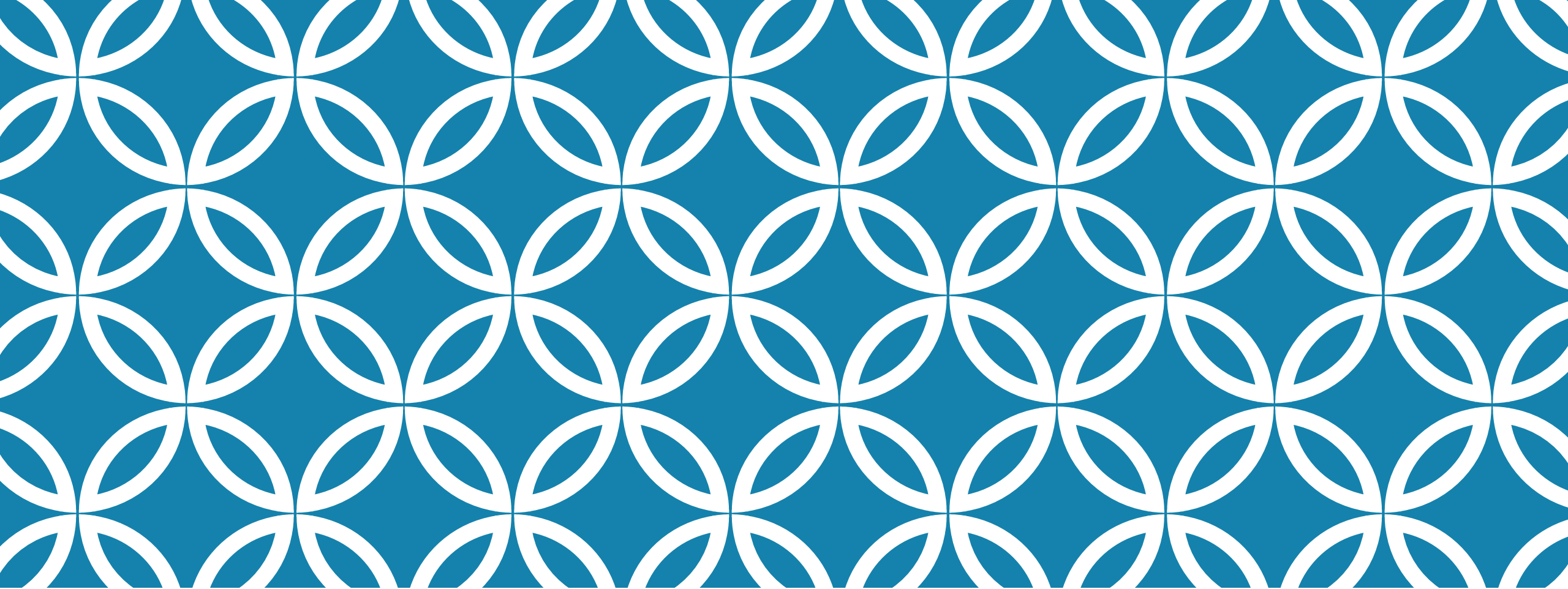




FINAL VIVA PRESENTATION

GILLEAN YVES JOFRE

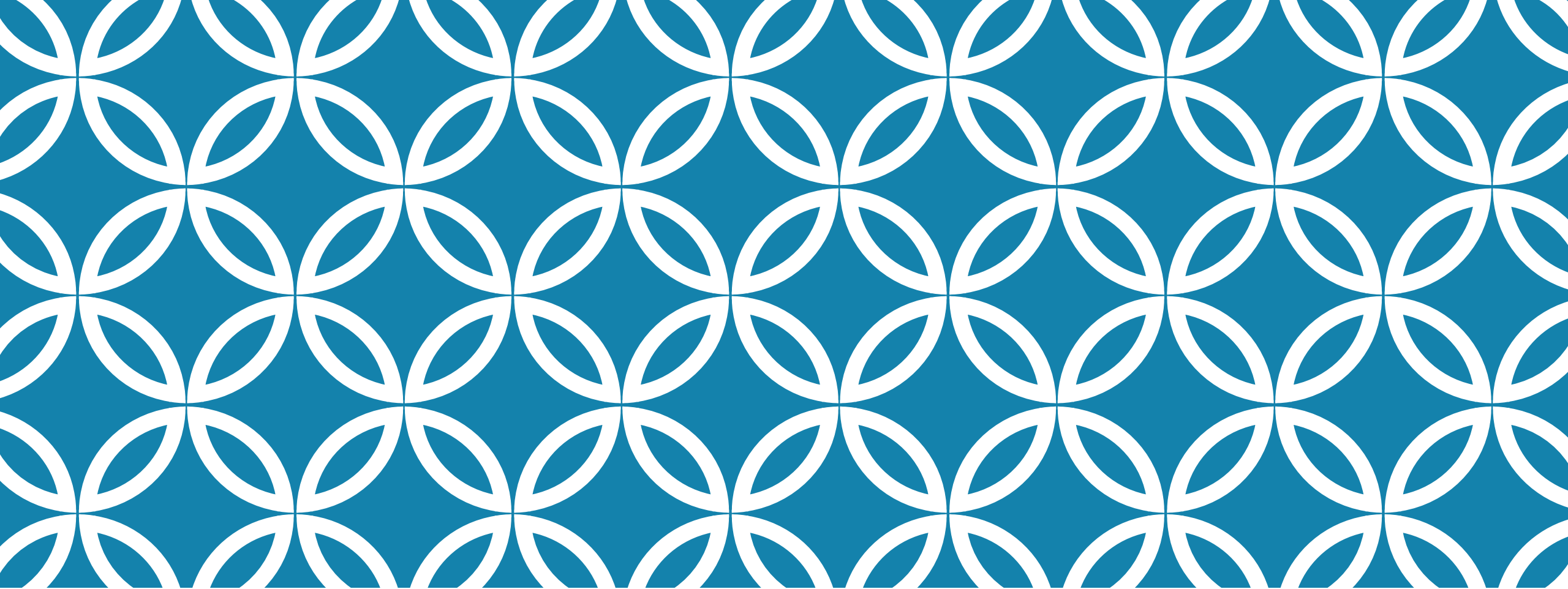
*'The effects of visual filters and effects
on a User's Immersion in Virtual Reality'*

