Event Based Campus Navigation System With QR-Code

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Abstract- The campus of any organization may be very large or it may have many departments/sections. Every time lots of new people visit different organizations and they are not aware about the internal structure or design of such organizations.Many new buildings are built and some departments may be relocated inside the organization,there are no facilities to find such places like shops,food center in case of shopping malls and administrative buildings,department,libraries,canteen etc. In case of college or university campus finding those places from current location created problem to the new comer to reach easily and timely in the desired location, the new visitors also face same problem inside organization, moreover there does not exist an efficient system to inform above any event which will happen just few minutes or few hours later in the organization with its proper location and shortest path from current location. Now a days , most of the or almost all people use android phone for personal purpose,a global positioning system(GPS) based map application will be most helpful to locate desired place and shortest path from recent location and to get informs of events or map with its position thus, it will reduce frustration and confusion of anybody inside the organization.Since the GPS offers maximum coverage and it has been widely used to provide the information about organization.But the performance of GPS is too poor inside buildings to provide the indoor position and for this we also use the QR-maps which is used in smartphones to obtain exact indoor user location.This paper presents the design of a google map based application on android platform and the application has been implemented using android SDK.

Keywords — Android SDK, Google map, GPS, indoor navigation, Location Based Service (LBS), navigation using QR code, wireless technologies.

I. INTRODUCTION

Event based navigations are now a days far more than merely devices to communicate based on new techniques like GPS and sensor, area and accelerometer, that can determine the orientation of the device. Location-based applications are entwined with better real time views are possible. In the context of this work, event based navigation application enabling the user to find specific locations in an organizations and offers him the possibility to present the organization's area environment via augmented reality.

Many events are held in organization and there are many ways to find where a particular event will be conducted so that users can participate in that event through mobile application .we are developing application for mobile user, mobile phones are now a days, far more than merely communication devices. This Event based system also provides the facility of report about a particular event to the registered user and user who just uses this application can click on that event and can get the updates of that event. This system also offers the QR-code to provide the indoor location details for the user.

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There are indoor navigation systems existing in the market which uses Bluetooth, Wi-Fi, AGPS or RFID.Bluetooth requires expensive receivers and the accuracy of bluetooth navigation depends upon the number of cells used. Wi-Fi also demands costly access points for indoor navigation. AGPS uses network assistance servers for indoor navigation.

Using AGPS method, correctness is very much limited due to approximation. Data provided by the system is 2D. It involves infrastructure cost for provider and the user. RFID requires active tags for indoor navigation, where the correctness is directly proportional to the amount of active tags used. Active tags are self powered and hence costly. Also close pass by is required to sense RFIDs and even the user need to be aware of the RFID position. Most of the existing results are far from providing an accurate and cost effective indoor navigation.

II. REVIEW STAGE

A New methodology for Location based Tracking Shaveta Bhatia1, Saba Hilal2 Research Scholar ,Manav Rachna International University, Faridabad, Haryana,India[1].

This paper provides main weightage to the location based tracking facilities. In the new age location based tracking has extended energy because of improvements in the technology.
In this paper localized intelligence algorithm is established where handlers can describe a specific area. Most of the location based tracking facilities are new emerging and more and more developments and correctness have become their power. Location based tracking systems help to discover the particular information about specific location. Numerous location tracking systems can be used with the help of networks such as GSM,GPRS and CDMA(Code division multiple access). The localized intellect algorithm is a vital algorithm to implement this structure. But it also says that abundant study and examination is required to be done to understand it.

[13]Campus Assistant Application on an Android Platform is designed and developed by Mihaela Cardei, Iana Zankina, Ionut Cardei, and Daniel Raviv Department of Computer Science and Computer and Electrical Engineering and Florida Atlantic University Boca Raton[6].

The paper campus assistant application on an android platform states that, today's maximum of the applications like google map and GPS assist the individuals to route through a particular location. As there has been vast use of smartphones with android operating system so it is much worthy if the applications are explicitly established for the android platform. This paper addresses the difficulties of navigation by using modern improvements in the technology to make navigation smooth and correct. There are number of applications which deliver such facilities of navigating through a campus correctly but none of these applications however implement together driving and walking guidelines, navigation, seeing the user type etc. So the campus assistant application on an android platform delivers many functions for the navigation with correctness as a significant issue.

[8]The Comprehensive Guiding and Navigation Services on Smart Phones is developed by Hsien-Tang Lin Department of Digital Content and Technology Tahwa University of Science and Technology[8].

This paper mainly concentrates upon the guiding and navigation as two mutual facilities at certain times. There are applications which offers navigation services but majority of them are outdoor applications which cannot provide guidance inside the campus or a large area.This paper also provides much significance to the Point of Interest(POI).Main drawback of today's technology in navigation is POI so this paper looks into it as well. Other problem is in what way we deliver guidance to the handler to give him exact information. This paper also reflects the category of smart devices required and how to deal with context aware computing on smart phone.

