AXM - E0404

Designing and Creating Virtual Worlds

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Agenda

- 0920 - 0940: Group 4 & 5 present the news and we discuss
- 0940 - 1010: Lecture on Immersion and Presence in VR
- 1015 - 1040: Lecture on Storytelling
- 1045 - 1100: Lecture on Storyboarding for VR
- 1105 - 1140: Discussing your assignments
- 1140 - 1200: Mozilla Hubs example from previous years

Flinga exercise: https://edu.flinga.fi/s/ECFPC6B

Frameworks (Derived from Mel Slater)

- Immersion

- Presence:

  Place Illusion (PI)

  Plausibility

- Coherence

Immersion

“the extent to which a computerized system is capable of offering to the user the illusion of reality at once being:

- Inclusive: Extent to which the physical reality is shut out
- Vast: Range of sensory modalities
- Surrounding: What is the field-of-view
- Vivid: Resolution, fidelity, variety of energy

Slater et.al (2009): Objective property of a system that supports natural sensorimotor contingencies

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Presence

“the qualia of having a sensation of being in a real place”

&

“in spite of the sure knowledge that you are not there” (Slater et. al, 2009)

Image credits: BeatSaber

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Presence

“the qualia of having a sensation of being in a real place”

&

“in spite of the sure knowledge that you are not there” (Slater, 2009)

Presence characterised by:

- Place illusion: feeling of being in a place - relates more to the VR environment

  &

- Plausibility: whether what is happening is actually happening (Slater, 2009)

Coherence

Context and set of rules within the simulation defining the validity of the experience (Skarbez et. al, 2017)

Image credits: Skarbez et. al

Coherence

Context and set of rules within the simulation defining the validity of the experience (Skarbez et. al, 2017)

- Virtual Human Behaviour or NPCs (non-player characters)
- Virtual body: avatar
- Physical Interactions: intuitively and “realistic” or “believable”
- Scenario: environment

Slater et al’s study: Positive Illusions of Self

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Time (as an aspect of presence)

Different mechanisms for manipulating time in VR:

- Time dilation
- Parallel Realities: time varying virtual worlds
- Non-linear narratives
- Time travel

Time dilation

Slater et.al’s study: Time travel in VR

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Other definitions

Immersion:

- “a psychological state characterized by perceiving oneself to be enveloped by, included in, and interacting with an environment that provides a continuous stream of stimuli and experiences” (Witmer and Singer, 1998)

- “the degree which the range of sensory channel is engaged by the virtual simulation” (Kim and Biocca, 2018)

Other definitions

Presence:

- “the extent to which one feels present in the mediated environment” (Yang et al., 2021)
- “the subjective perception of being in a particular place, even if situated physically somewhere else” (Jaalama et al., 2021)
- “the subjective feeling of the user of physically being in the virtual environment rather than in the place where the body is located” (Rauscher, 2021)

Frameworks

- Immersion

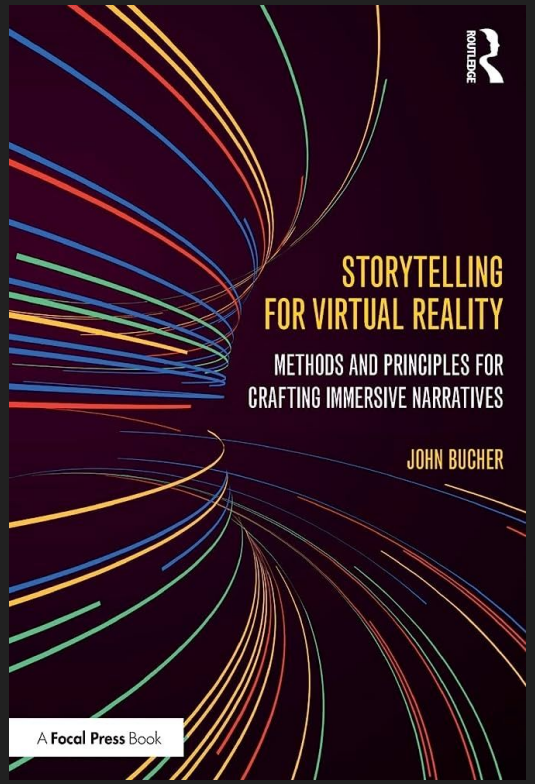
- Presence:

  Place Illusion (PI)

  Plausibility

- Coherence

Storytelling for Virtual Reality - John Bucher



- Principles for storytelling.
- How stories can be structured, created, and told in immersive virtual spaces.

