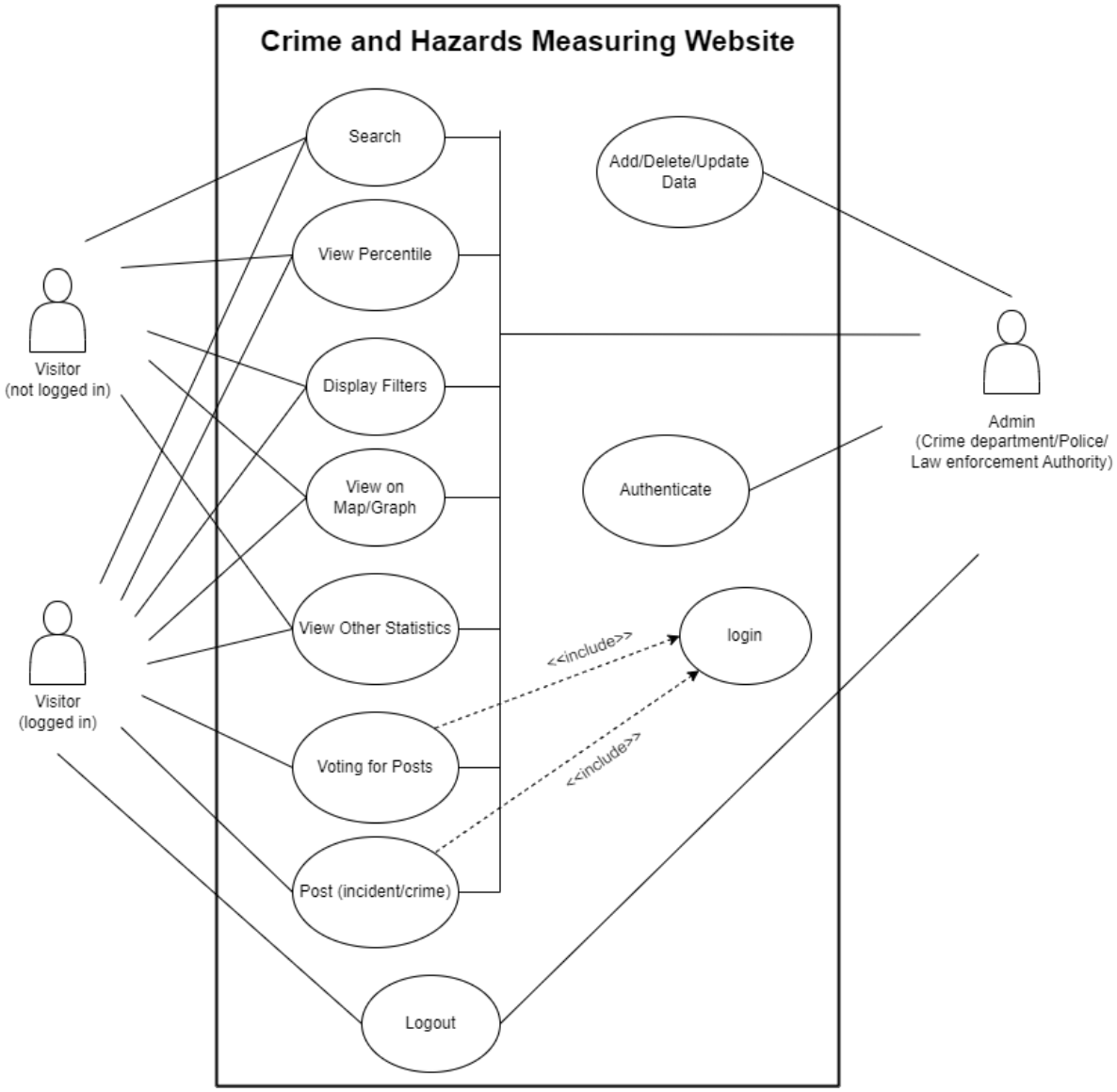
4) **Reliability:**
   System must be available and it must be dependable having little downtime and a low rate of mistakes and malfunctions.

5) **Compliance:**
   The system must adhere to all applicable legal and regulatory requirements, including security guidelines and data privacy regulations.

6) **Maintainable:**
   The developer should be able to easily update the website even after deployment.

7) **Recovery:**
   Should be able to recover lost data in case of failures.

- **Draw the use case diagram.**



- **Identify the process model best suited for your course project. Justify your selection of the software process model.**

  The iterative development methodologies, in brief, design, create, and execute project functionality in discrete steps (or iterations) are a requirement here. Each little chunk must successfully function as a smaller mini-project under the aegis of the larger project for iterative delivery to be successful. As a result, each mini-project iteration may more accurately predict how much work will be needed to complete a two-week iteration as opposed to a two-year plan. Additionally, since we're making plans in one-week intervals, we can quickly adjust the plan for the next one week to account for any changes found.Also, we can prioritize our requirements during the development.