

# Final Presentation - F3.2



By: Leah Webber, Jasen Lee, and Aura Yan

# Context of the Problem

- Lots of bigotry, bias, and discrimination everywhere



[1]



[2]

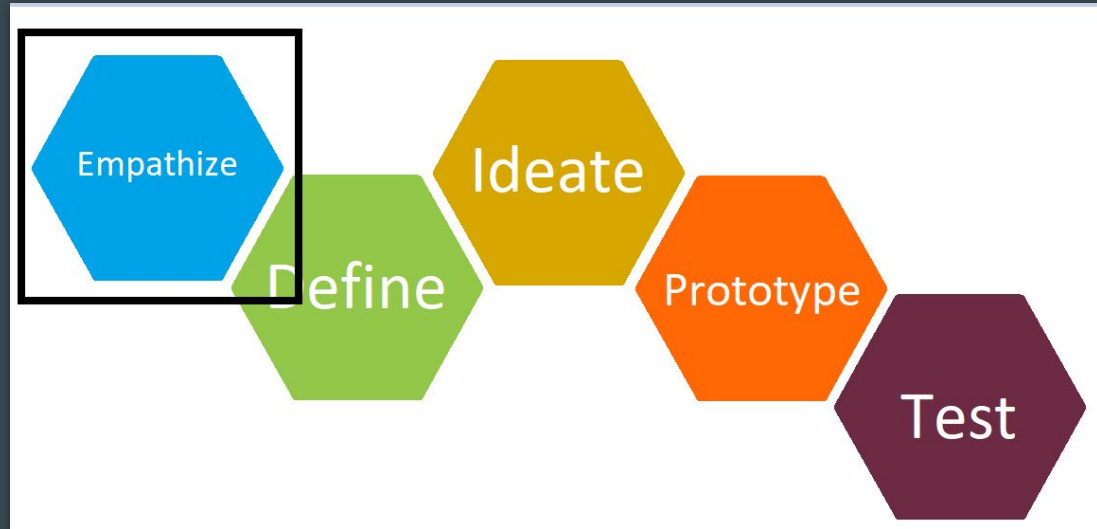
# Context of the Problem

- Client: Professor Anis from the University of Ottawa
- VR simulation



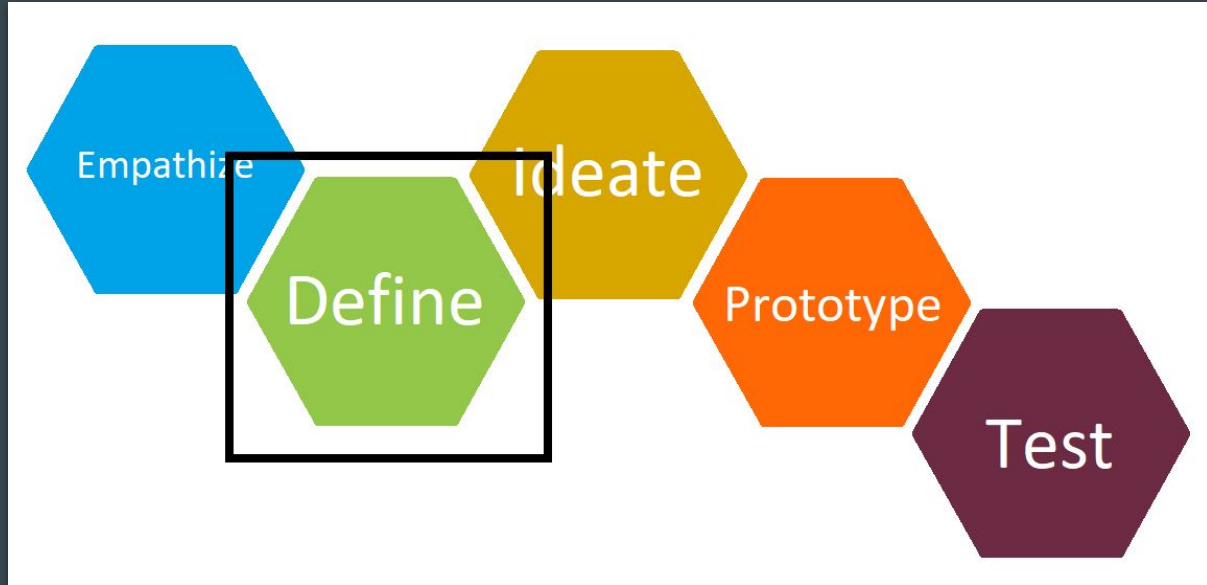
# Empathize Stage

- Beginner's mindset
- Interpreted needs
- Problem Statement
  - Immersive experience
  - Educates people on implicit bias towards minority groups
  - Increases a user's empathy



# Define Stage

- Benchmarking
- Design Criteria
- Functional and non-functional requirements

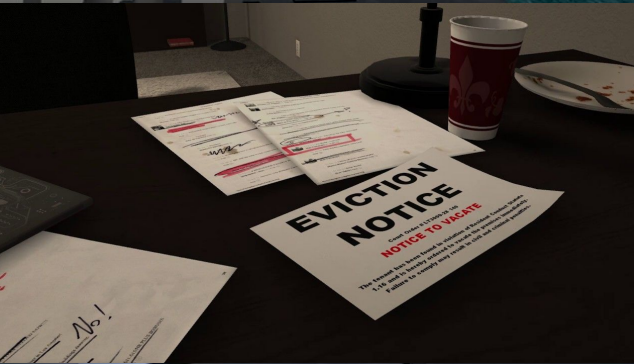


# Define Stage: Design Criteria

Rank	Design Specification	Relation	Value	Units	Verification
<b>Functional</b>					
5	Tells a story (user experience)	=	yes	N/A	analysis
5	Conveys a message (user experience)	=	yes	N/A	test
3	Varied perspectives (perspectives)	=	yes	N/A	analysis
4	Has to use virtual reality (technical)	=	yes	N/A	analysis
<b>Nonfunctional</b>					
5	Non-disorienting (user experience)	=	yes	N/A	test
4	Intuitive to navigate (user interface)	=	yes	N/A	test
4	Bug free and reliable (technical)	=	yes	N/A	test
2	Short duration (duration)	=	yes	min	test
<b>Constraints</b>					
1	Cost	<	50	\$	analysis
4	Provided in English (technical)	=	yes	N/A	test
	Age	>	18	years	analysis



# Empathize Stage: Benchmarking



1. 1000 cut journey [4]

