

Hardware Assignment 2

EXCO CONTROLLER



Andy Waterhouse
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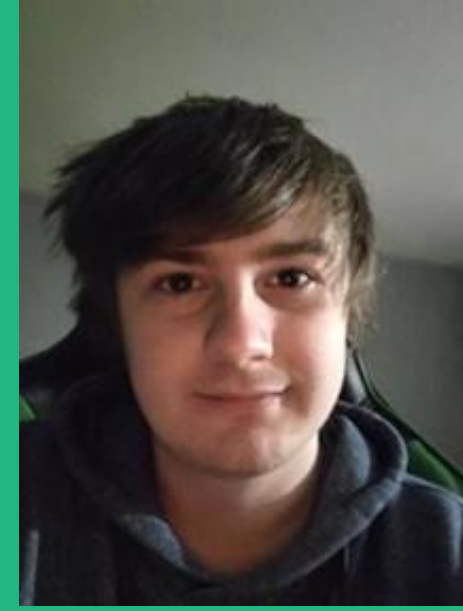
Designed & Created
Model in Fusion 360

Fardeen
Faisal 100755369



Exploded View/ Bill
of Materials &
Schematics

Ethan Kowalchuk
100752686



Created Technical
Drawings

Group

Changes

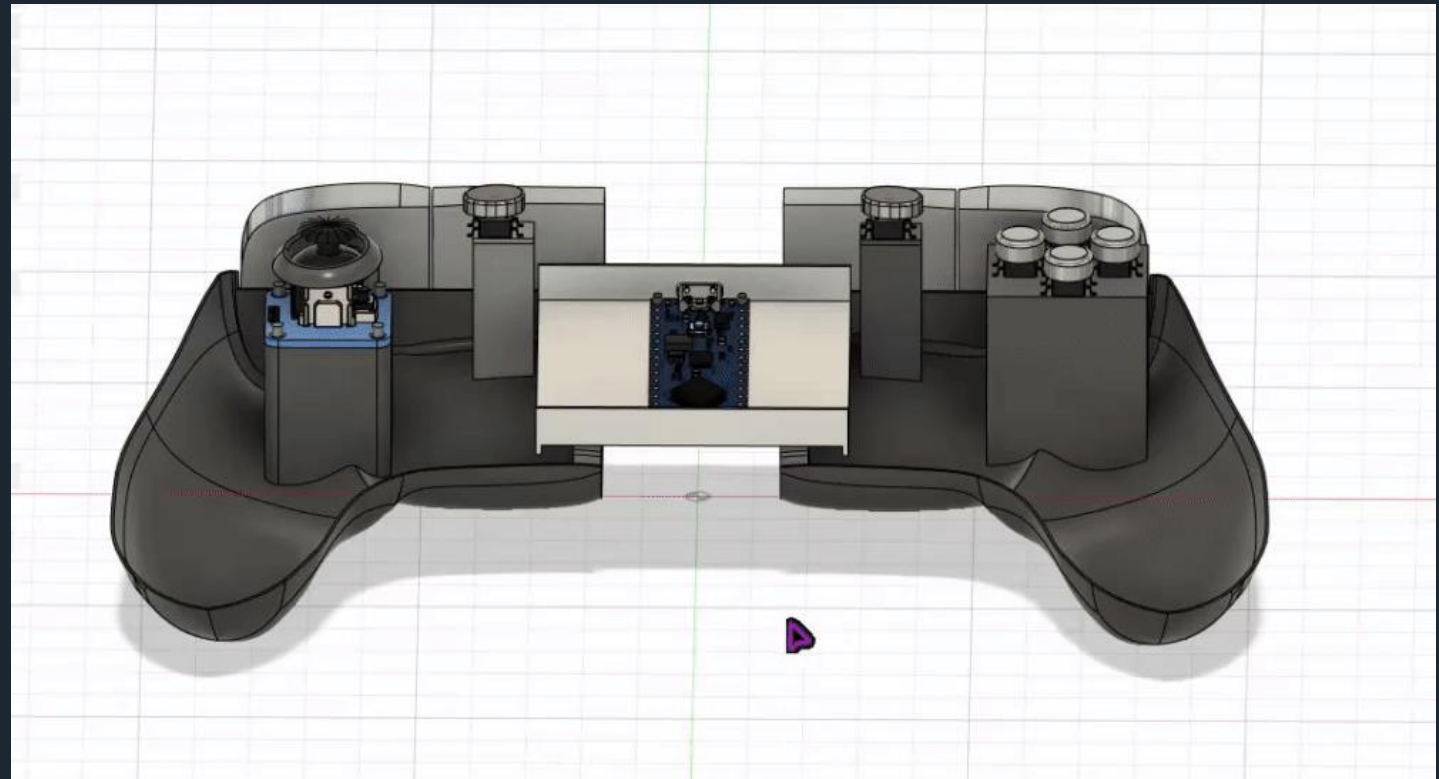
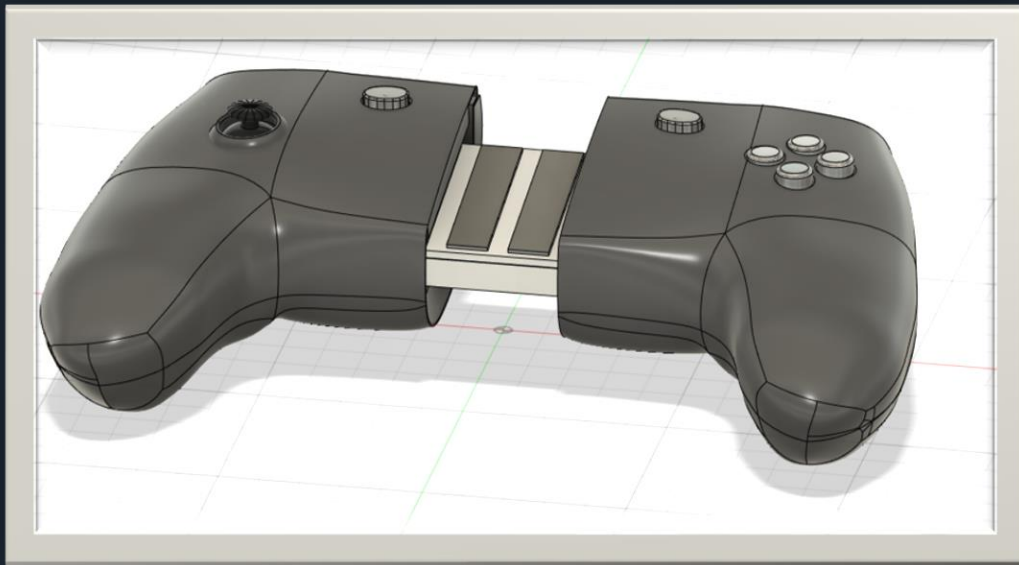
- **Decided to use magnets to adjust the size of the controller.**
 - Easy to adjust and install.
- **Removed right joystick, Dpad, 2 back bumper buttons.**
 - This allows us to make room for the sliding mechanism to grow and expand our controller
 - More like SNES controller layout with more comfortable and traditional controller feel





