

Design Book



A!
Aalto University

ACTIVISION®

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For the reader,

This book presents our team's design process in developing Warlord, the new PC game controller for playing Call of Duty in a living room environment.

Our design team first consisted of seven members – then later six – half of which from Aalto University in Finland and the other half from Stanford University in California, USA.

This book is a collection of our key ideas and prototypes from throughout our development process. Lasting for an entire academic year, our process was divided into fall, winter and spring quarters. Therefore this book follows this same organization as well.

Please enjoy!

fall quarter



Fall Quarter



Touch aiming
prototypes





Graphics
tablet
aiming
prototype



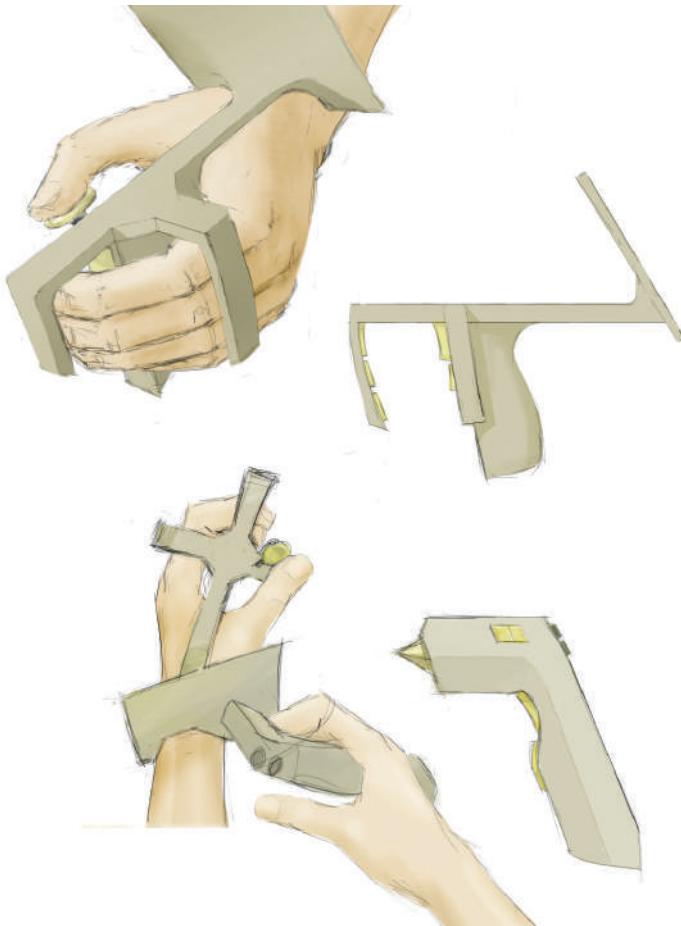
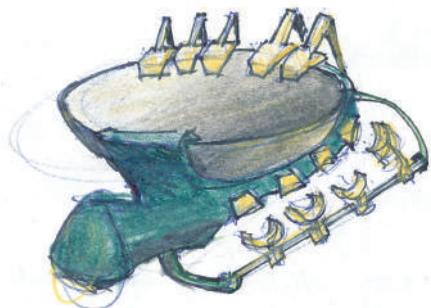


Table & stylus
controller

fall quarter



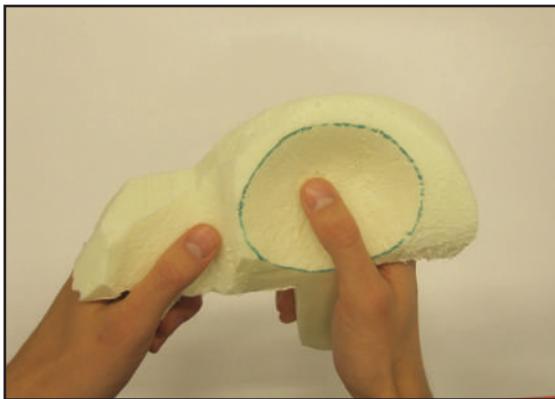
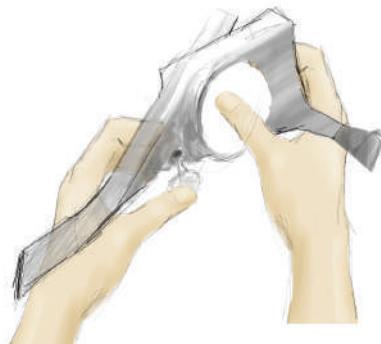
Grasshopper

