

VRDC
FALL 2017

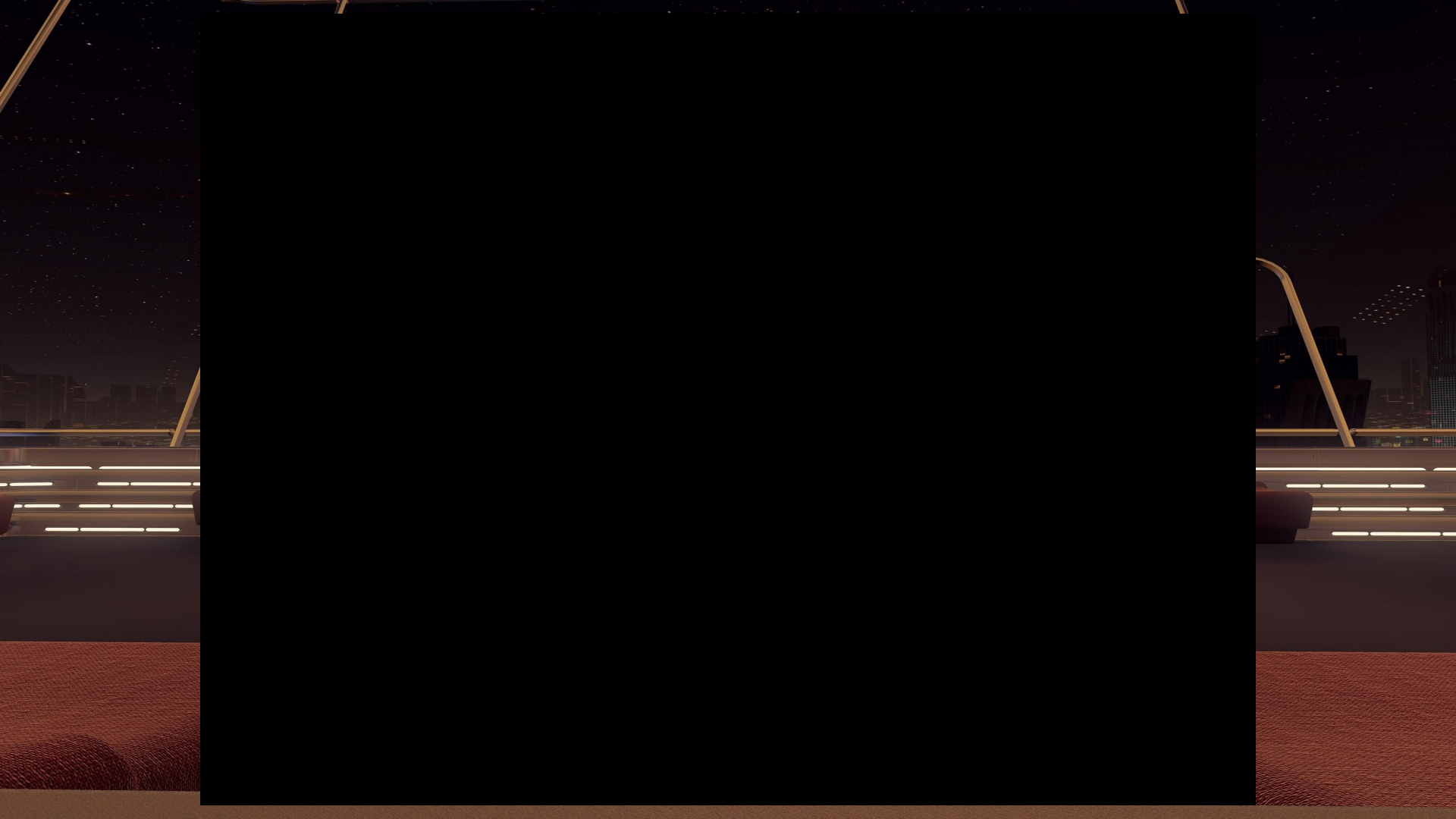
VR Game Development: Dev Hacks and New Analytics from RAW DATA™

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Overview

Early Access

- EA - June 2016
- 7 major updates
- V1 - October 2017

Raw Data

- Vive users - 80%
- Rift users - 20%
- PSVR - coming soon!



Increasing Scope

Popularity pushed us to increase scope

- **Extra Maps** - Problem: only 21% of players get past mission 5.
- **Mission Complexity** - First 15 min set perception of the game.
- **PvP** - Tons of work, only 13% of the users play it.
- **PSVR** - We didn't plan on this from the beginning, different hardware specs.

Cutting Scope

What did we cut?

- **Cinematics** - Mission intros and outros.
- **Missions** - 11 and 12: Botanical Gardens 2 and 3.
- **Defenses** - 6 more planned: health, flak, slow, ammo, mines, etc.
- **Powerups / Items** - Snuck a few into PvP (stealth, shield).
- **Weapon Variants** - Sniper rifle, minigun, axe, etc.

EA Updates

Frequency - Could not sustain rapid updates.