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Storytelling for Virtual Reality - Bucher

- First-time VR users often have a visceral reaction wherein the medium could dominate more than the narrative itself.
- Engaging with users is more of a dialogue or a dance than an experience forced upon them.
- Emotional journey.

Storytelling for Virtual Reality - Bucher

- Chris Milk: VR the ultimate empathy machine (?)
- Characters, avatars, and social aspects

BeAnotherLab - Gender Swap experiment

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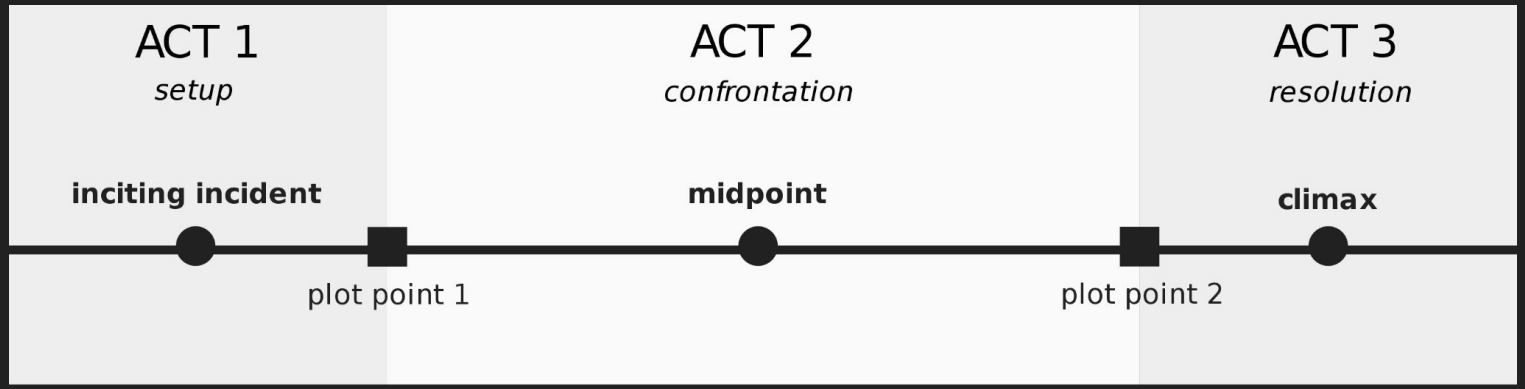
Storytelling for Virtual Reality - Bucher

- Three-act structure still relevant.
- Environment
- Every element in the VR world should have a purpose.



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Storytelling for Virtual Reality - Bucher

- Opting in and out at any moment.
- Considerations for a variety of reactions.

- Metaphors and room for imagination as opposed to being literal.

Storyboarding?

A visual representation of a sequence of actions broken into individual panels.

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Frames (Animation and Films)

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Frames (Animation and Films)

Disney - Three Little Pigs (1933)