For completion of BA Computer
Games Design

Supervisor: Adam head

CONTENTS

- Summary of previous work.... [Page 3](#)
- Development of Testable Prototype.... [Page 7](#)
- Unreal and Meta quest issues.... [Page 14](#)
- Footage of final prototype.... [Page 18](#)
- Bibliography and references.... [Page 21](#)



SUMMARY OF PREVIOUS WORK

INITIAL PROTOTYPE

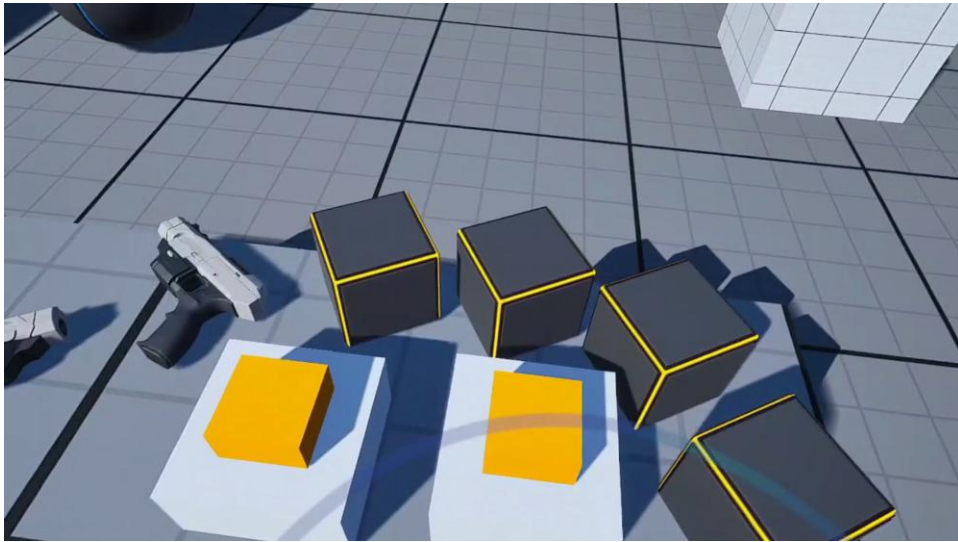


Figure 1: Video of initial prototype

This was an initial prototype created to test and evaluate two things:

- How does the VR Template (UE5.5)[1] work
- How can we easily implement filters

TECHNICAL BREAKDOWN

Showcase of how the filters function

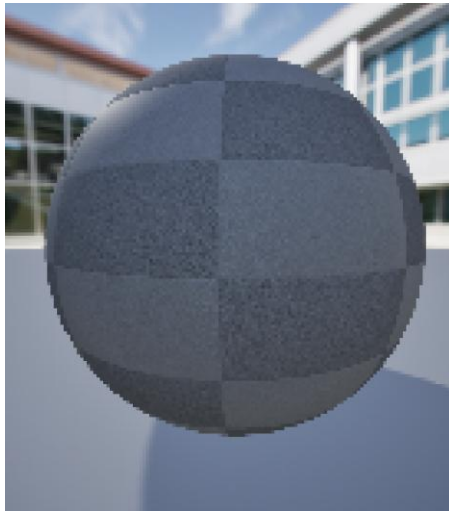


Figure 2: Screenshot of Post Process Volumes

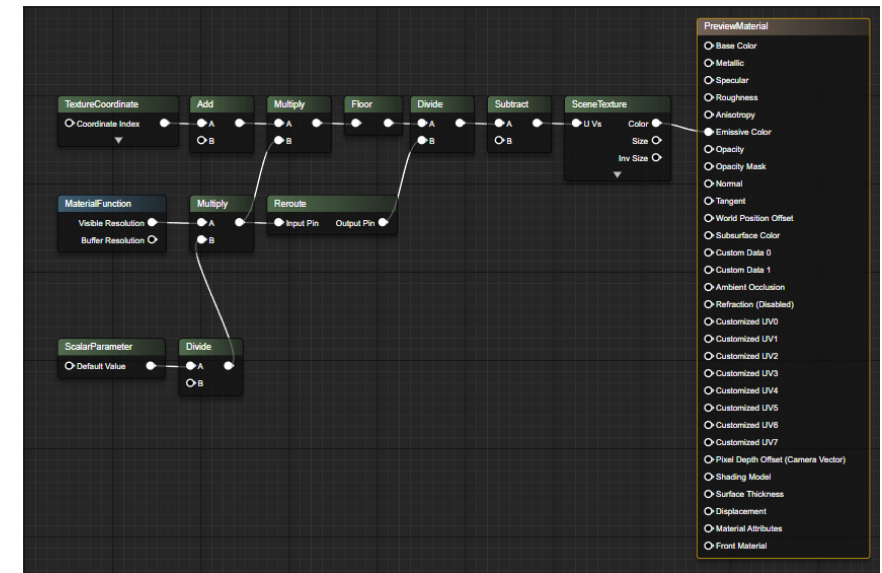


Figure 3: Screenshot of Example Filter Blueprint

TECHNICAL BREAKDOWN

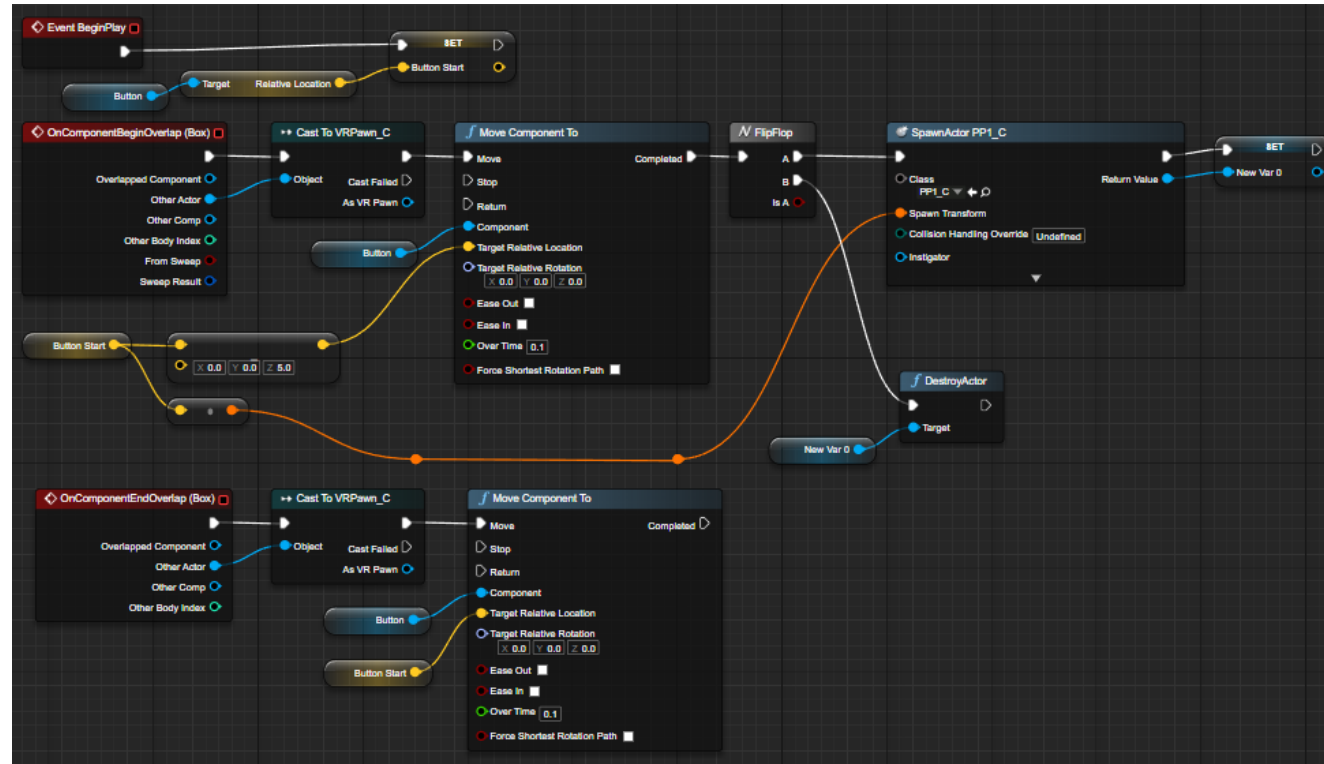
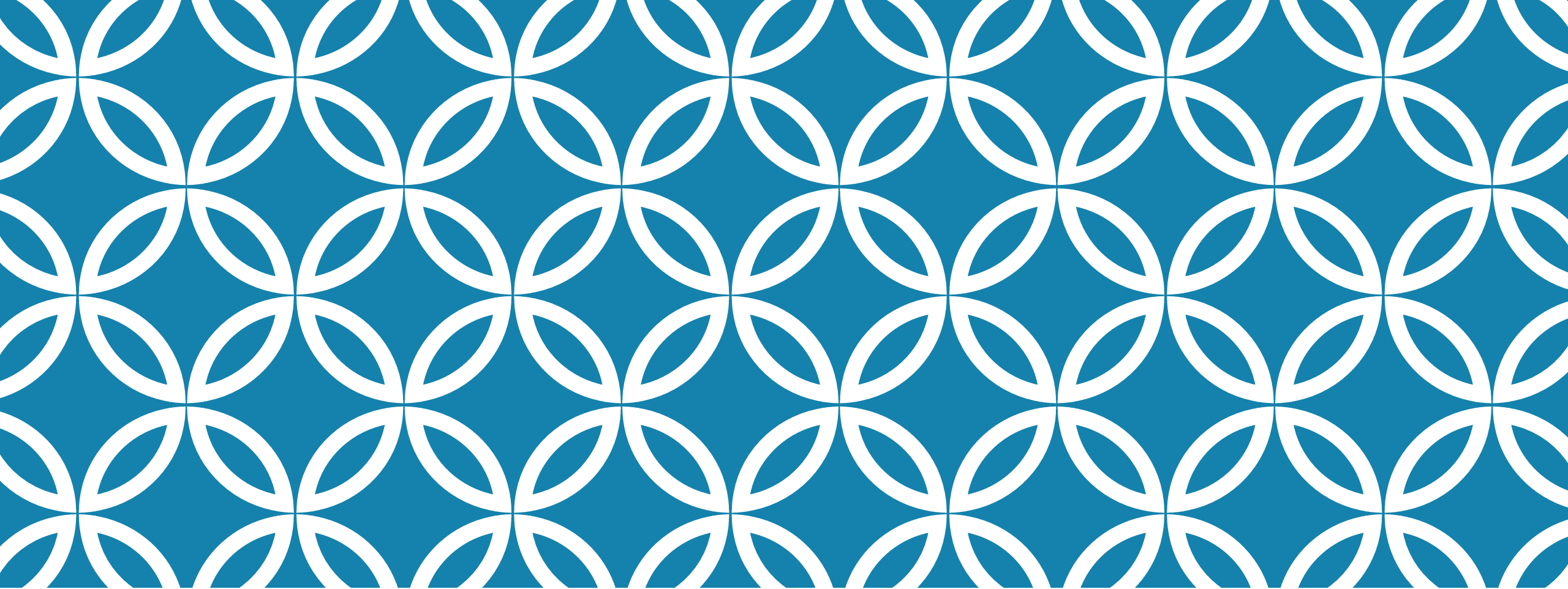


