THE POTENTIAL OF VR

(AND HOW YOU CAN HELP)
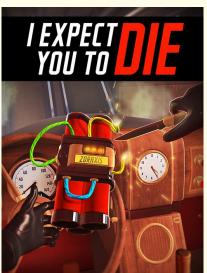
SCHELL GAMES

Shawn Patton
Principal Game Designer // VR Advocate

SCHELL GAMES

I EXPECT YOU TO DIE

ZORAXIS

LEGO BRICKHEADZ DREAM BUILDER

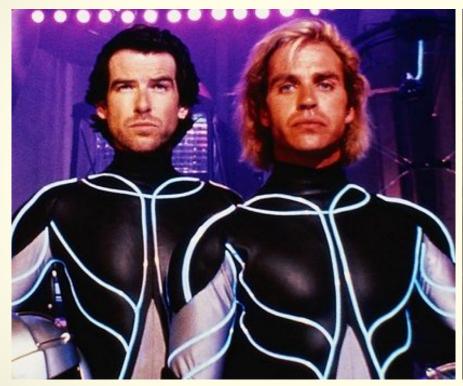SCHELL GAMES

Daydream

VR HAS HUGE POTENTIAL

1992

1995

VR HAS HUGE POTENTIAL
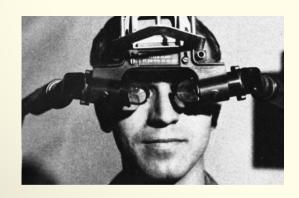
1995

1999

VR HAS HUGE POTENTIAL

1992

2018

Why the gap?

A Brief History of… VR

- 1935 - First imagined by sci-fi authors
- 1968 - First working VR system created by Ivan Sutherland
- 1984 - Modern usage by Jaron Lanier - VPL Research "EyePhone"
- 1990 - "Virtuality" debuts in arcades *and* the movie Hackers
- 1995 - Nintendo's Virtual Boy debuts
- 1998 - DisneyQuest opens with VR experiences

A Brief History of… VR

- 2007 - Valve starts work on Vive
- 2009 - Morpheus work begins
- 2012 - Oculus Kickstarter raises $2.4million
- 2014 - Facebook buys Oculus for $2billion
- 2014 - Google Cardboard comes out
- 2015 - Oculus Samsung Gear VR out (3DOF)
- 2016 - Vive, Oculus, and Playstation VR come out (6 DOF)

DOFs and Tracking
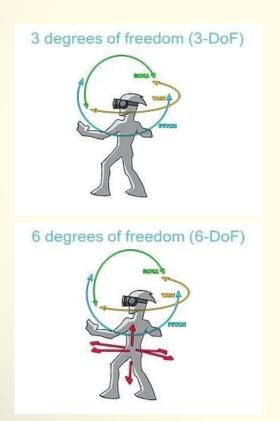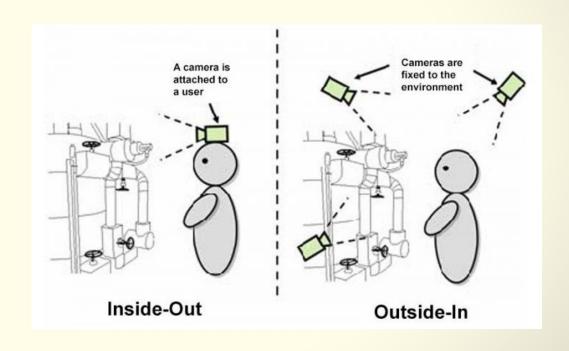
Current VR

- 2017 - Microsoft VR : Inside out tracking!
- 2018 - Oculus Go : Standalone 3.3 DOF!
- 2018 - Vive Pro : More resolution! Wireless option!
- 2019 - Rift S : Inside Out 6.6 DOF (March)
- 2019 - Oculus Quest : Standalone 6.6 DOF! (May)
- 2019 - Valve Index : Finger controllers! (June)
- 2019 - Oculus Link : All the power of Rift on Quest (November)

Things are accelerating!