2. Becoming Homeless [5]



3. Axon EDI training [7]

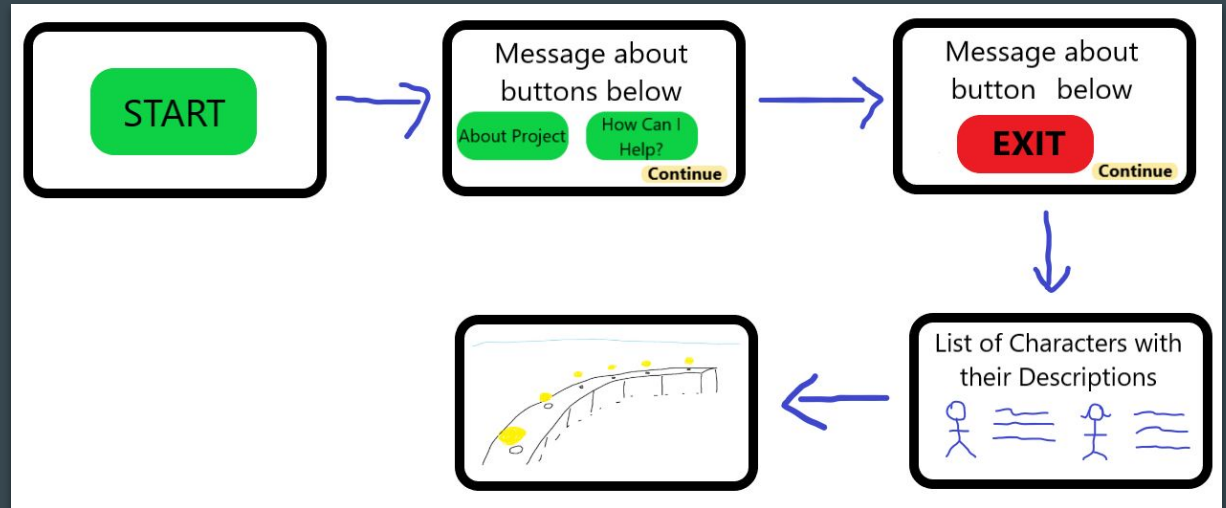
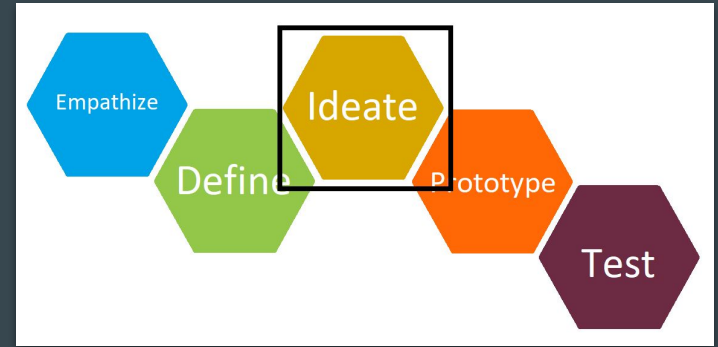
# Define Stage: Benchmarking

Specifications for VR program	Weight	Product Number			
		1	2	3	
Duration	2	1	3	2	Better
Cost	1	3	3	3	Midrange
User interface	4	1	1	3	Worse
Number of perspectives	3	1	1	3	
User experience (review)	5	1	2	1	
Technical attributes	4	1	1	2	
	<b>Total</b>	21	30	41	

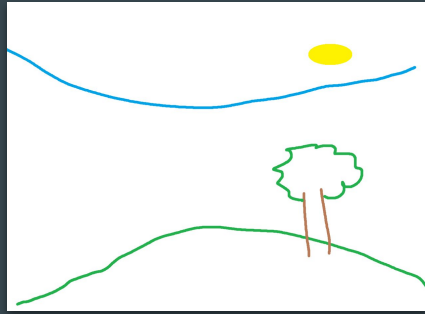


# Ideation Stage

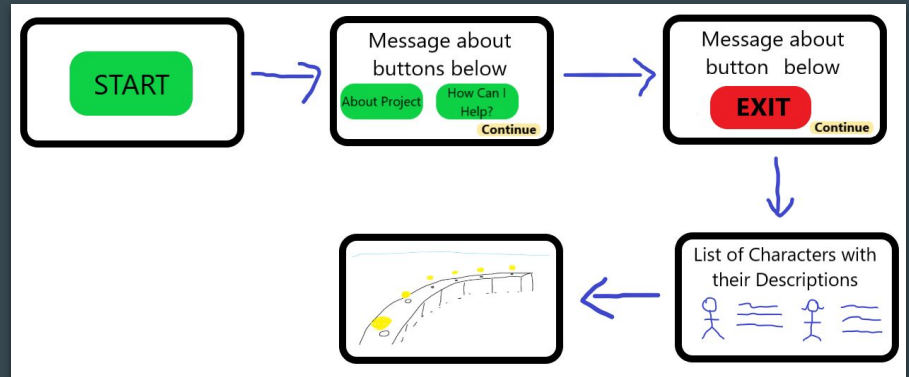
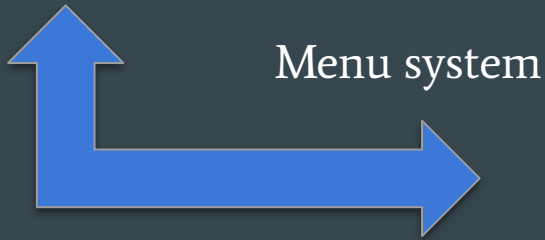
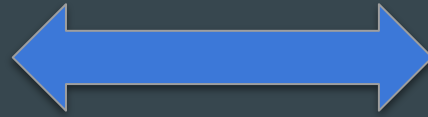
- Subsystems
- Coming up with different ideas
- Rating the ideas against each other



