# User Studies:

## Proximity and Vibration

This study has proven that with only 5 to 10 minutes of practice, the users are able to understand the information from the vibration in a very successful way.

This study was set up as a redundant experience so that it would be easy for the subjects to test the experience and immediately compare their performance with the visual sense, this drastically helped them improve their performance as the exercise got more complicated.

A point brought up by this study was the importance of the related location between the sensor and the vibrator. Previous studies have proven that the place in the body where the sensor is doesn’t need to be the same place as where the feeling is created, and this is clear when working with a sense that the body doesn’t possess. What was interesting in this experiment is that if the Sensor and the feedback are in close proximity to each other, for example both in the hand (like it was in this experiment), it will be confusing to the user and the brain will do extra work trying to compensate for this small off-set.

## IR at a distance and temperature

The only redundancy with this new sense is through the skin so this test will be harder to grasp for the users. A basic but somewhat boring test can be for the user to try to find which of a few identical objects is the hottest and the coldest. I would prefer a more exploratory test where users are able to walk around and understand their surroundings.

This test will answer questions related to body control and the understanding of the theoretical functioning of the sensor.

I’m working in another study with this set up. I would like to use this as a cue on the emotional state of people in front of the user. I have set up different scenarios where on user sits down and the sensor is place in close proximity to their face, then a game is played and I’m comparing the sensor data while the user is active during their turn or waiting to the game to come around play again. If there is a pattern it is very small and I need more tests the idea is that if I get good enough results this way then I’ll try to build a way for a user to be able to wear this sensor.

## Vibration and Cellphone sensors

This test is important because it will allow me to create more than one haptic feedback at the same time. The users will have to try and discern between 2 or 3 vibrations in different parts of the body, all with a different meaning. At the same time, this will be an exploratory test so that the users can walk around and interpret their surroundings with little information to start with.

# Timeline

## August - September

Start user studies

## September

Analyze results and present to advisors

## October

Write, defend and write.