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Virtual Insanity: Lessons Learned from Creating a Virtual Reality Engine

Liz Mercuri

Educational Evangelist at Unity Technologies

GDC

GAME DEVELOPERS CONFERENCE® | FEB 27-MAR 3, 2017 | EXPO: MAR 1-3, 2017 #GDC17





Agenda

- ☑ The Horror Engine
- ☑ Inspirations
- ☑ MVP Technical Overview
- ☑ Lessons Learned



Hello! 😊

Liz Mercuri

Educational Evangelist | Computer
Game Software Development
Graduate | Prince William Scholar



@FragFox





The Horror Engine

❖ What is it?





The Horror Engine

“

A prototype which shows the potential of social virtual reality through the use of an interactive social screen.

”

What is it?



The Horror Engine

- ❖ What is it?
- ❖ What inspired it?



The Horror Engine



Image Source : Munich VR 360 Video Meetup

What inspired it?



The Horror Engine

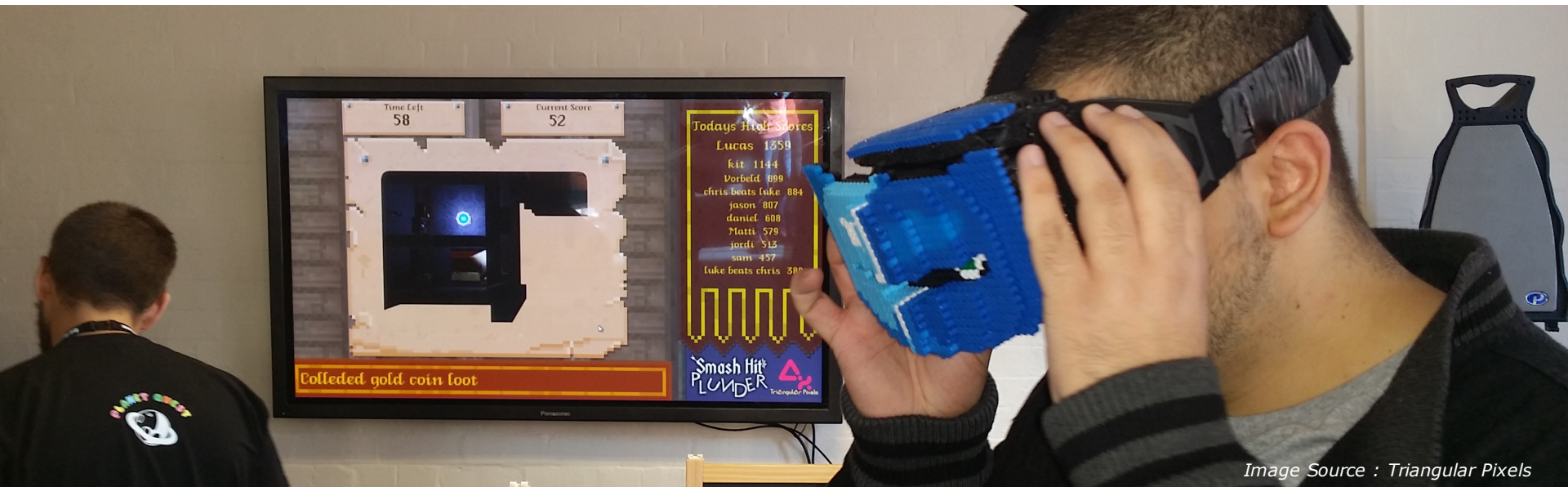


Image Source : Triangular Pixels

What inspired it?



The Horror Engine



Image Source : gamespot.com (Resident Evil VII)

What inspired it?



The Horror Engine

“

A prototype which shows the potential of social virtual reality through the use of an interactive social screen.

”

What it is



The Horror Engine

- ❖ What is it?
- ❖ What inspired it?
- ❖ Why did I create it?



The Horror Engine

- ☑ Ooh! Shiny new resources!
- ☑ A Better Understanding
- ☑ Giving Back

Why did I create it?