Malmi '77





Concave
touchpad
mock-up



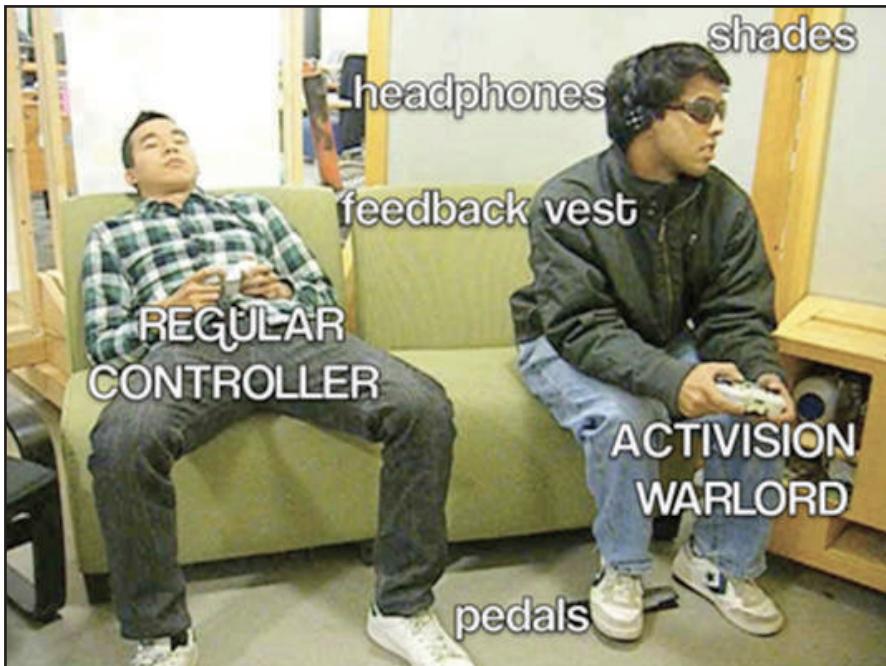


Advanced
feedback
prototype



Vision for immersive controller

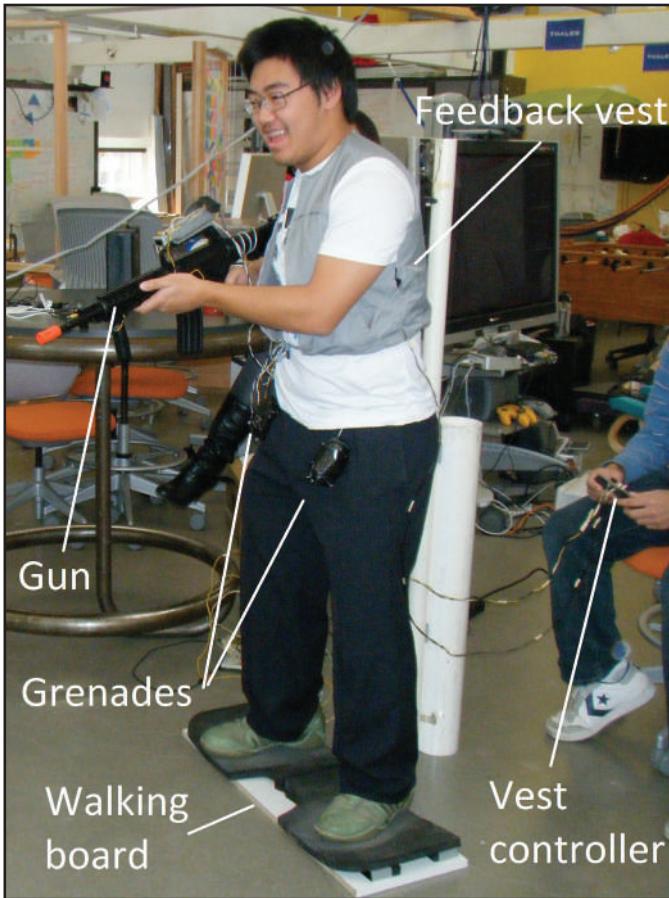
With headphones for directional sound, shades for additional visual cues, feedback vest for localized feedback and pedals for feet functions



