# Hardware Assignment 3: A Foot Based Controller

By Atlas X 3
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# Prototyping Approach

# Wood and 3D printed attachment

Our plan for our final controller design is to use primarily wood, as it will likely be both stronger than 3D printed plastic making it more stable while supporting the weight of a user's legs, and will allow us to build at the scale we need for a controller that users need to place both feet on.

However at least one specific piece of the design will need to be 3D printed, that being the ball joint attachment that connects to the top of the board and the joystick that registers the user pushing the board back and forth.

# What this means for our prototype

We’ve used wood for the majority of our prototype, thus focusing on the deliverables for the “paper or other solution prototyping”. We were unable to actually 3D print the one 3D printed part in the timeframe of the assignment, however we have placed a paper stand-in for the part.

# Partial Electronics Integration

Unfortunately given that paper is not strong enough to actually pull on the joystick, and the wood we have is not flexible enough to move like a ball joint we are unable to properly integrate the joystick with the prototype.

Additionally the amazon delivery for the pressure sensors we were planning to use as buttons have not yet arrived despite the expected delivery being over a week ago, so we are using a push button as an example, however they are too small to be used with one's feet.

In light of this, we have had to merely make separate videos
showing the electronics out of the controller and the controller prototype performing the same actions and syncing them up (along with showing it working in the interactive scene)