The Horror Engine

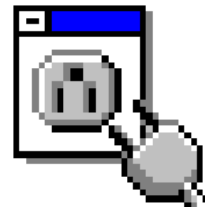
MVP Technical Overview



The Horror Engine



Microsoft®
DirectX[®]11

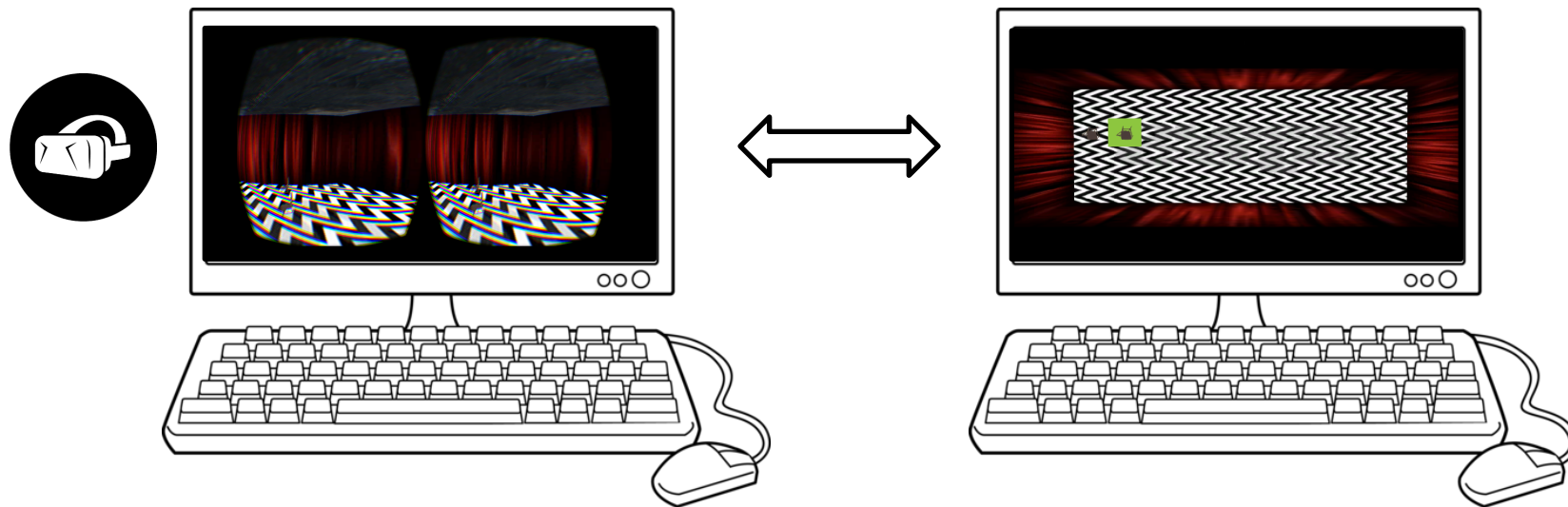


DIRECT
INPUT

MVP Technical Overview



The Horror Engine



MVP Technical Overview



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The Horror Engine



Concept Art: Bradley Morgan Johnson

MVP Technical Overview

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UBM



The Horror Engine

Lessons Learned





Lessons Learned

- ☑ Pre-Development
- ☑ Development
- ☑ Personal



The Horror Engine

Clear Goals

What do you want to achieve?

Resource

What do you need?

What do you already know?

Lessons Learned: Pre-Development



The Horror Engine

Research

What do you need to know?

Start Small

How can I break down the goal(s) into manageable tasks?

How can I keep track?

Lessons Learned: Pre-Development



The Horror Engine

To Do	Priority for Month End	In Progress	Testing	Complete
Rendering - Shaders (2 days) ✓ 0/3	VR - Player movement (3 days) 1 ✓ 0/9	VR Integration (2 days est.) ✓ 4/5	Rendering- DirectX 11 Integration (2 days) ✓ 1/3	VR - Secure an Oculus DK2
Rendering - Textures (2 days) ✓ 0/2	Networking - Creation of two views in Engine (2 days) ✓ 2/9	Social Screen Initial Input (2 days) 2 ✓ 5/5	Networking - Preliminary (Basic Client Server Connection) 3 ✓ 5/5	Add a card...
Lighting ✓ 0/2	Social Screen Interaction (3 days) ✓ 0/5	Documents - Tech Doc & Scope/Timeline 1 3	Add a card...	
Audio ✓ 0/2	Add a card...	Add a card...		
Collision Detection (3 days) ✓ 0/2				