winter quarter

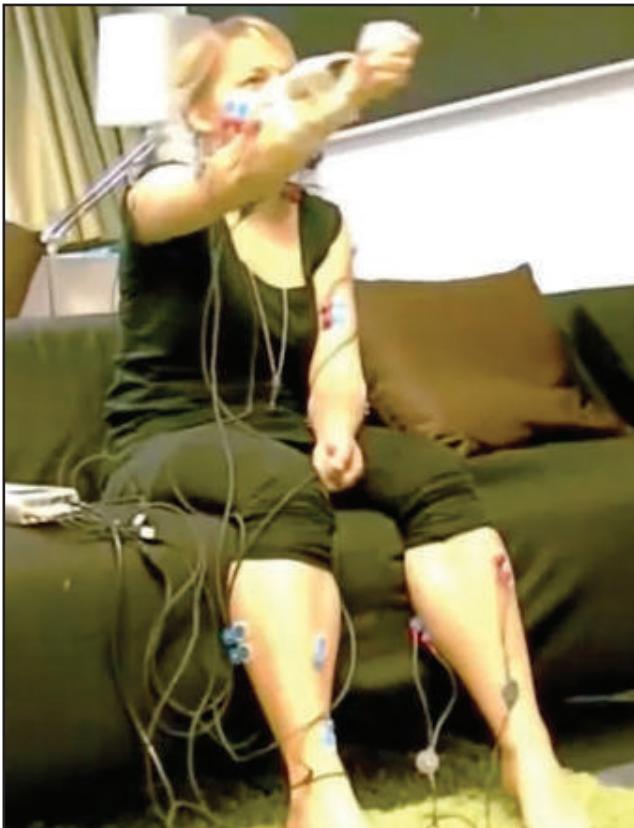


Winter Quarter

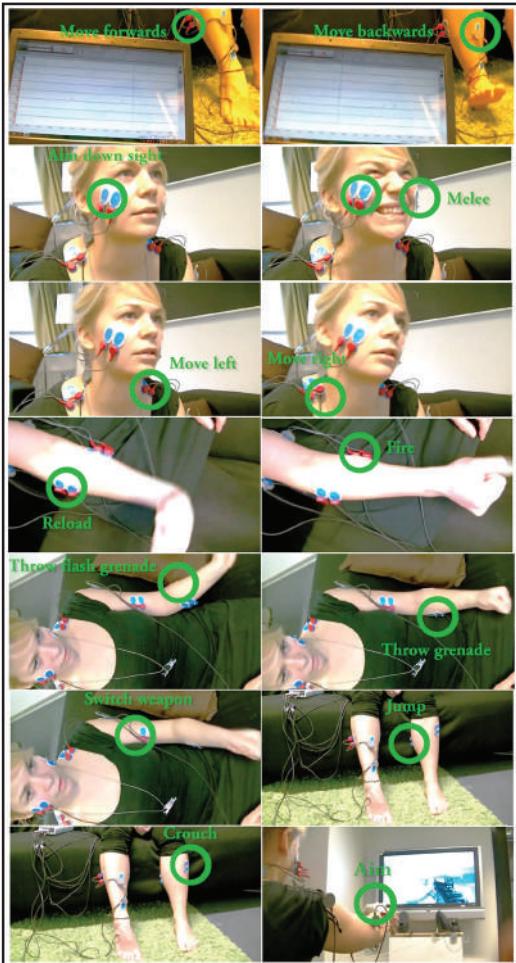


Immersion
prototype

Play like you
were in the
game



Electro-
myograph
prototype
Control the
game with
muscle action



Actions for
electro-
myographic
controller



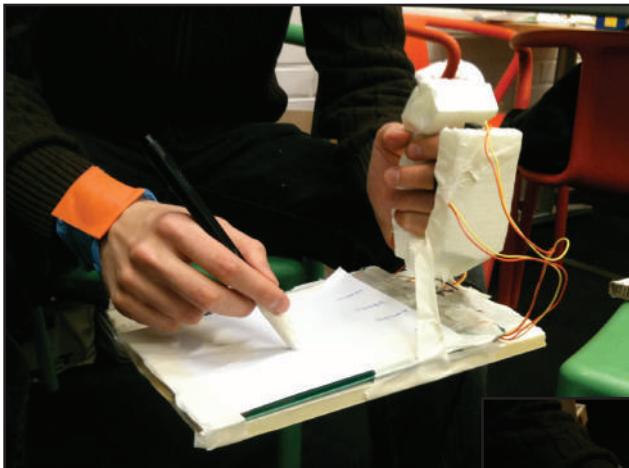
Tank mode prototype

Control the same character together
with a friend



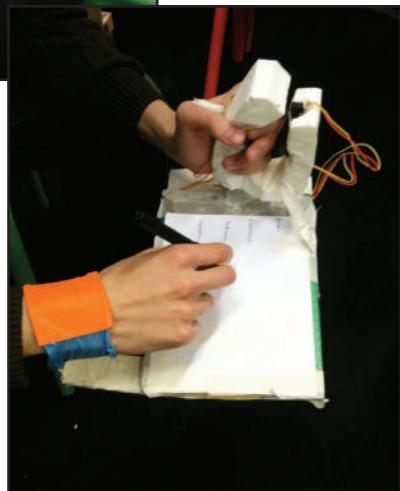


Chair
prototype



Graphics tablet prototype

Aim with tablet and move by
tilting the accelerometer
handle





Accelerometer
prototype
