

Product Plan

Matthias Tavasszy
0000000

Arjan van Schendel
4366212

Luke Prananta
0000000

Jasper van Esveld
0000000

Bart Ziengs
0000000

May 10, 2016

This product plan is written in the context of a project that is scheduled for the last quarter of the second year for computer science students. Besides the Delft University of technology, this project is conducted with collaboration of CleVR, a company that specializes in software solutions with virtual reality. CLeVR is currently building a product that therapists can use during the treatment of psychosis. Our goal for thisproject is to let a future user, which in this case is the client, be able to interact with the virtual reality using several hardware tools.

The purpose of this document is to provide guidelines for the seven weeks that follow after writing this. All the sub-parts of the final product are listed in the product backlog. The planning for each week has been outlined in the product roadmap and the initial requirements are also documented. However, additional requirements could arise during the development.

1	MoSCoW prioritization	3
1.1	Functional	3
1.2	Non-Functional	4
2	Product Roadmap	5

CHAPTER 1

MOSCOW PRIORITIZATION

1.1 Functional

Must have

Essential features required for a successful product

- The user must be able to see his whole virtual body within the virtual world
- The user must be able to move his virtual body by moving his real body with the use of the Kinect
- The user must be able to move his fingers separately using the provided tracking hardware: Manus VR and Leap Motion
- The user must be able to pick up items using a grabbing gesture with his hands
- The virtual body must behave in a physically possible way, avoiding unnatural bending, and not distressing the user

Should have

Features that greatly improve the quality of the product but aren't essential

- The user's virtual body should not clip through objects in the virtual world
- Virtual items should not clip through objects in the virtual world
- The user should be able to put grocery items in a shopping cart or basket

Could have

Non-essential features that are only implemented if there is enough time

- The body of the user could be represented by a realistic looking 3D model
- The user could move around in the virtual world with a controller
- The user could interact with objects in another way than picking up, like pushing

Won't have

Interesting features for future development that are not going to be implemented

- The user won't be able to move around in the virtual world using a VR walking pad like the Virtuix Omni
- The hands will not get tracked when outside the vision of the leap motion (in front of the player)

1.2 Non-Functional

- The project must be developed on Unity3D
- Classes must be unit tested when not hardware related
- The framerate must stay around or above 90 fps
- The final product should be finished before June 23, 2016, 18:55

CHAPTER 2

PRODUCT ROADMAP

- Sprint 1**
 - Set up GitHub repo, google drive and other platforms necessary
 - Product Vision draft finished
 - Product Plan draft finished
 - Architecture Design draft finished
- Sprint 2**
 - Setup Unity3D environment and project
 - Product Vision finished
 - Product Plan finished
 - Project Skills assignment 1 finished
- Sprint 3**
 - Simple Unity3D environment (map) created and tested, does not contain any objects other than the player itself
 - Basic visualization of hands implemented (just a skeleton, not a textured 3d model)
 - Hand tracking and finger tracking with Leap Motion implemented
 - Demo of Unity3D environment and hand tracking
- Sprint 4**
 - Basic visual model of body finished (just a skeleton, not a textured 3d model)
 - Integrate Kinect software and link the input to limb movement
 - Demo of limb movement using Kinect
- Sprint 5**
 - Integrate Manus VR finger tracking
 - Combine Manus VR finger tracking with the Leap Motion
 - Demo of finger and hand movement with Manus VR
- Sprint 6**
 - Interaction with world implemented (physics)
 - Improve the existing Unity3D map to represent a virtual supermarket
 - Demo of interaction with the virtual supermarket (picking up items)
- Sprint 7**
 - Improvements on previously built functionalities
 - Testing with VR headset
 - Implement input filters (if hardware loses connection or delivers strange input, solve this in a visually realistic way)
 - Demo of the whole system (environment, virtual body, hand and finger movement and all other added functionalities)

- Sprint 8**
- Improvements and bugfixes
 - Architecture Design finalized
 - Final Product
- Sprint 9**
- Interaction Design Quiz (individual)
 - Final Report