Figure 4: Screenshot of Button Function Blueprint



DEVELOPMENT OF TESTABLE PROTOTYPE

PRELUDE

Section 2 of 3

Interest in Video Games in general.

In this section you will be answering a few questions on the type of games you are interested in.

Would you consider yourself as someone who plays Video Games often? (At least once a week, on any gaming platform; Console, PC and other digital gaming media)

☐ Yes

☐ Yes, but not as often as once a week.

☐ No

Which of these Video Game genres have you played the most of? *

☐ Role Playing Games

☐ Action-Adventure Games

☐ Shooters

☐ Horror

☐ Simulation Games

☐ Strategy Games

Section 3 of 3

Interest in Virtual Reality Gaming.

In this section you answer a few answer to gauge you interest in VR in terms of gaming, as well as whether you would be interested in participating in further tests of a VR game for my FMP.

Have you played video games on Virtual Reality Platforms before? (This includes Meta Quest, Pico VR, Steam VR, PSVR 1/2 as well as any standalone VR experience) *

☐ Yes

☐ No

If not, do you have an interest in trying virtual reality games?

☐ Yes

☐ No

If yes, what would you say are some of the things you like and or dislike about virtual reality? (This can include details about mechanic, gameplay, visual, auditory and narrative decisions.)

Long-answer text

What are some of the things you would like to see more of in a Virtual Reality setting? *

Long-answer text

Would you be interested in participating in future tests for an Virtual Reality Game inspired by games such as Golden Light, Mouthwashing, Stanley Parable and the Resident Evil Series. (By stating your interest, you may be contacted using your student email to see whether you would be available to participate in a test) *

☐ Yes

☐ No

Before conducting further work on the next prototype, a questionnaire was handed out to students from (BA) Computer Games Design.

This had a hand in deciding where to focus the different aspects in the next prototype.

Refer to appendix to view questionnaire.