Move
left/right/front/back
by tilting your hand



Accelerometer and graphics tablet prototype

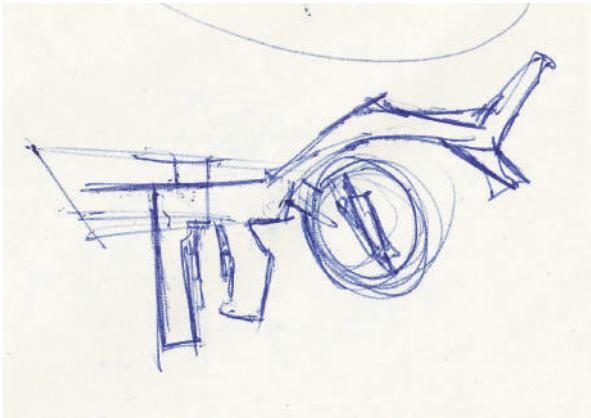
Move by tilting and aim with tablet



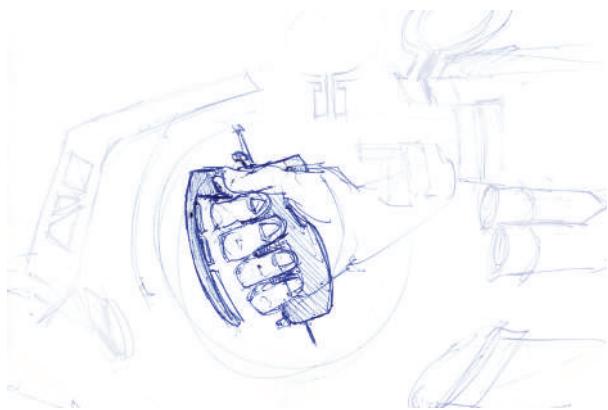


Michael Jackson prototype

Aim by pointing index finger and
shoot by pointing thumb



Gyroscope
handle





Gyroscope/accelerometer handle





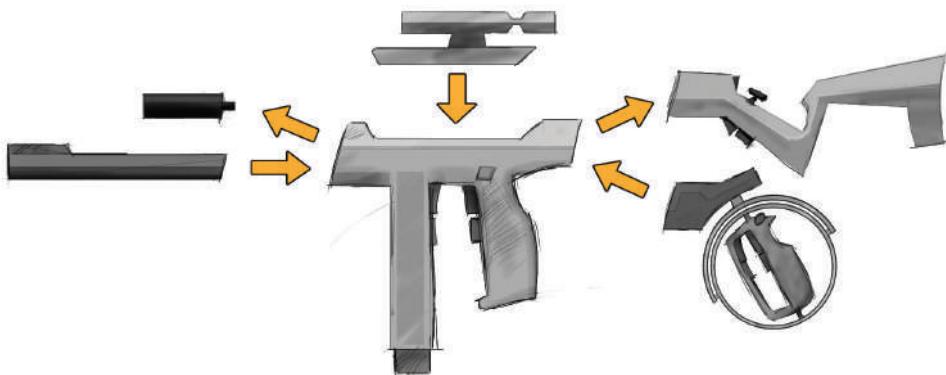
Shape
mock-up





Modular customizable controller

Create your personal controller from the parts you wish. Choose different parts and control functions differently



