JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue

JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)

An International Scholarly Open Access, Peer-reviewed, Refereed Journal

Android Application Based Advance Geofencing Task

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Abstract- **The system discusses in detail about proposed Location Snoozer and Advance Geofencing. The activity of user entering and exiting a geofence could trigger an alert or a notification or a Snoozer to the user's device which triggers when the user is actually present near or at that specific location for the work for which user has set the reminder. Timely reminder reduces chances of missing the location of interest & task to be reminded can be performed at desired location. Also Ease of search is achieved by finding nearby places of interest. The application will be designed and implemented for an online marketplace for proactive contextual services that allows users to easily find interesting services by using GPS or RFID, can easily subscribe to it. The main objective of the research is to implement an application for Android based smartphones and tablets which will trigger an alert to the device at that specific location for the work for which user has set the reminder and addition to that let the user know about the offers that are going on in nearby shops/malls by using KNN algorithm which will improve advertising performance for customers and which will increase sales and business perspective efficiently**

Keywords **– Geofencing, Machine Learning . KNN Algorithm , GPS , or REID ,Mobile Application, Proactive contextual service, Online marketplace.**

I. INTRODUCTION

In current busy life style people have to perform variety of task in their day to day life like shopping, buying groceries, filling petrol, etc. We generally use paper notes and now a days reminder system in mobile phones. In "Location based reminder" the task to be performed at specific location, like shopping while going back home from office. In such case setting alarm only by time might not be beneficial if user is not certain when he/she will be passing by the 2shopping mall and shops. This has motivated to design location based reminder system. In this notification will be given & alert will be given as a reminder when you are going nearer to the shopping mall. In addition to that retail stores can notify shoppers about deals and offers when they're at their local mall .Geofencing is a location based service in which an app or other software uses GPS,Wi-Fi or cellular data to trigger a preprogrammed action when a mobile device enters or exits a virtual boundary set up around a geographical location, known as a geofence. Depending on how a geofence is configured it can prompt mobile push notifications, trigger text messages or alerts, send targeted advertisements on social media.

II. SCOPE

Scope of Geofencing is a location based technology enabling many different businesses and enterprises to accurately track, market to, and effectively alert administrators when a person has entered or exited the virtual geofence.

III. SYSTEM ARCHITECTURE

The smartphone contains built-in GPS receiver which receives signal from GPS receiver. The application performs. Geolocationing based on GPS reading to detect present location of the user. The desired locations & tasks are stored in the database. If task to be reminded is available in the database, after that application will perform comparison of the location which is identified with the location related with the desired task. If the application user is physically near to the defined location, then reminding alert will be given to the user about the task

IV.GEOFENCING TECNIQUE

Geofencing is also known as a proactive location-based service . Location-based services (LBS) are services offered through a mobile phone and consider the device's geographical location such as the mobile user's location because LBS are largely dependent on it. Geo-fencing allows remote monitoring of geographic areas surrounded by a virtual (geo-fence), and automatic detections when tracked mobile objects enter or exit these areas. It is also defined as a virtual perimeter for a real-world geographic area and LBS can be delivered when a target enters or exits a geofence. To specify an exact location, it should specify its latitude and longitude a radius can be added if we wanted to adjust the proximity for the location. With latitude, longitude and radius a geofencing can be defined by creating a circular area, or fence, around the targeted location of interest. Besides that, a geofence can be in a form of polygonal or circular.

