



Designing and Operating a Free-Roam LBVR Experience: Lessons Learned

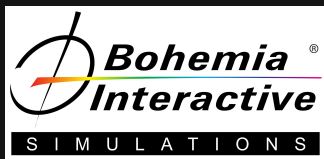
Martin Tichota
Jakub Kučera



WHO WE ARE

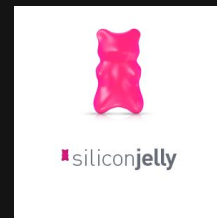
Martin Tichota

Chief Technical Officer



Jakub Kučera

Creative Director



DIVR

- Indie game studio since 2016
- Prague, Czech Republic
- 13 people
 - 3 programmers
 - 3 3D modelers
 - 2 level/light designers
 - Concept artist/creative director, producer, game/VFX designer, sound engineer, animator
- Blue Effect (2016)



AGENDA

- Intro
- Technology & Development
- Game Design & Storytelling
- Operations

PRAGUE VENUE

- Downtown
- 250 m² (2700 sq feet)
- Since May 2018
- 70k+ customers
- 1 year ROI
- More venues coming soon



DEVELOPING FREE-ROAM VR EXPERIENCE

- It's a game!
 - Unity
 - Odin, Amplify Shaders, FMOD
- In VR
 - Oculus
 - Leap Motion
- Free-roaming
 - Backpack PC
 - Optitrack
 - Inside-out (R&D)

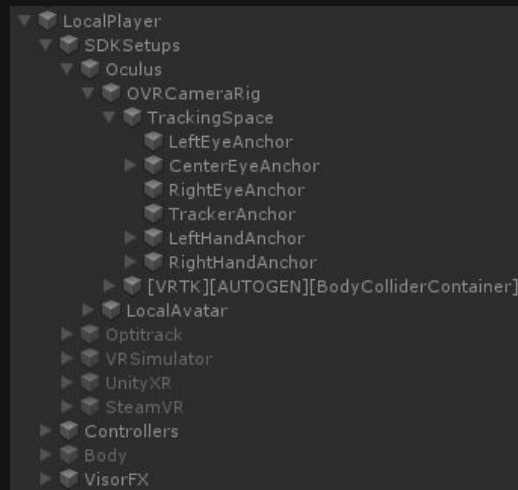


DEVELOPING LBVR EXPERIENCE

- My workstation has Vive, not fair!
- Unity + SteamVR for the rescue
- What, custom tracking?!
- Behold, VRTK
 - Native SDKs
 - <https://github.com/ExtendRealityLtd/VRTK>



