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Control Augmented Reality Applications through Voice

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Abstract: The process of superimposing digitally rendered images onto our real world environment where the objects that resided in the real world surroundings, giving a sense of an illusion or virtual reality. Augmented reality is an interactive experience of real world environment where the objects that are reside in the real world are augmented by computer. Augmented Reality (AR) is one of the cutting edge technologies that dramatically shift the location and timing of education and training. This literature review research describes Augmented Reality (AR), how it applies to education and training, and the potential impact on the future of education In AR, the environment is real, but extended with information and imagery from the system. AR has strong potential to provide both powerful contextual, on-site learning experiences and serendipitous exploration and discovery of the connected nature of information in the real world Our aim is to implement Voice Controlled AR App which allows the user to interact with customized 3D model through Voice Command. The application can be used for children or any people who want to learn in an interesting way. Now a day's everything is getting digitalized. Most of the people have smart phones in their hand. So instead of using traditional methods augmented curriculum is extremely cost-effective way as well as an interesting option for learners. The proposed app can be used for learning purpose anywhere, anyplace and at anytime For example to demonstrate vehicle Simulation by creating a vehicle showcase app. projecting a full size vehicle in the real world. With the use voice command we can perform tasks such as changing color of vehicle, opening doors and many more in very interesting and interactive way.

Keywords: Augmented reality; VirtualReality, Blend, 3dModel.

I. INTRODUCTION

Augmented Reality (AR) is one of the cutting edge technologies that dramatically shift the location and timing of education and training. This literature review research describes Augmented Reality (AR), how it applies to education and training, and the potential impact on the future of educational has strong potential to provide both powerful contextual, on-site learning experiences and serendipitous exploration and discovery of the connected nature of information in the real world Our aim is to implement Voice Controlled AR App which allows the user to interact with customized 3D model through Voice Command. Augmented Reality emerge, voice recognition is becoming a vital communication method between the human and the computer. The application can be used for children or any people who want to learn in an interesting way. Now a day's everything is getting digitalized. Most of the people have smart phones in their hand. So instead of using traditional methods augmented curriculum is extremely cost-effective way as well as an interesting option for learners. The proposed app can be used for learning purpose anywhere, anyplace and at anytime.

II. WHAT IS AR?

Augmented reality (AR) is an interactive experience of a real-world environment where the objects that reside in the real-world are "augmented" by computer-generated perceptual information, sometimes across multiple sensory modalities, including visual, auditory, haptic, somatosensory, and olfactory.

III. MOTIVATIONAL

Around 10 million children suffer from a learning disorder known as **Dyslexia**. Dyslexia is a learning disorder characterized by difficulty in reading. The people suffering from this disorder involves difficulty in understanding due to problem of relating terms to the objects. Most of children with dyslexia can cure with tutoring or a specialized education program. Our Application is intended to solve this problem and make the education very simple and interacting. The users can see the model in front of them through the screen in around 360°. They can see the environment related to objects through Augmented Reality and also can control it with the help of voice command. We used the colors which are very close to the real life world and according to the psychology of humans. The app has a voice recognition feature with the help of which it enables any handicapped people to control the app by providing voice commands to perform operation on models.

