Assignment 1: Project Description - A Foot Based Controller

By Atlas X 3
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Ideation Process

Ideation Process 1: Interviews

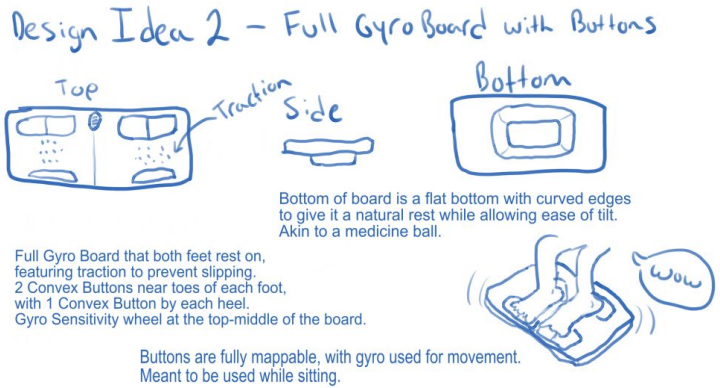
- Each of our team members interviewed 2 different people for a total of 6 interviews
- Asked them several questions related to our problem such as, if they would like to try out a foot controller if they had no hands, what alternatives they would consider, if they'd have a preference for foot pedals or buttons, and gyro controls, etc.
- We collected their answers, and our thoughts and conclusions from what they said on a shared documents that all the team members could access

Ideation Process 2: Conclusions from Interviews

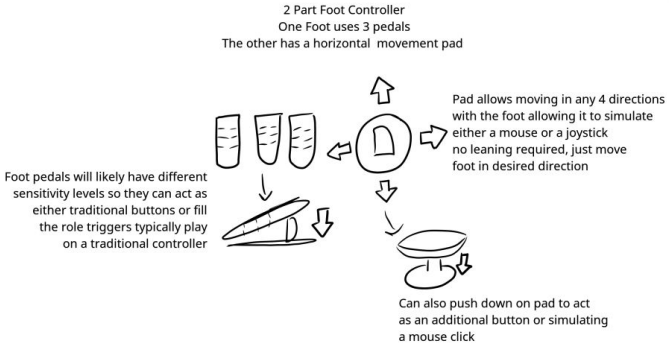
- We found that most interviewees while preferring traditional hand controllers would try a foot controller if they had no fine control of their hands
- Most liked the ideas of gyro controls the most, or a combination of gyros and pedals they were concerned with not having enough fine control of their toes for buttons but seemed fine if the buttons were large enough to not require fine toe control
- Several people were worried about the controller being too complicated, and needing to look down at it repeatedly, or it being hard to look down at
- After we got the data from the interviews we analyzed it and developed ideas

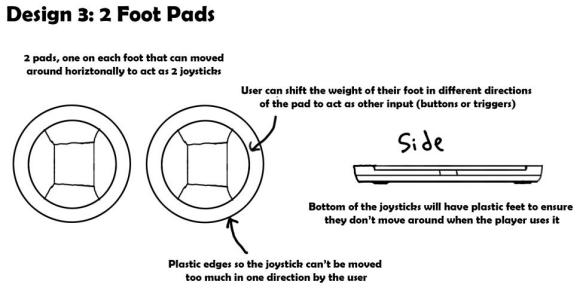
Ideation Process 3: Initial ideas

We developed the following 3 initial ideas and sketches



Design Idea 1: Foot pad and pedals





Ideation Process 4: Feedback

We sent the sketches for all 3 initial design ideas to each of our interviewees and got their feedback.

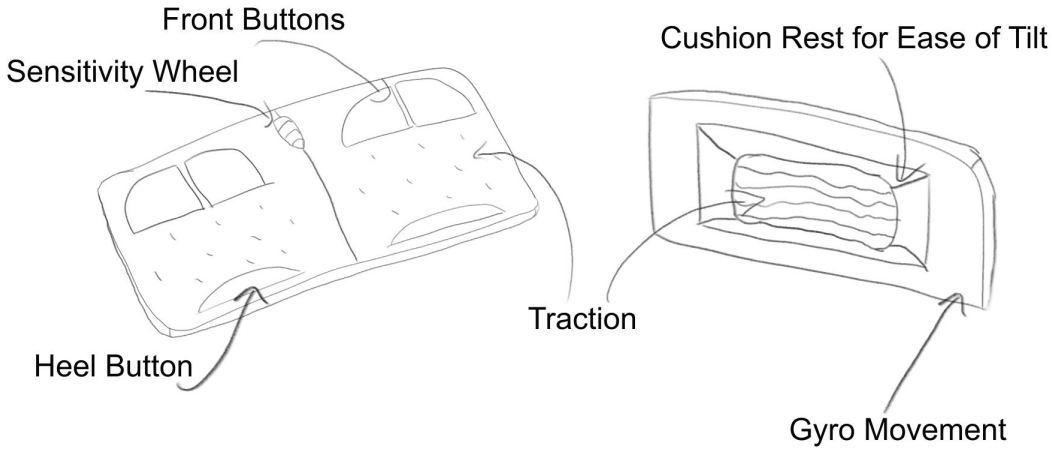
It was overall agreed that while design 1 was the most intuitive, it was the least interesting, design 2 was the most popular overall with design 3 being most people's second choice.