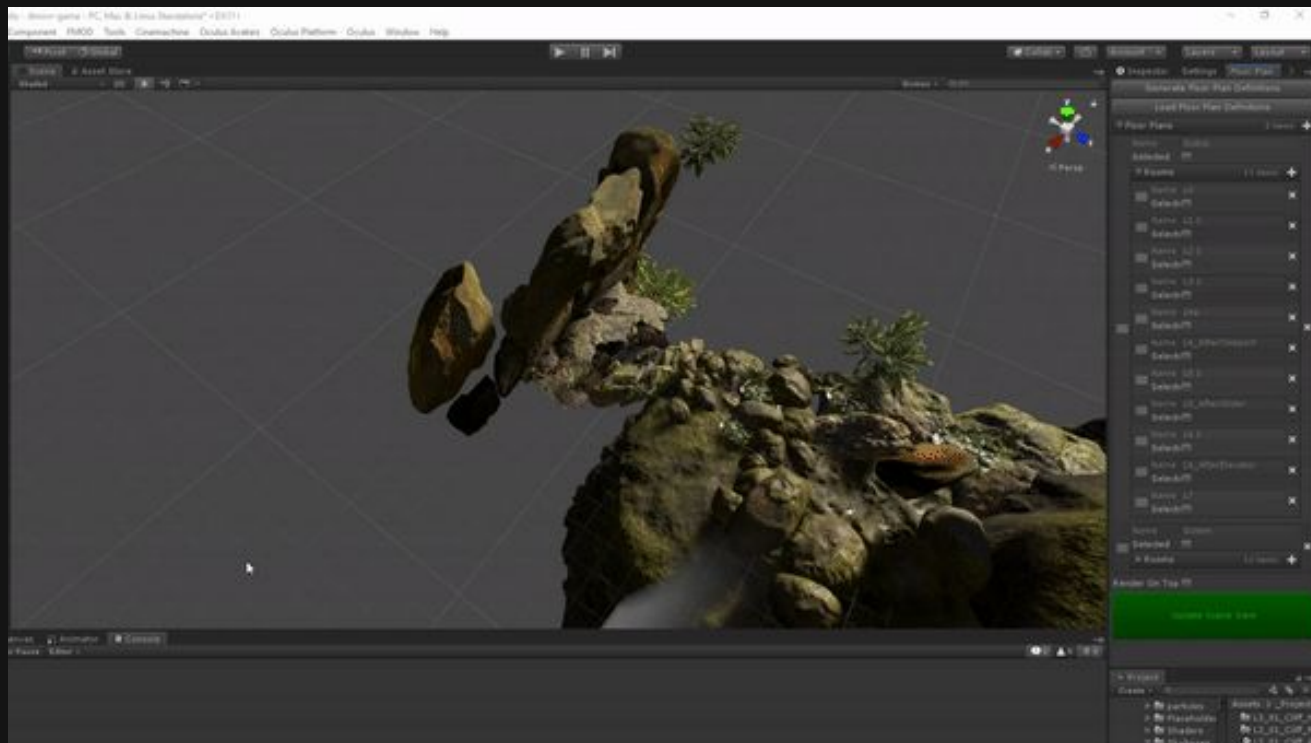
Windows Mixed
Reality



DEVELOPING LBVR EXPERIENCE - THE ARENA



CONNECTING PHYSICAL WITH VIRTUAL



GAME CONTENT (EXPERIENCE)



XRDC

XR DEVELOPERS CONFERENCE 2019 | October 14-15, 2019 #XRDC19

GAME CONTENT (EXPERIENCE)





THEME

GOLEM



ARACHNOID



(TBA)

THEME - IS IT SCALABLE?

- Is it recognisable worldwide?
- Is the premise clear to understand?
- Will it be fun for age 10-60?
- Can you explain it using one static image?
- Does it look good on a keyart?
- Do we have a capacity to produce it?