WHAT IS VR BEING USED FOR?

- Personal Entertainment
  - Movie & TV watching
  - ~3000 Vive games / experiences
  - ~2200 Oculus games / experiences
  - ~500 PSVR games

- Location Based Entertainment
  - The Void
  - ~~IMAX VR~~
  - VR rollercoasters

Now 12 Locations!
5 More Announced in US!

WHAT IS VR BEING USED FOR?

- Live Sports and Events
  - LiveLikeVR.com
  - YouVisit.com
  - Wemersive.com
  - 360VirtualTours.co.uk
  - Olympics!
- Mapping/Work
  - Google Earth
  - Desktop Simulation

WHAT IS VR BEING USED FOR?

- Creating Art :
  Tiltbrush, Quill, Sketchfab, Paint VR, Blocks, Medium

WHAT IS VR BEING USED FOR?

- Professional Training : Simcoach Games (Pittsburgh), Strivr, Sentient Computing, VirTra
    - NFL, Walmart, UPS, Police, Military, Hospitals, HR Departments, KFC

Wieden+Kennedy

WHAT IS VR BEING USED FOR?

- Medical Treatment
  - Helps kids
  - Helps adults
  - Helps Cows

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Russian cows get VR headsets 'to reduce anxiety'

27 November 2019

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MOSCOW MINISTRY OF AGRICULTURE AND FOOD

The headsets were specially adapted to fit cow heads

A Russian farm has given its dairy cows virtual reality headsets in a bid to reduce their anxiety.

WHAT IS VR BEING USED FOR?

- Exercise
  - Beat Saber
  - Until You Fall

VR FITNESS INSIDER

Home › Games › Top 15 Best VR Fitness Games For A Total Body Workout

Games Tips

Top 15 Best VR Fitness Games For A Total Body Workout

By **Shane Hoalst** - January 30, 2018

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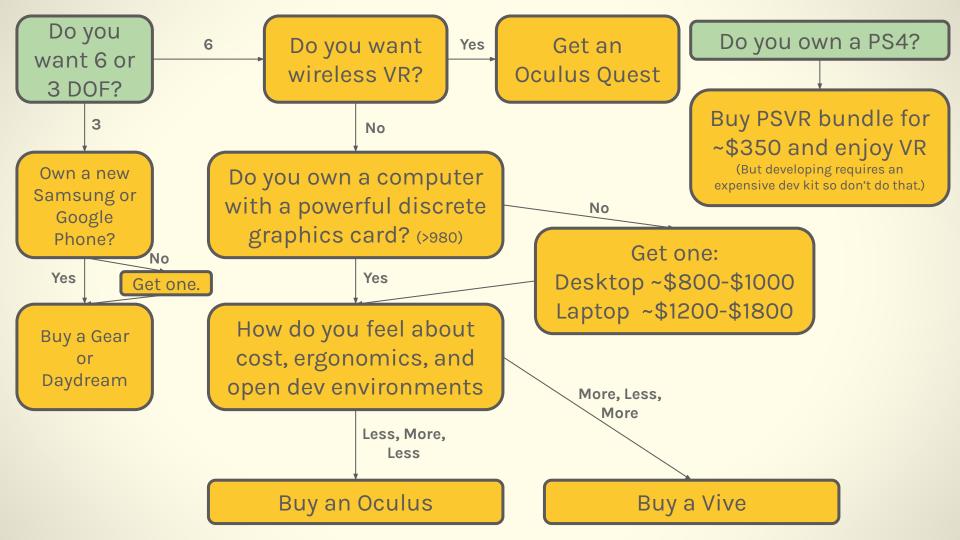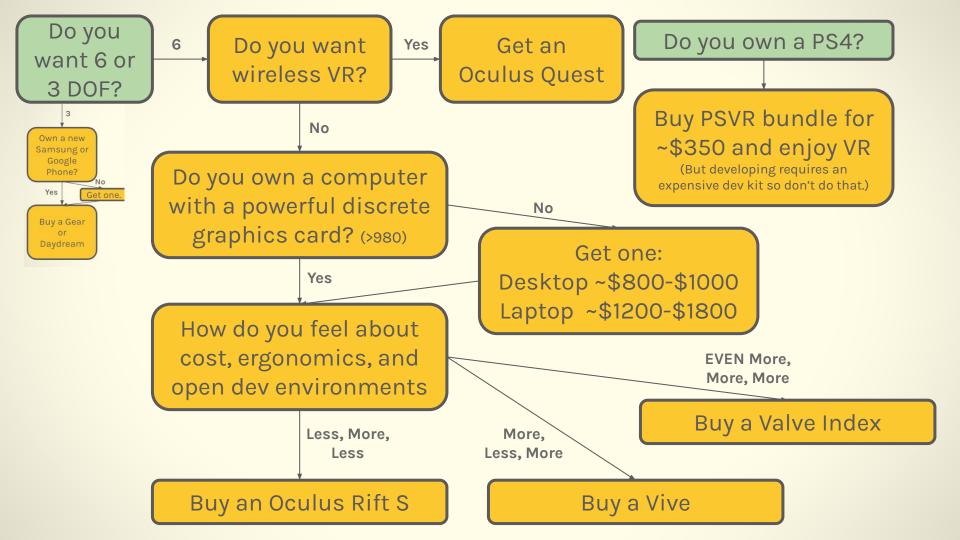
HOW CAN I GET STARTED DESIGNING FOR VR?

