

User Interactive Mobile Augmented Reality of PVPSIT Campus



Y. Surekha, G. Lalitha Kumari, N. Naga Malleswara Rao, A. Vanamala Kumar

ABSTRACT--- *The main intention of this technique is to convey a mobile primarily based resolution, in a very convenient to new students, parents, guardians whereas they move round the premises of college. Here the objective is to scale back the consumption of your time, discontent and to realize potency, accurate, friendliness-application and momentum, of the applying for PVPSIT-campus area. With this system it's expected to function a helpful and enlightening navigate helper for each students and guests of the PVPSIT-campus. To produce a helpful, informative, mobile primarily based resolution for navigation within a college premises, which is able to contain all the required details, to form certain that it's simple, correct navigation and identification of varied buildings, departments and facilitate the students, scholars, visitors and guests to achieve their preferred location without any problems.*

I. INTRODUCTION

In the college campus may be a complicated infrastructure. particularly new students and visitors Who are new to college premises, thereon for the primary time, it will hardest to find each and every block to orient themselves and realize places. The premises occupies over 10 acers and so is even larger than that. The premises has many alternative buildings. Most of the buildings square measure connected to every alternative, a number of them even by underground walkways. Though there square measure maps at some points on the premises, users don't have incessant facilitate to induce to their targeted area of purpose. They can allow to puzzle away the way to urge of their target on these static maps, however as presently as they begin walking within the target direction they need no facilitate to any extent further. Whereas it's quite common to use direction-finding systems in cars to succeed in selected locations, systems for unexciting navigation are quite onerous to seek out. So, however is it doable to assist freshmen and alternative inexperienced folks make up one's mind themselves within the premises and support them finding areas on college premises with the assistance of contemporary approaches.

The solution for the current question was "Augmented Reality Campus" which shows every things in reality.

II. RELATED WORK

In this new era, effective navigation has become more and more very important as cities develop and started to grow with skyscrapers and enormous buildings unceasingly erected. Because of this want, technologies like the world

Positioning System, GPS area unit developed to assist navigation. However, indoor navigation continues to be a trouble as there's no such technology that is correct, effective and cheap to cater the requirement.

This project produces increased reality to enhance a paradigm that aids indoor_navigation. Increased reality is that the read of the important world increased with another layer of laptop generated sensory_inputs like sounds or graphiccards. This application is made for sensible phones as the majority sensible phones nowadays area unit prepared with a camera and tight process power that permits the representation of some graphics. This app is made exploitation golem SDK and Vuforia increased Augmented RealitySDK formerly called as QCAR.

III. SYSTEM ANALYSIS

Analysis is incredibly vital procedure for a projectssuccess. The most processes of this section embrace domain thoughtful, necessities assortment categorization, structuring, prioritization and justification. In appropriate collective ways and procedures wereengaged to hold outthe analysis innovate an efficient approach.

Analysis

It is helpful to get the present systems and traditional strategies to advanced brand novel approach. A number of

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* Correspondence Author

Y. Surekha, Assistant Professor, Dept of CSE, PVP Siddhartha Institute of Technology, AP, India. (Email: yalamanchili.surekha@gmail.com)

G. Lalitha Kumari, Sr. Assistant Professor, Dept of CSE, PVP Siddhartha Institute of Technology, AP, India, (Email: lalithajoy.nuthakki@gmail.com)

Dr. N. Naga Malleswara Rao, Professor, Dept. of IT, RVR & JC College of Engineering, Guntur, AP, India.(Email: nnmrao@rvrjce.ac.in)

A. Vanamala Kumar, Assistant Professor, Dept of CSE, PVP Siddhartha Institute of Technology, AP, India.(Email: cutevanam@gmail.com)

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this systems are more costly to maintain pricy to keep up and don't fulfill what the consumer very really desires. There wasn't 100% consummated system presently. Most of them aren't work enough with user necessities. Here are some measures based on the manual systems that are presently exists.

- It displays a map covering the full college premises at the doorway.
- presenting arrows as a directions.
- Banners pasting and Naming departments within the structure compound.

Providing to view a map covering with whole premises as the entrance

In front of the doorway, so huge campus commits notice customs that to the new guests to the college premises. It's terribly onerous to stay the trail in memory. Most of the places square measure presently modified and a few of them do presently not exist. So, the data of the map isn't so much enough to search out the destination because the results of renovation of the section, some of the compounds are square measure removes or a number of square measure modified by different department. So, the map is motionless, it's not possible to alter. It is, the might terribly expensive or generally it's useful to make new map instead of change the existing one.