GOLEM



XRDC

XR DEVELOPERS CONFERENCE 2019 | October 14-15, 2019 #XRDC19

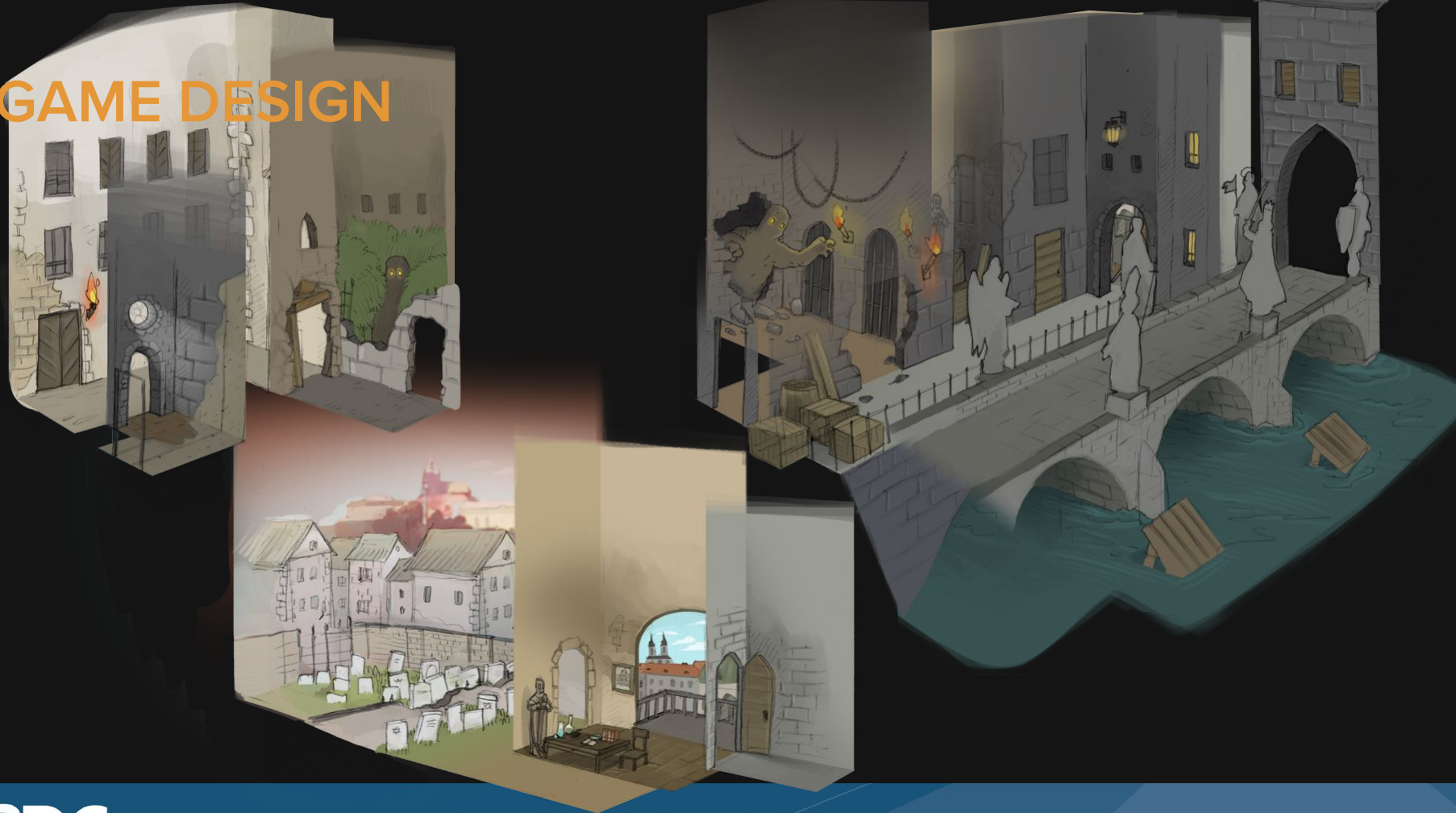
ARACHNOID



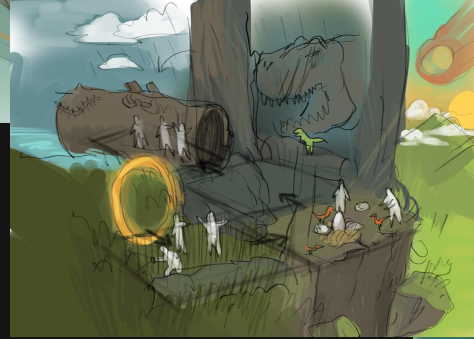
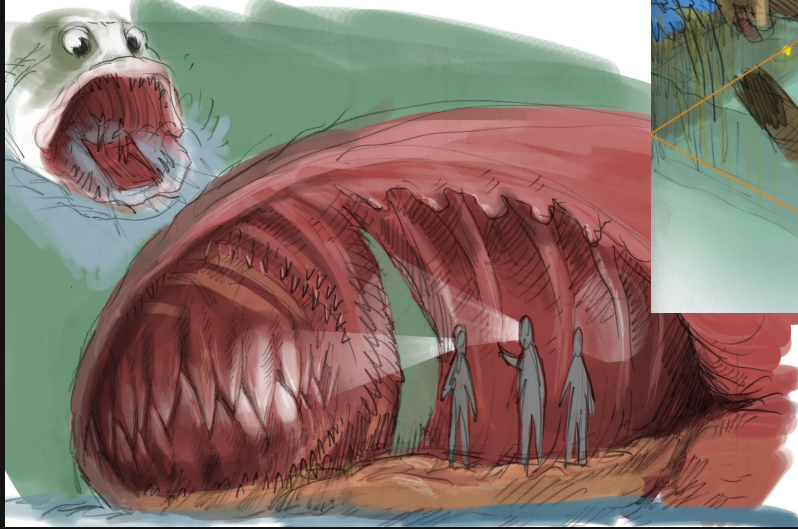
DINOSAURS



