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Mutually Aided Commuter's Vehicle Tracking System

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ABSTRACT:

In this fast-changing world, to make day-to-day life even easier we are proposing this application which is based on location tracking of a vehicle with the help of commuters in the vehicle. Our application is mainly focus on people who travel from one place to another on regular basis for their work or any other business. In order to help these people to locate their vehicle we are proposing an application that helps in tracking these people activity and find their respective vehicles (either private or public transports). As daily for these commuters knowing the location of their vehicle is becoming a difficult task, using our application they can know the location easily. For this these commuters might need the help of co-commuters to fetch the location or else we can use a Wi-Fi dongle in the vehicle to fetch the location. Even though there are many applications that help in sharing the locations our applications main aim is to make this process automatic so that whenever a commuter wants to know the location of his vehicle, he may just open our application and know the location of vehicle.

INDEX TERMS: Wi-Fi Dongle, GPS, Vehicle, Commuters, Transport, Location.

INTRODUTION:

The purpose of our proposed idea is to track buses efficiently without GPS device to be installed in the bus.

This application is not restricted to particular organization; any vehicle can be tracked with the help of Wi-Fi dongle and passenger devices.

This idea consists of an application which tracks bus using Wi-Fi dongle.

Creates Wi-Fi network around and when passenger enters the range of the application gets initiated and starts tracking.

Proposed System

This system involves these steps:

• Firstly, group of people who wish to know location of bus whenever requested need to form a group in our application.

• This app searches for location of the bus with the help of numbers in the group and dongle in the bus.

• App is initiated when mobile enters bus Wi-Fi network and the first persons device will be responsible for location sharing until the next person enters. This can be done using token passing technique.

• Lastly, when a person requests for location only the location of the bus is replied to the requested person.

Advantages

• Low equipment cost

• This system doesn't require route map of buses.

• User-friendly.

• It will not drain battery of mobile.

• Runs both in manual and automatic modes.

System Architecture:

Fig 1 System Architecture

FLOW CHART

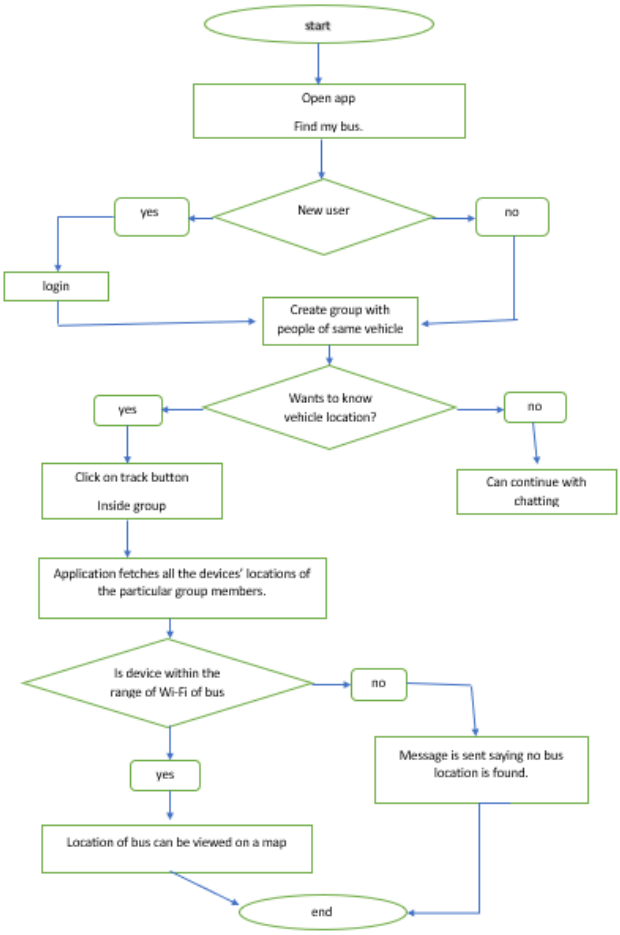


Fig 2 Flow chart

System Requirements:

HARDWARE REQUIREMENT

Wi-fi Dongle

CPU : Intel Pentium 4

Clock speed : 3.0 GHz

Ram : 512 MB

Hard disk capacity : 40 GB

Mobile : ANDROID

SOFTWARE REQUIREMENT

Operating System : Android

Language : ANDROID SDK 2.3

Back End : SQLite

Module Implementation

The modules are as follows

- User Module
- Application Module

User

The user /passenger can get the location of the vehicle by using Mutually aided commuters' vehicle tracking system. He /She has a smart phone which is used to locate one's location and using this smart phone any vehicle can be tracked provided this needs user's approval of tracking. Once the application has access to the user's smart phone location access, using the Wi-Fi dongle in the vehicle, we can track any vehicle, and this location can be viewed in the map. Anyone can view this map in their respective app and find the location of vehicle.