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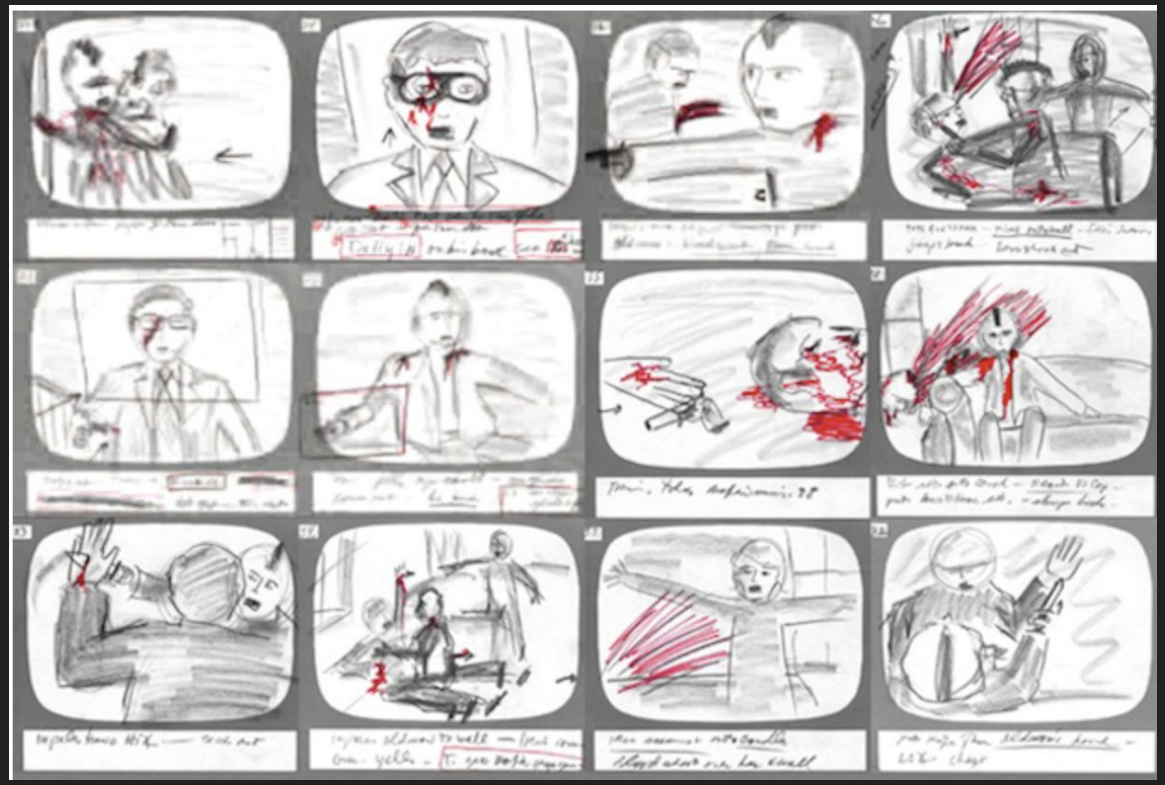
Frames (Animation and Films)



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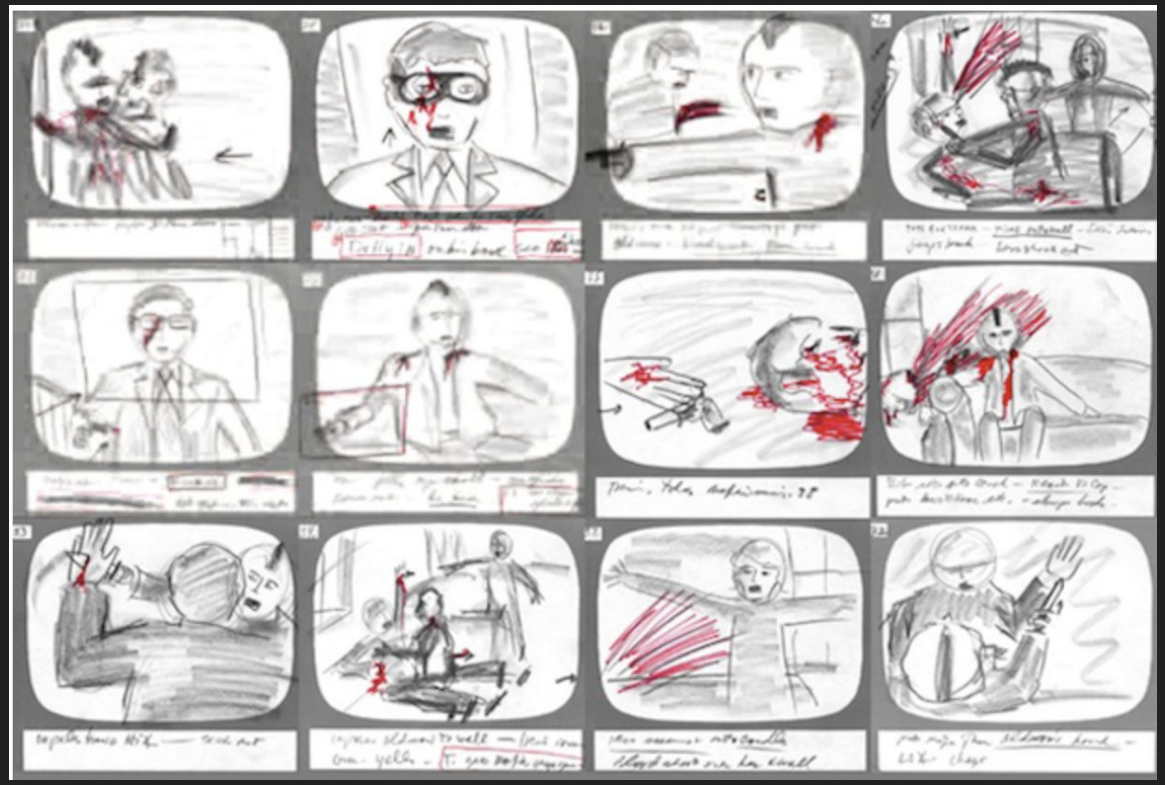
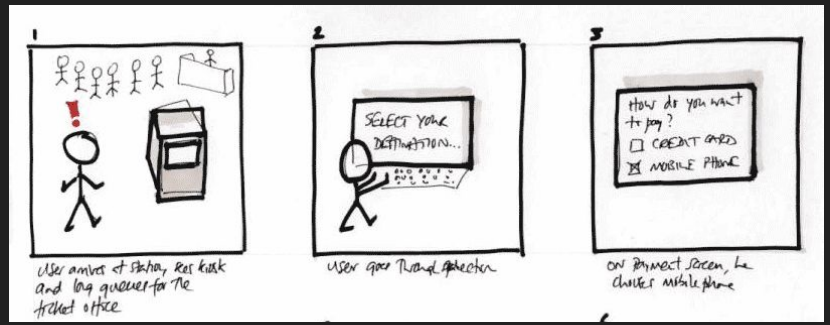
Frames (Animation and Films)

