

Proposal

Frimpo



<https://github.com/MrJackio/CART360/tree/master/Final%20Assignment>

Virtual Reality is a relatively new medium that has yet to get its footing in technology. It has the potential for great things and I am going to try and pursue the goal of improving the virtual world. The main thing missing from all digital media is materiality. Sure, the medium itself has materiality but the content is always lacking it. Virtual reality however is the first time in which materiality could play a major part. Currently when you “touch” anything in the virtual world, your hand passes right through it, this is not only confusing to most people but can even make people sick. By bringing materiality to the virtual world, the user will feel a connection to the real they never have before, being able to touch and even squeeze a virtual object, feeling its material between their fingers. I will be bringing this materiality to VR by creating a “living” object that will bring comfort and familiarity to the virtual, this object will be built from specific and thought out materials. When I say living, I mean that in the virtual world, it will resemble something alive, but in reality it will appear rather bland. I call this creature: Frimpo. Frimpo will be targeted towards helping multiple groups of people by having multiple modes, I will get to that later.

A strong and special bond will form between this creature and the user due to our natural response to cute animals, compassion. This will be particularly strong between children and the elderly, but will still benefit and be meaningful to adults. The object will be used to destabilize users sense of reality as they start to love this creature, despite it being partially virtual. This will lead them to question their relationship with the animals and people we are hurting in the real world, as they would realize that they hate harm to come to even a virtually living being. It could be used for children to prove to their parents that they could care for a pet, perhaps leading to a real one of their own. It would be a much more realistic and effective training tool in this sense, than anything else available right now (think FurReal Pets). Adults would have multiple levels of bonds with Frimpo, having them helping their parents (the elderly) as well as their children.

Frimpo is both helpful and challenging, but to two different groups of people. For children it would be a very good learning tool, in two senses: the first in simply training them to care for a living thing, and secondly Frimpo could even become a teacher in various school subjects. The object will react to certain inputs that the child could induce, such as pressure, heat and countless others. These inputs would cause the creature's emotions and states to change both in the physical and virtual world. This could lead to the children being more gentle and caring to all animals. As for the elderly, the primary function would be to keep company, and care for the person mentally. Frimpo could help people with dementia much like the robotic seal *Paro*. This creature could accompany them through the virtual world, going to past locations, like their countries of origin, to new and fantastical worlds that only virtual reality makes possible.

Although Frimpo is very useful to kids and the elderly I think it could play a very meaningful part with adults as well, specifically in the aspects of comedy. I will approach making one object for multiple groups by dividing its virtual presence into three modes. The first mode would be for children and would help them as described above. The second mode being for adults and Frimpo would change drastically, becoming a crude and funny creature. He would swear and react to an adult's constant input on the sensors differently. For example if a child were to squeeze Frimpo too hard it would say something like "Why are you squeezing me so hard, that hurts." but if an adult were to squeeze Frimpo too hard it would respond with "Hey f**k you man!" or something along those lines. This will combat an adults different feeling towards Frimpo, the fact that they would want to figure him out in a different way. For instance an adult will be curious on how it works and will try and trigger all the sensors right away resulting in a funny response that would make them chuckle, rather than a boring lecture about not to squeeze animals. The last mode Frimpo would have would be, as stated above, elderly mode, where its primary function would be to accompany the person and help fight mental illness like dementia. The different modes will be divided and handled via Unity, as this is where Frimpo comes alive. For the purpose of my first prototypes of Frimpo I will focus on the adult mode, being able to add the additional modes easily.

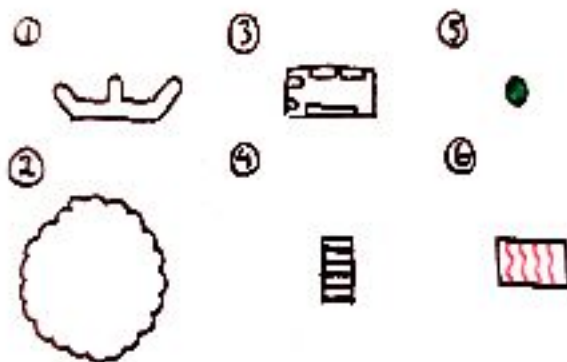
Below is a storyboard of how one will interact with Frimpo, as well as a list/diagram of the components required to make it a reality, or at least a virtual reality.

