IMPACT OF AUGMENTED REALITY FOR SOCIAL NETWORKING

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Abstract - *Augmented Reality, just like any other technology will have some incredibly beneficial uses and some absolutely useless ones. However, all forms of Augmented Reality will likely be accompanied by some risks. The use of facial recognition technology, combined with geo-location and augmented data will lead to a seamless integration of our online and offline lives. As a result of these developments, a person walking around in the physical world will no longer just be a person, but will be their physical self along with a digital profile and other information that either the person itself or others make available online.*

1.INTRODUCTION:

Augmented reality (AR) is a live direct or indirect view of a physical, real-world environment whose elements are augmented (or supplemented) by computer-generated sensory input such as sound, video, graphics or GPS data. It is related to a more general concept called mediated reality, in which a view of reality is modified (possibly even diminished rather than augmented), by a computer. As a result, the technology functions by enhancing one's current perception of reality. By contrast, virtual reality replaces the real world with a simulated one. Augmentation is conventionally in real time and in semantic context with environmental elements, such as sports scores on TV during a match. With the help of advanced AR technology (e.g. adding computer vision and object recognition) the information about the surrounding real world of the user becomes interactive and digitally manipulable. Information about the environment and its objects is overlaid on the real world. This information can be virtual or real, e.g. seeing other real sensed or measured information such as electromagnetic radio waves overlaid in exact alignment with where they actually are in space. Augmented reality brings out the components of the digital world into a person's perceived real world. One example is an AR Helmet for construction workers which display information about the construction sites.

Augmented reality is changing the way we view the world or at least the way its users see the world. Picture you walking or driving down the street. With augmented-reality displays, which will eventually look much like a normal pair of glasses, informative graphics will appear in your field of view and audio will coincide with whatever you see. These enhancements will be refreshed continually to reflect the movements of your head. Similar devices and applications already exist, particularly on Smartphone's like the iPhone(Android).

The new technology, called augmented reality, blurs the line between what's real and what's computer-generated by enhancing what we see, hear, feel and smell.

Computer graphics have become much more sophisticated since then, and game graphics are pushing the barriers of photorealism.

Now, researchers and engineers are pulling graphics out of your television screen or computer display and integrating them into real-world environments. On the spectrum between virtual reality, which creates immersive, computer-generated environments, and the real world, augmented reality is closer to the real world. Augmented reality adds graphics, sounds, hap tic feedback and smell to the natural world as it exists. Both video games and cell phones are driving the development of augmented reality. Everyone from tourists, to soldiers, to someone looking for the closest subway stop can now benefit from the ability to place computer-generated graphics in their field of vision.

If AR applications are going to be deployed on a massive scale in an AR approach, there are several key areas of technology that are needed:

- ➢ A low-cost platform that combines AR display, tracking and processing
- ➢ Mobility to realize AR in a global space
- ➢ Backend infrastructure for distribution of AR content and applications
- ➢ Easy to use authoring tools for creating AR content
- ➢ Large-scale AR tracking solutions which work in real time

A low-cost hardware platform for AR is important for realizing our vision of AR 2.0. Today's smart phones satisfy all basic requirements of a hardware platform for AR 2.0. They combine networking, a display, and graphics hardware capable of 3D rendering. Furthermore, smart phones offer enough computing power to track the device using the build-in camera, with the optional assistance of various other sensing technologies like GPS, WiFi triangulation and accelerometers. Smart phones are inexpensive as they are produced for a mass market and there are currently hundreds of millions sold per year. This momentum ensures a large-scale in terms of number of users and broad geographic coverage.