Application

The location based Mutually aided commuters' vehicle tracking system can provide the information like location of the bus in a map. C4.5 algorithm can be used for calculating vehicle arrival after fetching the location. GPS and Google Maps are used for displaying these locations of vehicles on the maps, along with the vehicle route information if the application is trained well enough.

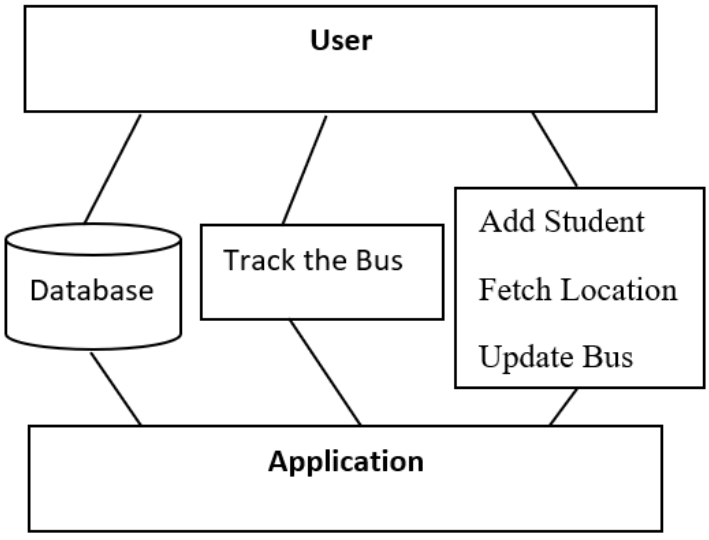


Fig 3 Data Flow Diagram

USE CASE DIAGRAM:

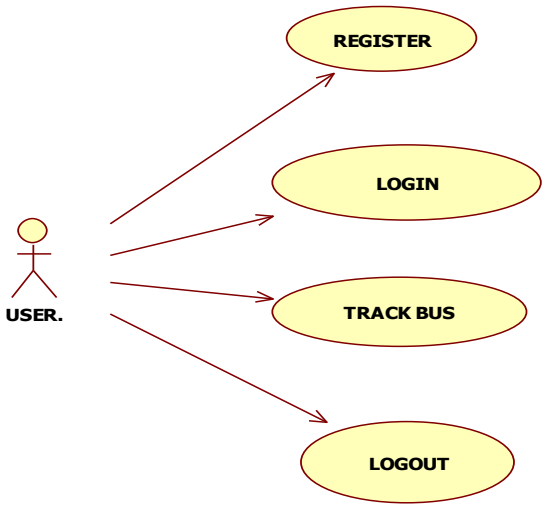
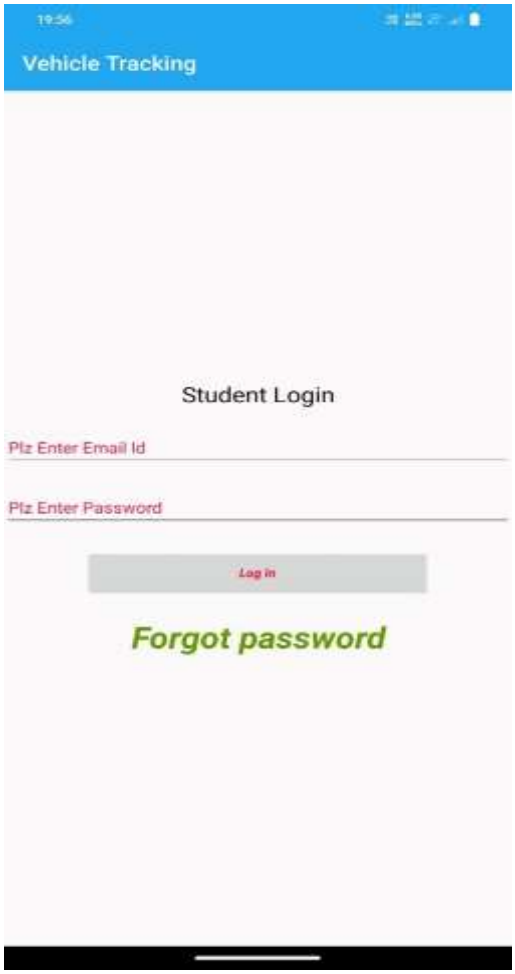
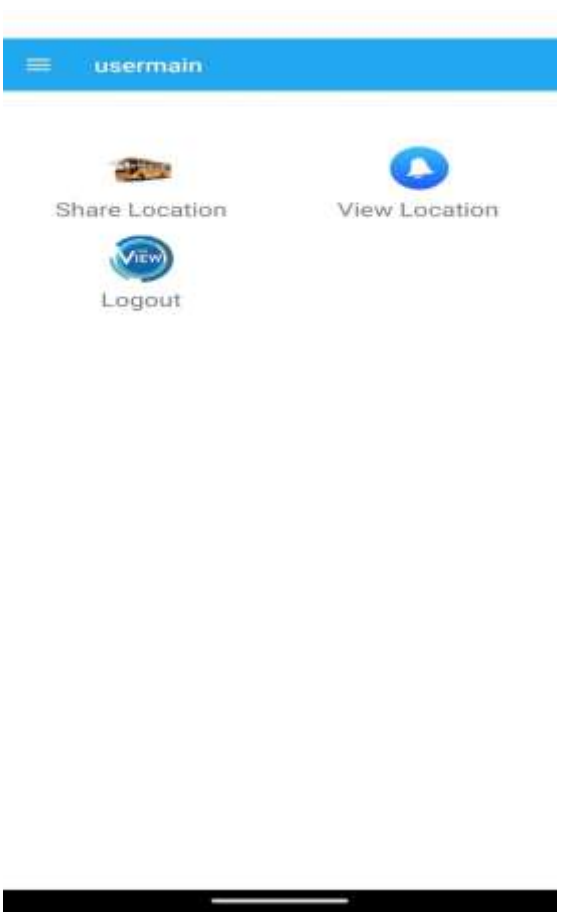
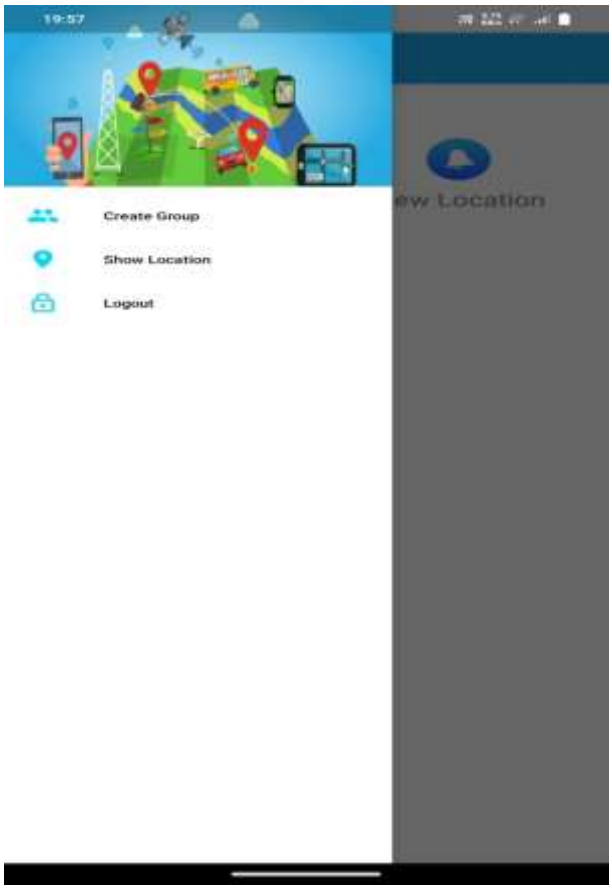


Fig 4 Use case diagram

Screens :







RESULT

[{"id":"75","first_name":"","last_name":"","email_id":"","phone_number":"","user_name":"","password":"","pin":""},
{"id":"76","first_name":"sanjeet","last_name":"sanjeet0000@gmail.com1","email_id":"11","phone_number":"9590724476","user_name":"sanjeet","password":"sanjeet","pin":""},
{"id":"72","first_name":"tester","last_name":"1","email_id":"tester@gmail.com","phone_number":"7777777777","user_name":"tester","password":"tst","pin":""},
{"id":"71","first_name":"test","last_name":"1","email_id":"test@gmail.com1","phone_number":"9999999999","user_name":"test","password":"1","pin":""},
{"id":"77","first_name":"sasi","last_name":"sasi","email_id":"sasi@gmail.com","phone_number":"1234567890","user_name":"sasi","password":"123","pin":""}]

CONCLUSION

A group of people can be tracked with the help of their mobile phones. So, when these people create a group, a person in the group can know the location of other people if together at a place using the GPS of their mobile phones. And we can confirm if they are in a bus or not with the dongle which we assume in the bus. In this way we can find the location of a bus.

FUTURE SCOPE

This feature can also be used in a chatting application which contains groups and when a person in the group requests for the location of other people when they decide to meet at a place. This functionality can be slightly changed and adjusted for many purposes.

In the future, we will plan to make it more cross-platform compatible and also we will try to introduce more real-time monitoring features, which will be useful for information processing and for intelligent tracking management.

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