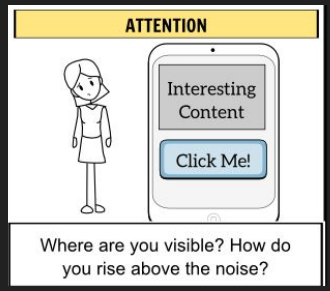


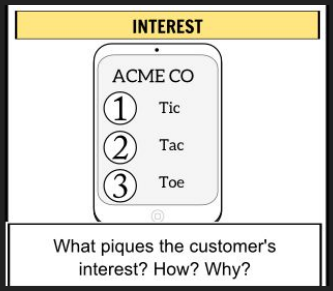
Taxi Driver (1976) -
Martin Scorsese

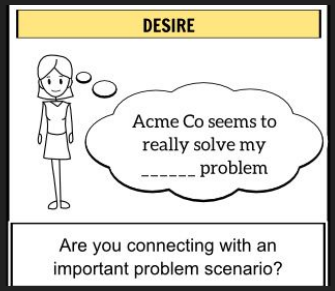
Where else?

- Theatre
- Businesses
- Software systems
- Scientific research









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Games

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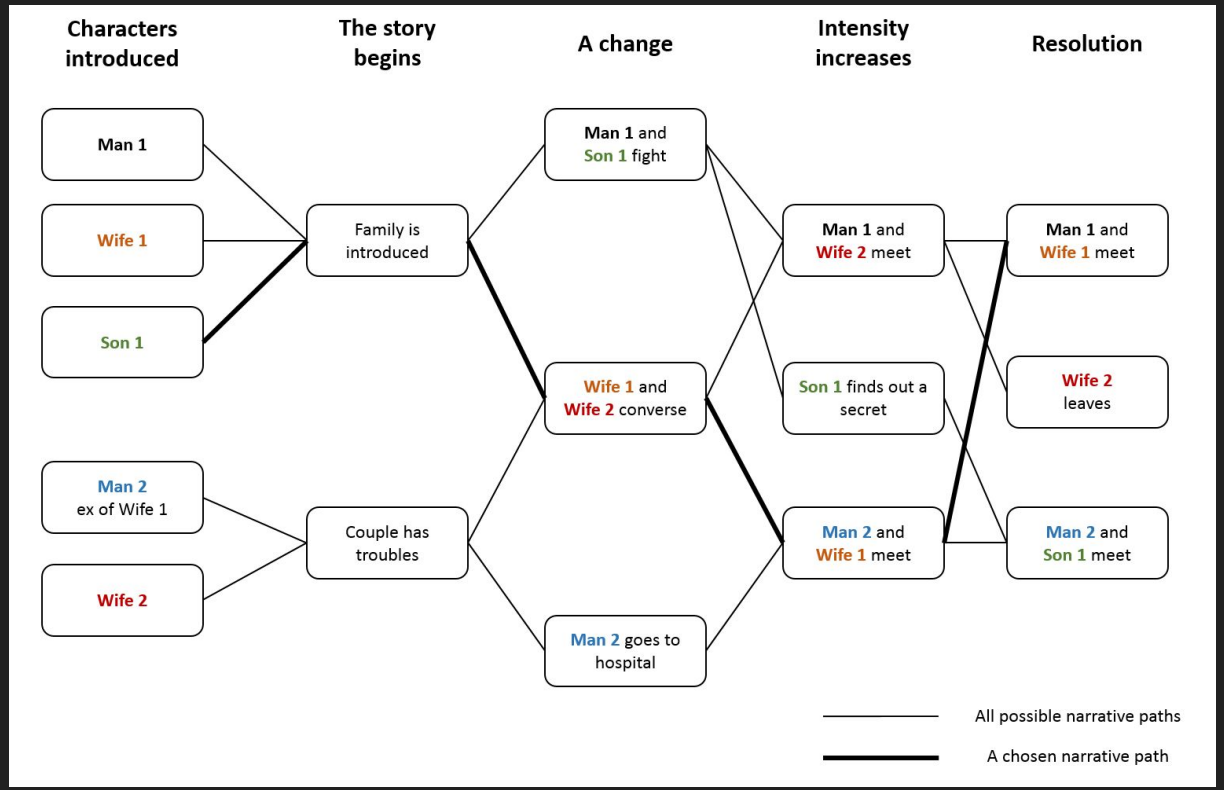
Games