GAME DESIGN



GAME DESIGN



GAME DESIGN

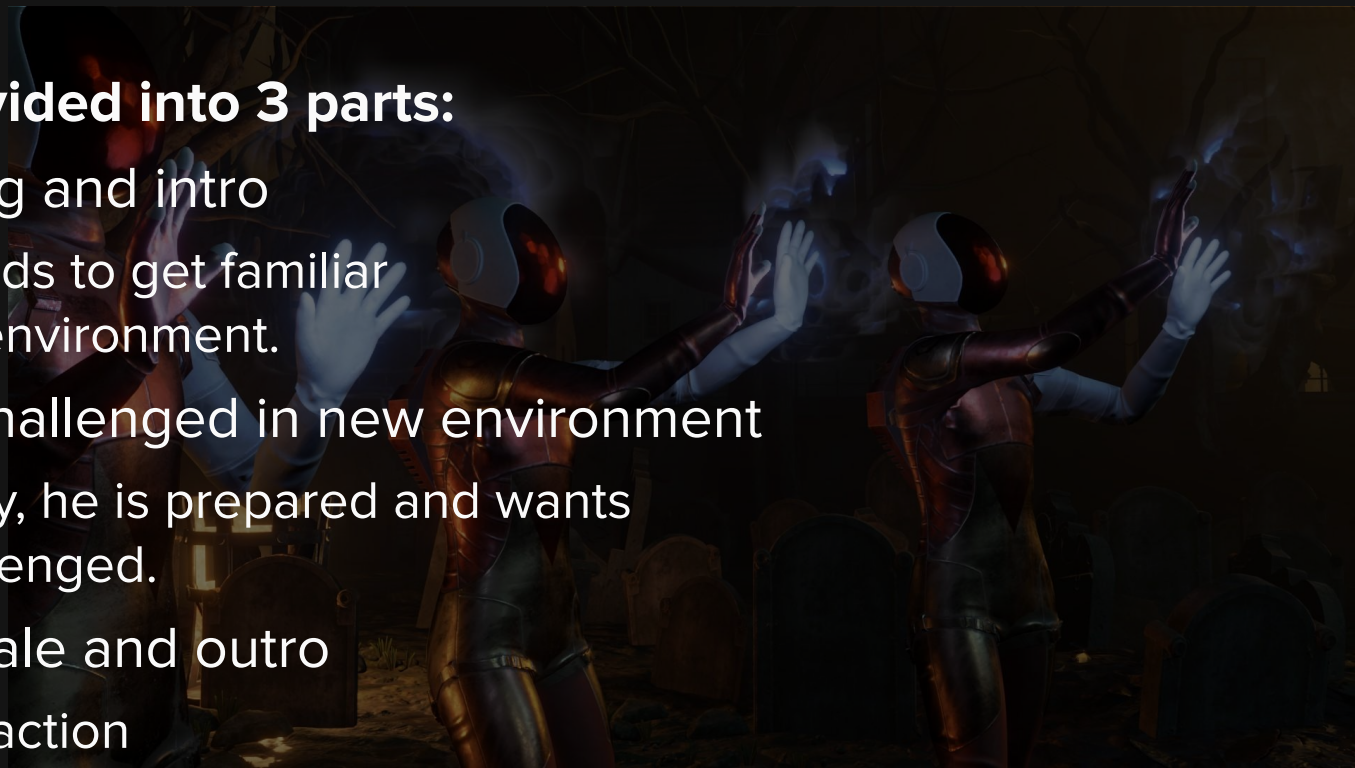
It's really important that a player knows about his situation at all times!



GAME DESIGN

Experience is divided into 3 parts:

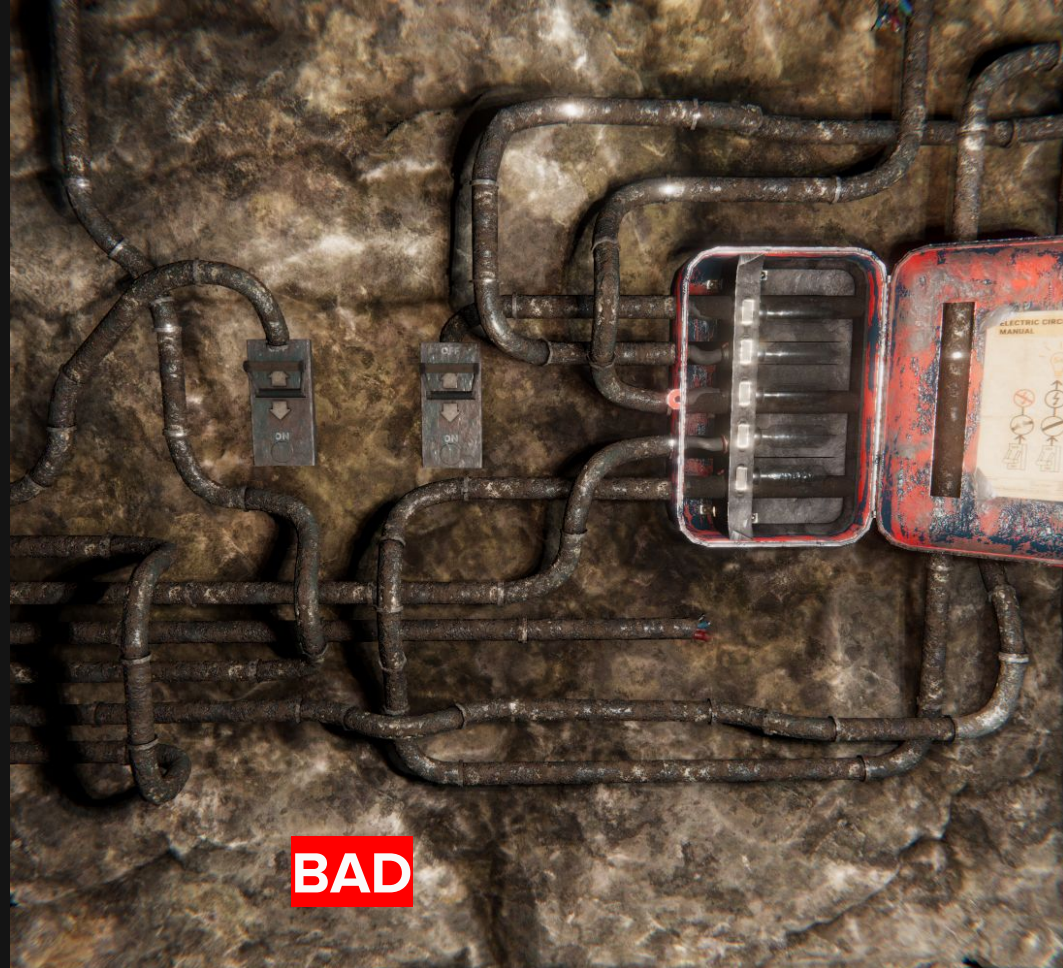
- 1/3 Onboarding and intro
 - Player needs to get familiar with new environment.
- 2/3 Player is challenged in new environment
 - He is ready, he is prepared and wants to be challenged.
- 3/3 Grand finale and outro
 - Feel satisfaction