# Initial Design and client feedback



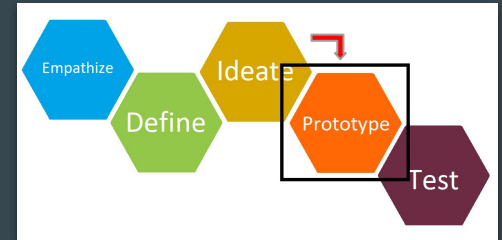
Video recording(s)



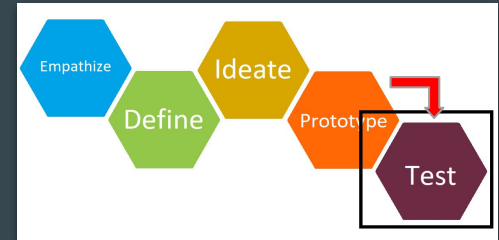
# Prototype 1

Short story: Based on a true story

- First person
- Events unfold in real time
- Relatability
- Unexpected surprise ending



# Prototype 1 Testing

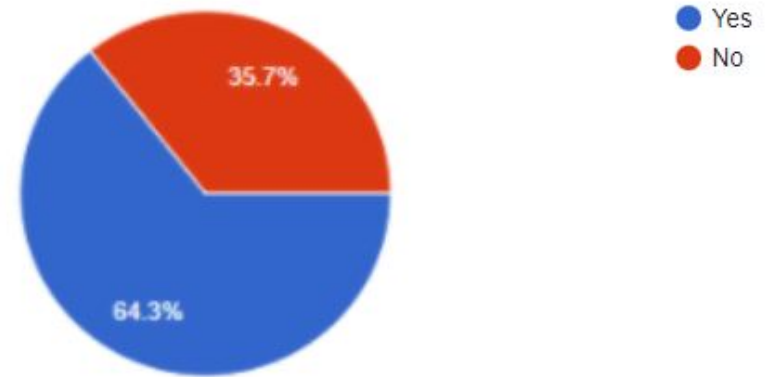


Emotions test users say they experienced (end of story):

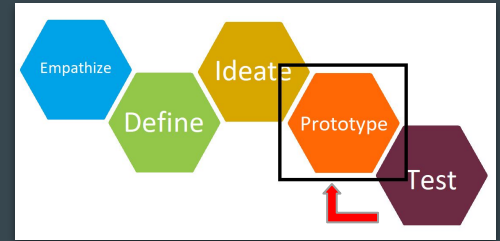
- Betrayal
- Frustration
- Upset
- Disappointed
- Empathy
- Angry
- Pain
- Sadness
- Discouragement

Do you feel like a bystander to this situation?

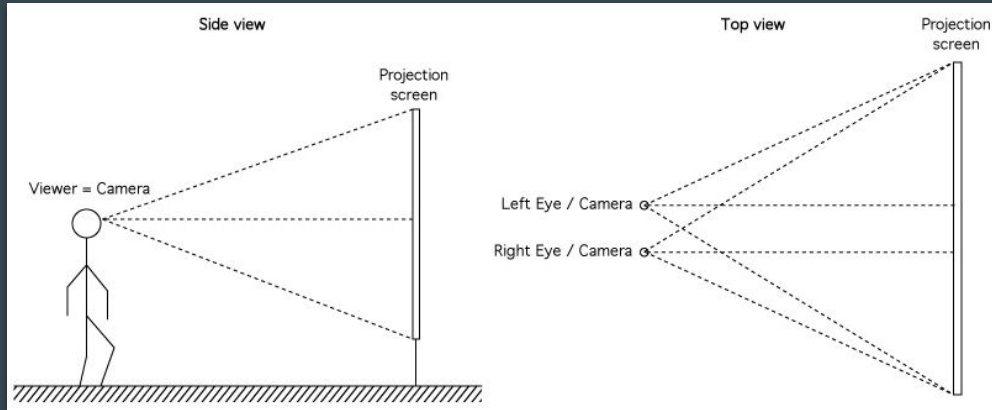
14 responses



# Prototype 2: Stereoscopy



[11]