winter quarter



Modular
customizable
controller





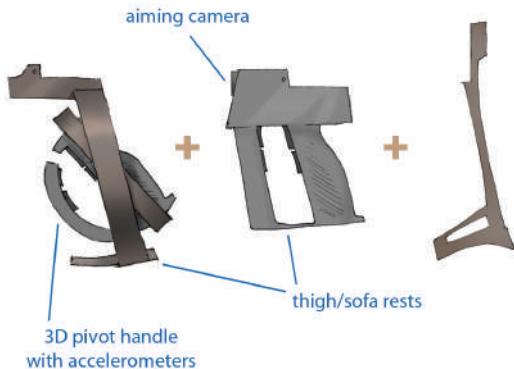
Shape
mock-ups



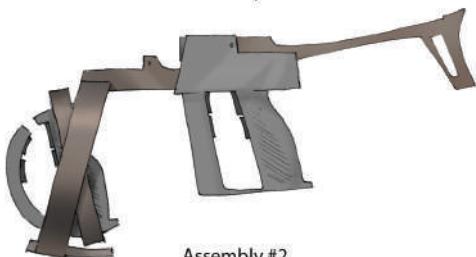


Shape
mock-ups

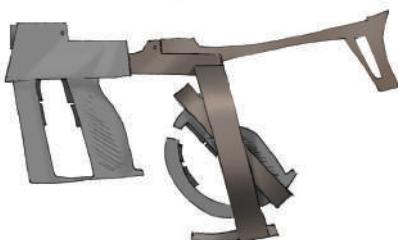




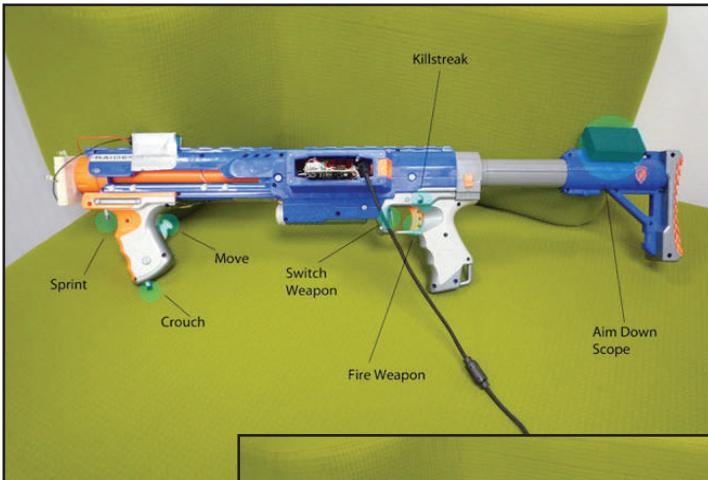
Assembly #1



Assembly #2

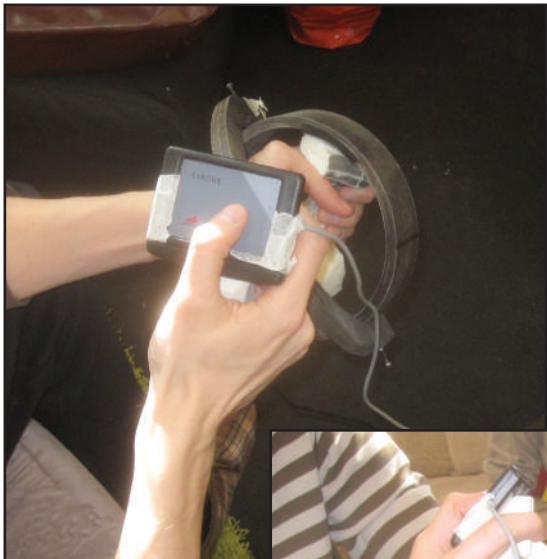


Transformers
controller



Function layout prototype





Touchpad & accelerometer prototype

Aim with touchpad
and move by tilting the
accelerometer handle





Wii & accelerometer prototype

Aim by pointing the gun and move by tilting the accelerometer handle. Or vice versa!