Step 1 - Get VR

Simple Flowchart

```
Do you want 6 or 3 DOF?  --6-->  Do you want wireless VR?  --Yes-->  Get an Oculus Quest
```

Do you own a PS4?
↓
Buy PSVR bundle for ~$350 and enjoy VR
(But developing requires an expensive dev kit so don't do that.)

Do you want 6 or 3 DOF? --3--> Own a new Samsung or Google Phone?

Do you want wireless VR? --No--> Do you own a computer with a powerful discrete graphics card? (>980) --No--> Get one:
Desktop ~$800-$1000
Laptop ~$1200-$1800

Own a new Samsung or Google Phone? --Yes--> Buy a Gear or Daydream
--No--> Get one.

Do you own a computer with a powerful discrete graphics card? (>980) --Yes--> How do you feel about cost, ergonomics, and open dev environments

How do you feel about cost, ergonomics, and open dev environments --Less, More, Less--> Buy an Oculus
--More, Less, More--> Buy a Vive

Step 2 - Install Unity3D

- Free (up to 100k revenue)
- Huge (Helpful) Dev Community
- Supports all the platforms
- Can look as good as you want it to
- Can perform as well as you make it

Step 2 - Or Unreal…

- I prefer Unity… so… yeah…

Step 3 - Make Great Content

- This is the hardest step
- But I'll tell you the secrets!

Step 3a - Try something

Step 3b - Test it
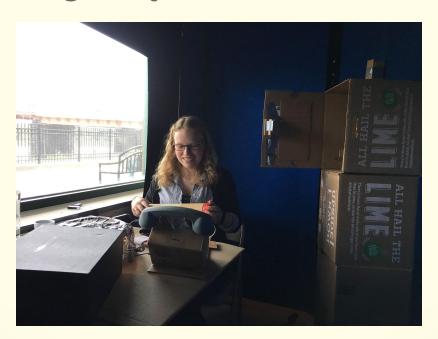
Repeat steps a & b

Shortcut to 3a = Brownboxing

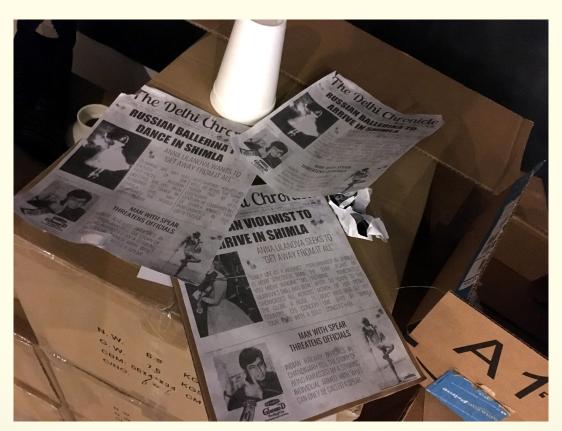# Low-tech Solution to High-tech Problem

Quickly Define Attention Draws

Remember - The player is in charge of where the camera is looking, not you!

