FINDING GPS BASED BID WITH AUGMENTED REALITY

[1]Roopa.D , [2]Dr.S.Bose
[1]Assitant Professor, [2]Associate Professor
[1]Computer Science and Engineering,
[1] Sri Sairam Institute of Technology, [2]Anna University, Chennai, India

Abstract— Augmented reality is like embedding some details into a real world thus making a visual perception of the environment. Augmented reality is a technology that brings together the real and unreal. Our idea is to use the augmented reality to make an app which helps to point out the locations of nearby places on the real world. It uses the user location to view nearby places around you by using the camera. When the phone camera is pointed towards the building, it identifies the building and provides the location of current place, path to the destination and also shows the offers available. So, this paper can be made more accessible to the general public.

Keywords—Augmented reality, Wikitude sdk, Offer, AR apps, Handheld Devices.

1. INTRODUCTION

This concept is used in mobile application. Around 10 years back, augmented reality based application for mobile fields are started. After the development in mobile application since the iPhone AppStore in July, 2008. And then they developed in other mobile platform including Nokia Ovi, Windows Phone, Android and more.

Evolution of geo-tagging is one of the reason which leads to the entrance of AR mobile devices. Augmented Reality can be displayed into real world view more effectively. Cross platforms development with SDKs integrated with already available resources encouraging the developers to explore self-ability and to showcase the strength of AR which can justify it's prospective. With the development of AR can be made more accessible to the general public.

i. Augmented Reality

Augmented Reality is an advanced and fresh technology that involves the coating of computer graphics on real world. It is augmentation or supplementation of elements by computer generated sensory such as video, GPS data or graphics over the real environment. With the help of this technology, information about the real world becomes interactive and manipulate to/ by user.

Augmented Reality in mobile applications lets user interact in real time by overlaying digital information onto the real world which explores utilizing camera equipped mobile devices as platforms for sensor-based, video see through mobile augmented reality.

ii. Why chosen Handheld Displays for Geo Based app?

Handheld Augmented Reality is the Implementation of AR concept Between user and real world in the Handheld devices such as mobile Phones, tablets. Augmented Reality is divided into three technologies

Which are HMD, Handheld display and spatial display amongst which handheld display technology has better advantage over other? The reason is:

a. Handheld devices are portable and extremely worldwide.

b. Handheld technology ample processing power and local network makes it an optimal platform for opulent and unequivocal Augmented Reality applications.

c. Handheld technology can be used in both indoor and outdoor environment.

d. Touch screen input mechanism is familiar and therefore users find it an easy way to interact, effortless and socially suitable.

Handheld Augmented Reality offers exciting insight for Navigation. It uses the computational/ graphic power with components like compass, tilt, GPS, integrated camera and such handheld devices.

2. RELATED WORK

In the Existing System, It allow user to find and get information about a location by simply pointing the camera of the phone at a location. It is a GPS based Augmented Reality app whose working with simplicity makes it a highly user-friendly application which also allows the app to run without internet connection using pre-loaded maps. Components used in this app are Built- in Camera, Compass, GPS and Maps.

Fig. 1. Location based AR

The working of Existing System is based on Location-based Augmented Reality technology. User's position can be detected using GIS- Geographic Information System(location based service) of mobile device incorporated with mobile network by which user can get information about the nearby locations like places, restaurants etc. from maps. As we go deeper into the mechanism, Here City Lens works on a simple algorithm. It initiates from the built – in camera whose purpose is well known by the user and with the help of calibrating GUI puts the information in the AR Toolkit Marker Recognition System which is a computer tracking library for creation of AR applications to overlay virtual imagery on real world.

Its purpose is to detect a defined pattern for real world objects called markers, calculates the position and orientation of marks and transforms the virtual objects to align them with markers. All this information is then feed to AR engine which is in the core of application which then goes into augmented objects repository to fetch relevant data and creates information from it. Feeds with relevant information are superimposed by AR engine on the display screens of device in the form of video stream ad augmented objects.

a. Disadvantage Of Existing System:

- Searching offers and distance of the target place separately using different application.
- Path is not shown instead shows only distance.