[10]



[9]

# Prototype 2: Unity3D



Skybox/PanoramicBeta

Surface shader	no
Fixed function	no
Compiled code	Compile and show code ▾
Cast shadows	no
Render queue	1000
LOD	0
Ignore projector	no
Disable batching	no
Keywords	...

**Properties:**

._Tint	ColorTint Color
._Exposure	RangeExposure
._Rotation	RangeRotation
._Tex	TextureSpherical (HDR)
._Mapping	FloatMapping
._ImageType	FloatImage Type
._MirrorOnBack	FloatMirror on Back
._Layout	Float3D Layout

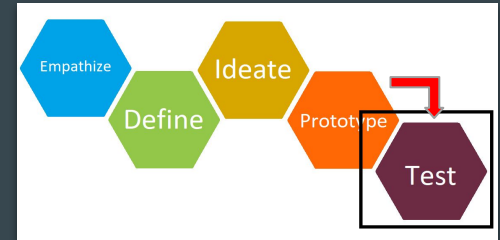
Imported Object

#	SkyboxPanoramicBetaShaderGUI	ⓘ ⚙
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**Assembly Information**

Filename	Assembly-CSharp.dll
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# Prototype 2 Testing



Testing criteria:

- Image quality/immersivity
- Nauseating discomfort



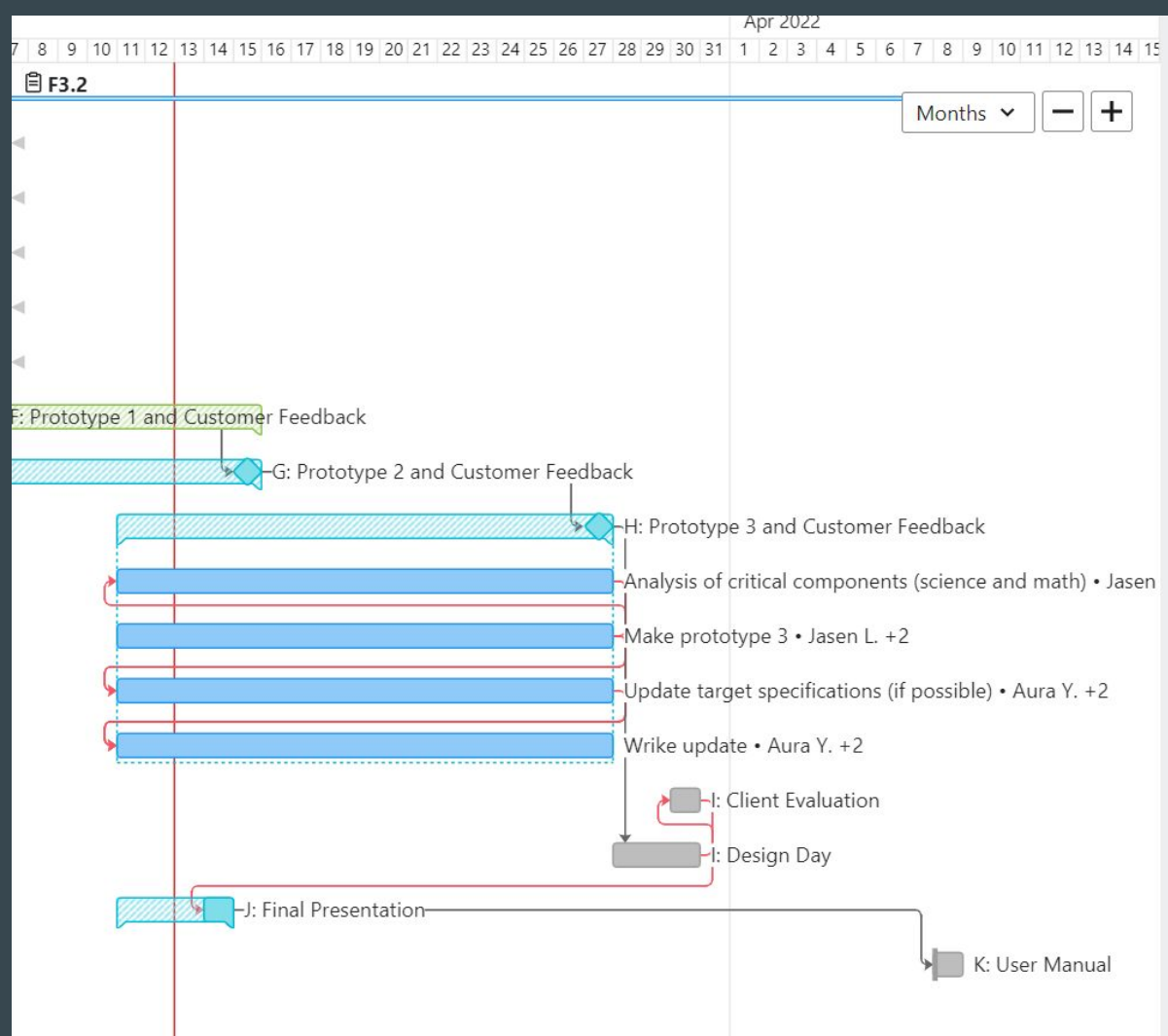
# What We Learned

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- Design Thinking process
  - Believing in worst case scenarios is better
  - How to interpret client statements, feedback, and comments
  - More is always better when it comes to surveys
    - Improve on phrasing
-



# Next Steps to Complete

- Prototype 3
  - Deliverable H
  - Milestone
- Design Day Presentation
  - Milestone
- Deliverable K