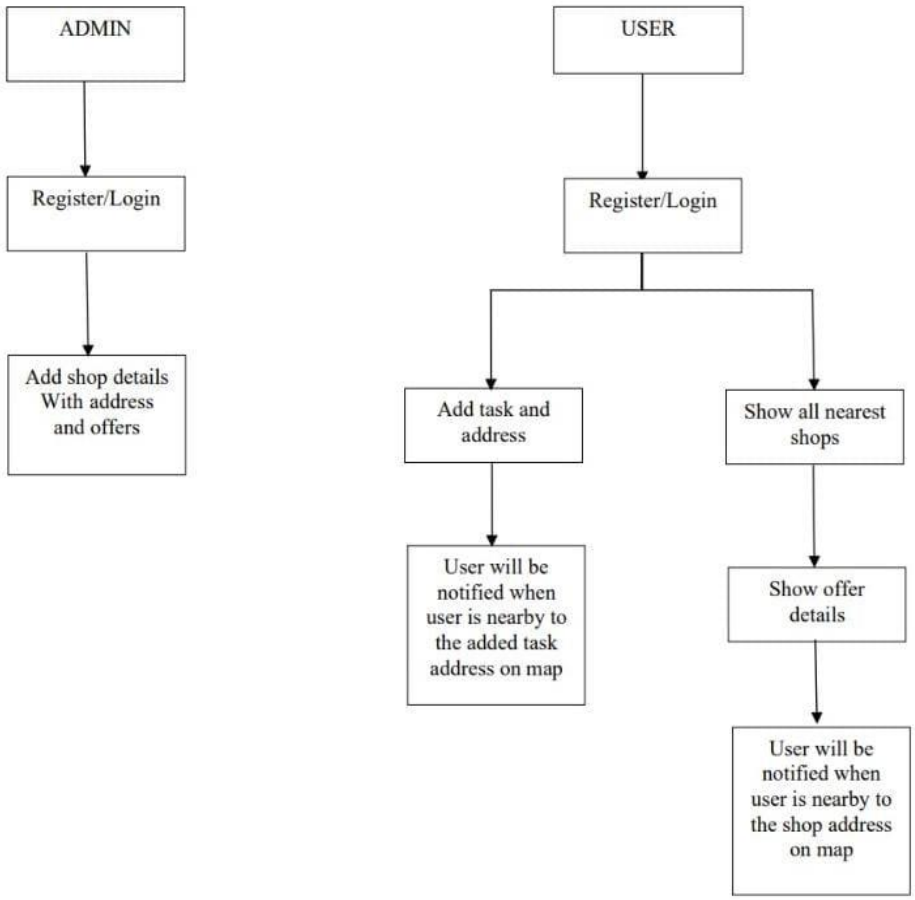
V. LIMITATION OF GEOFENCING TECHNIQUE

Geofencing is used in the background where the user does not need to open it always. However, geofencing is battery consuming. Thus, this will lead the users to turn off the feature. Moreover, geofencing is only limited to a fixed radius and is good for a large area like a city. Besides that, geofencing requires approval, permission or participation from the user meaning that geofencing is not going to work if the feature is not turned on. In addition to that, privacy issues are also one of the concerns. Above all, network capacity, bandwidth, device capacity and battery life remained as a variable that affects this technology to function ideally across devices and in all situations.

VI. ALGORITHM

- K-Nearest Neighbour is one of the simplest Machine Learning algorithms based on Supervised Learning technique.
- K-NN algorithm assumes the similarity between the new case/data and available cases and put the new case into the category that is most similar to the available categories.
- K-NN algorithm stores all the available data and classifies a new data point based on the similarity. This means when new data appears then it can be easily classified into a well suite category by using K- NN algorithm.
- google service , google map library used for location.
- fusedclientlocation class for find user current location .
- firebase auth used for authentication that is login register .
- knn algorithm used for search nearest shop.
- For getting automatic notification we used hashset framework.

VII . SYSTEM ARCHITECTURE



VIII. BLOCK DIAGRAM DESCRIPTION

A. User :

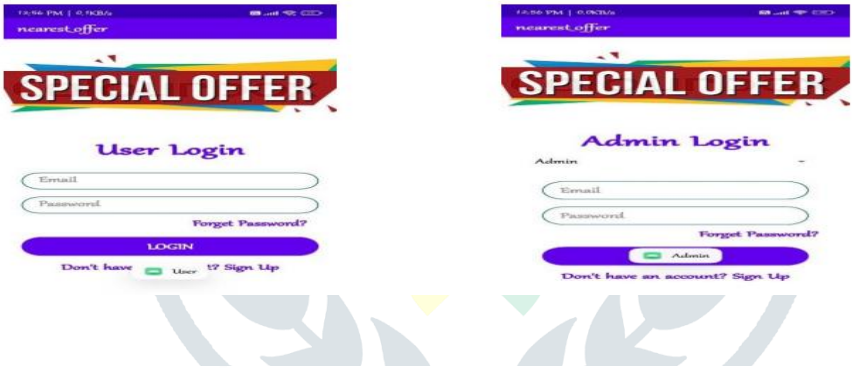
User register and login our application then user see nearest shop and offer details and notify when user nearby shop.

B. Admin :

Admin register and login our application then add shop details with address and offer.

