LocTrack: LOCATION TRACKING

Submitted in partial fulfillment of the requirements

of the degree of

B. E. Computer Engineering

By

Darrel Noronha	**Roll No. 68**	**PID: 172029**
Harsh Oza	**Roll No: 69**	**PID: 172040**
Shelton Jade Pinto	**Roll No: 75**	**PID:172108**

Guide (s):

Mr. Rajkumar Shende

Associate Professor

Department of Computer Engineering

St. Francis Institute of Technology

(Engineering College)

University of Mumbai

2020-2021

INTRODUCTION:

Location tracking has wide applications in the field of mobile application development. A common everyday example is a use of Internet and mobile map applications on smartphones like Find my device, Geo-Tracker etc that can calculate your current position using your GPS location and show where you're located on a map. Because your location coordinates are sent to a map application, your location is now known by the application, which is location tracking. So, this is an Android App that will access GPS to figure out your current location and keep updating the Marker on the map to give the effect of "Tracking".

It particularly makes use of the Global Positioning System i.e. GPS using the latitude and longitude given as input by the user. It then points to that location notifying the user that the location coordinates are updated and saved in the Database.

FEATURES:

1. Track your own location just by clicking on a button.
2. Track other locations by using Latitude and Longitude coordinates of the location.
3. All the coordinates will be saved to Database as Tracking History.
4. Notification Alert will be received when the Data is saved to the database.
5. A Toast Notification alert for getting the last location.

IMPLEMENTATION:

To build this application, we used Open Source Android Studio based on Java and XML. The layout for the application was built using relative layout, buttons and some text boxes using xml.

Database used for the application is Google Firebase, which is connected to the application using SHA-1 signature and a google-config file.We used Google Maps as the main layout. On the layout we use, GPS using Location listener and Location Manager.

Canvas was used to draw a white rectangle,on which all the textboxes and buttons reside. Using Notification Manager , we created notifications for our app which

notifies once the location data is pushed onto the Firebase server. Using Toast Notifications, User can click on the button to know the last location which is read from the Firebase Server.

OUTPUTS:

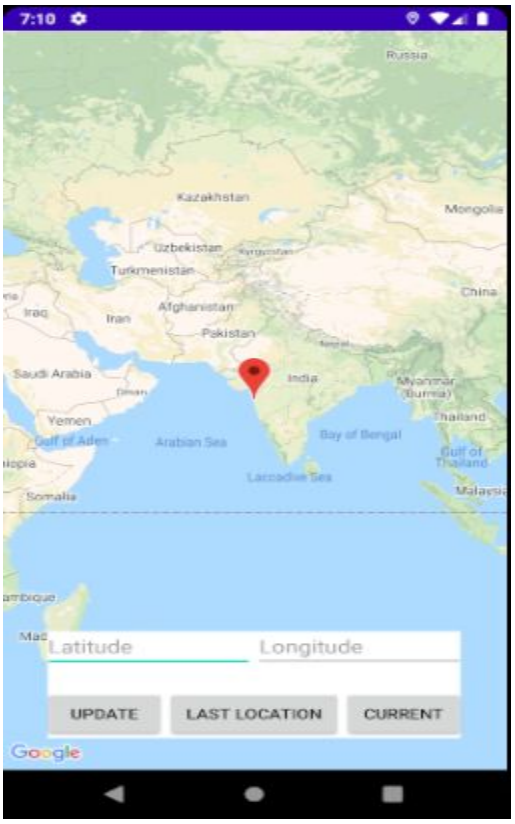

Fig 1 : App at start gives current location

Fig 2 : After entering Coordinates and Pressing update

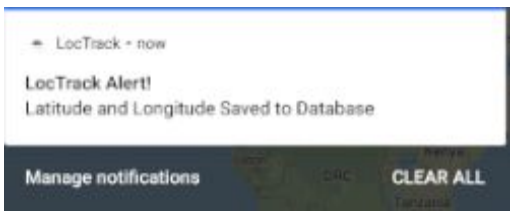

Fig 3: Notification Alert received

Fig 4: Toast Notification when clicked on Last Location

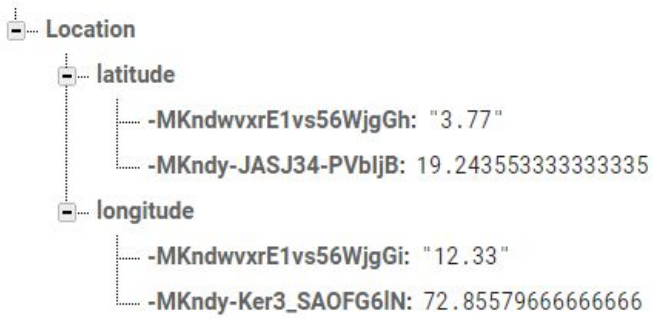

Fig 5: Latitude and Longitude saved in Firebase

CONCLUSION:

The app is designed to get the longitude and the latitude of the user using the location. The app uses Firebase as the database and it stores the latitude and the longitude. Google Maps was used as a main UI layout to get the layout of the globe. The app also sends a notification to the user when the longitude and latitude is saved to the database. This application can be used in the education sector demonstrating the study of latitude and longitude across the globe.