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

VR headset survey

Figure 1: Phone-driven VR

Advantages:

- Built-in gyroscope $\rightarrow$ rotation
- Location $\rightarrow$ through phone or indoor positioning system (Ken)

Disadvantages:

- Eye tracking difficult $\rightarrow$ position of front facing camera
- Precision $\rightarrow$ dependent on phone
- Everything needs to be app-driven $\rightarrow$ complexity increase

VR headset survey

Figure 2: HTC Vive Pro Eye

Advantages:

- Rotation $\rightarrow$
- Location $\rightarrow$
- Eye tracking $\rightarrow$ tobii xr sdk or Vive SRanipal SDK

Disadvantages:

- Unity only
- Precision $\rightarrow$ dependent on phone
- Everything needs to be app-driven $\rightarrow$ complexity increase

VR headset survey

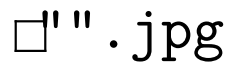

Figure 3: Tobii HTC VIVE Devkit/Tobii Pro VR Integration

Advantages:

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

Disadvantages:

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

VR headset survey

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.'

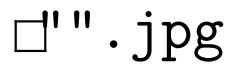

Figure 4: Tobii HTC VIVE Devkit/Tobii Pro VR Integration

Advantages:

- Compatible with tobii pro $\rightarrow$ *highcompatibility* : *.NET*, *Python*, *Matlab*, *C*, *Unity*?...*Location*$\rightarrow$ indoor positioning system (Ken)

Disadvantages:

- eye tracking difficult $\rightarrow$ position of front facing camera
- Precision $\rightarrow$ dependent on phone
- Everything needs to be app-driven $\rightarrow$ complexity increase