We decided to proceed with a modified version of design 2 that will include a warning not to stand on it (as that may be a safety risk) and noted we should think about the sensitivity and other potential issues with the gyro

Ideation Process 5: Final Design

Following the feedback we came up with the following final design

Paper Prototype - Motion Board



Product Comparison

Product Comparison - Timeline

Foot Controller Timeline

2009

Wii Balance Board

Essentially a weighing scale that was turned into a controller, the Wii Balance Board makes use of pressure sensors to control movement, detect lift, and measure balance.

2013

Stinky Gaming Footboard Foot Controller

A large 4 button controller that emulates the number pad to allow for easy mapping of common actions

2017

Walkbox

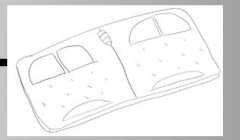
A controller made to allow up to 80 unique outputs through different paddle and paddle combo inputs providing full keyboard and mouse emulation.

2019

3dRudder

A motion controller that allows for full movement with your feet, however it is only movement. Other actions must be taken using a controller in a players hands.

2022



A controller aiming for true handless play, this controller would allow for freely mappable buttons and full gyro movement.

Planning

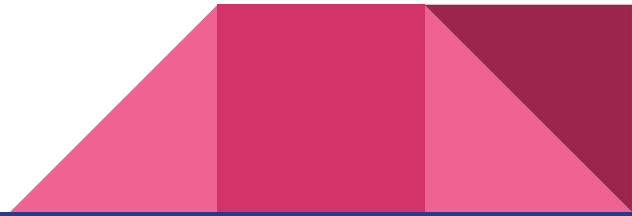
Planning 1: Roles and Responsibilities

Ame: Software Lead

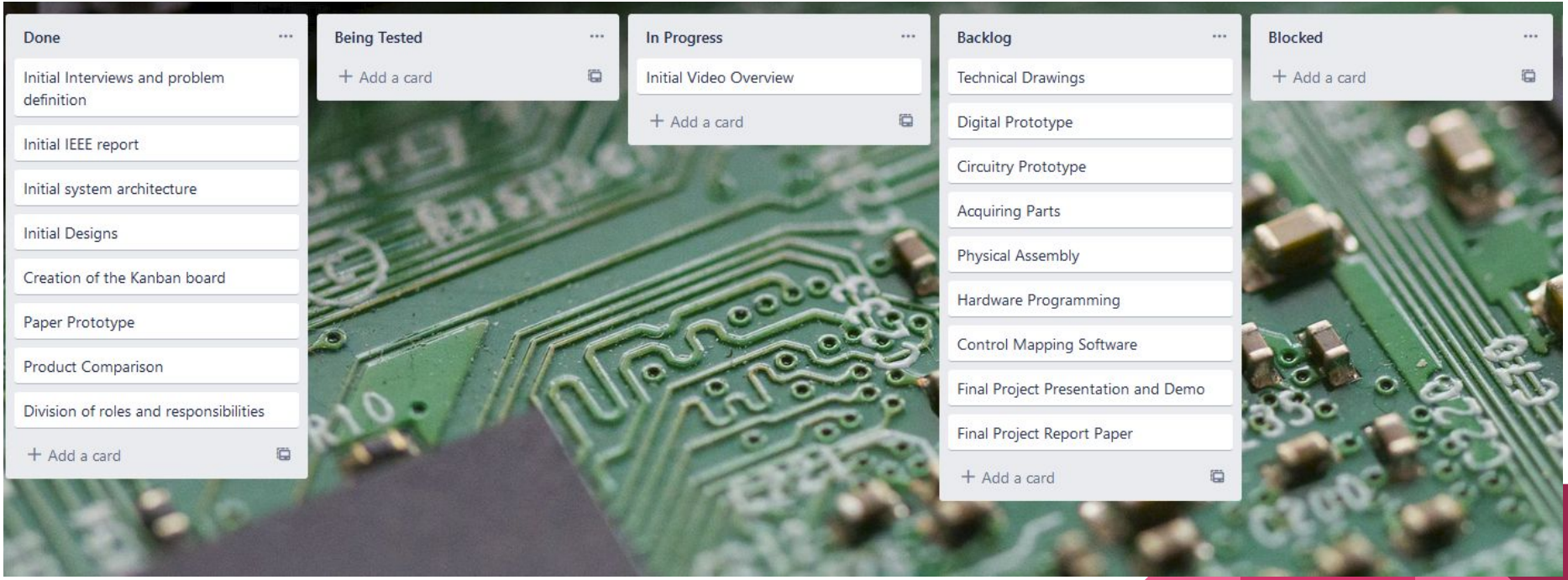
Jackie: Hardware Lead

Ryan: Design Lead

We'll all contribute to each part of the project but each of us will take the lead on an individual aspect



Planning 2: Kanban Board



Thank you for listening