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[6] Paper presents techniques based on imagery and Augmented Reality (AR) which can show to be of great support when determining a new city location and seeing the development of the normal atmosphere. This paper enumerated the several perception of pervasive augmented reality demonstrated by indoor and outdoor applications. It also displays the use of augmented reality for facilitating people to determine new surroundings. The use the geo-referenced data of items can be used to notify handlers regarding their position. The usage of the "Vision See through" (VST) method, which is commonly, used in augmented reality applications. The design of observations notifies handlers about the spatial locality of POIs with respect to their environmental situation. The paper accomplishes that, as portable devices become increasingly more powerful, we imagine convert recognition system from client server architecture to self contained server architecture.

[11] This paper describes an Android based indoor map guidance system [11] that supports and guides people inside public buildings (e.g. schools, colleges,shopping malls,airports, museums, exhibition centres). It consumes NFC (Near Field Communication) technology [12] and QR (Quick Response) Codes, which are low rate, to define the position as well as to provide navigation inside the buildings. In addition, the system is bilingual and accessible in both English and Arabic forms. The established system depends on a server that contains its web server, map server and spatial record. The map of the building should be placed out and kept in a Map Server so as to be accessible to the handlers. The people, using the system, can then read the URL of the map from one of the NFC tag inside the building. With that, the system will demand the map from the server and download it to the mobile. The user can then see the downloaded map.

Since previous system is totally maintained manually,some of the difficulties involved in existing system are as follows:-

1. Provide outdoor location information only.
2. GPS based location tracking not work good in indoor location.
3. Not provide particular details about events.

III. PROPOSED SYSTEM

The proposed university campus navigation guidance and updated event information alert system will work on GPS based android mobile. We have implemented the system for both campuses of University which is a very huge place. As GPS works very exactly in large range so we have chosen GPS technology for location tracking. It can be used by existing university students, faculty members, and staff and also by parents, visitors. shows the design of campus map. Google Map API v2 has been taken as a pattern to show campus map. We propose an event based campus navigation system with QR-code.In which QR-code is used to obtain exactly correct indoor user place. It will reduce frustration and confusion of anybody inside the organization.

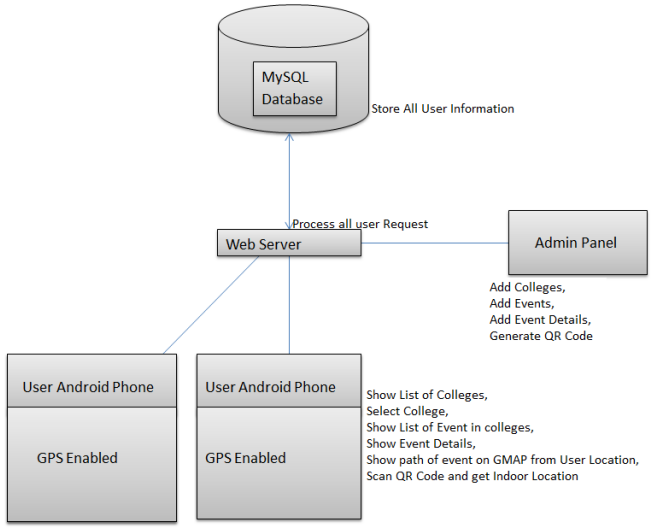

Fig.1 Arcitecture of the proposed system

login:-Here user is going to Login into the System. If password matches with the password then user can Login.

Manage event details,

1. **Add event** :- Add event in system using information which provide by event organization.
2. **Delete event** :- Delete event if some issue occur or event cancel because of some reason. admin can delete event using this function.

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3. **Edit event :-** Edit details of event if admin want to change otherwise it remains same as they uploaded.

user module

List of all event :- user will get all information on events being conducted in college.

see details of event

1. **Name of event :-** Title of user selected event.
2. **Description of event :-** Description and details of activities being conducted in that event,their contact numbers and important details.
3. **See location of event :-** To get location of event and your location using GPS , we use Google map.
4. **Route :-** As per the location provided by admin, map will generate automatically.

IV. CONCLUSION

In current years with the help of google maps ,location searching became a new tendency when people are not alert of their location. google map offers lots of functionality like showing any location , track from any location to other location and evaluate the time to reach the location. The Event based campus navigation system with QR code is very much required in a dynamic atmosphere where many things are not under human control. This system satisfies the need of various participants involved in the process.It provide the information of an event and gives shortest path guide for participants from his/her current location to desired place.System minimizes the frustration and confusion of people inside college campus. The QR code added to the system allows intended users to scan a code and get necessary information about internal Structure of building within the university main campus.

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