

Augmented Reality (AR)

Review Questions



Review Questions

What is AR?

-  A form of emerging technology that allows users to overlay computer-generated content in the real world.
-  Integration of digital information with the user's environment in real-time.
-  Uses the existing environment and overlays new information on top of it.
-  Real-time direct or indirect view of a physical real-world environment that has been enhanced by adding virtual computer-generated information to it.

_____ refers to a live view of a physical real-world environment whose elements are merged with enhanced computer-generated images creating a mixed reality.

A. AR

B. VR

C. MR

D. XR

_____ is fully immersive, computer-simulated reality, which tricks your senses into thinking you're in a different environment or world apart from the real world.

A. AR

B. VR

C. MR

D. XR

_____ is live, direct or indirect view of a physical, real-world environment whose elements are enhanced (supplemented) by computer-generated sensory input such as sound, video, graphics or GPS data.

A. AR

B. VR

C. MR

D. XR

_____ Differentiate among AR, VR and MR

● AR: Adding computer-generated content to the real world.

● AV: Adding real world info to computer-generated environment.

● VR: Completely computer-generated (artificial) environment.

_____ is the merging of real and virtual worlds to produce new environments and visualizations where physical and digital objects co-exist and interact in real-time.

- A. AR B. VR **C. MR** D. XR

_____ is characterized by the synthetic content and the real-world content are able to react to each other in real-time?

- A. AR B. VR **C. MR** D. XR

_____ deals with placing new imagery within a real space in such a way that the new imagery is able to interact, to an extent, with what is real in the physical world we know?

- A. AR B. VR **C. MR** D. XR

_____ allows to interact with and manipulate both physical and virtual items and environments, using next-generation sensing and imaging technologies?

- A. AR B. VR **C. MR** D. XR

Which of the following is example of Mixed Reality?

- A. Microsoft HoloLens B. Magic Leap **C. Google Lens** **D. All**

_____ is real-and-virtual combined environment & human-machine interactions generated by computer technology & wearables.

A. AR

B. VR

C. MR

D. XR

_____ is merging of real and virtual worlds to produce new environments and visualizations, where physical and digital objects co-exist and interact in real time.

A. AR

B. VR

C. MR

D. XR

Matching: Match column B with Column A

A

B

- | | | |
|-------|----------|--|
| 1. AR | B | A. Content which is 100% digital & enjoyed in a fully immersive environment |
| 2. VR | A | B. Overlays digital content on top of the real-world. |
| 3. MR | D | C. Real-and-virtual combined env't & human-machine interactions generated by computer tech & wearables |
| 4. XR | C | D. Digital overlay that allows interactive virtual elements to integrate & interact with real-world environment. |

