Advance Geofencing

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ABSTRACT

Geofencing is an important feature in software programs that use Global Positioning System (GPS) or Radio Frequency Identification (RFID) to define geographic boundaries. In fact, the geographical border is a virtual barrier. Geofencing is a new technology that is an online marketplace for related services, allowing users to easily find services of interest, easily sign up for that service, and allow service providers to implement various applications such as e- invoicing, contextual advertising or tourism. information systems, even without additional infrastructure. The main purpose of this study is to understand how the use of spatial information can increase the effectiveness of advertising for consumers. Tracking and monitoring systems based on global satellite navigation services, including geofencing capabilities, can also help determine the location of a company or company and improve sales merchandise and business prospects. It can now be advertised in the market instead of large posters and controlled via smartphones. That's why we created a business strategy that provides geofencing available to everyone and increases the use and integration of related services as a location in daily life.

Keywords - Machine Learning, KNN

I. INTRODUCTION

Location-based services (LBS) have seen a shift in popularity recently. Although the first generation LBS has not received much attention in recent years, the market will create many demands for second-generation LBS applications such as travel information, navigation, search tools, mobile games and mobile marketing. The user on the LBS has complete control over the mobile phone of the user's mobile phone. Therefore, most of these standard LBSs cannot meet the needs of users and are limited to unimaginatively simple functions, or cost too much, or both, see fig. [12]. This is different from existing LBS, which is based on user-centric value chain, where the user's location is retrieved from a GPS- enabled mobile phone and sent to the respective service provider of the network 3G data service when requested or updated. Strategies to meet user needs. The emergence of GPS receivers in mobile phones makes it possible for the first time to actively monitor LBS, giving users the option to act solely on the result of the location setting. Active LBS is cheaper than reactive in many aspects in our daily life where users need to request certain information

based on location. Various GPS fixation conditions can be tested. For example, if the user is at or near a point of interest (POI). Recently, the concept of geofencing, which represents a group of LBS, sometimes referred to as region-based LBS [3], has gained momentum. Geofencing helps define a geographic area (i.e. problem area) of a POI, such as a circle or polygon, and assigns that area with events and actions. Events of the site include entering or exiting the area surrounded by the geofence or being within or outside of a certain period of time.

II. MOTIVATION

You may know about offers, discounts and deals on online e-commerce sites, and even if you are interested in purchasing a product, the limitations of offline shopping will prevent you from clicking the "buy now" button on e-commerce sites. Screen. < br>But that's the case for online platforms, but what about stores near you? There's no established platform that can keep you informed about the latest and greatest news near you and tell you how to save a lot of money.

Currently many people who want to buy a particular product usually search online, but the options offered are e-commerce sites, but unfortunately there is no option to help buy products offline from nearby stores.

MODULES

Android is a mobile operating system based on modification of the Linux kernel and other open source software, designed mainly for touch-screen mobile devices such as smartphones and tablets. Android is developed by a group of developers called the Open Handset Alliance and is commercially supported by Google. It was released in November 2007 and the first Android products were released in September 2008.

It is a free and open source software; The source code is called the Android Open Source Project (AOSP) and is primarily licensed under the Apache License. However, most Android devices come pre-installed with additional software, primarily Google Mobile Services (GMS), which includes important applications such as Google Chrome, digital distribution platform Google Play, and other Google Play services development platforms. Approximately 70% of Android smartphones run Google's ecosystem; Rival Android ecosystems and forks, including Fire OS (developed by Amazon) or LineageOS. However, the "Android" name and logo are trademarks of Google, and Google has set standards to limit the use of the Android name to "unauthorized" devices outside its ecosystem. Source code is available for gaming consoles, digital cameras, portable media players, personal computers, etc. where each device has its own personal user interface. It is used to create Android on many other electronic devices such as. Some notable spinoffs include Android TV for televisions and Wear OS for wearables, both developed by Google. Android software packages use the APK format and are typically distributed through app stores such as the Google Play Store, Samsung Galaxy Store and Huawei AppGallery, or open source sites such as Aptoide or F-Droid.