Showing arrows as directions

There are so many signs and arrows marks that direct's the user to locate the right path. Generally it's easier to move or travel in alternative approach instead of keeping focus with the arrows. On the other side is it's not an extended term answer to seek out the buildings, as a result of some arrows might get recent and ruined, some fall. So, they're not certifying the steadiness. On the opposite hand, it's effects on atmospheric pollution and it ruins the wonder of the likely environment.

Naming departments and pasting banners inside the building

Buildings are called by pasting signs on the barriers. User is way removed from the building, the banner within the wall can't be understood by the different comers. Those signs don't seem to be an answer for long run amount. As they face the rain and obtain broken.

IV. SYSTEM DESIGN

The system of Mobile premises Navigating with increased AR is to help the user to spot the buildings/structures within the field and in the main focuses on finding location details of officers simply. in the main 5 modules are went to implement the applying so as to form the event and comprehension easier. The units are as follows:

1. Navigational module for Outdoor
2. Navigational module for Indoor
3. availability module for Official
4. login module for Official
5. Module for Administration

The way this application work is by guiding the user to his/her desired destination using augmented arrows or texts. Upon activating the application, the possible locations are

listed out for the user to select. Below is the screenshot of the list of destinations

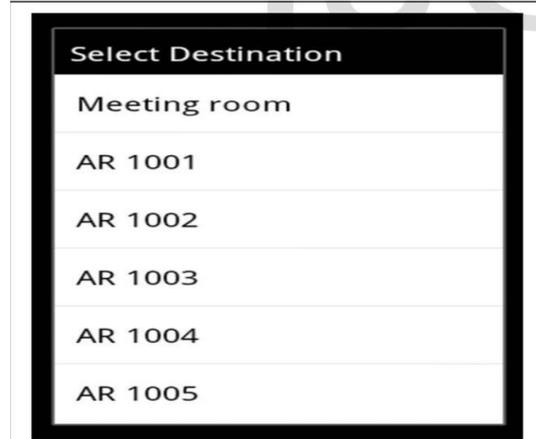


Fig. 1 UI of app showing list of Destinations.

After selecting the desired destination, the application changes to navigation view which displays live feed from the camera. The user then holds the phone in front as he/she is walking around the area. The application will automatically identifies the user's location by compares the input from the camera by previously stored data. From that, the application will calculate and generates the thru path from the user's location to targeted destination and display augmented arrows on the screen to lead the user to the destination. Below is a screenshot during navigation. Anytime during navigation, the user can choose to change the destination or view a map of the area complete with the generated route.



Tools to Use

Hardware

- Smart Phone Device

Operating System	Android 4.2.2 Jelly Bean
CPU	ARM Cortex A9, 1200 MHz, cores - 2
GPU	ARM Mali-400 MP4, 266MHz, Core: 4
RAM	1 GB
Positioning	GPS

- Computer

Operating System	Windows 10 Genuine 64-bit
CPU	Intel(R) Core(TM) i7-3610QM CPU @ 2.30GHz
GPU	NVIDIA GeForce GT 650M
RAM	4 GB

