

Development Tools

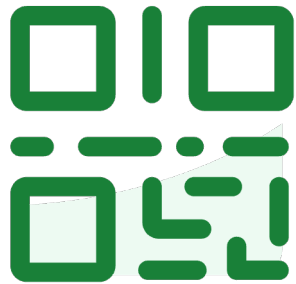
Notes for the SIT-DP module: **Developing Immersive Applications**

Created by: Chek Tien TAN



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**Join at slido.com
#week03-dev-tools**

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Module Essentials

Let's check whether you understand what to do in CSD312x...

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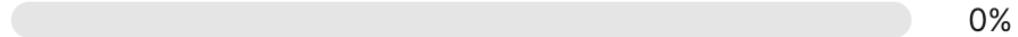


The deliverable for the TP is

① Start presenting to display the poll results on this slide.

The deliverable for the TP is

- ✓ a pdf uploaded to the module's TP dropbox on xSite LMS



- ✓ a pdf emailed to Chek



- ✓ everything in our team GitHub repo



- ✓ a presentation video uploaded to youtube



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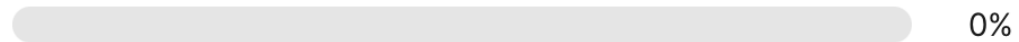


The deadline for the TP is

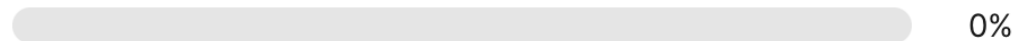
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The deadline for the TP is

☑ WEEK06



☑ WEEK08



☑ WEEK10



☑ WEEK13



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**I need to use a WebXR-compliant
framework for my Team Project**

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I need to use a WebXR-compliant framework for my Team Project



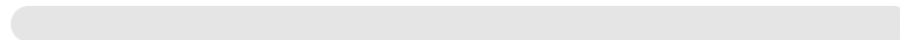
Yes



0%



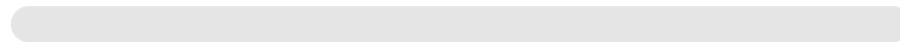
No



0%



We don't have to implement software code for the project



0%

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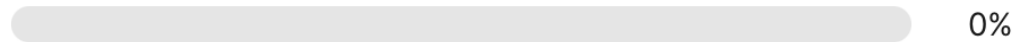


We will be assessed more favourably if we can demonstrate higher levels of immersion from our evaluation.

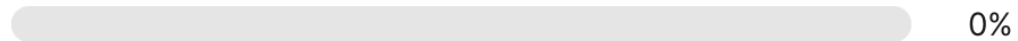
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We will be assessed more favourably if we can demonstrate higher levels of immersion from our evaluation.

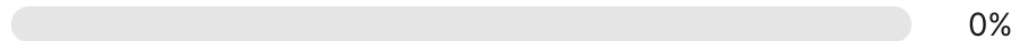
☐ Yes



☐ No



☐ We don't have to perform user evaluation for the project



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**Which of the following content is
suggested to be included in the TP
report.md?**

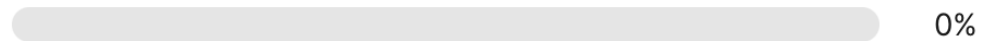
① Start presenting to display the poll results on this slide.

Which of the following content is suggested to be included in the TP report.md?

☒ Methodology



☒ Results



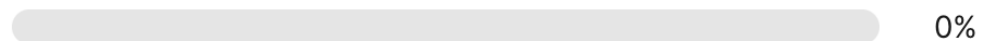
☒ Discussion



☒ Team Management



☒ Code Review



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When is IPA1 due?

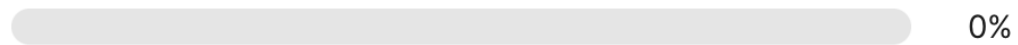
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When is IPA1 due?

✓ WEEK03



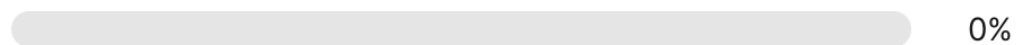
✓ WEEK04



✓ WEEK05



✓ WEEK05



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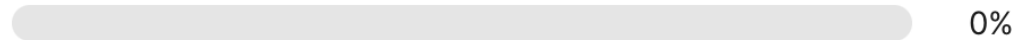


**How many participants do I need
for the user study in the TP?**

① Start presenting to display the poll results on this slide.