GAME DESIGN



GOOD

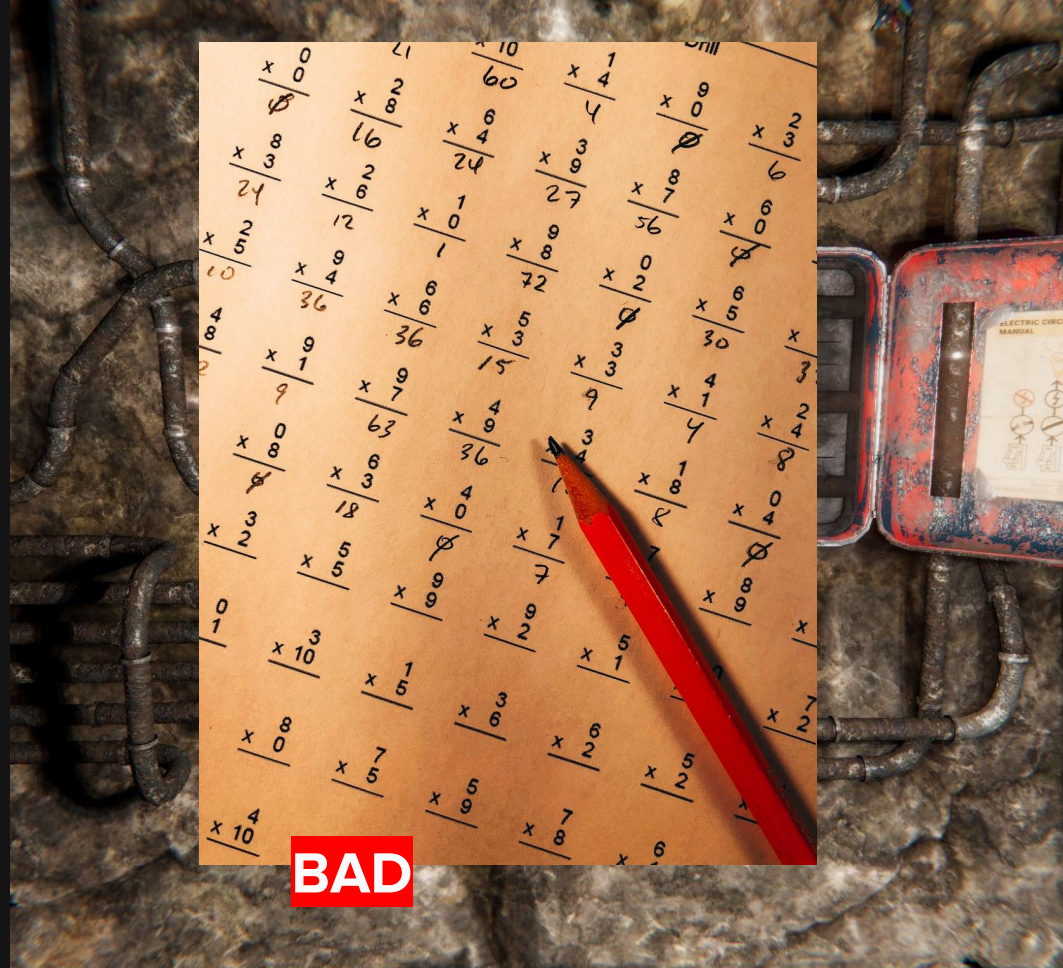


BAD

GAME DESIGN



GOOD



BAD

STORYTELLING



STORYTELLING

It's hard to tell a story in VR! Why?

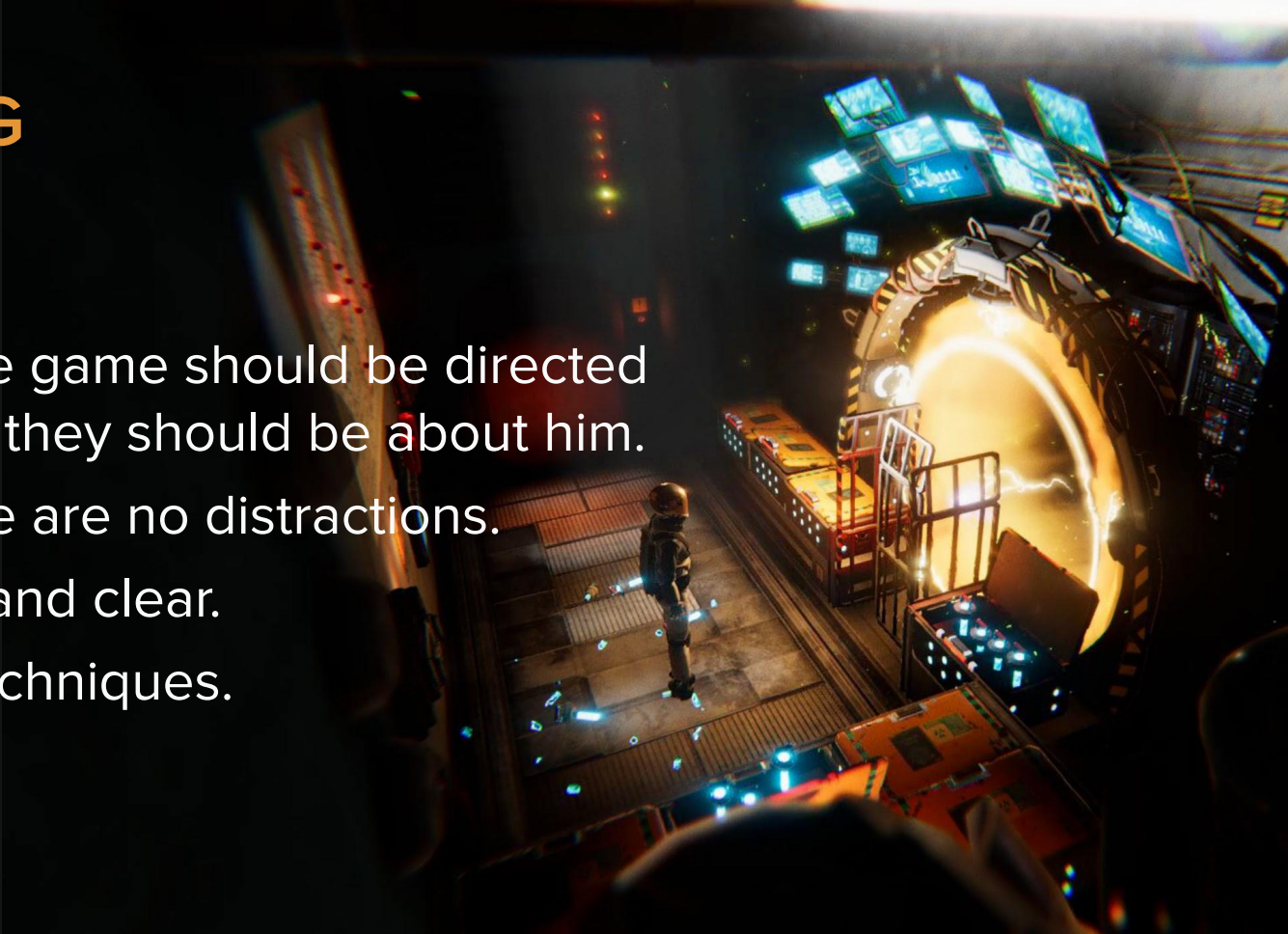
- You don't have control over player's camera.
- You can't use cut scenes.
- Is really hard to get and maintain player's attention.
- People want fun mechanics, not a story.