IV. PROPOSED METHODOLOGY

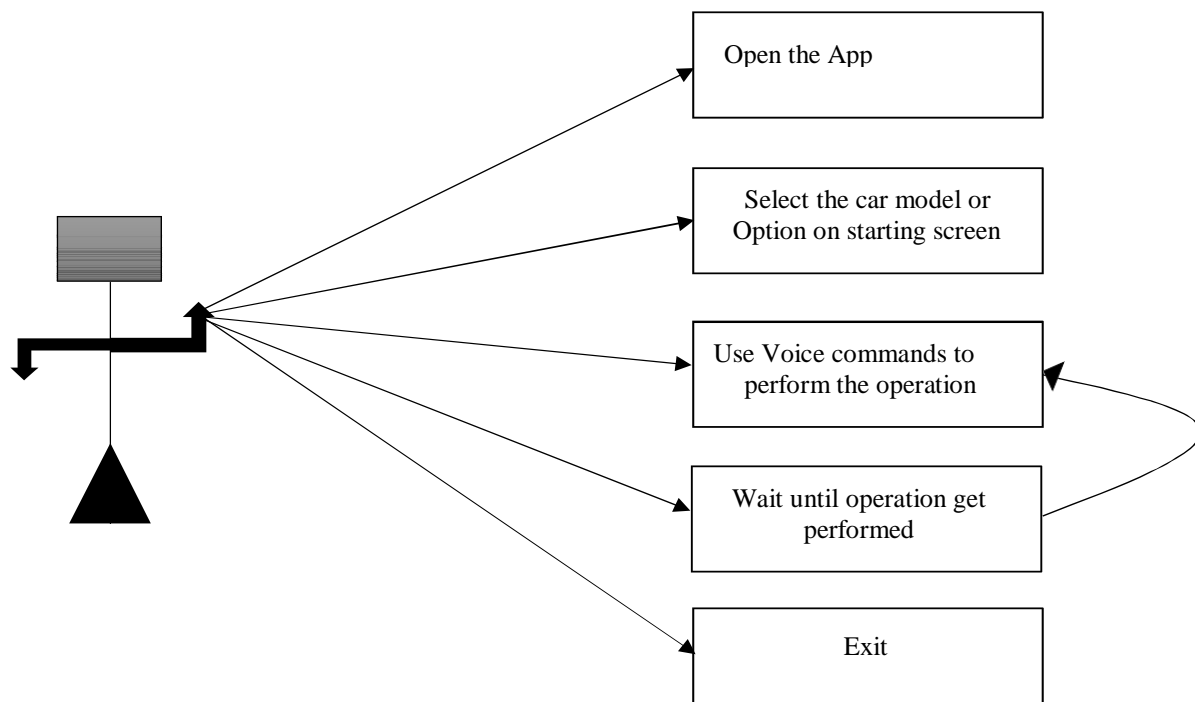


Fig1. Use Case Diagram

Figure 1. shows user interact with system and do according task i.e. the user first open the app and select car model or option from the start screen after selecting car model give the voice command to perform the operation and wait until operation get performed (i.e. 1-2 sec) and give further voice command to perform further operation after completion Exit.

V. SEQUENCE DIAGRAM

A Sequence diagram is an interaction diagram that shows how object interact with one another with sequence of message exchanged among them. It is a construct of a Message Sequence Chart. A sequence diagram shows object interactions arranged in time sequence. It depicts the objects and classes involved in the scenario and the sequence of message exchanged between the object needed to carry out the functionality of the scenario. Sequence diagram are typically associated with use case realizations in the Logical view of the system under development. Sequence diagram are sometimes called event diagram or event scenarios. A sequence diagram shows, as parallel vertical lines, different processes or objects that live simultaneously, and as horizontal

arrows, the messages exchanged between them, in the order in which they occur. This allows the specification of simple of runtime scenarios in a graphical manner.

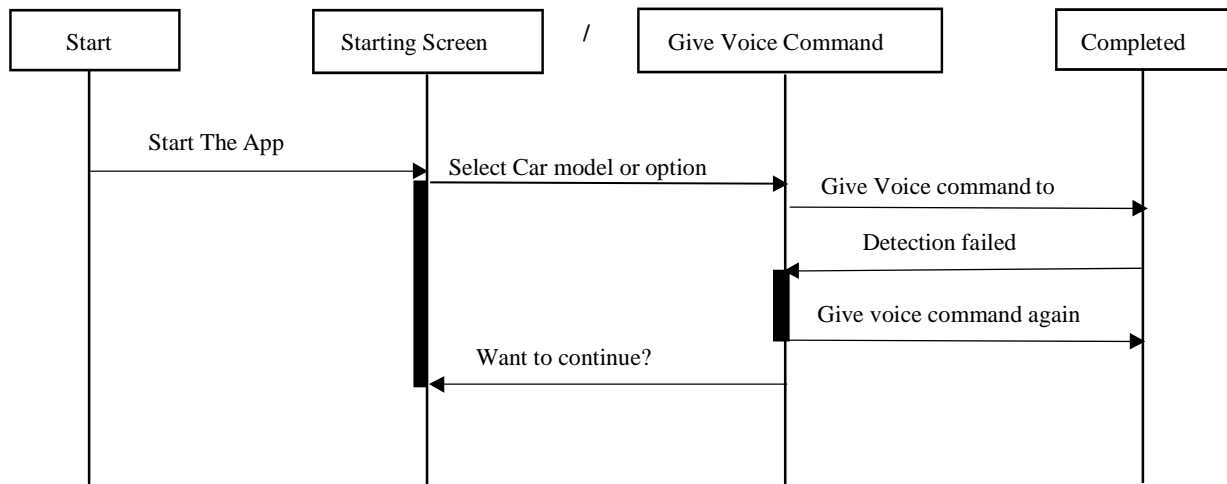


Fig.2 Sequence Diagram

There are 4 phases such as start, Starting Screen, Give voice command, completed. When the app is started from Start then choose the model of car or other options. Give voice command to model wait until the operation get performed. If detection of voice is failed then give voice command again and wait for the operation performed. If user wants to give another voice command to the same model then continue the same process.

VI. APPLICATIONS

These Developed 3D Models can be used in Augmented Reality App. Also the models can be used for Game Development he model can be used for simulation. These developed 3D models can be used for Virtual reality application.

VII. ADVANTAGES

Accessible learning materials – anytime, anywhere Controlled by voice command. Simulation can be provided No special equipment is required improved collaboration capabilities. A faster and more effective learning process High grade Graphics close to the real world environment Faster and interactive way of learning Enhances imaginative ability Practical learning. Safe and efficient workplace training universally applicable to any level of education and training.

VIII. LIMITATION

Voice Commands can be accepted in English, Hindi Language Only.

IX. CONCLUSION

The project is intended to create “Voice Controlled Augmented Application”. To give a virtual experience of real world entity and to provide an interactive learning experience by giving voice commands.

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