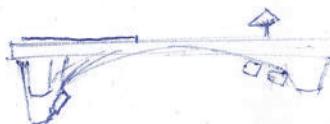
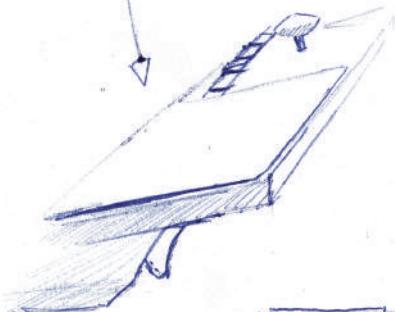
Wii & accelerometer prototype

Aim by pointing the gun and move by tilting the
accelerometer handle

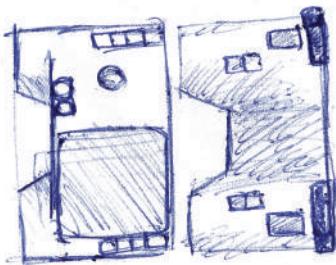




Push touchpad
to activate some action



Touchpad &
joystick
prototype



spring quarter

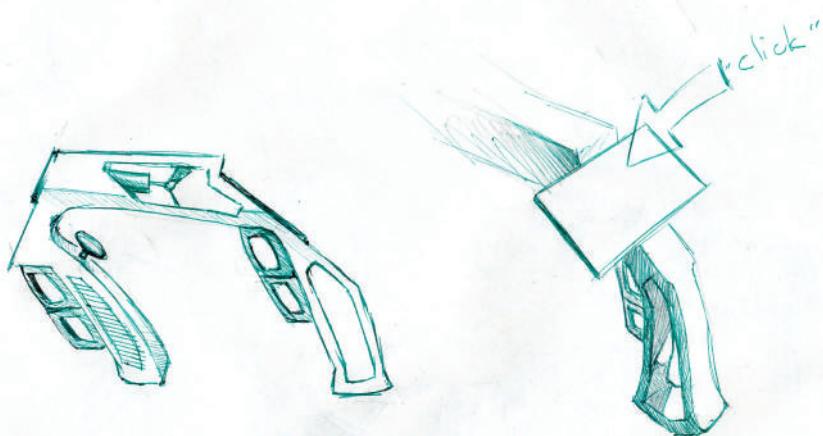


Spring Quarter

spring quarter



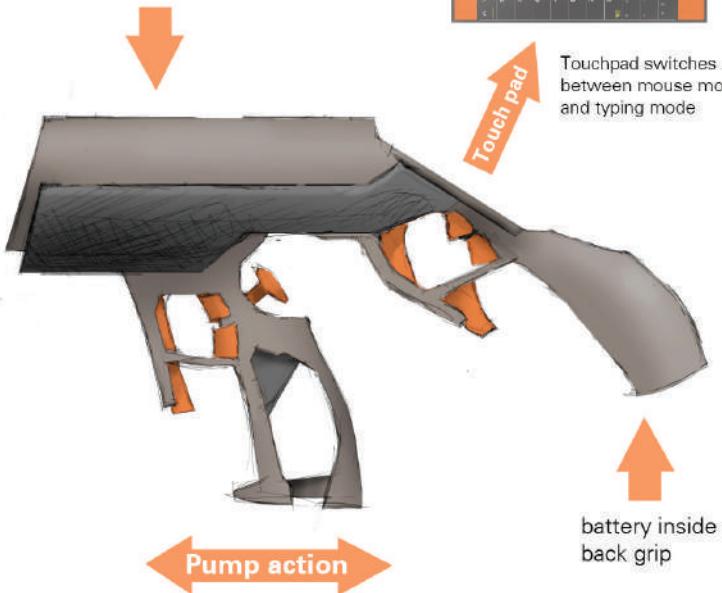
Touchpad gun vol. 1





Touchpad gun vol. 2

airmouse, feedback mechanism,
wireless sender etc.



