



# **SNS COLLEGE OF TECHNOLOGY**

Department of Computer Science & Engineering



## **SYSTEM STRUCTURE OF AUGMENTED REALITY**



# INTRODUCTION

Augmented Reality is technology in computer graphics which combines the real time environment with the digital one. In Virtual reality users totally experience new world while in augmented reality digital information display over the real environment. To experience Augmented Reality user need AR headset.



# COMPONENTS OF AUGMENTED REALITY



Augmented reality (AR) consists of six different components:

- User
- Device
- Interaction
- Virtual Content
- Tracking
- Real life Entity



# AUGMENTED REALITY ARCHITECTURE



This Architecture comprised of all above components and interactive relationship between them helps to develop augmented reality working model.

- **User:** The most essential part of augmented reality is its user. The user can be a student, doctor, employee. This user is responsible for creation of AR models.
- **Interaction:** It is a process between device and user. The word itself consist of its meaning some action perform by one entity as result in creation or some action performed by other entity.



# AUGMENTED REALITY ARCHITECTURE



- **Device:** This component is responsible for creation, display and interaction of 3D models. The device can be portal or in static state. Example, mobile, computer, AR headsets etc.
- **Virtual Content:** The virtual content is nothing but the 3D model created or generated by the system or AR application. Virtual content is type of information that can be integrated in real world user's environment. This Virtual content can be 3D models, texture, text, images etc.



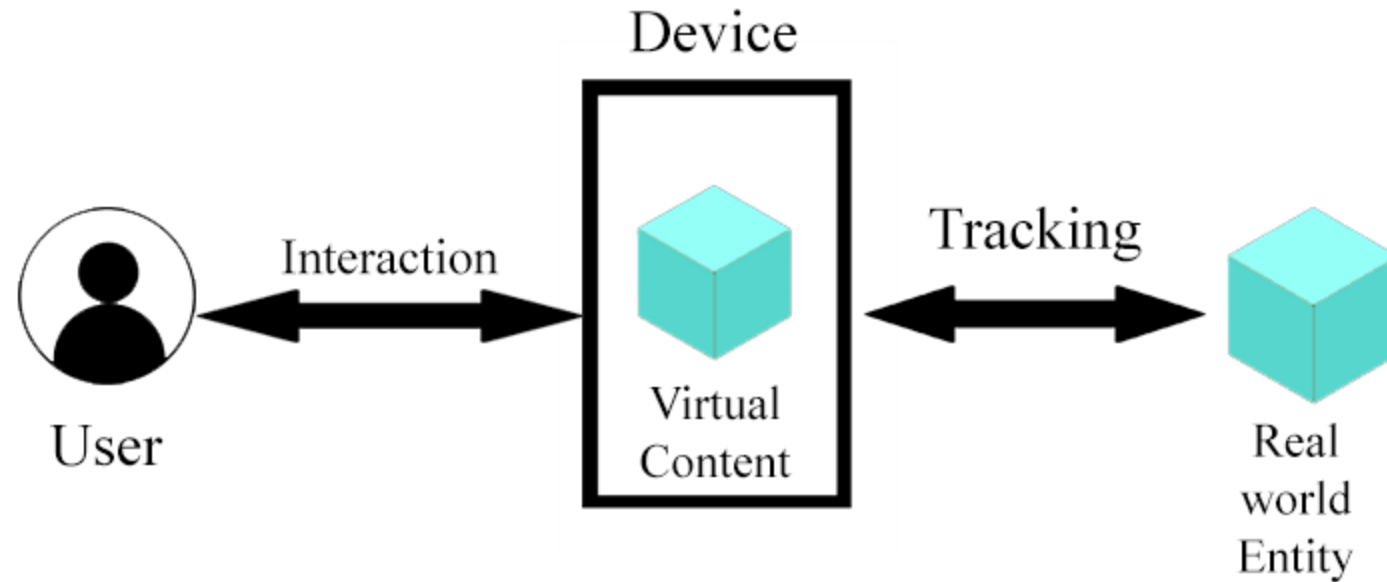
# AUGMENTED REALITY ARCHITECTURE



- **Tracking:** This component is basically process which makes possible creation of AR models. Tracking is sort of algorithm which help to determine the device where to place or integrate the 3D model in real world environment. There are many types of Tracking algorithm available which can be used in development of AR applications.
- **Real-life entity:** The last component AR architecture is real world entities. This entities can be tree, book, fruits, computer or anything which is visible in screen. AR application does not change position of real life entity. It only integrate the digital information with this entities



# AUGMENTED REALITY ARCHITECTURE



Augmented Reality Architecture



# APPLICATION OF AR

- 1. Games:** The most popular and best example of AR application is Pokemon GO game. Which combine the digital information i.e. Pokemon's with user environment.
- 2. Social media:** Many social media platform like snapchat, Instagram, Facebook are now using AR technology to introduce new feature in their application in order to increase user interaction with their apps i.e., filters.