

Space Shooter Game using Augmented Reality

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ABSTRACT - Augmented Reality (AR) can extend digital world to real world. Augmented Reality not just developed; it had been around there for many years. Actual term of AR came around in 1990's. AR experienced by using headset or mobiles. AR has many applications in military, medical field, entertainment (games) and education. In this paper different AR games are analyzed that are categorized as entertainment and educational games, some tools to develop augmented reality games are also discussed. Some parameters are also used and describe in this paper to analyze survey papers and to analyze tools for making augmented reality games. As most people think that games are just for fun but AR games usage for educational purpose increases; for making lectures attractive, grasping attention of students, teaching history and for higher retention. Augmented reality in mobile games enhances learning methodologies and also provides paramount entertainment.

Key Words: Augmented Reality; Tools; Entertainment; Real World; Virtual; Educational

1. INTRODUCTION

Now a day's augmented reality is a field of much importance and of greater interest. Augmented reality combines virtual reality with physical world, which make physical things and virtual things more meaningful. Foundation of AR was virtual reality (VR) because of which many people not clearly differentiate AR and VR, there is a huge difference between them.

In VR a virtual environment is created, while in AR instead of completely replacing real world with virtual environment it provides an environment; where in real world virtual things are augmented.

Augmented reality (AR) is a field of computer research which deals with the combination of real-world and computer-generated data.

1. IMPLEMENTATION

- 1) Space Shooter Game Using Augmented Reality Android Project using Augmented reality for tracking in Unity 3D for creating a FPS (First Person Shooter) game.
- 2) Where there will be spaceships coming from around in your real environment that will be captured by the device camera and the spaceship will be augmented in a few places and they will be moving.

- 3) User need to aim to the spaceship and tap on the screen so that it will fire and shoot the spaceship.



FIGURE 1: Our vision of the Floating Ball Concept, visualized with two players competing against each other in the augmented world

- 4) How to develop an augmented, physical ball, which is included in an AR Sports Games?
- 5) What is necessary to create a Tangible AR Interface with mobile devices?
- 6) What are the requirements to utilize a drone for augmentation?

LITERATURE SERVY:

- Emerging Trends in Augmented Reality Games [20]

Now a day's augmented reality is a field of much importance and of greater interest. Augmented reality combines virtual reality with physical world, which make physical things and virtual things more meaningful. Foundation of AR was virtual reality (VR) because of which many people not clearly differentiate AR and VR, there is a huge difference between them. In VR a virtual environment is created, while in AR instead of completely replacing real world with virtual environment it provides an environment; where in real world virtual things are augmented. In AR firstly headsets were used to experience AR environment, then in 2008 first mobile based AR application was offered and now goggles are also there to enjoy the experience of AR. There are different types of AR: marker base, marker less, projection based and super imposition based. Augmented reality Augmented reality has broader applications in numerous fields in games, health care, education, marketing, journalism, travel, real estate, retail and many more, whereas main focus of AR is Games that are for different purpose.

FEATURE AND PURPOSED SYSTEM

Early PC, smartphone and tablet applications for augmented reality focused on games, but the uses of AR are much broader. The military uses augmented reality to assist men and women as they make repairs in the field. Medical personal use AR to prepare for surgeries

DESIGINE AND IMPLEMENTATION

1. Create New Unity Project with Unity 2019.2.9.
2. Build Settings > iOS or Android > Switch Platform.
3. import AR Space Shooter into Unity.
1. Click "Install/Upgrade" Package Manager Dependencies in Warning Window.
4. Vuforia 8.5.8 & TextMesh Pro packages are provided with Unity Package Manager, and they are already installed for this Asset by default. If packages are missing then install them again with Unity Package Manager.
5. Restart Unity Editor.
6. Generate & Apply Your Own Free Vuforia License.
7. Open Scene: Makaka Games > AR > AR Space Shooter > Scenes > Menu.
8. Prepare AR Marker to Point Device Camera on it.
9. Test in Unity Editor with Unity Remote or build for Mobile.

3. CONCLUSIONS

Augmented reality is divided into different categories: marker base, marker less, projection based and super

imposition based, in presented paper main focus is on super imposition based and marker baser AR which are used in games for educational purpose as well as for games which are just for entertainment. This paper presented an extensive analysis of educational games, entertainment games and tools for developing AR games. Literature for games has led to a consolidated review that has been presented in this study.

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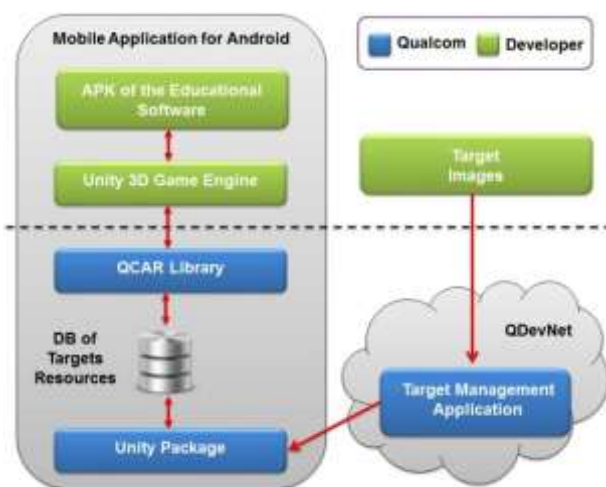


Figure: System Architecture Space Shooter Game Using Augmented Reality