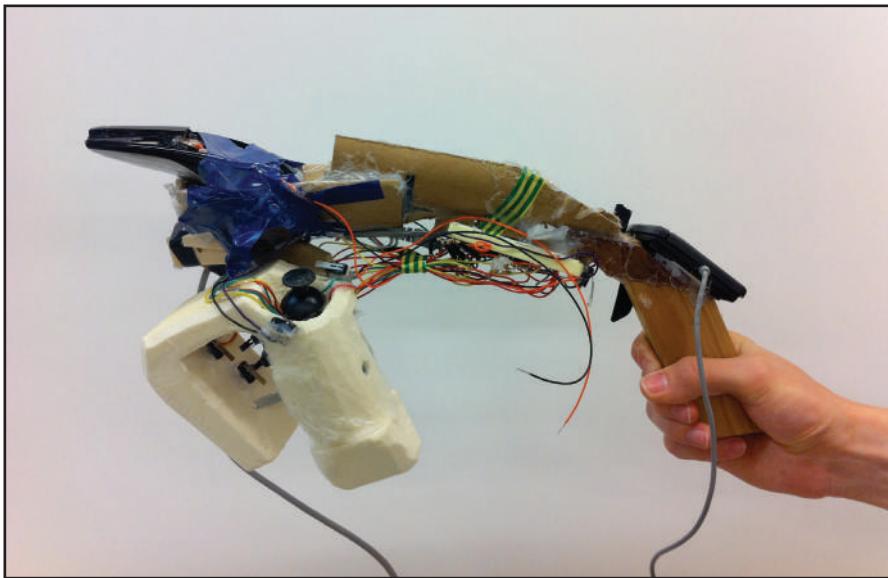


Touchpad gun functional prototype vol. 1



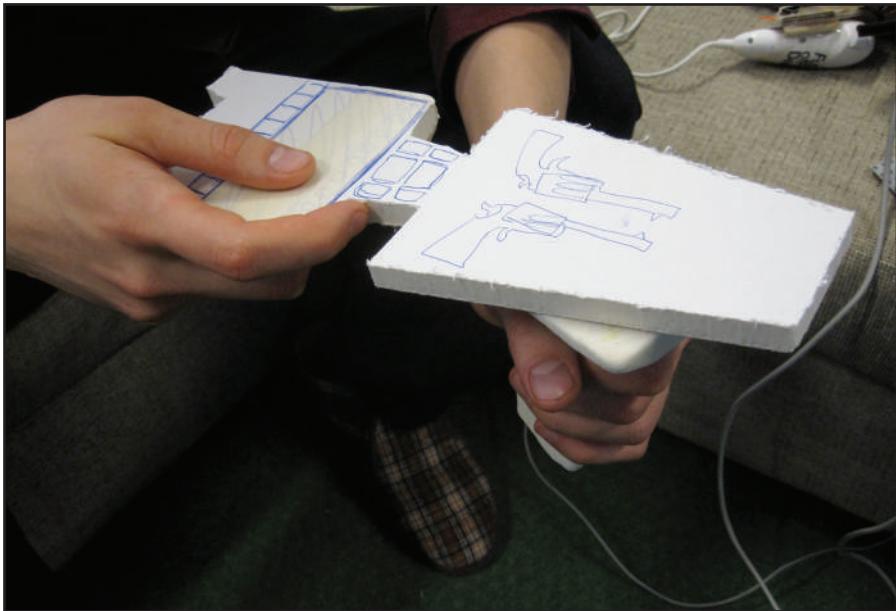


Touchpad gun functional prototype vol. 2



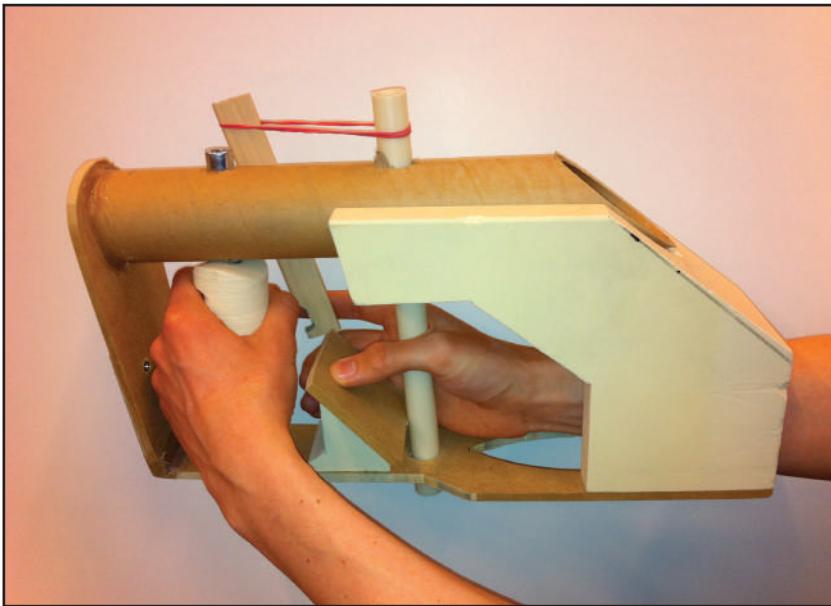


Shape mock-up





Shape mock-up





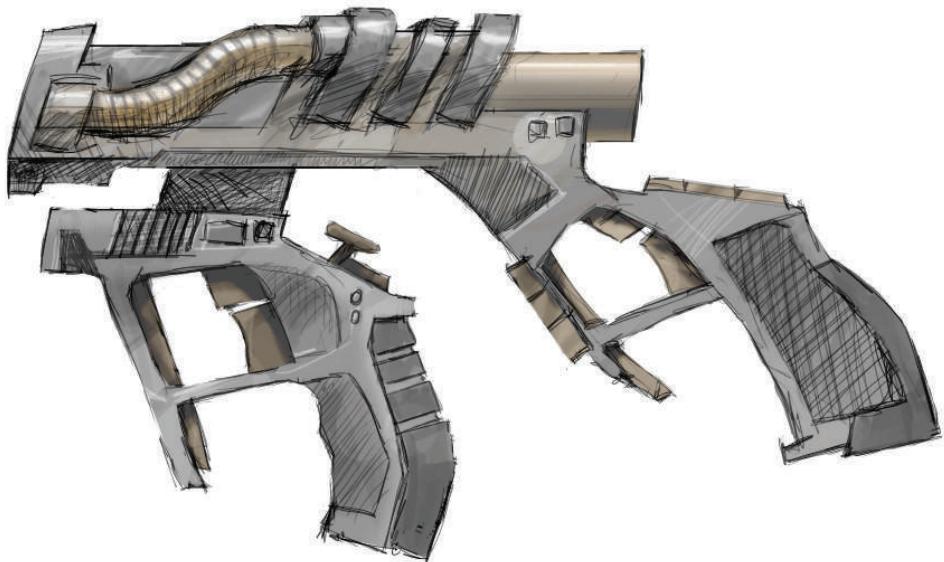