How many participants do I need for the user study in the TP?

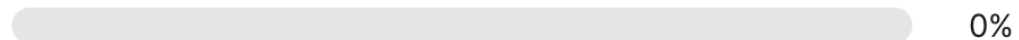
☐ 3



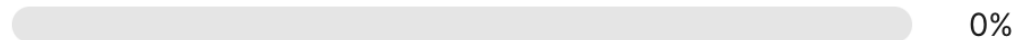
☐ 10



☐ 30



☐ a reasonable number of participants to make your study meaningful



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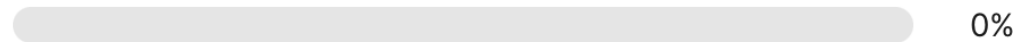


In CSD312x, a key learning objective is to be proficient in building WebXR applications.

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In CSD312x, a key learning objective is to be proficient in building WebXR applications.

☐ True



☐ False



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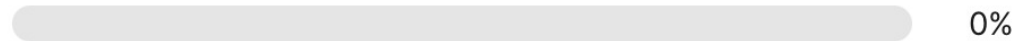


In CSD312x, a key learning objective is to be proficient in implementation skills using typescript and Babylon.js API.

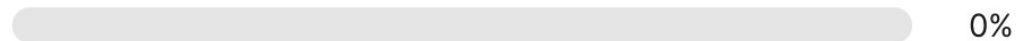
① Start presenting to display the poll results on this slide.

In CSD312x, a key learning objective is to be proficient in implementation skills using typescript and Babylon.js API.

☐ True



☐ False



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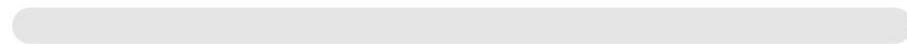


In CSD312x, it is important to understand the basics of how to setup a Typescript/Javascript project that interacts with Babylon.js .

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In CSD312x, it is important to understand the basics of how to setup a Typescript/Javascript project that interacts with Babylon.js .

☐ True



0%

☐ False



0%

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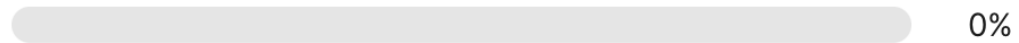


**For the IPAs , we will get feedback on
our submission only after the
deadline.**

① Start presenting to display the poll results on this slide.

For the IPAs , we will get feedback on our submission only after the deadline.

☐ True



0%

☐ False



0%

Team Project

- You can loan HMDs
- Submit through GitHub
- Note the dir tree
- The meat is in report.md
- Teams should be confirmed already
- Have an explicit system to delegate/manage work

IPA1

- Due next weekend
- We are available on Fri (and on GitHub discussions)

Development Tools

Let's get acquainted with common tools for developing immersive apps

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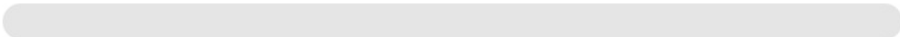
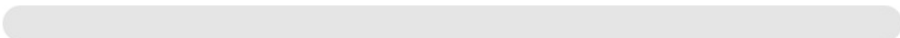
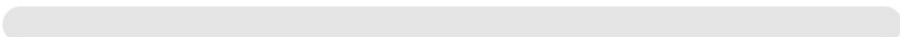
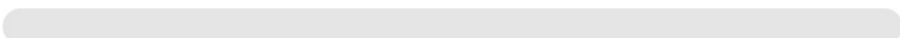
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**When I run `console.log("debug")`,
where can I see this "debug"
message?**

① Start presenting to display the poll results on this slide.

When I run `console.log("debug")`, where can I see this "debug" message?

- ☒ Mac Terminal
 0%
- ☒ Windows Command Prompt
 0%
- ☒ Web browser's JavaScript Console
 0%
- ☒ ADB's logcat
 0%

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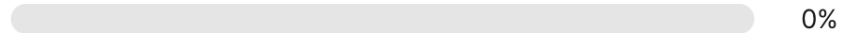


You are building a VR application that includes a novel interaction not found in current VR applications. Your lab has funding to obtain resources deemed necessary for development. Which tool(s) can likely be used for you to base your development on?