Draw Architecture of AR

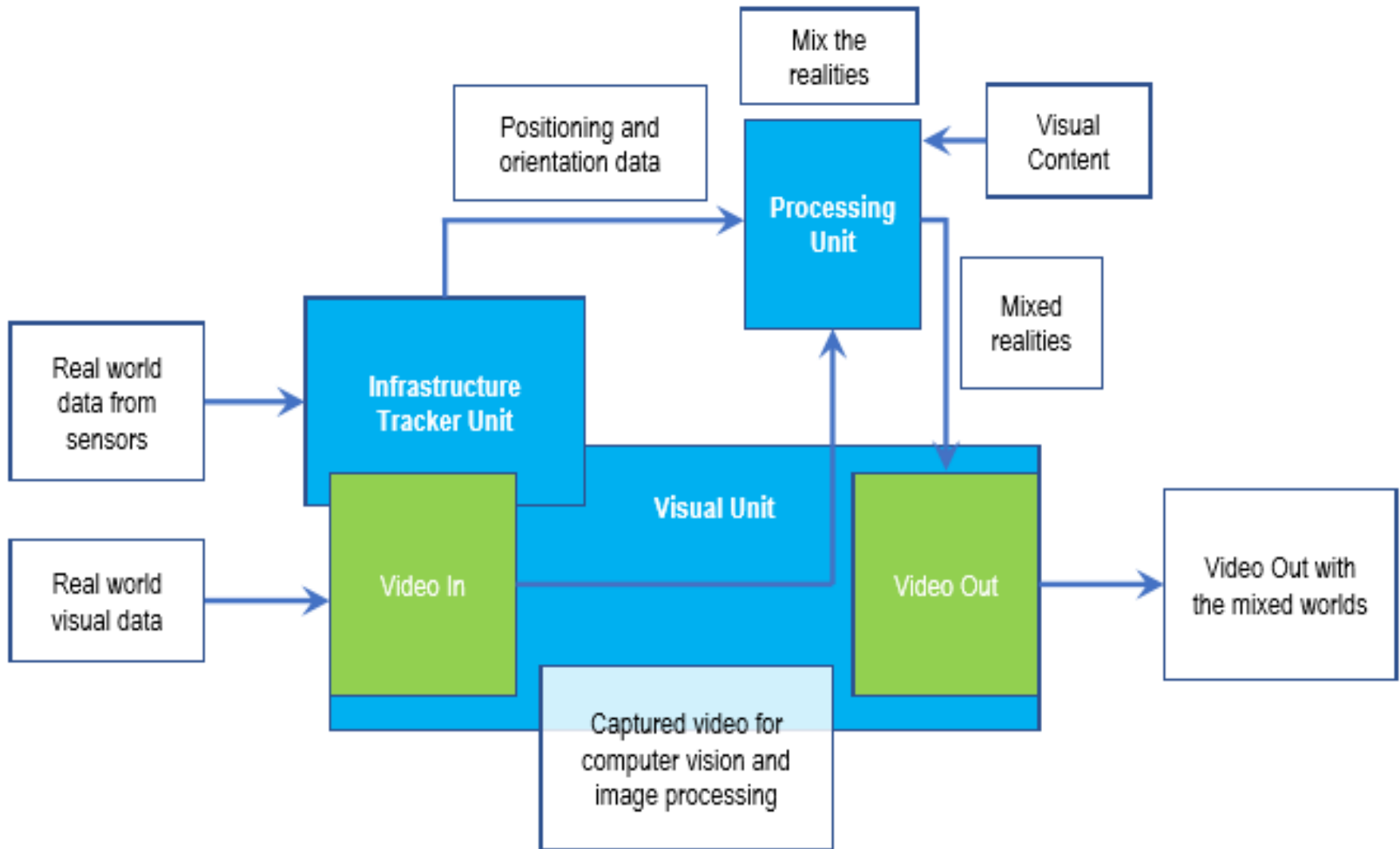


Fig 5.1. Architecture of AR

...

_____ is main block of the architecture of AR Systems that responsible for collecting data from the real world, sending them to the Processing Unit?

A. Infrastructure Tracker Unit B. Processing Unit C. Visual Unit. D. All

_____ is main block of the architecture of AR Systems that responsible for mixing the virtual content with the real content and send the result to the Video Out module?

A. Infrastructure Tracker Unit **B. Processing Unit** C. Visual Unit. D. All

_____ is main block of the architecture of AR Systems that responsible for displaying the result processed by Processing Unit?

A. Infrastructure Tracker Unit B. Processing Unit **C. Visual Unit.** D. All

Describe the functions of the Infrastructure Tracking Unit, the Processing Unit, and the Visual Unit?

- Infrastructure Tracking Unit: collect data from the real world, send them to the Processing Unit to be processed
- Processing Unit: mix the virtual content with the real content and send the result to the Video Out module
- Visual Unit: displays the result processed by Processing Unit

What are the three blocks/components of the AR system architecture?

- Infrastructure Tracking Unit: collect data from the real world, send them to the Processing Unit to be processed
- Processing Unit: mix the virtual content with the real content and send the result to the Video Out module
- Visual Unit: displays the result processed by Processing Unit

What is the difference between Video-see through and Optical-see through visualization technologies?

- Video see-through uses a Head-Mounted Display (HMD) that employs a video-mixing and displays the merged images on a closed-view HMD where as Optical see-through uses an HMD that employs optical combiners to merge the images within an open-view HMD.

_____ is VR device in which users can be transported into a number of real-world and imagined environments.

A. HTC Vive B. Oculus Rift C. PlayStation VR **D. All**

_____ is application of Augmented Reality.

A. Pokémon Go. B. Snapchat lenses C. U.S. Army **D. All**

Which of the following are reasons for using augmented reality in Education?

A. Interactive lessons B. Higher retention C. Boost intellectual curiosity **D. All**

Which of the following is application of augmented reality in Medicine?

A. Describing symptoms B. Surgery C. Ultrasound **D. All**

Google Glass is special AR headsets, where digital content is displayed on a tiny screen in front of a user's eye.



Which of the following are benefits AR provides to patients and healthcare workers?

- A. Reduce the risks associated with minimally invasive surgery.
- B. Better informed decisions about the right treatment and illness prevention.
- C. Make procedures more tolerable.
- D. Medical training and education.
- E. **All**



Which of the following are benefits of AR in the “entertainment” industry?

- A. Games & eSport
- B. Music & Movies
- C. TV
- D. **All**