Student Name:

Level 2 Digital Technology 2019

Digital Technologies & Hangarau Matihiko (DTHM)
Designing & Developing Digital Outcomes (DDDO)

AS91983 - v1

2.4 - Use advanced techniques to develop a digital media outcome
(Internal) 4 Credits

Context:
Develop a 3D webVR experience

Deadline: Week 10 - Midnight Friday 5 April 2019

Assessment requirements

You must submit:

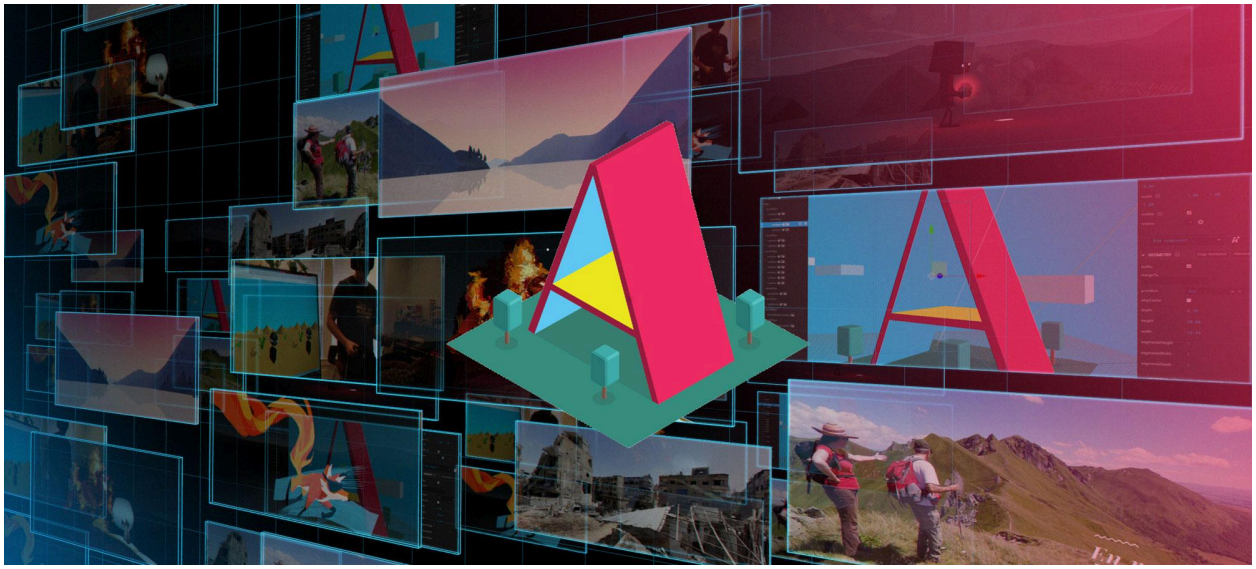
- All written work must be presented in a Google Doc **2.4 Progress Log** which needs to be exported as a **PDF**. Any work that can not be put into this document (e.g. a ZIP of media files) must uploaded to this assignment in Google Classroom.
- Ensure links to uploaded work are correct and Share Permissions make them accessible
- You completed webVR project files must be downloaded and ZIpped, named **yourfirstname.lastname-2.4-version#** and submitted following the teacher instructions.

Authenticity:

- All assessed work must be your own and no-one else is to do any work on your project (group projects must show your contribution clearly)
- Any assets (images / 3D / audio files) you use that are not your own **must** be referenced.
- On submission of your project as a .ZIP to the dropbox - sign the HVHS authenticity sheet.

Checkpoint:

- You teacher will set a checkpoint **Friday 22 March**. You can get feedback and an indication of how you are progressing grade wise. If you are not up to date on these deadlines your parents/ caregivers will be contacted as you will be at risk Not achieving the standard and you may be required to attend a catch up detention. If you need an extension contact your teacher & HOD.



Project Introduction / Kupu Arataki

AS91893 - **2.4 Use advanced techniques to develop a digital media outcome**

You are required to **develop a Virtual Reality, Augmented Reality or Mixed Reality experience on the web suitable for Google Cardboard**, using Advanced Techniques and Conventions.

You are going to be assessed on **iterative improvement** throughout the **development and testing** process and your use of efficient tools and techniques in the outcome's production.

➔ Submit your progress updates by the **Checkpoint** - End of Week 8, Friday 22 March.

