Context-Aware-VR

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Context extraction

Context type information:

- Eye tracking
- ► Location tracking
- Rotation of the head

 \rightarrow Mobility pattern

 \rightarrow Basis for criteria to choose appropriate VR headsets



Figure 1: Phone-driven VR

Advantages:

- ▶ Built-in gyroscope → rotation
- ightharpoonup Location ightarrow through phone or indoor positioning system (Ken)

- lacktriangle Eye tracking difficult ightarrow position of front facing camera
- ► Precision → dependent on phone
- \triangleright Everything needs to be app-driven \rightarrow complexity increase



Figure 2: HTC Vive Pro Eye

Advantages:

- ▶ Rotation →
- ▶ Location →
- ightharpoonup Eye tracking ightarrow tobii xr sdk or Vive SRanipal SDK

- Unity only
- ightharpoonup Precision ightharpoonup dependent on phone
- ightharpoonup Everything needs to be app-driven ightharpoonup complexity increase

□".jpg

Figure 3: Tobii HTC VIVE Devkit/Tobii Pro VR Integration

Advantages:

- ▶ Built-in gyroscope → rotation
- ightharpoonup Location ightarrow indoor positioning system (Ken)

- ▶ eye tracking difficult → position of front facing camera
- ▶ Precision → dependent on phone
- lacktriangle Everything needs to be app-driven ightarrow complexity increase

A module to support eye tracking with previous HTC VR headsets: 'Thankfully, a Chinese company dubbed '7invensun' is soon offering a \$149 upgrade kit that will let existing HTC headsets gain the same feature.'

□".jpg

Figure 4: Tobii HTC VIVE Devkit/Tobii Pro VR Integration

Advantages:

Compatible with tobii pro → highcompatibility : .NET, Python, Matlab, C, Unity?...Location→ indoor positioning system (Ken)

- ▶ eye tracking difficult → position of front facing camera
- ▶ Precision → dependent on phone
- ightharpoonup Everything needs to be app-driven ightharpoonup complexity increase