Software

Unity , Vuforia, Android Studio

V. RESULTS

Accessing Information Easily





Fig 1 Externally



Fig 2.1 In AR

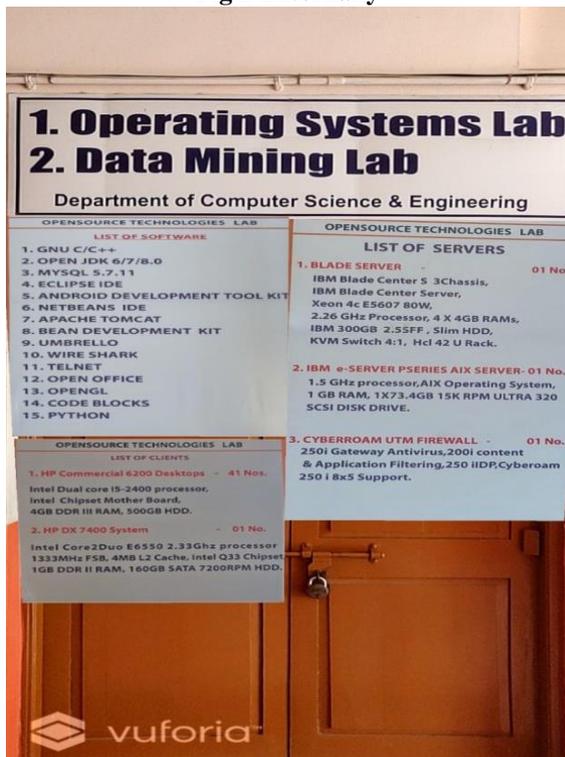
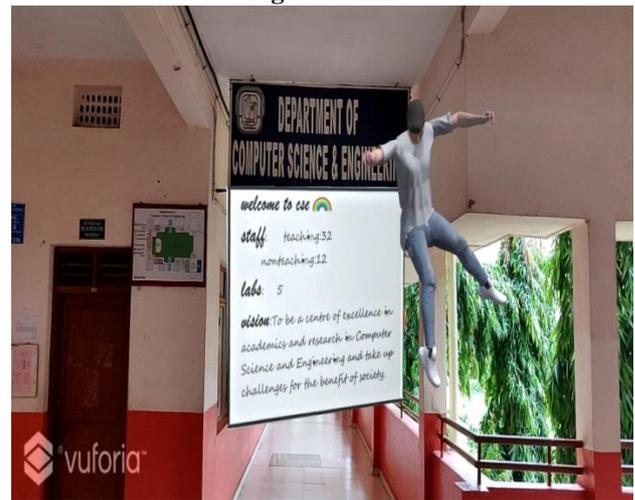


Fig 1.1 In AR



Department Entrance in AR

VI. CONCLUSION

The problem and motivation of this app is that almost all of the present navigation system square measure unable to supply routes accurately moreover as any data of the building at intervals and area like premises. AR field Application with increased reality is application with rigorously distinctive functions and properties that brought in a very well easy thanks to characteristic users of the system. It seemingly provides the user production with the mix of technical and user necessities ahead. The paradigm of this method was designed and developed in 2019. To produce formative info, pilot testing was conducted among the little teams of scholars. Subjects volunteering for pilot testing were school freshmen at PVPSIT Premises. They were inspired to replicate on their experiences in exploitation the system. Interviews were accustomed acquire thoughts and reactions from the 2 focus teams. User feedback was summarized as followed.

VII. SCOPE

The scope of this app is deterministically works for the allotted time, resources and therefore the client's needs. The scope of the system is proscribed and might expand in an exceedingly modularized manner.



Fig 2 Externally

Users will navigate through the field via steering given by the AR browser. they'll browse buildings, locations etc. or explore for locations. 1.4 problem Statement Universities round the world square measure increasing structurally at a fast rate particularly once the amount of scholars gets larger and larger with each enrollment amount. As a results of being tremendous in size there's a good probability that some students wouldn't be able to notice their means round the field with folks and recently listed students being those greatly affected.



A. Vanamala Kumar, M.Tech, has a work experience of 11 years . he is working as Assistant Professor in Prasad V Potluri Siddhartha Institute of Technology, Vijayawada. His research interests are Soft Computing-Optimization algorithms, Machine Learning. He has published few papers in International conferences and International Journals.

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ABOUT AUTHORS



Y. Surekha, M.Tech, has a work experience of 10 years 2 Months. She is working as Assistant Professor in Prasad V Potluri Siddhartha Institute of Technology, Vijayawada. Her research interests are Soft Computing-Optimization algorithms, Machine Learning. She has published few papers in International conferences and International Journals.



Lalitha Kumari Gaddala B.Tech, M.Tech, has a work experience of 14 years 6 months. She is submitted her Ph.D in Computer Science and Engineering under Acharya Nagarjuna University, Guntur and Andhra Pradesh.

She is working as Senior Assistant Professor in Prasad V Potluri Siddhartha Institute of Technology, Vijayawada. Her research interests are Soft Computing-Optimization algorithms, Machine Learning. She has published few papers in International conferences and International Journals.



Dr. N. Naga Malleswara Rao, B.Tech, M.Tech and Ph.D, has a work experience of 28 years. He is working as Professor, Department of IT, RVR& JC College of Engineering, Guntur (Dt).

His research interests are Computer Algorithms, Compilers, and Image Processing. He has published few papers in International conferences, National Conferences and International Journals.