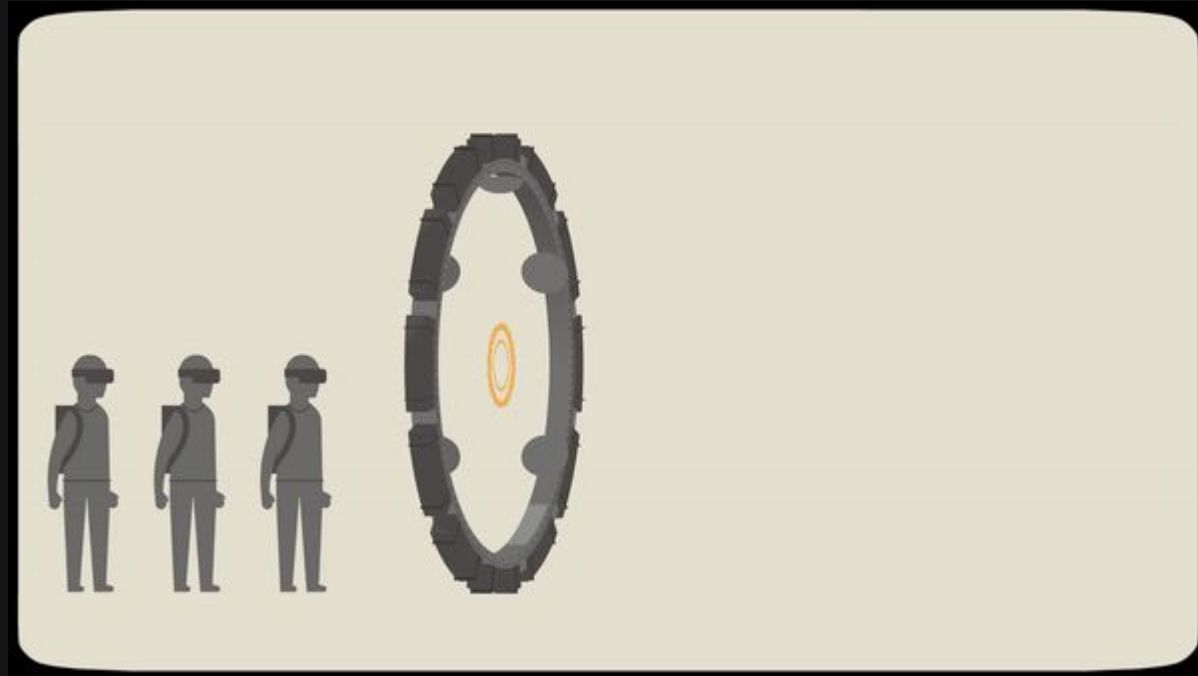
STORYTELLING

How to solve it?