- **2 Weeks** - Keep customers happy, rapid feedback response.
- **1 Month** - Slow things down, still too frequent.
- **3 Months** - Better, but always a time cost to stabilize for release.

Update Scope - Small updates did not bring back users.
Larger, spaced-out releases of content was more effective.

Control Scheme

- **Vive**

- Sticky - 79%
- Hold - 3%
- Toggle - 18%

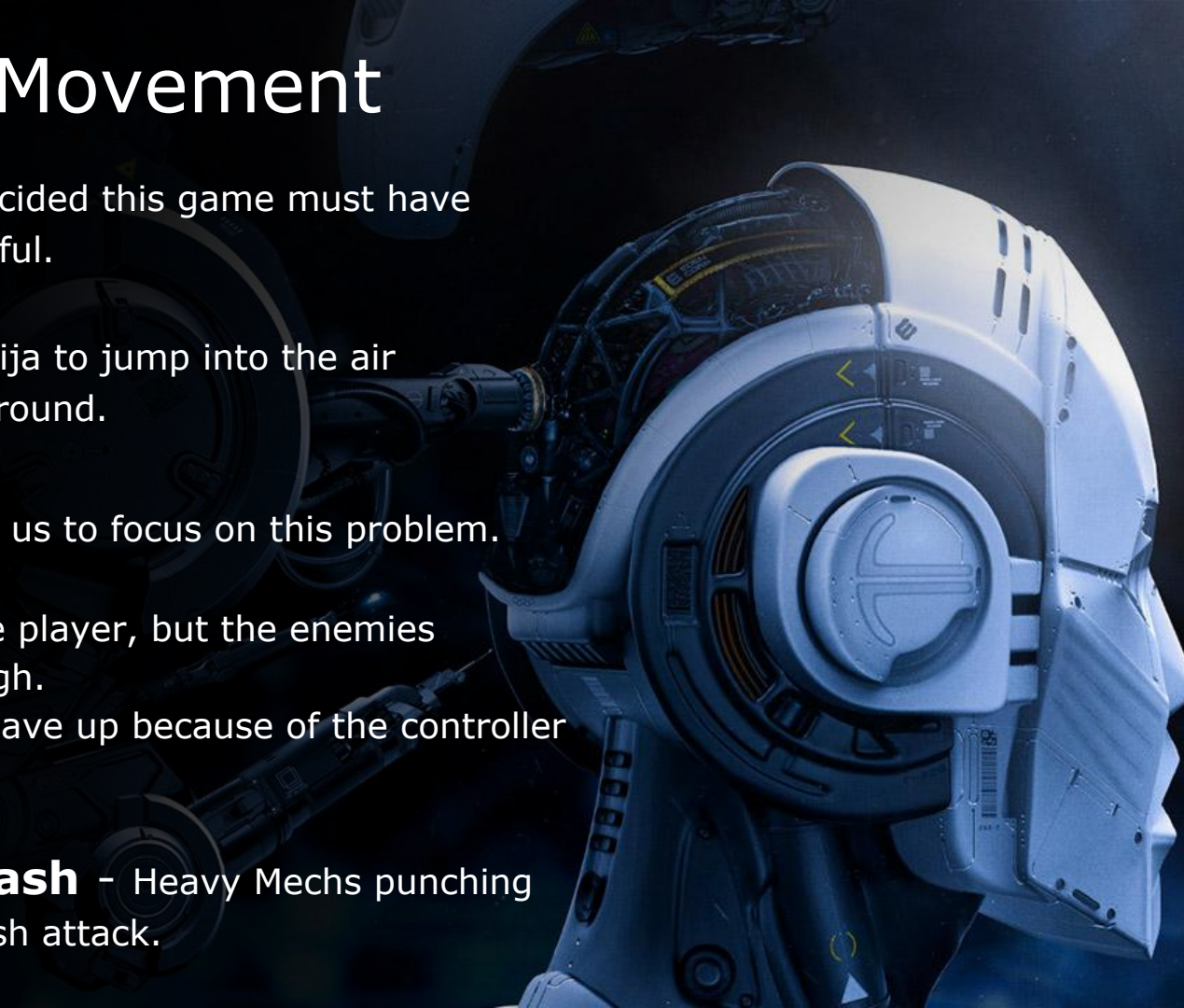
- **Rift**

- Sticky - 21%
- Hold - 72%
- Toggle - 7%



Locomotion & Movement

- **Teleportation** - Decided this game must have locomotion to be successful.
- **Jump** - We wanted Saija to jump into the air and slam back into the ground.
- **Joystick** - PvP forced us to focus on this problem.
 - PC - Added to single player, but the enemies had no follow through.
 - PSVR - We almost gave up because of the controller having no joystick.
- **Knockback and Dash** - Heavy Mechs punching the player and Boss's dash attack.