BioShock Infinite (2013) - Irrational Games

Games



Adventure games with branching storylines

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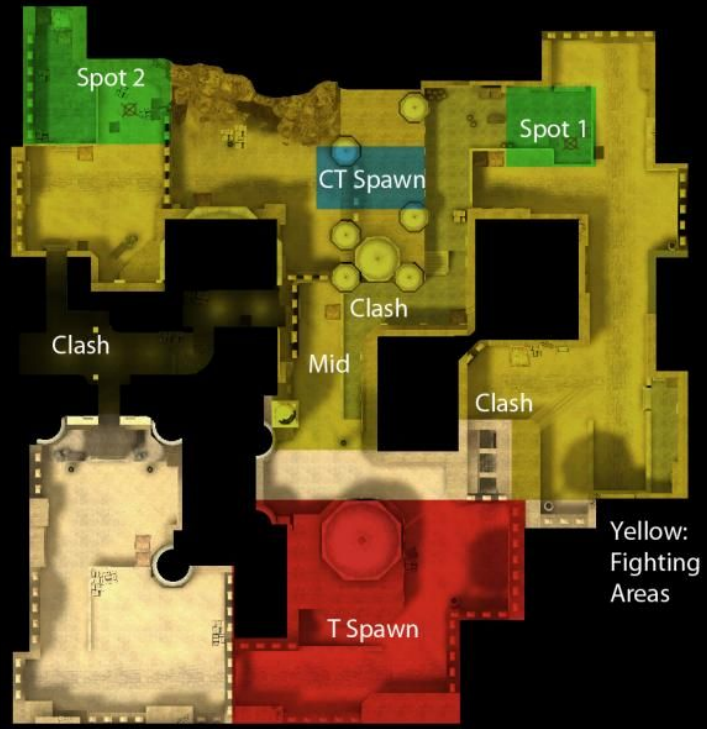
Overview - Mapping?