Storyboard



1. Attach the Vive Tracker (Frimpo's Crown)
2. Put on your HTC Vive Virtual Reality HMD
3. Pick up Frimpo
4. If Squeezed Frimpo will get upset
5. Warm him up to keep him happy
6. Tickle his chin to make him giggle

Diagram



1. Frimpo's Crown (Vive Tracker)
2. Frimpo's Body (Soft, solid sphere)
3. Arduino Uno
4. Pressure Sensor
5. Motion Sensor
6. Temperature Sensor

Similar Projects

Virtual Reality Objects Using the Vive Tracker

VR Gun

<https://github.com/matzman666/VR-Rifle-Blueprints>

Tracker Demo's

<https://www.youtube.com/watch?v=6faq-nzv8hk>

Above are two virtual reality objects already developed using the HTC Vive's tracker. The first is a VR Rifle, a project I found on reddit in which a guy built a rifle that's triggers and buttons provide input for various VR games. It is fully tracked in virtual space and every part of it can be felt. The reddit user provided me with documentation and tutorials for connecting the Vive Tracker with an Arduino. It uses various Digital and Analog sensors to provide input. The second is a video of various Vive tracker projects, I will focus on the second one, in which a phone is attached to the vive tracker, allowing multiple players to interact in a single virtual environment. This relates to Frimpo as I will treat Frimpo as another player in the virtual world, rather than a tool like most tracked VR objects.

Technological Pets

Paro

<http://www.parorobots.com/index.asp>

Paro is a robotic seal that has various functions including: reduces patient and caregiver stress, stimulates interaction between patients and caregivers, has a psychological effect on patients, improving their relaxation and motivation, improves the socialization of patients with each other and with caregivers. It has also been awarded the world's most therapeutic robot by the Guinness World Records. It has been used by primarily europe and japan since 2003. Paro has multiple sensors including tactile, light, audition, temperature, and posture sensors which it uses to perceive people and its environment.

Furby

<https://www.hasbro.com/en-us/brands/furby>

Webkinz

<https://www.webkinz.com/>

Originally designed as a physical toy, Furby has made its way to the digital, now allowing kids to input a code on the box of their toy and play with them via web based

games. This is following a craze started by the company Ganz, in which they started selling plush animals with codes on them that would allow you to enter their digital world. You can buy outfits for your pets, play games against other people's pets and so on. All of these features could be easily translated to Frimpo, allowing you to get additional outfits and even meet other people's Frimpos.

VR Games

Accounting

<https://www.youtube.com/watch?v=sFaC-9Q-Fp8>

I found a lot of inspiration for the adult mode of Frimpo from a VR game, Accounting. It involves the user putting on multiple VR headsets diving deeper and deeper into virtual reality. Like Frimpo this causes one to question the reality we are in. The worlds you enter as you play through the game are home to many whacky and funny characters, mostly voiced by Rick and Morty and Adventure Time's own Justin Roiland. These silly and offensive characters have made one of the simplest VR experiences, also one of the funniest.

Why Frimpo Will be Better

Frimpo takes all of the examples above and adds greatly to them. The Virtual reality objects that exist today are limited to guns and sports tools, as well as add-ons for your phone, all very obvious uses of the new technology. Physical robotic pets like Paro and Furby are either very expensive, or not very engaging. This has been combatted by providing a virtual playspace to enjoy these pets, like in Webkinz, but even these are extremely lacking in terms of really getting to know your new pet. Finally with virtual reality games like Accounting, there is a lack of materiality, you can never truly feel what you are seeing. Frimpo solves all of these problems and could be so much more.