Environment design

Andreas Poola

A broader look

“Game world design is the practice of designing and building a playable location where your story will be set.”

1. World design
2. Level design

Overall design

Now in VR

Movement in VR

A lot of different VR sets

Different technologies

6.5ft x 5ft

BEAT SABER

ROSO
RECALL
SCORE
34,728 PTS
GLOBAL LEADERBOARD :
x2
PTS
/Siefe

User Interface Design

- Physical design
- Interactive objects
- Gestures
- Scale
- texts and images slightly curved

Dangers of Intuition

Interactions in VR

- The more physical the response of an object is, the wider the range of interactions may be correctly responded to.
- The more specific the interaction, the more specific the affordance should appear.
- Look for real-world affordances that you can reflect in your own projects.

Objects

EVERYTHING SHOULD BE REACTIVE!

Text and Images

Things to consider:

- Resolution limitations
- lens distortion

Interaction Design

- No movement should take place unless it’s user-driven.
- Keep in mind that human hands naturally move in arcs, rather than straight lines.
- Limit the number of gestures that users are required to learn.
- All interactions should have a distinct initiation and completion state.
- Ensure that users can interact with objects occluded by their hands.

Some more tips

- Include safe poses to avoid “the Midas touch” where everything is interactive.
- Encourage users to keep their fingers splayed out.
- Keep interactive elements in the “Goldilocks zone” between desk height and eye level.
- Use visual feedback to encourage users to keep their hands within the tracking zone.
- Avoid interactions involving fingers that would be invisible to the controller.

Space and Perspective

- Adjust the scale of the hands to match your game environment.
- Use 3D cinematic tricks to create and reinforce a sense of depth.
- Objects rendered closer than 75 cm (within reach) may cause discomfort to some users due to the disparity between monocular lens focus and binocular aim.
- Use the appropriate frame of reference for virtual objects and UI elements.
- Use parallax, lighting, texture, and other cues to communicate depth and space.

Lets try some games and see what design to they have?

https://www.domestika.org/en/blog/10804-what-is-game-environment-design-and-how-to-get-started

https://www.techtarget.com/whatis/definition/room-scale-VR-room-scale-virtual-reality

https://medium.com/@LeapMotion/vr-design-best-practices-bb889c2dc70