Getting Around in Google Cardboard – Exploring Navigation Preferences with Low-Cost mobile VR

In recent years there has been a paradigm shift in the uptake and use of Virtual Reality (VR). Advances in graphics rendering, and the introduction of low-cost VR headsets has brought VR into the reach of ordinary consumers. Google Cardboard VR viewers cost just a few dollars and work with most smart phones, enabling mobile VR to truly enter the domain of the everyday. However, these headsets are currently generally used for passive entertainment or viewing 360 degree media, and are not ideally suited to active exploration of a virtual space. In this paper we present our preliminary evaluation of three approaches to travel and navigation.

Cross platform approach for mobile aplication development: a survey

Nowadays, the use of mobile technologies is rising at an alarming scale. Due to this, more powerful and efficient mobile applications are needed in order to keep up with this trend. Since there exists several mobile platforms (iOS, Android, etc...), each one with different SDK (Software Development Kit) tools and specific development capabilities, application development becomes more complicated and expensive. The challenge is to come up with a solution that allows us to deploy in different platforms using a single SDK tool and maintaining the same performance as the native application. A suitable solution is cross- platform. In this paper, we present a survey of cross-platform creation approaches with an emphasis on the MDA (Model Driven Architecture) approach as it is one of the most promising cross platform approaches. We also identify and discuss the main desirable requirements of any cross-platform technology.

Modular Products: Smartphone Design from a Circular Economy Perspective

Currently a range of modular smartphones is emerging, including the Fairphone 2, Puzzlephone, Google's Project ARA, RePhone, LG's G5 and others. In an industry of perceived short product cycles a modular design concept might become crucial for longer product lifetimes. The paper provides an overview on latest product developments and assesses these against environmental criteria, including longevity, durability, upgradeability, repairabil- ity and Design for Recycling and Reuse. Modular product design however is not necessarily the most sustainable design option. Modularity first of all means inevitably more material consumption, as additional sub-housing and universal connectors are required, partly also a larger total product volume to allow for incorporation of the maximum potential configuration and anticipated future technologies. This has to pay off through a significantly longer use of individual devices and modules. It depends furthermore on the user, if the intended replacement of broken modules by new ones helps to keep whole devices in use much longer or if the user just replaces individual modules much more frequently to keep pace with latest technology features.

Next-Generation of Virtual Personal Assistants (Microsoft Cortana, Apple Siri, Amazon Alexa and Google Home)

One of the goals of Artificial intelligence (AI) is the realization of natural dialogue between humans and machines. In recent years, the dialogue systems, also known as interactive conversational systems are the fastest growing area in AI. Many companies have used the dialogue systems technology to establish various kinds of Virtual Personal Assistants(VPAs) based on their applications and areas, such as Microsoft's Cortana, Apple's Siri, Amazon Alexa, Google Assistant, and Facebook's M. However, in this proposal, we have used the multi-modal dialogue systems which process two or more combined user input modes, such as speech, image, video, touch, manual gestures, gaze, and head and body movement in order to design the Next- Generation of VPAs model. The new model of VPAs will be used to increase the interaction between humans and the machines by using different technologies, such as gesture recognition, image/video recognition, speech recognition, the vast dialogue and conversational knowledge base, and the general knowledge base. Moreover, the new VPAs system can be used in other different areas of applications, including education assistance, medical assistance, robotics and vehicles, disabilities systems, home automation, and security access control.