① Start presenting to display the poll results on this slide.

You are building a VR application that includes a novel interaction not found in current VR applications. Your lab has funding to obtain resources deemed necessary for development. Which tool(s) can likely be used for you to base your development on?

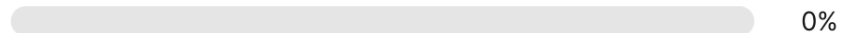
☒ Unity



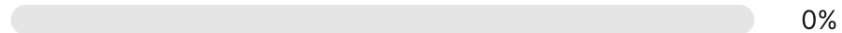
☒ OpenXR SDK in C++



☒ Babylon.js



☒ Cospaces



☒ Blender



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You are building a web-based VR experience and you want to focus on implementing the VR components. You need a modern open standard with a vibrant developer ecosystem that constantly updates the underlying tooling. What standard should you ideally target?

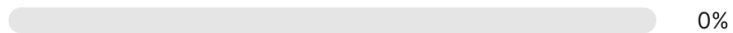
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☒ OpenXR



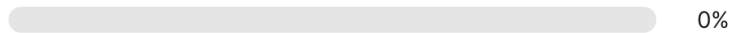
☒ WebXR



☒ WebGL



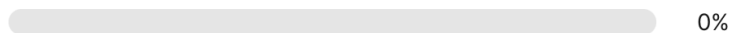
☒ OpenGL



☒ OpenCL



☒ Vulkan



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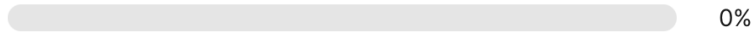


In your VR app, realistic graphics is the most important and you need to have fine-grained control of GPU resources. You need an open standard with a robust community that actively maintains the underlying tooling. What standard should you ideally target?

① Start presenting to display the poll results on this slide.

In your VR app, realistic graphics is the most important and you need to have fine-grained control of GPU resources. You need an open standard with a robust community that actively maintains the underlying tooling. What standard should you ideally target?

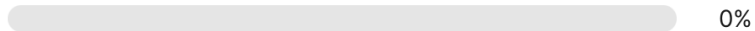
☒ OpenXR



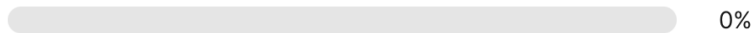
☒ WebXR



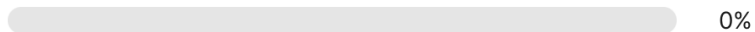
☒ WebGL



☒ OpenGL



☒ OpenCL



☒ Vulkan



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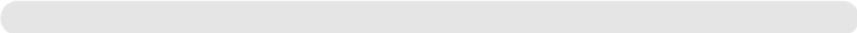
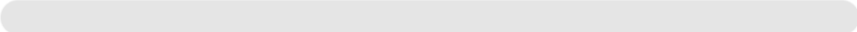
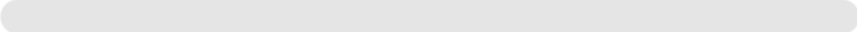
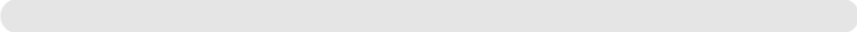
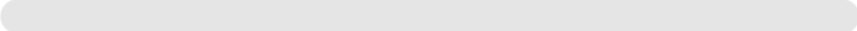
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**What is the most accessible tool
for developers without coding
experience?**

① Start presenting to display the poll results on this slide.

What is the most accessible tool for developers without coding experience?