➔ **Submit your completed webXR & Progress Log - End of Week 10, Friday 5 April.**

(Achieved) Develop an advanced webVR Demonstrate using appropriate tools and techniques for the purpose and end users • applying appropriate data integrity and testing procedures • use relevant conventions for the media type • ***explaining*** *relevant implications*.	**(Merit)** Develop an ***informed*** webVR (which means says how & why it has been fixed) • use info from testing procedures to improve the quality of the outcome • apply relevant conventions to improve the quality of the outcome • ***addressing*** *relevant implications.*	**(Excellence)** Develop a ***refined*** webVR • Iterative improvement *throughout* the design, development and testing process to produce a *high-quality* outcome • Use *efficient* tools and techniques in the outcome's production

2.4 Assessment Schedule

BRIEF FOR PROJECT

Conceptual statement / Scenario:

The HVHS Digital Technology Department would like you to develop and test a webXR experience with 3D models for use with Google Cardboard. It may ***entertain*** AND / OR ***inform***.
You need to choose the Purpose & Target Audience.
Here are some ideas for you to choose from

Project Requirements (you must follow):

You must explain / address a minimum of 2 or more *Relevant Implications*, for digital media outcome, e.g. ***give specific examples of HOW & WHY you will apply these.***
See the idea prompts

You must have at least two original entities, 3D objects, graphics or textures.
So think creatively about what images you take to help you develop backgrounds/ costumes for your webVR:

You may use 3D software to make your 3D Models & environments, such as **MagicaVoxels**, Tinkercad, MS Paint 3D, SketchUp, Clara.io or Blender. We recommend using formats like .OBJ & .MTL, or convert .glTF& textures to .GLB with *GLTF to GLB Packer*

You may create your own Equirectangular 360 photospheres using Google StreetView App or Photoshop. If you download images from Flickr.com or Textures.com **remember to comply with copyright & reference creative commons.**

You must explain how & why you will use a minimum of 2 or more *Advanced Techniques & Conventions* to create your webVR digital outcome,

e.g. *"I will be using an HTML webVR third-party library called A-frame.io and an animation mixer (not a drag and drop program) to apply the following advanced techniques and conventions...."*

You must use data integrity & testing procedures,

See below for Advanced Technique ideas...

Use & Explain 2 or more Advanced Techniques & Conventions

A-Frame webVR Code	**Creating / Customising Code or pre-sets:** I will use Entity Components to fine-tune my model's scale, position, colour, rotation, texture repeats, animation autoplay, because...	
	My VR Interface will use a reticule to help selecting menu items. Those menus will give feedback by… (animate, change size, change colour, sound FX)	
	I will code Interactivity triggers events such as… to show / hide... animated objects, text, lighting.	
	Efficient tools such as Asset Management System <a-assets> with #IDs to preload reused elements and make the page load faster.	
	Script the use of audio / video / trigger events / interactivity / particle systems / animated camera / controller	
3D models	**Creating / Customising Code or pre-sets:** 3D models may be coded. I will use use composite steps to make a… with multiple primitives shapes (such as <a-plane>, <a-sphere>, <a-cube> etc with added texture), arranged together as an <a-entity>	
	Efficient Tools I refined component settings using the Visual Inspector to change the… and then copied the entity code back to my project.	
Image Manipulation	**Using combination of steps to enhance** My (textures / 360 degree <a-sky> or object's UV Maps) images will be made / edited using a composite of steps, e.g. use Layer Masks / Adjustment Layers, Blending Options, Clone Stamp to create / refine graphics & text, in order to...	
	Image Optimisation I will optimise my images / textures / UV maps in Photoshop to Save For Web using the following settings… to apply suitable compression to make the page load faster.	

You must use data integrity & testing procedures, these may include:

- Check for errors in the Code window IDE
- Use developer Tools to inspect the Console
- Use HTML validation, use current HTML conventions for mark-up, e.g. <head> title, language & meta info. Code commented and indented.

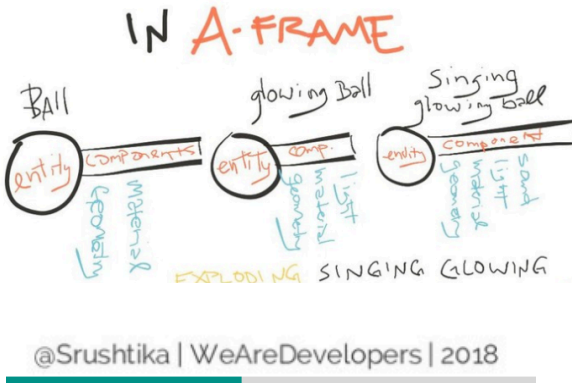
2.4 Progress Log Stages

DEFINE - DISCOVER - DREAM

Presented your Progress Log in <u>one</u> Google Doc - exported as a PDF.
(it must contain links to the live Glitch project).

Be sure to keep notes of iterative testing procedures.

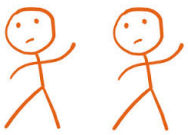
You can record video of testing with Chrome plugin ScreenCastify. Make sure Share links allow others to view files.



Remember to explain how these inform & refine the outcome in iterative stages:

1) My webXR's Purpose is… and will contain...

2) My Target Audience is...



3) How & Why I will use 2 or more Advanced Techniques & webVR conventions…

Technique 1)

Using the Asset Management System is better than just adding the entity to the page.

All the entities in the <a-assets> section get pre-loaded and cached so that speeds up the page.

Entities can be reused many times and it is just as fast.

4) Explain how you will address 2 or more Relevant Implications (see Relevant Implication Posters)

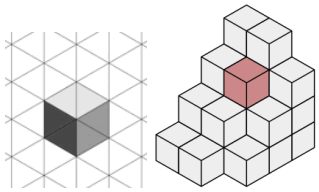
Social, Cultural, Legal, Ethical, Intellectual Property, Privacy, Accessibility, Usability Functionality, Aesthetics, Sustainability and Future Proofing, End-user Considerations or Health & Safety.