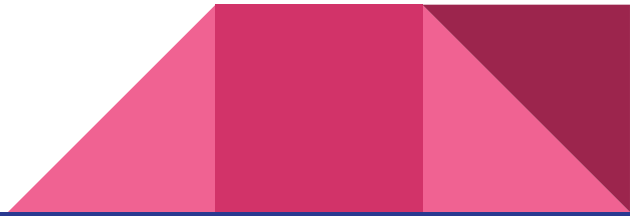
# Project Planning And Progression

# Roles And Responsibilities

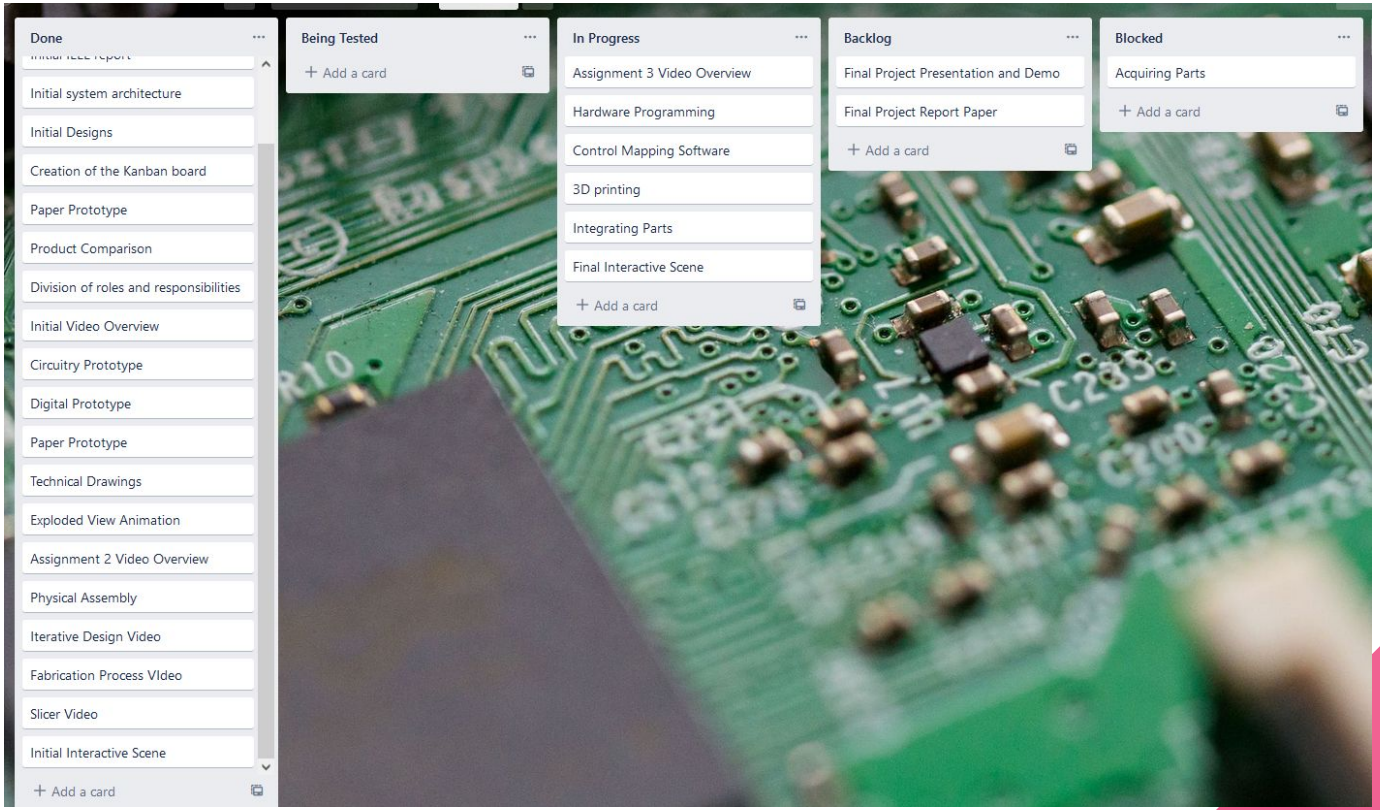
Ame: Software Lead

Jackie: Hardware Lead

Ryan: Design Lead



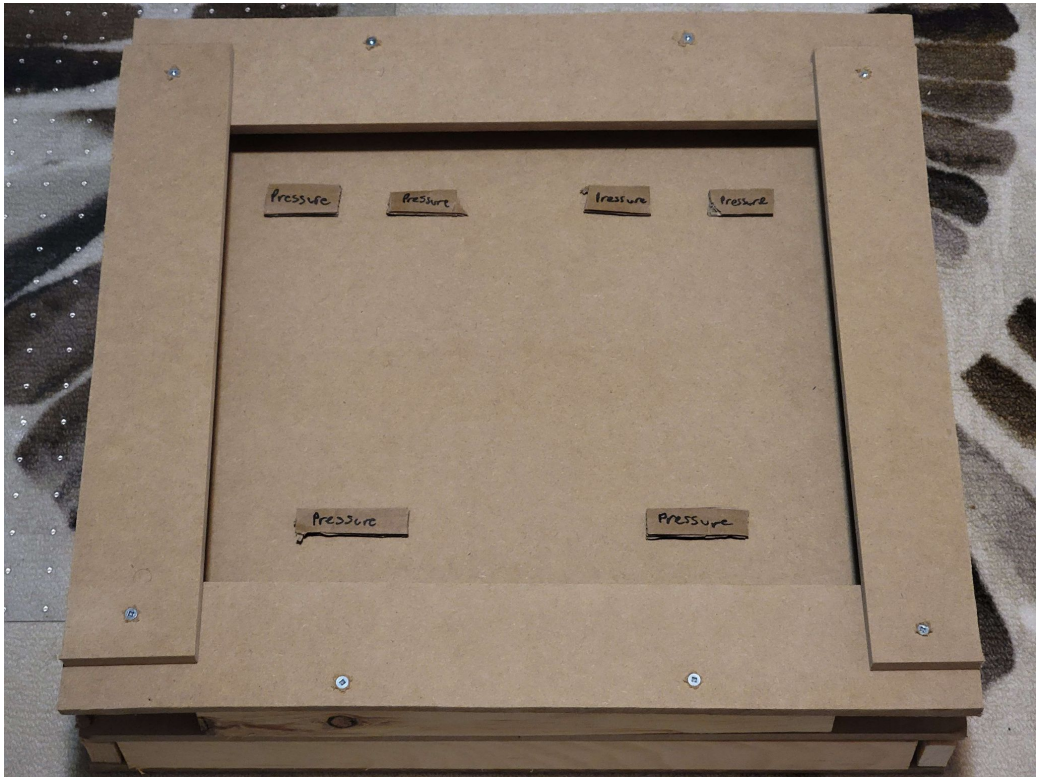
# Kanban Board

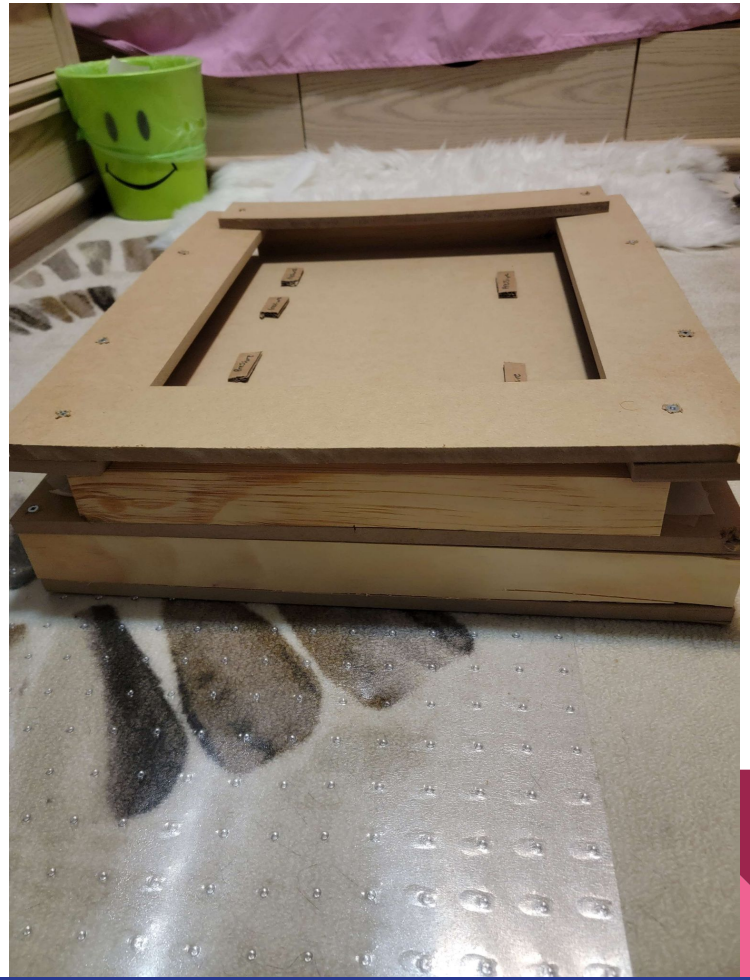


# Iterative Design Video

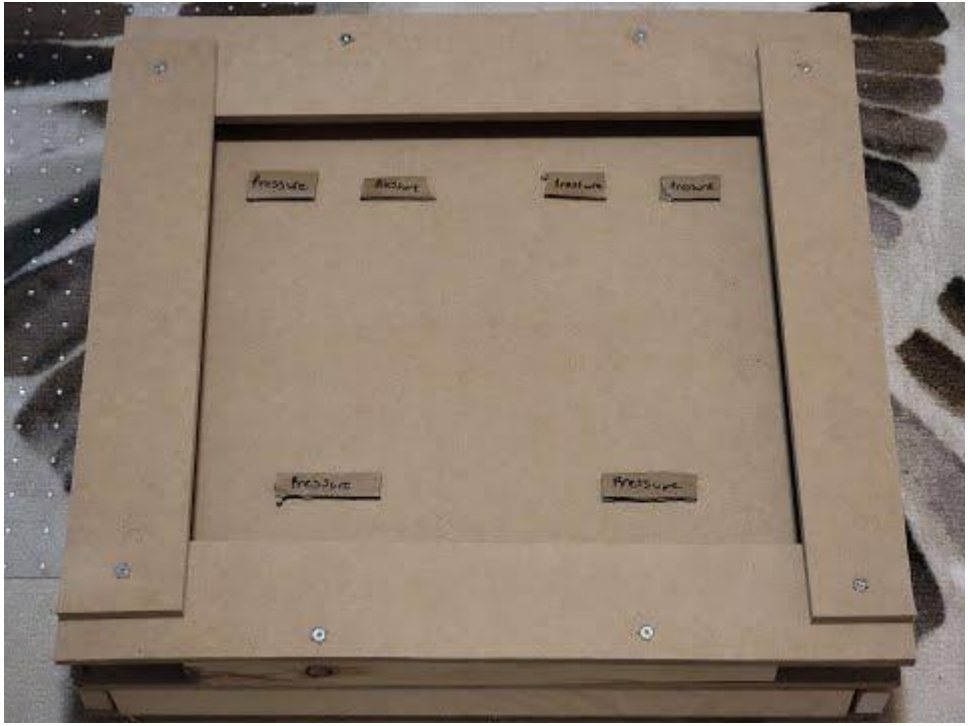