# References

- [1] C. Klein, “American Voters Are Rapidly Embracing the Black Lives Matter Movement.” *Vanity Fair*, Jun 10, 2020. [Online], Available: <https://www.vanityfair.com/news/2020/06/american-voters-rapidly-embracing-black-lives-matter-movement-george-floyd>, [Accessed: Mar 12, 2022].
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- [4] n.a., “1000 Cut Journey.” *IMDb*, n.d. [Online], Available: <https://www.imdb.com/title/tt8230244/>, [Accessed: Mar 12, 2022].
- [5] n.a., Virtual Human Interaction Lab, “Homelessness: A Human Experience,” *Stanford University*, n.d. Available: <https://stanfordvr.com/becominghomeless/>, [Accessed: Mar 12, 2022].
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- [9] “Vuze XR 3D vr180° / 2D 360° 5.7K camera (black),” *Vuze XR 3D VR180° / 2D 360° 5.7K Camera VUZE-XR-BLK B&H*. [Online]. Available: [https://www.bhphotovideo.com/c/product/1437117-REG/vuze\\_vuze\\_xr\\_blk\\_xr\\_3d\\_vr180.html](https://www.bhphotovideo.com/c/product/1437117-REG/vuze_vuze_xr_blk_xr_3d_vr180.html). [Accessed: 13-Mar-2022].
- [10] P. Bourke, *Stereoscopic filming*, Oct-2018. [Online]. Available: <http://paulbourke.net/stereographics/stereorecord/>. [Accessed: 13-Mar-2022].
- [11] Markus, “How to create stereoscopic cross-view 3D pictures from Lytro Images,” *LightField Forum*, 11-Jan-2013. [Online]. Available: <http://lightfield-forum.com/2013/01/how-to-create-stereoscopic-cross-view-3d-pictures-from-lytro-images/>. [Accessed: 13-Mar-2022].

**Thank you for listening.  
Comments and/ or  
Questions?**