



Turnitin Originality Report

MK Paper by Shriram Meenakshi

From Paper (CSE Papers)

Processed on 30-Jan-2015 11:37 AM

SGT

ID: 499716993

Word Count: 1474

Similarity Index

5%

Similarity by Source

Internet Sources:	2%
Publications:	4%
Student Papers:	5%

sources:

1

3% match (student papers from 21-Dec-2014)

[Submitted to Texas A&M University, College Station on 2014-12-21](#)

2

1% match (Internet from 14-Jun-2014)

<http://followguru.co.in/recruiterprofile/jobdetail/cid/15/jid/65/viewjob/true>

3

1% match (publications)

["DIFFERENTIAL EVOLUTION AND DYNAMIC DIFFERENTIAL EVOLUTION VARIANTS – AN EMPIRICAL COMPARATIVE PERFORMANCE ANALYSIS", International Journal of Computers and Applications, 2012.](#)

paper text:

1 Available online at www.sciencedirect.com ScienceDirect Procedia Computer Science00 (2015) 000 –000 www.elsevier.com/locate/procedia

2nd International Symposium on Big Data and Cloud Computing (ISBCC'15) An Innovative App with for Location Finding with Augmented Reality using CLOUD. Meenakshi sundaram V(1), Shriram K Vasudevan(2), Ritesh A(1), Santhosh C(1)

3 Department of Computer Science and Engineering (1) Amrita School of Engineering, Amrita Vishwa Vidyapeetham (University),

Ettimadai, Coimbatore—641112, geetkrish90@gmail.com Asst professor (senior)(2) Department of Computer Science and

2 Engineering, Amrita School of Engineering, Amrita Vishwa Vidyapeetham (University), Ettimadai, Coimbatore—641112, Kv_shriram @cb.amrita.edu

Abstract Till date we have seen many applications that have used the technology of Cloud but integrating Augmented Reality and Cloud is pretty new to everybody. This paper will help you understand how we can

efficiently use the technology of Cloud in developing Location Based Augmented Reality application. A Location Based Augmented Reality application is an online mobile computing application that provides digital information to the user based on the user's geographical location. Here we make use of the Cloud in order to store and access the Location Based Augmented Reality application. This application is both compatible with iOS and android. ©

12015 The Authors. Published by Elsevier B.V. Peer-review under responsibility of scientific committee of 2nd International Symposium on

Big Data and Cloud Computing (ISBCC'15). Keywords: Augmented Reality, Cloud, Cloud plugin, Augmented Reality browser.

11877-0509© 2015 The Authors. Published by Elsevier B.V. Peer-review under responsibility of scientific committee of 2nd International Symposium on

Big Data and Cloud Computing (ISBCC'15). 2 1. Introduction Cloud Computing is a recently evolved technology. It works on establishing small or large groups of remote servers or separate computer resources in order to make data storage centralized. Cloud has several applications, providing the platform of computational infrastructure, it features as an application development platform, it can act as virtual storage space etc. Making use of the several advantages of Cloud, we try to blend Augmented Reality and the usage of Cloud which are the two most upcoming technologies. With of rise of mobile devices with more and more functionalities location based augmented reality applications will grow in popularity. Large amount of information that is rich with geo data and that can be presented in a virtual space (Cloud). Many sensors in the mobile phones are used to create a picture of the surrounding and to find out what digital content can be related to the current context. There are several tracking methods ranging from GPS, Mobile Network and Wi-Fi connection as well [1] [2]. With the help of such advanced technologies we can find out the exact location of the user and also the environment and the surroundings around the user [3]. Augmented Reality with the help of Cloud based rendering can lead to the development of many innovative applications. 2. Augmented Reality and Cloud The combination of Augmented Reality and Cloud is one of the most upcoming technologies which provide an indirect view of the objects around us by displaying a computer generated virtual object in front of user. There are several applications that use Cloud and Location Based Augmented Reality application is one among them. Various tracking technologies such as Barcode and ID detection, simple QR scanning, 2D image tracking and even some advanced 3D tracking can make use of cloud. All these do not require internet as it can work without it, but even then it has the option of using cloud. But Location Based Augmented application is an online application and fails to work without the use of internet [2]. Application Middle Layer Server Fig: 1 Architectural structure Location Based Augmented Reality application We can create Location Based Augmented Reality using several web technologies available for example the location data can be stored in an XML format [1]. The above figure explains it all. First and foremost, all the resources that are required or utilized by the application are all stored in the server which you can see on the right hand side of fig: 1. Once this is done, a URL will be generated for the Augmented Reality web application. This URL helps in creating the Augmented Channel. Channel is nothing but a link to the server in order to access the information. The Augmented Reality browser will be able to process only valid channels. Now the Augmented Reality browser is ready to run the application. But our application is a standalone application.