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Overview - Mapping

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Overview - Mapping

Everyday Vrealities -

Timo Wright & Co

https://vimeo.com/757079424

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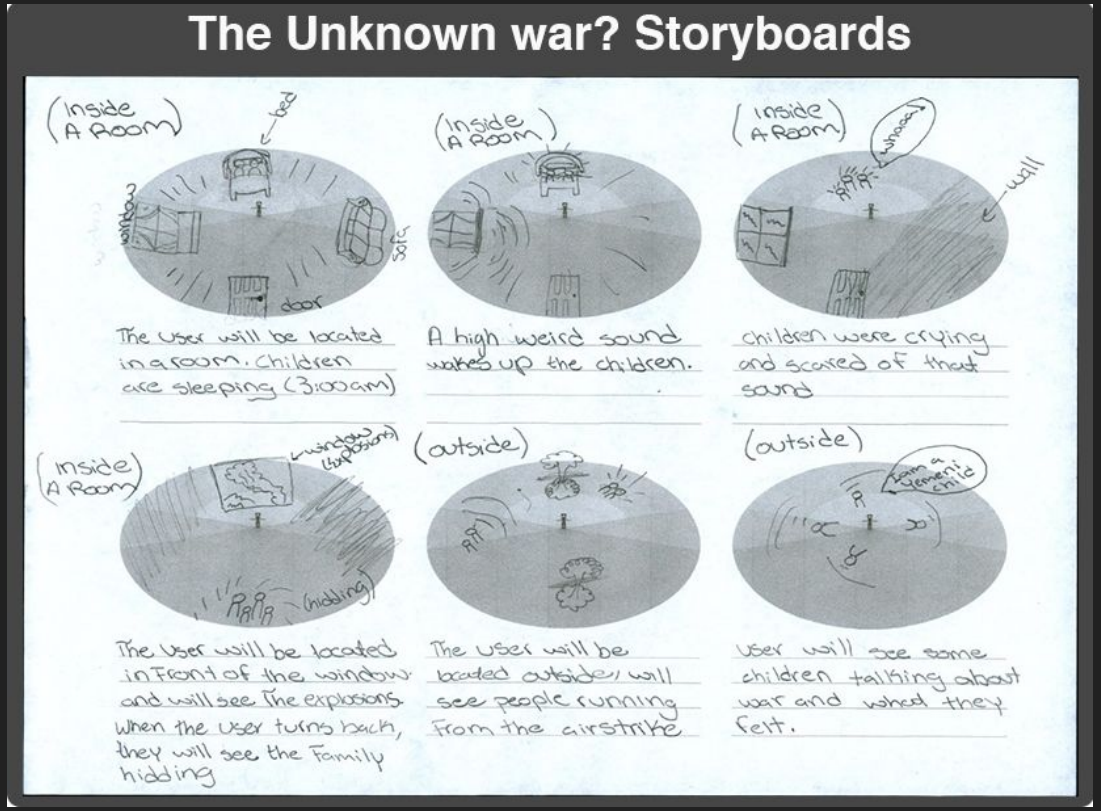
What about VR?

- Considering a First-Person (FP) camera view with higher Field of View (FOV).
- Sense of presence, i.e “actually being there”.
- User’s agency: take into consideration the “uncanny valley”.

What about VR?



The unknown war

By Layal Al Shaba

http://www.layalalshaba.com/rtd

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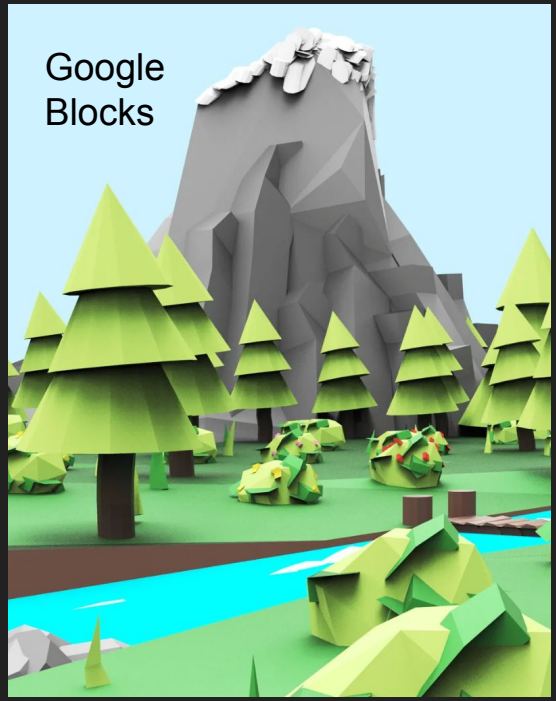
Sketching in VR