Figure 5: Screenshots of Questionnaire

DESIGN OF TEST ENVIRONMENT

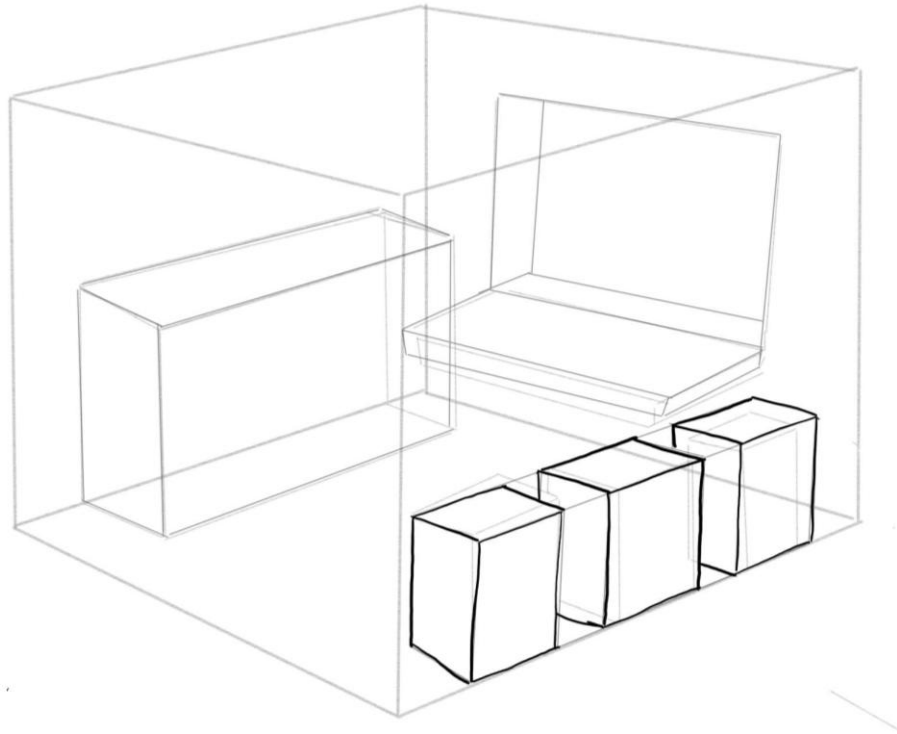


Figure 6: Screenshot of Sketch

The test environment was first drawn up on paper, then later in Maya [2], where it was blocked out.

Models were then created to replace the blockout and considerations were made for where assets would need to be added from Fab [3] later on.

