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Institute of Information and Communication Technology

## **IT314 - Software Engineering**

### **Lab 2 - Course Project Kick-Off**

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#### **Project Name: Location Sharing System**

#### **Project Description:**

Design a system to share the location of users between known people. Location can be of home, office, place where he/she usually goes. This system is useful for people who shift from one location to another. It can also be useful for carpooling, flat renting, hanging out, to know recommended service providers, etc. Different teams may consider different usage of this system.

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### Software Requirements

- The solution shall locate the user's position with utmost accuracy.
- The system must be resistant to spoofing and interference.
- The solution shall be available indoors.
- The system must offer on-request positioning.
- The geographical coverage of the solution must be global.
- The functioning of the system must be flawless and elegant.
- The solution shall offer the users an opportunity to provide timely feedback to make the user experience seamless.
- The solution should be voice assisted to help navigation.
- The user's location should be kept private and sharing must be end-to-end encrypted.
- The solution must be available in multiple languages.

### User Requirements

- Location Sharing among friends within the app. Create groups to share functions and related chat.
- Emergency SOS message that shares location instantly to your chosen friends by pressing a single button.
- Assign frequently visited locations like home, office and store them for easy sharing.
- Allow sharing recommended places to visit by friends if they have already visited that city for better experience of the visitor.
- In case a group of friends wants to meetup, the app provides shortlisted locations suitable to all members such that they are approximately equidistant.

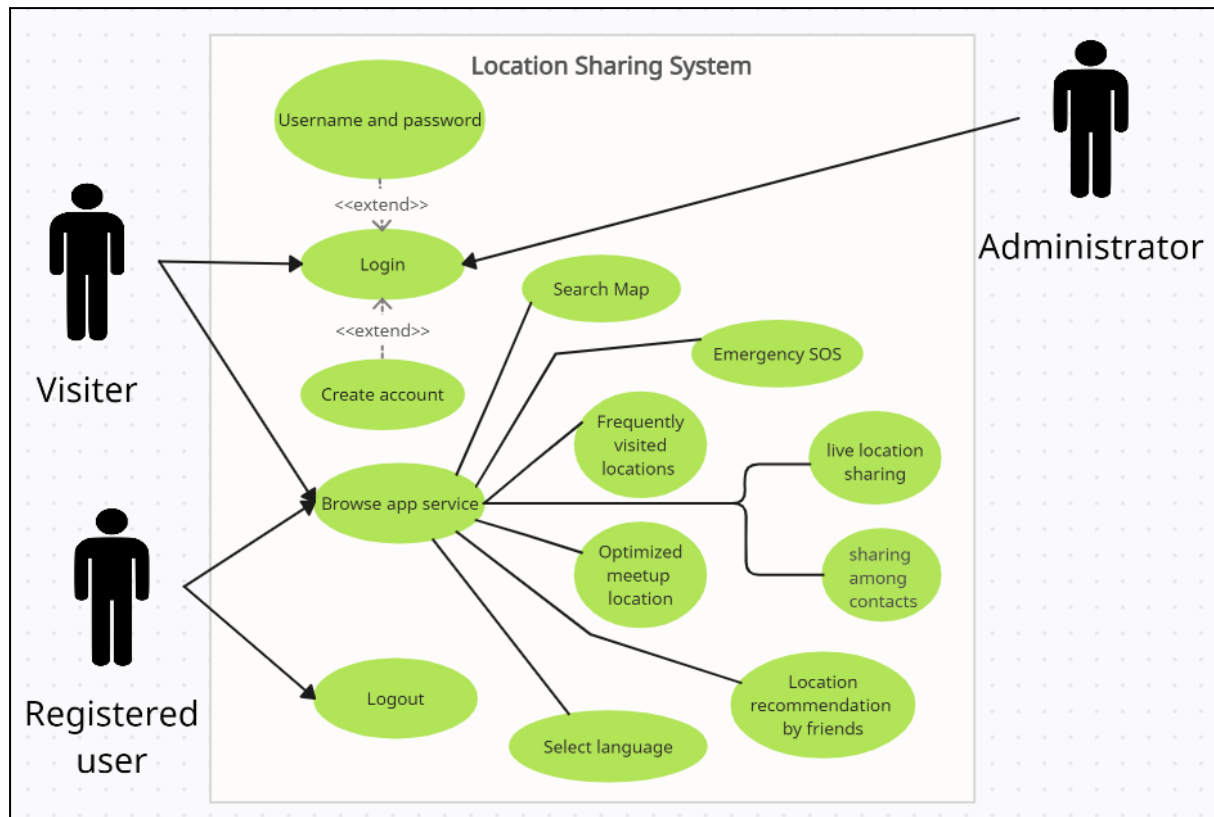
## **Functional Requirements (or Features)**

- The user should be able to access his own location on the system and keep a track of it.
- The user should be able to access the contacts and friends with whom he/she wants to share their location with.
- The user should be able to use any message service of his/her choice to send his location.
- The user should be able to assign frequently visited locations like home, office, etc. and store them for easy sharing and tracking.
- The user should be able to get rent options or rent his/her own property.
- The user should be able to get recommended locations or popular places to visit if he is new to any place.
- The user should be able to use an emergency SOS message to share location instantly to chosen friends.
- Allow sharing recommended places to visit by friends.
- Providing an equidistant meetup location for a group of people.

## **Non-Functional Requirements**

- Security
- Privacy
- Accuracy
- Maintainability
- Reliability
- Scalability
- Performance
- Flexibility

## Use Case Diagram



## Software Process Model

The Process model we are using here for this system will be the "Iterative Model".

This is because firstly the requirements of our system are fixed and they won't change. We can keep adding more features as we like but the user requirements will still remain fixed.

Secondly, we can't get utmost accuracy in the very first attempt of developing the application. So what we can do here is that we implement the application, then take the user feedback and then using that improve the features in the next deployment of the application.