3. GPS BASED OFFER SYSTEM

In this section, we describe about the location based Augmented Reality with additional features such as offer and distance. Identify applicable sponsor/ s here. If no sponsors, delete this text box (sponsors). Here User's position can be detected using GIS of mobile device incorporated with mobile network by which user can get information about the nearby locations like places, restaurants etc. and also it shows the offer and distance.

Fig. 2. GPS Based Offer in Augmented Reality (Proposed System)

A. Process flow

- Point out the camera in any direction.
- Gets the data from the GPS module of the phone.
- Compares the Geo data with the database.
- Returns the details of the data of the nearby location.
- Displays all the detail in the screen.

The scope of this technology cannot be kept limited as it's just the beginning of new era which invites different communities to involve in and evolve this technology.

a. Advantage Of Proposed System

- It has the combined features of both maps and offer details of the targeted location.
- It automatically shows the available location nearby once the application is on.
- Shows traffic free zones

4. DISCUSSION

We have introduced the AR concept and display technology it has been implemented and accepted on widely. Now we will discuss certain revolutionary Augmented Reality applications in handheld environment and compare them on certain parameters. These parameters are chosen because of the fundamental concept associated with the technology or we can say the hierarchical structure of insight readers may want to know during the comparison taking place. We will be discussing application which is 'Android Studio' and 'Wikitude'.

A. Android Studio

Android Studio is the official integrated development environment (IDE) for the Android platform. It was announced on May 16, 2013 at the Google I/O conference. Android Studio is freely available under the Apache License 2.0. It is a Gradle-based build support. Android-specific refactoring and quick fixes. Lint tools to catch performance, usability, version compatibility and other problems. ProGuard integration and app- signing capabilities.

B. Wikitude SDK

It was the first Location-based Augmented Reality application which was made public. It got released in 2008 as a freeware. Not only just GPS- based but it also used image recognition which makes it Marker-based Augmented reality application as well.This app was available on almost every major platforms-Windows, Android, iOS, Bada, Blackberry. With the help of wikitude sdk, developers can build cross-platform AR based apps for which it uses web technologies like HTML, Java Script and CSS.

Wikitude SDK offers full trials with many features but one cannot publish app by using this and therefore developers to acquire SDK key should register with wikitude GmbH formerly known as mobility GmbH to acquire SDK key mail to the given address. Integration of different apps into wikitude SDK associates with certain software and hardware requirements have different library consists of different programming languages with similar base features.

Components used in this app are built-in camera, GPS, Compass, accelerometer and internet connectivity.

The working of Wikitude is location based Augmented Reality application when recognizes the Point Of Interest (POI) calculates the position of the virtual objects on the display of mobile screen using user's position through GPS or Wi-Fi. It calculates the direction in which the user is facing by using Compass and accelerometer. The information associated to the POI is overlay on the screen through computer generated content. For image-recognition which is marker-based augmented reality, similar to the markers detection, calculation and transformation mechanism.

5. CONCLUSION

Evolution of geo-tagging is one of the primary reason which leads to the entrance of Augmented Reality mobile field. AR can redescribe the way of these geo-tags as information can be displayed into real world view more effectively. With the development of advanced and affordable AR can be made more accessible to the general public. It shows the potential of such applications which has rewrite the norms of existing technology to

shape it to the next level. AR concepts are redefining the existing parameters we have in handheld devices in a clever and interesting way and the purpose we have observed so far is not just to elevate this 'future technology' but to express the ease and level of interactivity between system and the user. Cross platforms development with SDKs integrated with already available resources encouraging the developers to explore self-ability and to show case the strength of AR which can justify its prospective. The scope of this technology cannot be kept limited as it's just the beginning of the new era which invites different communities to involve in and evolve this technology.

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