Rapidly Iterate

Simulate Magic and Projectiles

Secret for 3b = 4 Magical Questions

1. What was the most frustrating moment or interaction?
2. What was your favorite moment or interaction?
3. Was there anything you wanted to do that you couldn't?
4. If you had a magic wand to wave, and you could change, add, or remove anything from the experience, what would it be?

Frustrating
Favorite
Wanted   **FFWW**
Wand

IEYTD added a 5th

5. When did you feel most clever?

Remember to
Take Care Of The Guest

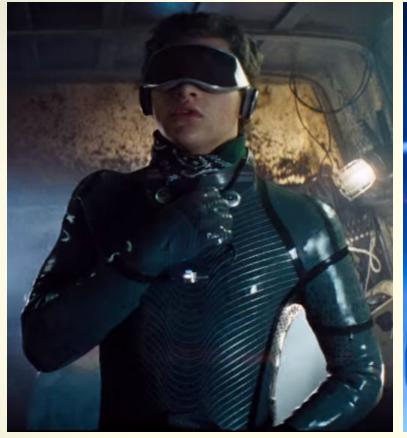| Before Session Begins	During Playtest	Ending the playtest

Equipment
❑ Ensure Headset & Lenses are clean before each individual use.
 	
Establish Comfort
❑ Query user about familiarity with VR
 	
❑ Show unfamiliar equipment & describe function
 	
❑ Establish your position relative to them in the real world
 	
❑ Describe what tester will be able to see (Rift) or not (Gear)
 	
❑ Verify Calibration, if possible
 	
❑ Assist player with donning
   a. headset
     ❑ consider glasses - needed? Help get them into headset if so.
   b. controller(s)
   c. Headphones
   d. Settle Umbilicus if applicable
 	
❑ Assist with calibration if needed
	Spatial Manners
	❑ Avoid side conversations - talking over player is rude.
	
	❑ Let player know if you're changing position or swapping hosts out
	
	❑ Avoid laughing at player's actions - they can't see your friendly faces and may not know you're with them.
	
	❑ Check in verbally with player so they know you're still there and invested.
	
	System Specific
	❑ You can't tell if they enter in-headset menus, so warn them what they look like (dimmed world, can't interact, etc... ahead of time).
	
	❑ Help players understand if Rift is losing tracking & how to avoid.
	
	❑ Assist VIVE players with umbilicus - don't let them trip themselves!
	
	❑ Use Daydream with camera cables and TV or computer to see what they see
		Equipment
		❑ Assist with removal of
		     ❑ controller(s)
		     ❑ headset
		     ❑ Headphones
		❑ Ensure players have time to transition to real world.
		     ❑ Warn them it may happen so they are not freaked out if it does.
		     ❑ Describe simsick symptoms, advise drink water, fresh air, eschew screens for a bit

1. **Get VR**
2. **Install Unity** **(or Unreal)**
3. **Make Great Content**
   a. **Try something**
   b. **Test it** **(FFWW & care)**
   c. **Repeat a & b**

The Potential of VR

- Personal Entertainment
- Location Based Entertainment
- Creating Art
- Professional Training
- Medical Treatment
- Exercise

2045?

2364?

2364? 2064

Thanks!
Questions?

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www.unity3d.com

Uhh… you mentioned 4 steps

4. Profit

Let's talk install base:

- ~2 million PSVRs
- Probably <1 million Vives
- Probably <1 million Rifts
- 5 million Gear VRs

Let's talk install base:

- ~4.3 million PSVRs
- ~2 million Vives
- ~3.2 million Rift(S)
- ~1.2 million Quests