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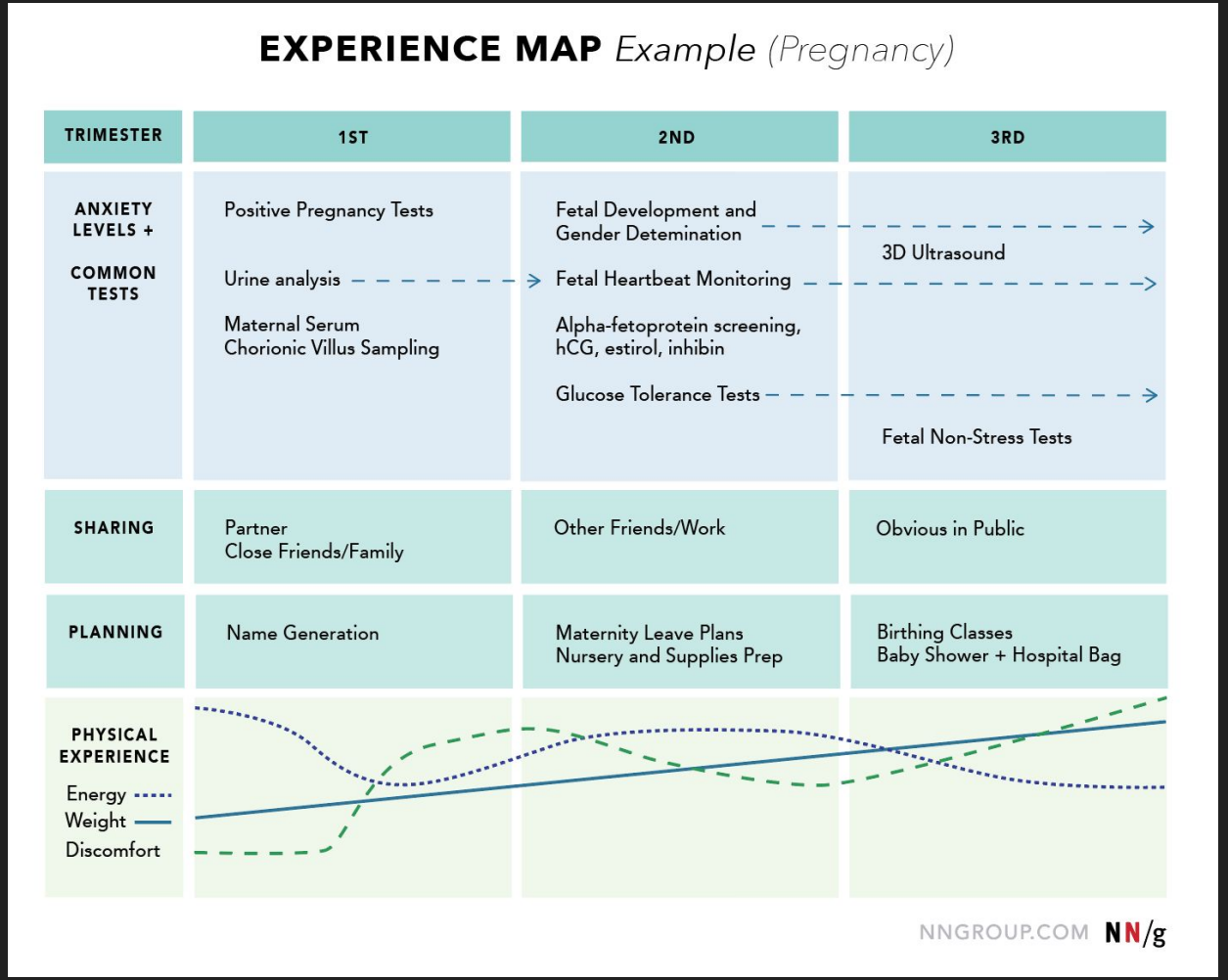
Benefits of storyboarding

- Visualizing your design and gaining better insight.
- Iterative planning from the perspective of a user.
- Anchored vision for your whole team.
- Potentially identifying weaknesses in your design.

UX mapping

Visualization of an end-to-end experience that a “generic” person goes through in order to accomplish a goal.



UX mapping

DMH

Pop-up VR Museum

Maija
70-80 years old
Interested in art, music and cultural heritage

	Main scene: Listen to stories	Main scene: Immerse in an object
Touchpoints		
Actions	Chooses this option	Chooses this option
Emotions	Nostalgia	Scared
Breakdowns	Can't hear too well and read at the same time	Sudden giant scissors scary
Ethics	Accessibility with sound and text	Fear in an unknown virtual space
Recommendations	Sentence by sentence subtitling and louder audio	Smoother transitions during immersion

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Assignment 2 - Create a Storyboard

Create a sketch of a map/overview of your virtual world. Based on it, start designing a storyboard by identifying prominent sequences of scenes within your story. Take into consideration where a user may begin and end their experience as well as a series of branching set of possible narratives between these points.