Specific AR data types can easily be integrated into the XML dialects, and hosted using standard web-based databases, accessible via HTTP. New types of Mash ups, which are specifically designed to be consumed by AR clients, can be derived from a mixture of existing (conventional) content and content specifically created for AR. This will include visual objects, other multimedia data, application code and the feature database necessary for local tracking. The selection of content by the user can be performed using either a push mechanism or a pull mechanism such as a web server capable of accepting simple HTTP queries encoding the current location or area. This allows everybody with access to a server to provide geo-referenced AR content, either genuine or based on data accessed via mash-up. In addition, larger service providers can syndicate content provided by many users and organized through tagging. Such syndicated content-hosters would allow a wide audience to publish their material, and also provide easy access for the mainstream audience. For consuming the AR content, we expect that an end-user device has subscribed to content feeds from a number of AR service providers, based on personal taste and recommendations from others. At a given location, the device sends a request containing its current position and other context information to all these service providers and receives an index of available content. The request can ask for all information in a user-defined radius around the current point of interest, or it could describe an area in an alternative form, for example all data along a route to a given destination. The exact details on which information to download and/or to present to the user and how the user interface lets the user control what he or she sees, is entirely up to the client. All of these approaches are possible without modifying the server side infrastructure.

A possible extension is the use of AJAX for live client-server collaboration. If the content is represented at the client side as a document object model, for example as an X3D compatible scene graph, then a client-server connection, e.g., based on XML and JavaScript, can be used to shift the execution of parts of the application logic to the server. This avoids lengthy downloads, allows exploitation of the greater computational power of the server and facilitates multi-user applications. In many cases it should be possible to mask the latency of network transmission using the asynchronous, multi-threaded execution model of AJAX.
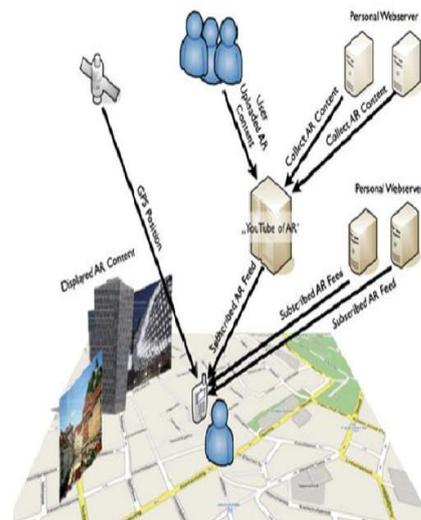

Fig: 1 Network Systems

Applications that are not just passive browser of AR information and that cannot be encoded with a simple approach such as JavaScript, will have to be provided in binary form, forsaking platform independence. However, even platform-specific downloads are a large step forward towards the interoperability of AR applications compared to current approaches.

2. ADVANTAGES OF AUGMENTED REALITY:

Augmented Reality is similar to Virtual Reality except it seeks to enhance your perception of the real world and is not a fantasy place. No one really knows if it will live up to its expectations, or exactly what the full potential of having it in our everyday lives will be, but one thing that is for sure is that it is a "marketers' dream". The opportunities are endless; you can leave messages for friends, shops can display offers and you can voice your opinion on certain places.

Fig: 2 Evolution of Mobile AR System

It is has produced a new platform for media to work with including in the Public Relations field. New campaigns are beginning to include Augmented Reality as part of their communications strategies.

It could be argued that interactivity of this nature works well in Public Relation campaigns and Augmented Reality is the next generation of interactivity with your consumers.

3.CONCLUSION:

The real world need not be limited by what our naked eye can see. Gadgets and terminals are not the be-all and the end-all in our quest for more information, real time access to data and most importantly, a reliable secondary storage mechanism for our memories.

The potential for this technology is undoubtedly endless, but what we've seen so far has mostly ranged from gimmicky and cute to somewhat useful. Nothing groundbreaking so far – no mass adoption of wearable technology or any of the entertainment possibilities. However, it's just a matter of time when some of these implementations become part of our daily lives. If you hate how people are constantly distracted by their iPhones and Blackberry's, brace yourself, because it's about to get much worse. In the future, before AR 2.0 applications become commonplace, there are important research issues that must be solved in terms of device localization and registration, building demonstration applications, and conducting user evaluation

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