Android has always been the best-selling operating system on smartphones since 2011 and on tablets since 2013. It has over 2 billion monthly users as of May 2017, the largest base of any operating system, and as of August 2020, there are over 3 million apps across the OS in the Google Play Store. [15] The current stable version is Android 11, released on September 8, 2020.

A. MODULE 1

Android Studio: Android Studio is the official [7] integrated development environment (IDE) of the Google Android operating system. [8] It is available for download on Windows, macOS, and Linux-based operating systems or will be available as a subscription-based service in 2020. [9] [10] It replaces Eclipse Android Development Tools (E -ADT). and has become the leading IDE in native application

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development. Android Studio was announced at Google I/O on May 16, 2013. It has been in preview since version 0.1 in May 2013 and in beta since version 0.8 released in June 2014. [11] The first stable version was released in December 2014, starting with version 1.0

B.   MODULE 2

Firebase: Firebase Realtime Database is a cloud-hosted database where data is stored in JSON.

Data is instantly synchronized for all connected clients. When we develop cross-platform applications using iOS and JavaScript SDKs, all our customers share live data and receive updates for new data. Firebase Realtime Database is a NoSQL database where we can store and update data. Instantly sync our users' data.

It's a large JSON object that developers can manipulate on the fly. Firebase Database provides apps with the current value of data and updates to that data using an

API. Real-time syncing makes it easy for our users to access their data from any device, be it web or mobile. The Realtime database helps our users collaborate with one another. It ships with mobile and web SDKs, which allow us to build our app without the need for servers. When our users go offline, the Real-time Database SDKs use local cache on the device for serving and storing changes. The local data is automatically synchronized, when the device comes online.

Paper Title	Authors	Journal	Year	Work
Geofencing Technology in Monitoring of Geriatric Patients Suffering from Dementia and Alzheimer	Ernes Randika Pratama, Faiza Renaldi, Fajri Rahmat Umbara	IEEE	2020	By utilizing Geofencing technology to monitor patients who are in the room, you can minimize things that can make patients get lost or lost.
Teenager Monitoring Mobile Application Using Geofencing	Ayunni Syamimi Binti Amir Boktar,Izzatdin Abdul Aziz	IEEE	2018	UAT is used to validate the proposed prototype. This mobile application is aiming to aid in preventing the teenager from went missing and to locate them using geofencing.
Mandatory Enforcement of Geofenced Security in Android	Prateek Pande, Amit Kumar Med Atiya, Kurra Maliyah‡, Rishi Kumar Gandhi	IEEE	2021	This is achieved by dynamic security policies in SEAndroid. It utilizes Android source from AOSP ported on Google Pixel2 XL device to demonstrate nuances of practicality.
Android Application for Presence Recognition based on Face and Geofencing	Alvin Syarifudin Shahab,Riyanarto SamO	IEEE	2020	This paper aims to design an attendance system that flexible which can simplify and speed up the process by using a mobile application based on geofencing and face recognition.

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A mobile App with Geofencing, Activity- recognition and Safety Features for Dementia Patients	Jad Helmy, Ahmed Helmy	IEEE	2017	This work develops the Alzimio mobile app, to provide safety functions to these patients; including safe-zone geofencing, activity-based alarms, take-me-home, navigate to nearest friend, and check-on-me.

III. CONCLUSION

A system for disseminating disaster information based on human movement is proposed. We implemented an experimental geofencing and measurement system in the city. We tested to make sure our system warns of damage when a user enters the fence with Wi-Fi enabled. The shelter is 20-30 m outside the fence. When we left the fence with Wi-Fi turned off, we found that the message was sent more than 100 meters outside the fence. Wi-Fi is required to verify location using geofencing.

IV. FUTURE SCOPE

Adoption of geofencing is expected to accelerate during the forecast period. Geofencing is increasingly used due to its role in real-time monitoring and data analysis. It is predicted that the geofencing industry may grow based on data analysis values driven mainly by the use of smartphones.

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Cite this article as :

International Journal of Scientific Research in Science, Engineering and Technology | www.ijsrset.com | Vol 10 | Issue 6

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