Potel RVR: Realtime Virtual Reality Pottery Shaper.

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1 Description:

Potel is an immersive and engaging virtual reality application that focuses on exploring the art of pottery creation with virtual reality hardware. Inside Potel, users are able to create virtual pots with the aid of a spinnig wheel that lets you shape virtual "clay" the same way you would do if you where creating a pot in real life.

Potel will also let you paint your pots so you can put a distinctive touch to your created art and with enough training you will become a master pottery maker!

2 Project Concept:

2.1 Environment:

Potel's environment is located in a small town house with a beautiful scenery where you can sit, relax and let your imagination fly.

2.2 User interaction with the world:

The way the user interacts with the world is with his hands, the user can model the clay to his will to create pots and also interact with a lever to set the speed of the rotating pot in order to have more control on the model being shaped. Finally the user will be able to paint the pot after it has been "baked"; All of this through a head mounted display to get a fully immersive experience.

2.3 Step by step usage:

Modeling clay in Potel should be intuitive and fun, being said that, here are the steps to use the application:

1. User sits in a chair with a leap motion on front and a Head Mounted Display put on.
2. User clicks on create new model and a flat cylinder is instantiated as an initial clay to shape.
3. Clay starts to spin and user starts to model the clay.
4. When the user is happy with what he has modeled, the user clicks on bake (on a menu) to move to the painting process.

5. Same happens with painting; pot starts to spin and user can then start to paint.
6. Finally, the user can at any point restart the whole process.

2.4 Resources to be used:

For this project I plan to use both an oculus rift as a Head Mounted Display and a leap motion to track hands for shaping the pot.

2.5 Target platforms:

I plan to target this application for *Windows*.

3 Project timeline:

I have decided to have milestones each 2 weeks, with this I will have the flexibility to work on larger deliverables over per week basis milestone and in the case I'm stuck I can always use the weekends to catch up and meet the proposed milestones.

3.1 Milestones:

Monday September 21 - 2015
Oculus integration and leap integration.

Monday October 5 - 2015
Deformable meshes interacting with the mouse

Monday October 19 - 2015
Deformable meshes interacting with Leap Motion, initial menus and start working on the scenery of the project.

Monday November 2 - 2015
Final touches to the project, make the scene look good, bug fixes.

Monday November 9 - 2015
Deliver the project.

3.2 Status reports:

There are going to be 2 deliverables as follows:

1. October 10: Prototype that has deformable meshes working inside the oculus sdk with mouse interaction, initial scenery and menus.
2. November 9: Final project finished with leap motion integrated, full scene working and vertex painting implemented in the deformed mesh.

3.3 Completition date:

I plan to have this completed by Monday November 9 - 2015.