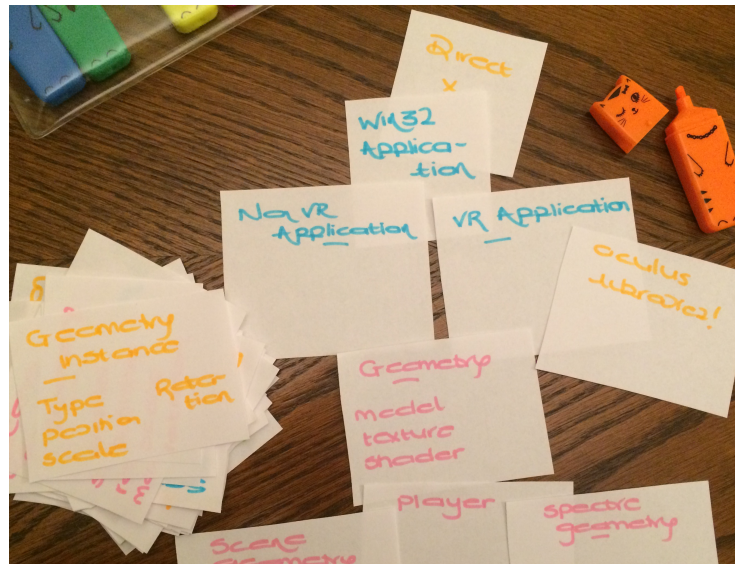
Lessons Learned: Pre-Development



The Horror Engine

Code Design

Don't touch that code!
Do this first!



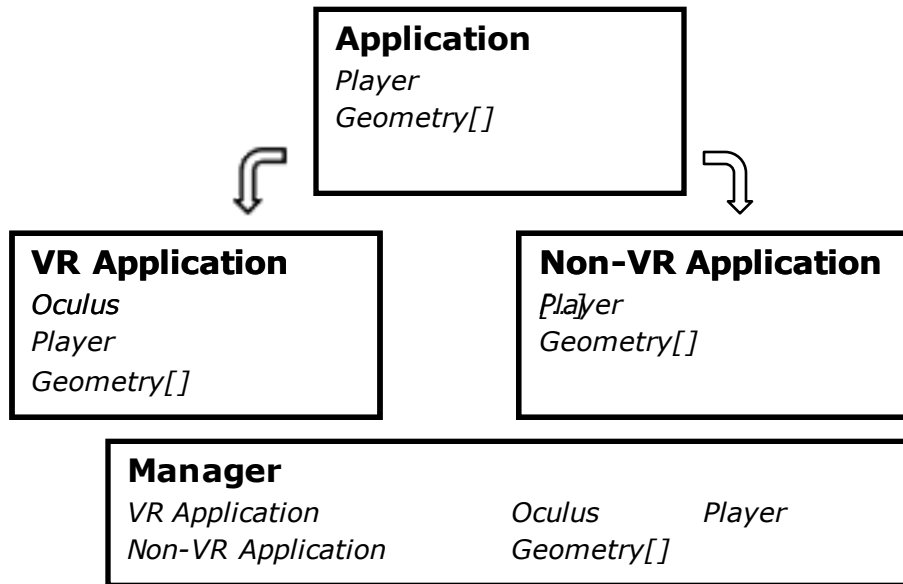
Lessons Learned: Development



The Horror Engine

Code Design

Don't touch that code!
Do this first!



Lessons Learned: Development



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Testing

When should I do my testing?

Usability

Don't neglect usability!

Lessons Learned: Development



The Horror Engine

Pace Yourself

*Take regular breaks to
avoid burnout!*

Evolve

*Learn from your
weaknesses!*

Lessons Learned: Personal



The Horror Engine

Celebrate

Celebrate & share your achievements!

#gamedev

#screenshotsaturday

Ask

Do not be afraid to ask for help!

Lessons Learned: Personal



The Horror Engine

Believe

You **can** do it! 😊

Lessons Learned: Personal





Summary

- ☑ Set Clear Goals
- ☑ Concrete Planning & Code Design
- ☑ Look After Yourself
- ☑ Collaborate, Share & Celebrate



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Thank You So Much!



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Q&A: Wrap Up Rooms

Additional Resource:
www.lizmercuri.com/gdc2017



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