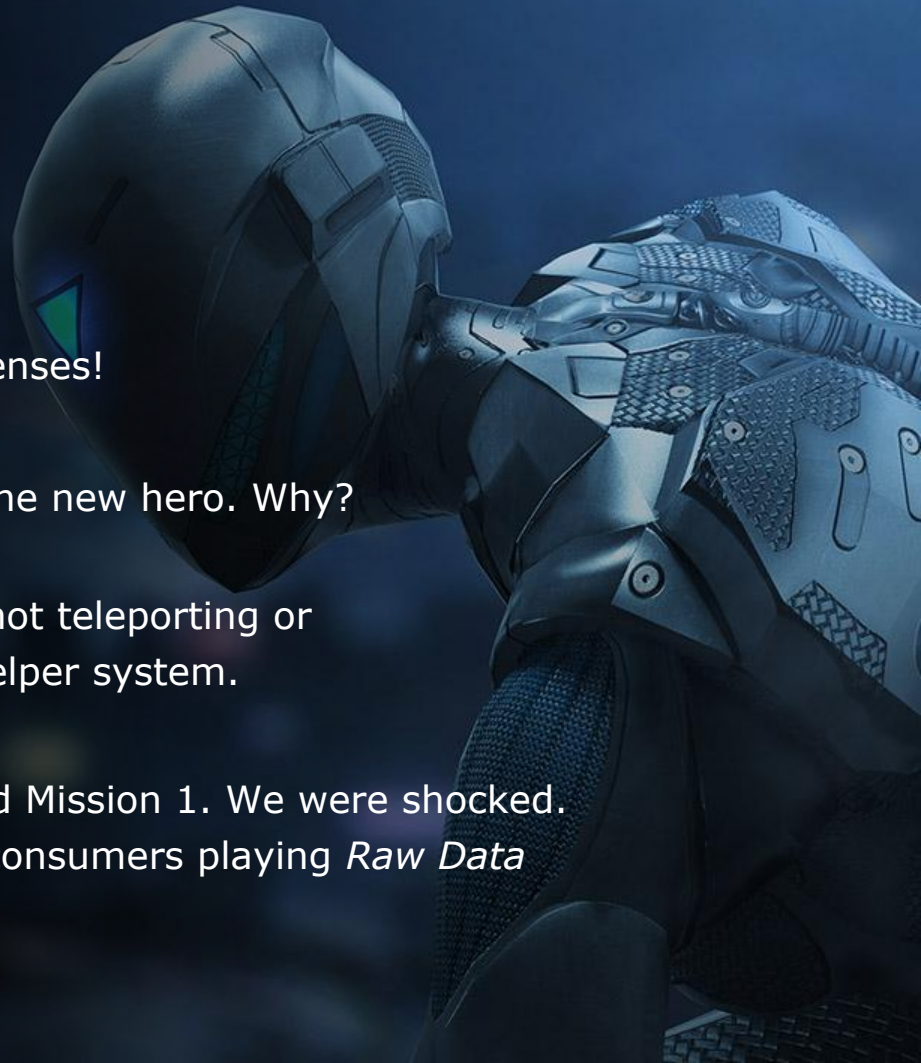


Game Modes

- **Singleplayer** - 79.5% of players ONLY play SP, so make sure you focus on this!
- **Co-op** - 16.5% of users play co-op, yet it is one of the game's biggest selling points.
- **PvP** - 12% of users play PvP; maintaining an active PvP community at this point in VR is very difficult

Analytics

- Get Them in Early - We made a big mistake by waiting too long to get this in.
- Defenses 1%- Almost no one used Defenses!
- Boss 7.5% - Few people were playing the new hero. Why?
- Players & Forgetting - Players were not teleporting or using powers, so we had to implement a helper system.
- Game Difficulty - 50% of Players failed Mission 1. We were shocked. We have determined that roughly 50% of consumers playing *Raw Data* are NOT gamers, but VR enthusiasts.



Porting to PS4

- PS4 Added Later - We had to rework a lot...
- CPU Bound - 60 FPS is difficult in VR, especially with TRC auto fails
- Control Changes
 - No joystick and no "Grab" buttons.
 - Small tracking volume playspace.
 - But lots of standard face buttons!



PS4 Optimization

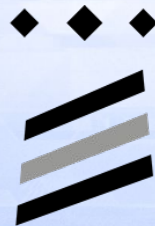
- Forward Renderer - Good.
 - Resolution multisampling is expensive.
- Aggressive LODs - Mesh, anims and AI behavior.
- Minimize
 - Enemies moving, dynamic lights.
 - Child component updates.
 - Overlaps, navmesh updates.
- Minimize Spikes
 - Actor/object pooling.
 - Spread work across multiple frames.
 - Move work to worker threads.

Pro Sales Tips

- **Bundle Often** - The various platform stores often do bundles; being included in those is great for spikes in sales.
- **Platform Sales are Good** - Storewide Steam and Oculus discount windows are very successful and really snag a lot of consumers who were hesitant to pay full price.
- **Get on multiple VR Hardware Platforms** - VR is growing and new hardware platforms will be releasing this holiday season and next year. Try and get on as many of them as you can.



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the data and analytics.
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The End