Button layout and ergonomy mock-up



spring quarter



Touchpad gun vol. 3



spring quarter



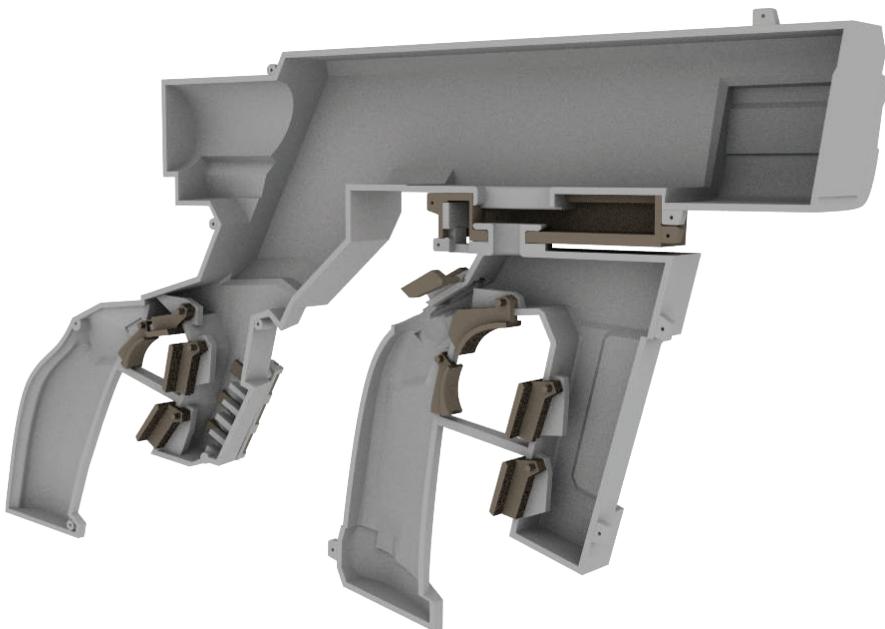
Touchpad gun vol. 4



spring quarter



Touchpad gun vol. 5



spring quarter



Touchpad gun vol. 6



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