

# **Immersive Systems I – Slido**

Developing Immersive Applications

Created by: Chek Tien TAN



# **Which API interfaces provide standardized access to VR/AR controllers and hand tracking?**

- WebGLRenderingContext
- AudioContext
- XRSession / XRInputSource
- GPUDevice

# In a WebXR app using Babylon.js, what handles stereo rendering automatically?

- The developer must code it manually
- WebXR session (via  
`scene.createDefaultXRExperienceAsync()`)
- The Physics engine
- The Input Handler

**EDIS is a 360° VR experience with gaze-based navigation and ambient sounds. Which software component would likely NOT be needed?**

- Rendering System
- Input Handler
- Audio Processor
- Physics System



*Experience Dementia in Singapore*

# In ECS architecture, what are “Components”?

- Logic processors that handle behavior
- Unique identifiers for game objects
- Data containers that store properties like position and mesh
- The main game loop handlers

# **What is the key advantage of ECS (Entity Component System) over traditional OOP?**

- Easier to learn for beginners
- Requires less code
- Composition over inheritance – easily mix and match behaviors
- Better support for 2D games

**In A-Frame's ECS implementation, HTML attributes like `position="1 2 3"` and `material="color: red"` map to which ECS concept?**

- Entities
- Components
- Systems
- Behaviors

# **Which statement best describes the architectural difference between A-Frame and Babylon.js?**

- A-Frame is faster than Babylon.js for complex applications
- A-Frame enforces ECS architecture while Babylon.js lets developers design their own
- Babylon.js uses HTML elements while A-Frame uses JavaScript
- A-Frame has a larger community than Babylon.js

**In a WebXR application running at 90 FPS,  
approximately how many milliseconds does  
each frame have to complete all updates and  
rendering?**

- 33ms
- 16ms
- 11ms
- 5ms

# **Which lens technology does the Meta Quest 3 use that makes it thinner and clearer than its predecessor?**

- Fresnel lenses
- Pancake lenses
- Aspherical lenses
- Waveguide lenses

# **Which component is the KEY difference between a smartphone and an HMD that enables VR?**

- Display screen
- CPU/GPU
- Motion sensors (IMUs)
- Magnifying lenses
- Battery

# **Which AR form factor is typically described as socially acceptable?**

- AR Headsets
- AR Glasses
- Mobile AR
- HMDs

# **What type of AR display technology does the Microsoft HoloLens 2 use?**

- Video passthrough
- Optical see-through
- Virtual display
- Projection mapping

# **What type of AR display technology does the Apple Vision Pro use?**

- Video passthrough
- Optical see-through
- Virtual display
- Projection mapping