MAYA BLOCKOUT

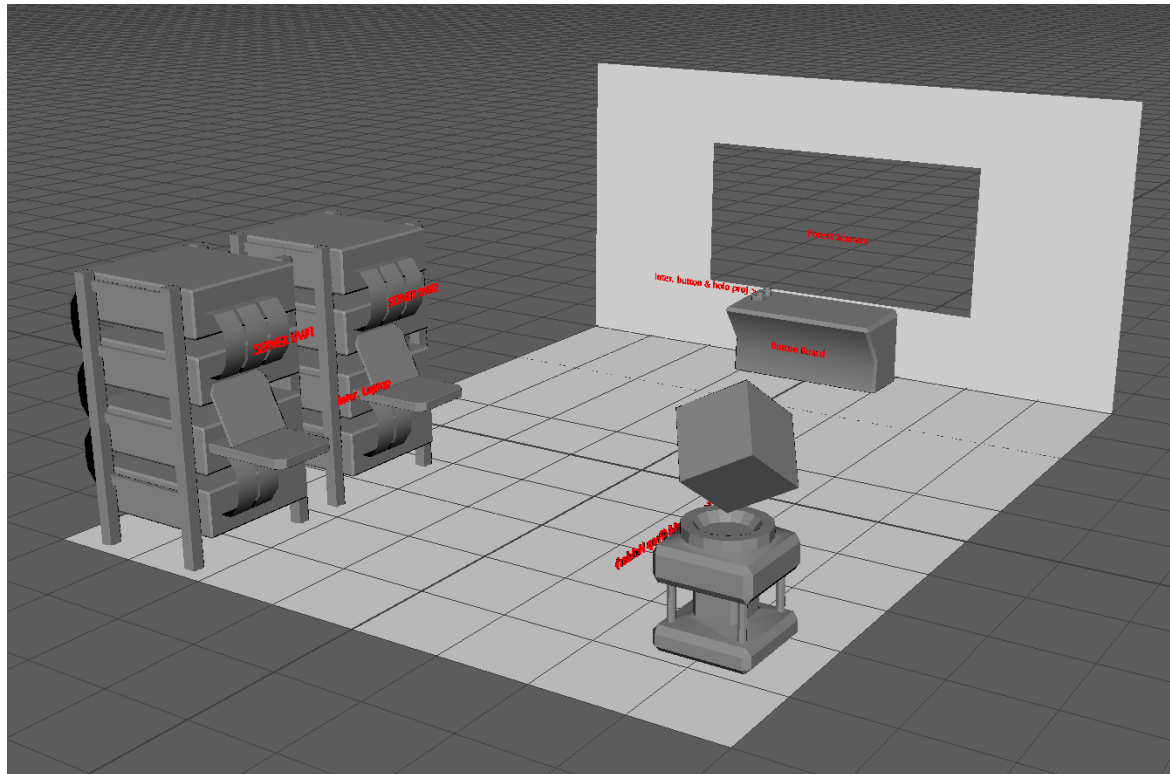


Figure 7: Screenshot of Maya[2] Block out

ASSETS CREATED FOR PROTOTYPE

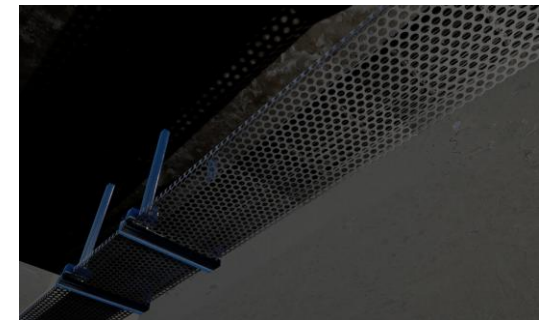
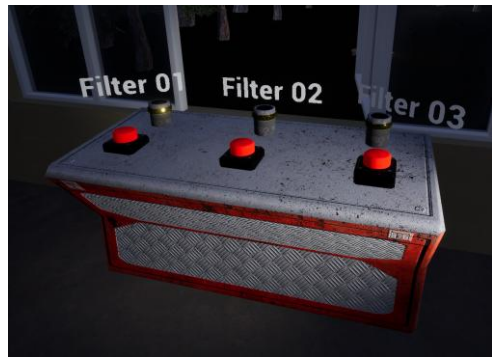


Figure 8: Images of assets created

CREATION OF PROTOTYPE ENVIRONMENT



Afterwards, the assets were ported to the Unreal [1] Project created.

Figure 9: Screenshot of Unreal Project

FILTERS USED IN PROTOTYPE



Figure 10: Screenshot of
'PSX' Filter [4]

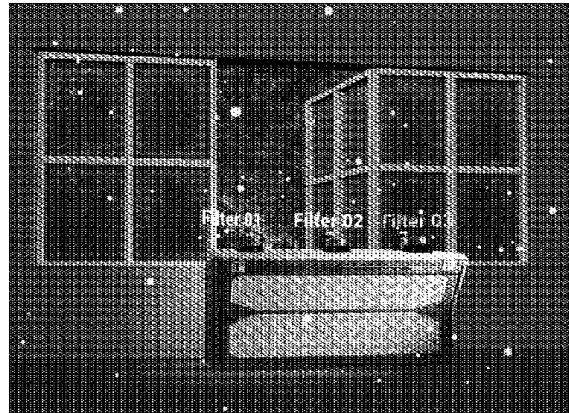


Figure 11: Screenshot of
Dither Filter [5]

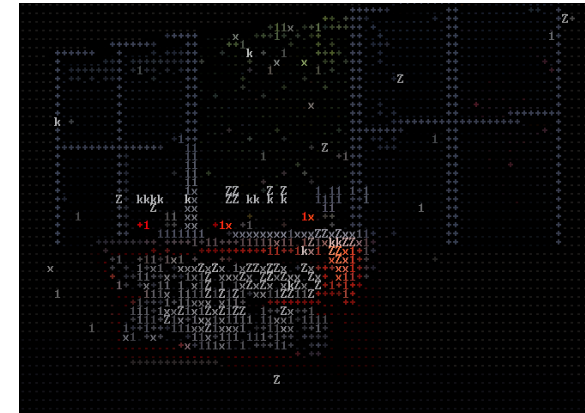
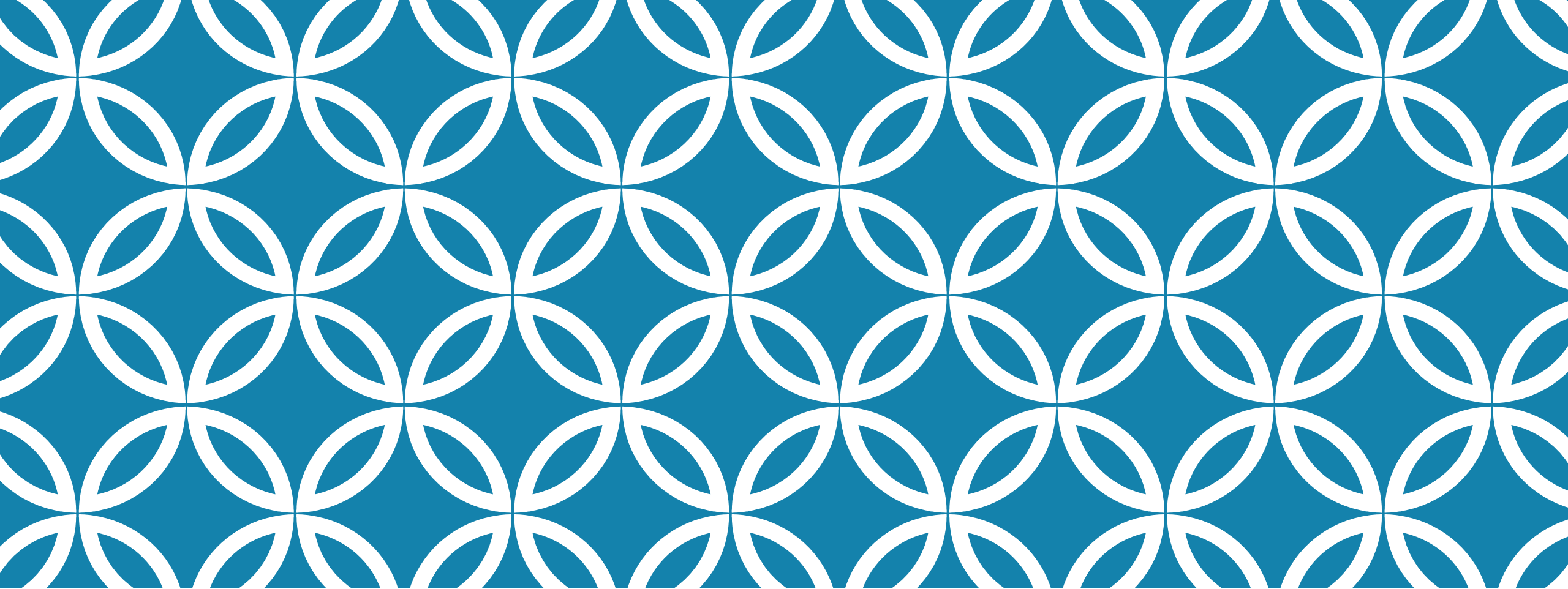