- ☒ Babylon.js
 0%
- ☒ CoSpaces
 0%
- ☒ Unity
 0%
- ☒ OpenXR SDK in C++
 0%
- ☒ Unreal Engine
 0%

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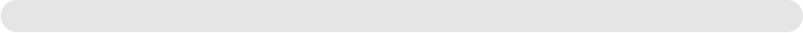
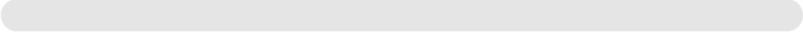
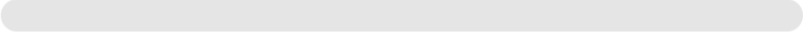
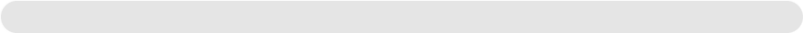
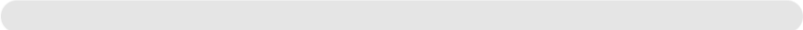
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**What is/are the key advantages of
building a WebXR app?**

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What is/are the key advantages of building a WebXR app?

- ✓ Easily accessible XR apps for the public
 0%
- ✓ Consistently strong developer community support
 0%
- ✓ Easily accessible development tools for developers
 0%
- ✓ Able to exploit hardware advancements in latest XR devices
 0%
- ✓ Easily create highly performant experiences native to different XR devices
 0%

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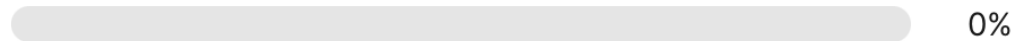


**WebXR is an open-source 3D
engine for building web-based XR
applications**

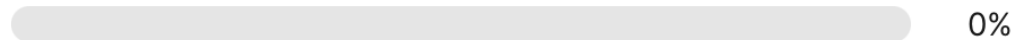
① Start presenting to display the poll results on this slide.

WebXR is an open-source 3D engine for building web-based XR applications

☐ True



☐ False



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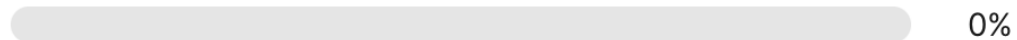


**Babylon.js is an open standard for
programming web-based XR
applications**

① Start presenting to display the poll results on this slide.

Babylon.js is an open standard for programming web-based XR applications

☐ True



☐ False



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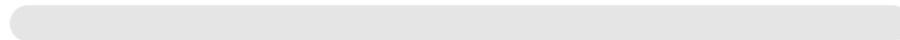


**The Unity engine can be used to
build WebXR applications**

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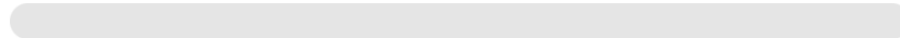
The Unity engine can be used to build WebXR applications

☒ True



0%

☒ False



0%

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Babylon.js can be used to build Web-based AR applications

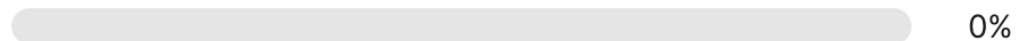
① Start presenting to display the poll results on this slide.

Babylon.js can be used to build Web-based AR applications

☒ True



☒ False



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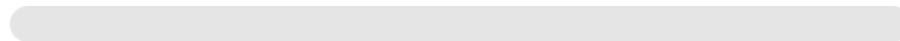


**WebXR is only meant for building
desktop 3D web applications**

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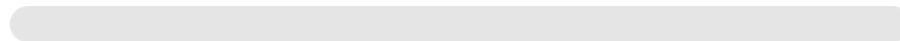
WebXR is only meant for building desktop 3D web applications

☒ True



0%

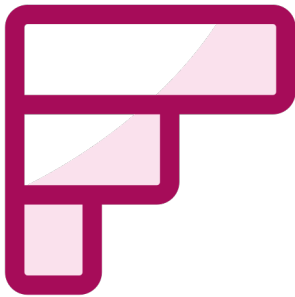
☒ False



0%

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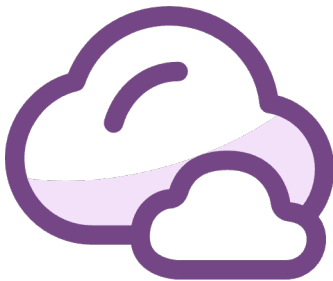


**Rank from the best to worst tool ecosystem, in your
perspective, for creating immersive applications**

① Start presenting to display the poll results on this slide.

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What is your personal favourite tool ecosystem for creating interactive 3D (including immersive) applications?

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Audience Q&A

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