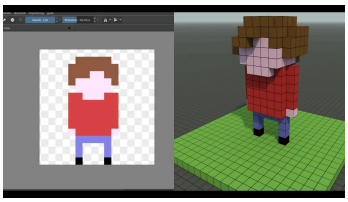
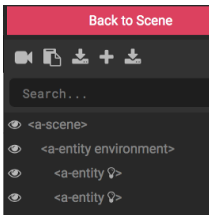
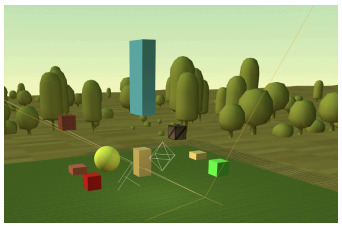
Implication	How you address it?
	I will… , because… , so that...

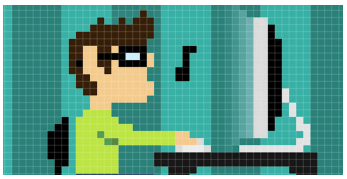
See this page for optional idea prompts

2.4 Progress Log Stages

DESIGN & DEVELOP

1	Glitch Sketchfab	**Setup your Project in Glitch** 1. **Rename** the project and keep versions: **YourUsername-2.4-version-#**, e.g. 14019mh-2.4-version-3 2. Use the **README.md** MarkDown file to add a Share link to your Google Doc 'Progress Log'. Use basic for <b> & links 3. Keep **references** to creative commons assets here in the README.md file, such as files from **SketchFab** that you download, convert to .GLB (https://glb-packer.glitch.me/) and upload for your own project's assets folder.	**Completed/ Notes:**
	My Share Link URL to my Glitch is:	**Version 1:**	
2		**Planning & Making your 3D models for characters / backgrounds:** It may help to use geometric grid paper plan out what your 3D views / models will look like. This is an important efficiency step before you start making and helps avoid wasted effort.	

		Plans can be then developed with low resolution mockups - using stand-ins. You can then build models in whichever software is most easy/suitable: MagicaVoxel, MS Paint 3D, Tinkercad, Clara.io or Blender.	
3		You may make **backgrounds** in MagicaVoxel, SketchUp, Unity3D. You can use Photoshop or use Google Street View to make a 360 degree photosphere. Play around XYZ views, positioning, sizing, etc. Label them with the shapes and techniques needed to create them. E.g Cube that is transformed (rotation, scale, position, colour). Consider interactivity, lighting, colour, materials, audio	
4	  	**Making & Coding / Trialling & Testing:** **Use the *Visual Inspector* (Ctrl + ALT + i) to make changes and copy code back to Glitch** **You must keep older & newer copies, e.g. v1, v2, v3** **M) E) Keep iterations of the code (version control)** **You need to show evidence to explain why & how you improved the outcome iteratively** through repeated cycles of trialing and testing. Evidence of testing and iterative improvement may include: • Show the project in stages • before/after screenshots with annotations • brief screencasts showing the outcome being tested • Links to successive versions of the project • screencasts with narration commenting upon testing procedures as they develop their media outcome	
	My Share Link URL to my Glitch is:	**Version 2:**	

5		**CheckPoint 1: Friday 22 March** A chance for you to ask questions, gather feedback and demonstrate evidence of iterative improvement. **Update the PDF of your Progress Log**	
6		**Trialling and testing** could include: • Use w3c HTML validator • Use code IDE / Developer Tools to inspect Console • Test Models / font and web safe #Hex colour • Use Visual Inspector to refine XYZ layouts for models / text and images • Test Animation timing / lighting on mobile browsers • Test Interactivity - event & actions • Ensuring assets are loading correctly on mobile • Test the outcome with potential end users (proof reading, specific feedback regarding the design, usability and readability.	
		DELIVER & DEBRIEF	
7		**Review Relevant Implications:** You need to show how your use of advanced techniques addressed **relevant implications** and uses appropriate conventions. You may wish to consider: • how privacy, ethical and/or intellectual property (copyright/creative commons referencing) issues have been addressed. • how your design ensures that the resulting outcome will be fully functional and easy to use. • how your chosen aesthetic elements (photo realistic / cartoon / retro 8bit Pixel styles) are appropriate for your end users - how you have refined them.	
8		**Final Hand-in: Friday 5 April** **Before you submit your final 2.4 Advanced webVR digital media outcome:** • Update your PDF with live URL hyperlinks to the project on Glitch. **Save it Lastname-Firstname-2.4.pdf, e.g. Smith-Sam-2.4.pdf** • Make sure the ReadMe.md markdown has references & attribution to creative commons assets' creators. • Download your Glitch site. Make a backup zip of all of the files, .e.g. TGZ or ZIP. Name it.	

		• Submit your work to the Student Drive dropbox and sign the Teacher's Submission sheet	
	My Share Link URL to my Glitch is:	**Version 3:**	