Figure 12: Screenshot of
ASCII Filter [6]



UNREAL AND META QUEST ISSUES

THE MAIN ISSUES



Figure 14: Image of Meta Quest [7]

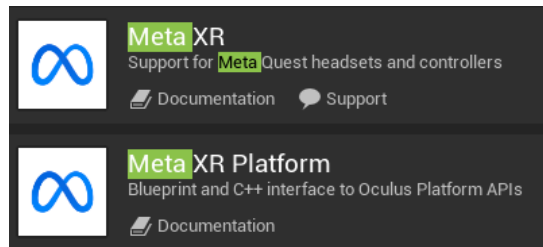


Figure 15: Image of MetaXR API[8]

Unreal Engine [1] has major support for developers to make use of Meta Quest [7] hardware as well as the MetaXR API [8], however it does come with a couple major limitations when it comes to this project.

- Post Process Volume Support on Meta Quest [7]
- Processing power and optimisation

POST PROCESS VOLUME ISSUES



Figure 16: Video of broken prototype

While Unreal Engine [1] is supported on Meta Quest [7] Hardware, the fact that Android [9] is used on said hardware limits how real-time lighting can be used.

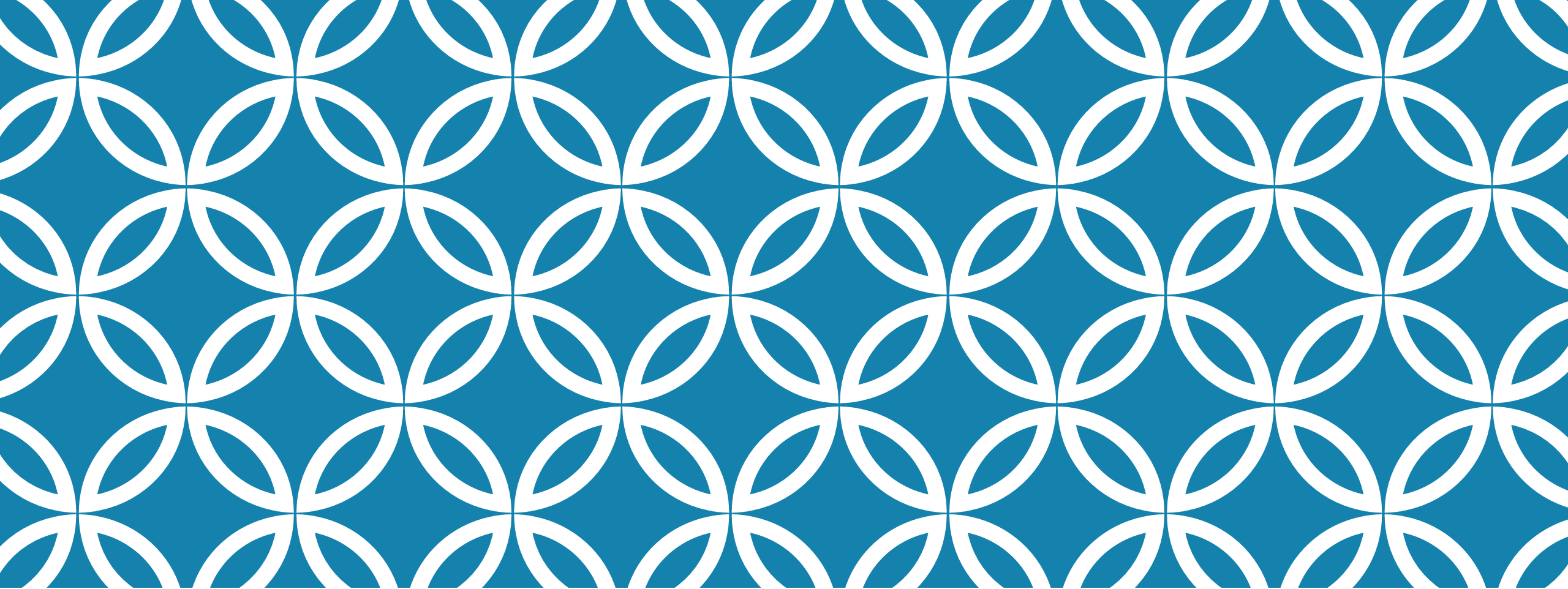
These limitations are presented on documentation provided by Epic Games[10].