IX. RESULT

Fig.1 Interface



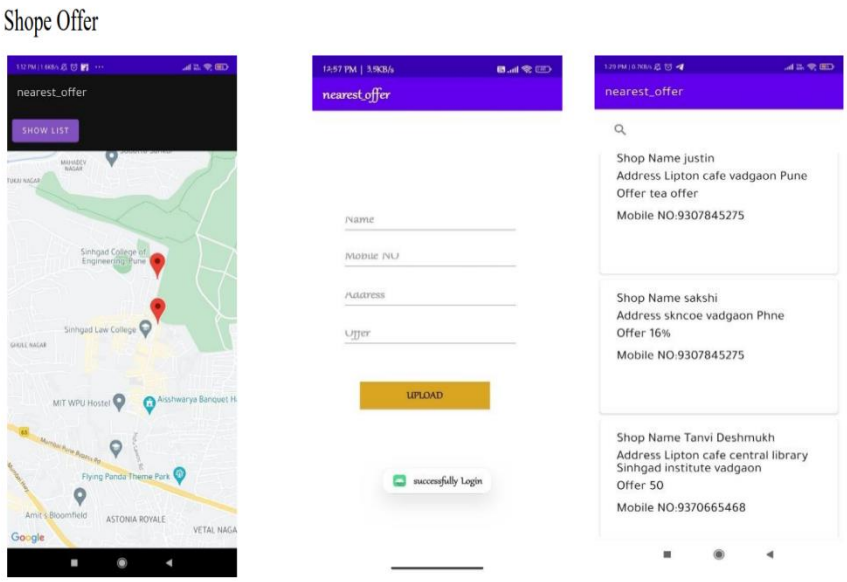


Fig. 2 Shop offer Interface

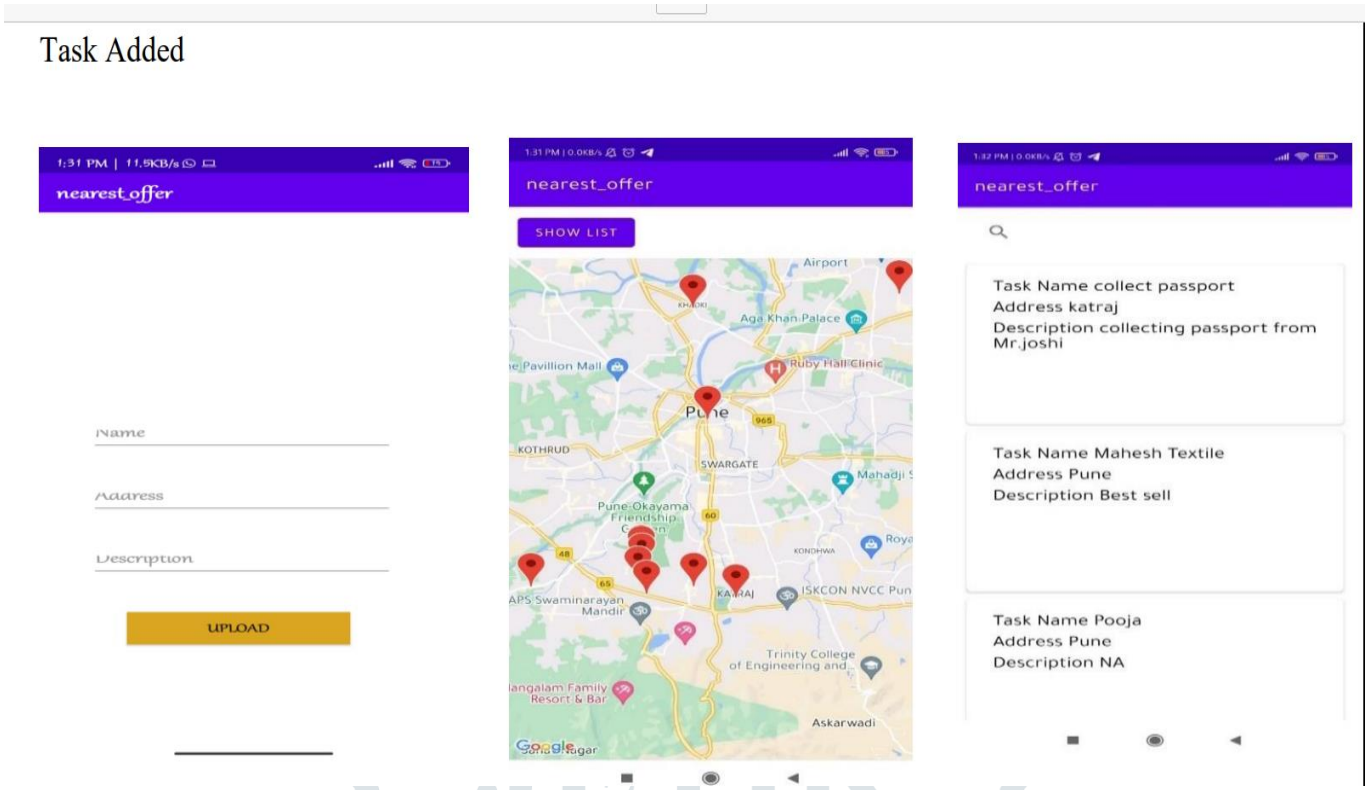


Fig.3 Task Adding Interface

XI. CONCLUSION

In the modern life style people are very busy & often forgets the tasks to do. Many times people remembers the task after they pass by the location of interest. Going back to the specific location againis time consuming & tiring too.

A geofence is a virtual boundary, which prompts notifications when people enter or leave the “fence.” This technology is increasingly used by businesses for brand awareness, improved customer engagement, and increased sales. Other organizations also use this technology to manage their business functions, but we provide extra functionality to the user is notification, if there is any offer in any store its show the notification to the user.

• The application helps the user to reach at exact location of interest and let the user know about the offers on their desired product.
• Location reminder reduces chances of missing the location of interest & task to bereminded can be performed on at desired location.
• This reduces disappointment and save money of customers.
• Identifying desired nearby places is on figure tips of the user if the current location isunknown to the user. The application makes the search easy & faster.

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