- Dialogues in the game should be directed to the player or they should be about him.
- Make sure there are no distractions.
- Make it simple and clear.
- Use different techniques.



STORYTELLING



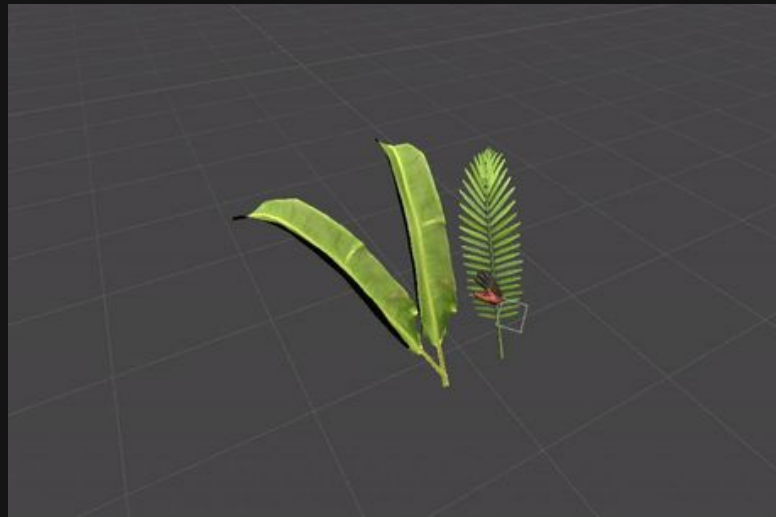
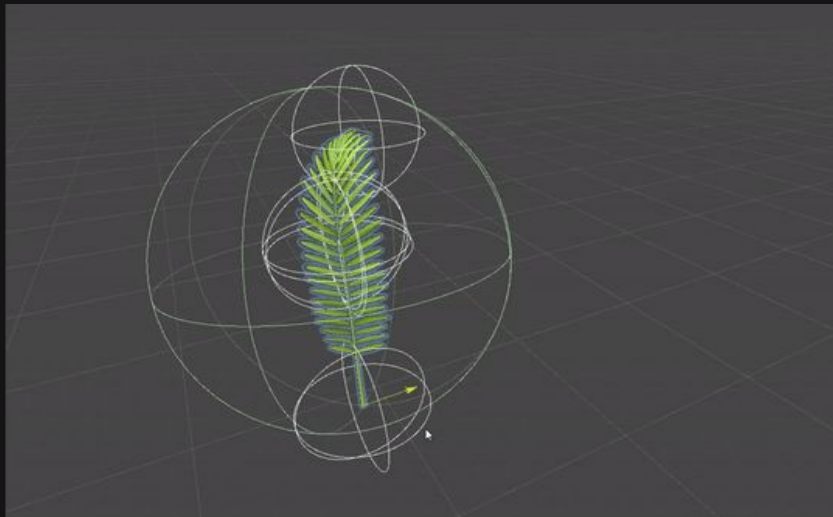
KEEPING THE PLAYERS ENTERTAINED

- Sandbox
- Keep it consistent!
- Physical is better



INTERACTIVE FLORA

- Dynamic Bone (Asset Store)
- Simple optimizations



WATER PHYSICS



TRANSPORT



OPERATIONS

A background image showing several people wearing VR headsets in a dark, blue-lit environment. They appear to be interacting with a virtual space, with some standing and others in motion. The scene is dimly lit, emphasizing the VR experience.

- It's hard (for developers anyway).
- It's even harder to promote.
- Linear walkthrough - higher throughput
 - 48 people per hour
 - 1 group every 5 minutes
- 5 people per shift, 2 shifts
- Group events boost revenue

OPERATIONS

- In-house experience management system
 - .NET Core, Javascript
- Backpack management



THANK YOU

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