PERFORMANCE ISSUES



Figure 17: Video of broken prototype #2

While the Meta Quest 3s [7] is superior in terms of its processing power and capabilities when compared to its counterparts [11], it lacks the proper power to make standalone prototypes that makes use of Hi-Poly models as well as many particles being rendered.



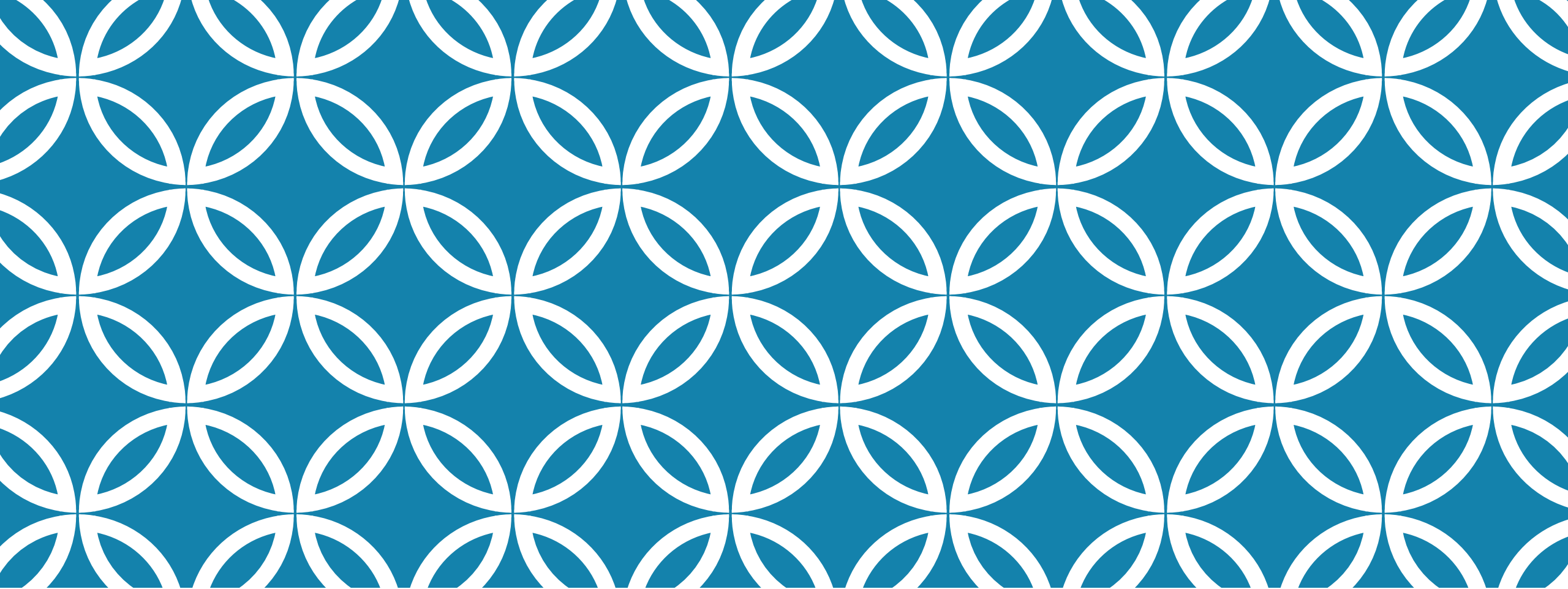
FOOTAGE OF FINAL PROTOTYPE

FOOTAGE OF FINAL PROTOTYPE



Figure 18: Video of Prototype Test

Thank you for your attention.



BIBLIOGRAPHY AND REFERENCES

TABLE OF IMAGES

- Figure 1: Video of initial prototype.... Page 4
- Figure 2: Screenshot of Post Process Volumes.... Page 5
- Figure 3: Screenshot of Example Filter Blueprint.... Page 5
- Figure 4: Screenshot of Button Function Blueprint.... Page 6
- Figure 5: Screenshots of Questionnaire....Page 8
- Figure 6: Screenshot of Sketch.... Page 9
- Figure 7: Screenshot of Maya[2] Block out.... Page 10
- Figure 8: Images of assets created.... Page 11

TABLE OF IMAGES

- Figure 9: Screenshot of Unreal Project.... Page 12
- Figure 10: Screenshot of 'PSX' Filter [4].... Page 13
- Figure 11: Screenshot of Dither Filter [5].... Page 13
- Figure 12: Screenshot of ASCII Filter [6].... Page 13
- Figure 14: Image of Meta Quest [7].... Page 15
- Figure 15: Image of MetaXR API[8].... Page 15
- Figure 16: Video of broken prototype.... Page 16
- Figure 17: Video of broken prototype #2.... Page 17
- Figure 18: Video of Prototype Test.... Page 19

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APPENDIX

Link to Questionnaire: <https://forms.gle/r1v7tj58mvz6utGm6>