# Prototype

# Prototype



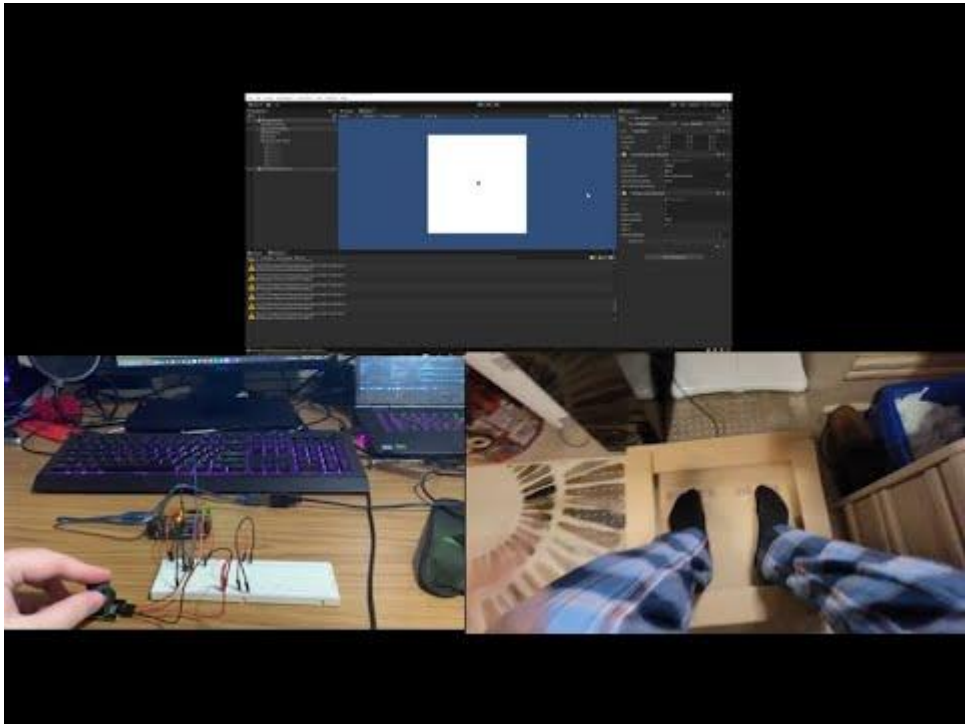



# Fabrication Process Video



# Electronics and Interactive Scene

# Electronics Partial Integration + Interactive Scene



# Final Interactive Scene Draft

The interactive scene in the video on the previous slide is just to show our inputs working in unity. For our final interactive scene we will create a simple 2D platformer allowing the player to move left and right (sliding the board), and jump (button). The player will have to avoid or destroy enemies, with enemies able to kill the player, and the player winning when they get through all of the enemies to the far right side of the level.

Outputs will include visuals with simple sprites, and simple sound effects.

# Thank you for listening!