Hence we make use of the cloud plugin to run our own channel. Several applications can be developed using cloud plugins but this is a very important procedure to develop Location Based Augmented Reality Application. In the application if there is any location in terms of LLA (latitude, longitude, altitude), we will be able to place any Augmented Reality content such as 2D, 3D model, audio, video and even an animated model. Fig. 2 Point of Interest for MBA Block. The above figure shows us the point of interest. The Point of Interest should provide the user with the description of a location or the reference image while tracking.

4.3. Location Based Augmented Reality Application: Location based applications integrate geographic location information and also the details of the surrounding. This type of application creates an invaluable experience for the user. Considering a college hosting a tech fest. Different events or programs will be spread over the entire college. It is a difficult task for the students to keep track of all the events, their locations and their time. For this purpose we use a location based augmented reality application. The user has to install the application and the GPS in the mobile phone should be kept on. The phone automatically tracks the user's geographical location and the details of the surroundings. Suppose there are three blocks surrounding the user named Main Block, MBA Block, Library, then once the application is running on the phone there will be points of reference over each block with their names, distance between the user and the block and the events that are held in that particular block with their starting time. We have to store all these information on the cloud and the mobile phone fetches the data from the cloud. Once a particular event is finished, the Point of Interest either displays the user that the particular event is finished or it will be taken out from the list. In this way the application is very dynamic in handling the data from the cloud because the application exactly shows us what event is currently going on and what are already finished. Therefore one need not waste valuable time in going to a particular block and to find that the event is already half way through or finished. If there are any events in any of the blocks the next day, then the application will automatically update itself with all the events that are going to be held on that particular day. Another very good example of the application is that, suppose a person wants to go to Main Block, and from the application he finds out that he is 610m away (ref Fig: 4). As he heads towards the block the user will find the distance to be covered to be reducing. Similarly if the user heads towards the wrong direction, then the distance gradually increases. From this the user comes to know the exact direction he has to go. Fig. 3 Point of Interest for Library. Fig. 4 Distance between the user and the object.

4. Conclusion This paper highlights the use of Cloud in web based Augmented Reality. Location Based Augmented Reality application will have a great impact in the market as it provides useful functions such as finding nearby places of interest etc. Further improvement of Location Based Augmented Reality would provide more interactive services to users and also help in creating a huge database of location tagged information. The Location Based Augmented Reality Application will create a large impact and is especially very helpful in the field of tourism and navigation. With the development of such applications, the ultimate goal of Augmented Reality may not be far away.

5. References [1] "Dieter Schmalstieg, Mobile Computing Meets Augmented Reality", Graz University of Technology, Austria
http://igdr.fraunhofer.de/fileadmin/jubilaem2012/Vortraege-SmB-Forum/2012-11-14_Fraunhofer-IGD-25_Schmalstieg_web.pdf accessed on 25/5/2014. [2] Mike Hazas, James Scott, and John Krumm. "Location-aware computing comes of age", IEEE Computer Magazine, pages 95-97, February 2004 [4] Stefan Steiniger, Moritz Neun and Alistair Edwardes, "Foundations of Location Based Services" Accessed on 20/5/2014. [3] Natalie Jun Pei Chin, "Critical Success Factors of Location-Based Services", University of Nebraska – Lincoln <http://digitalcommons.unl.edu/busine> accessed on 25/5/2014 / Procedia Computer Science00 (2015) 000–000 / Procedia Computer Science00 (2015) 000–000 / Procedia Computer Science00 (2015) 000–000 / Procedia Computer Science00 (2015) 000–000