Paper Prototype

Component Layout

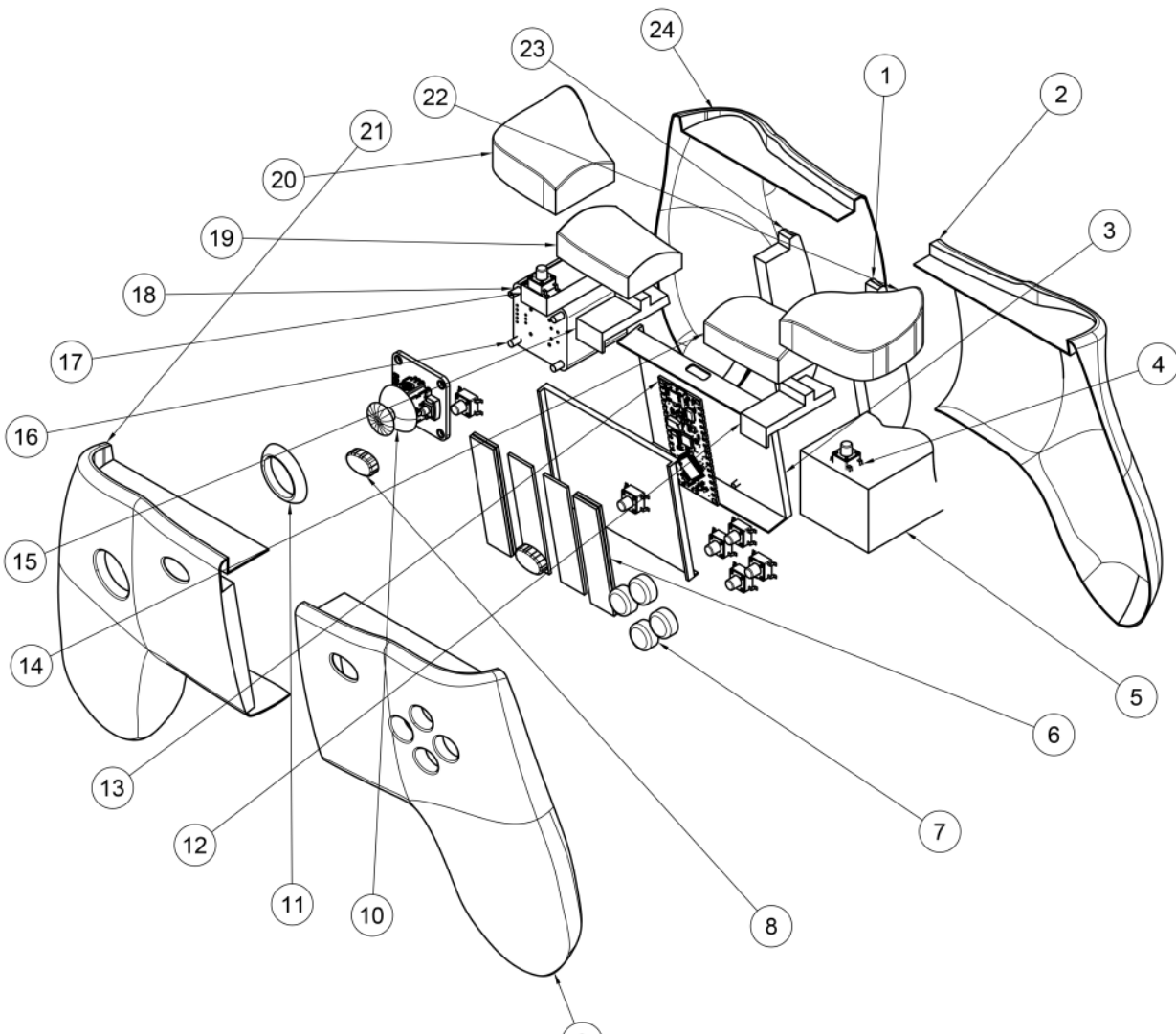


Exploded Animation

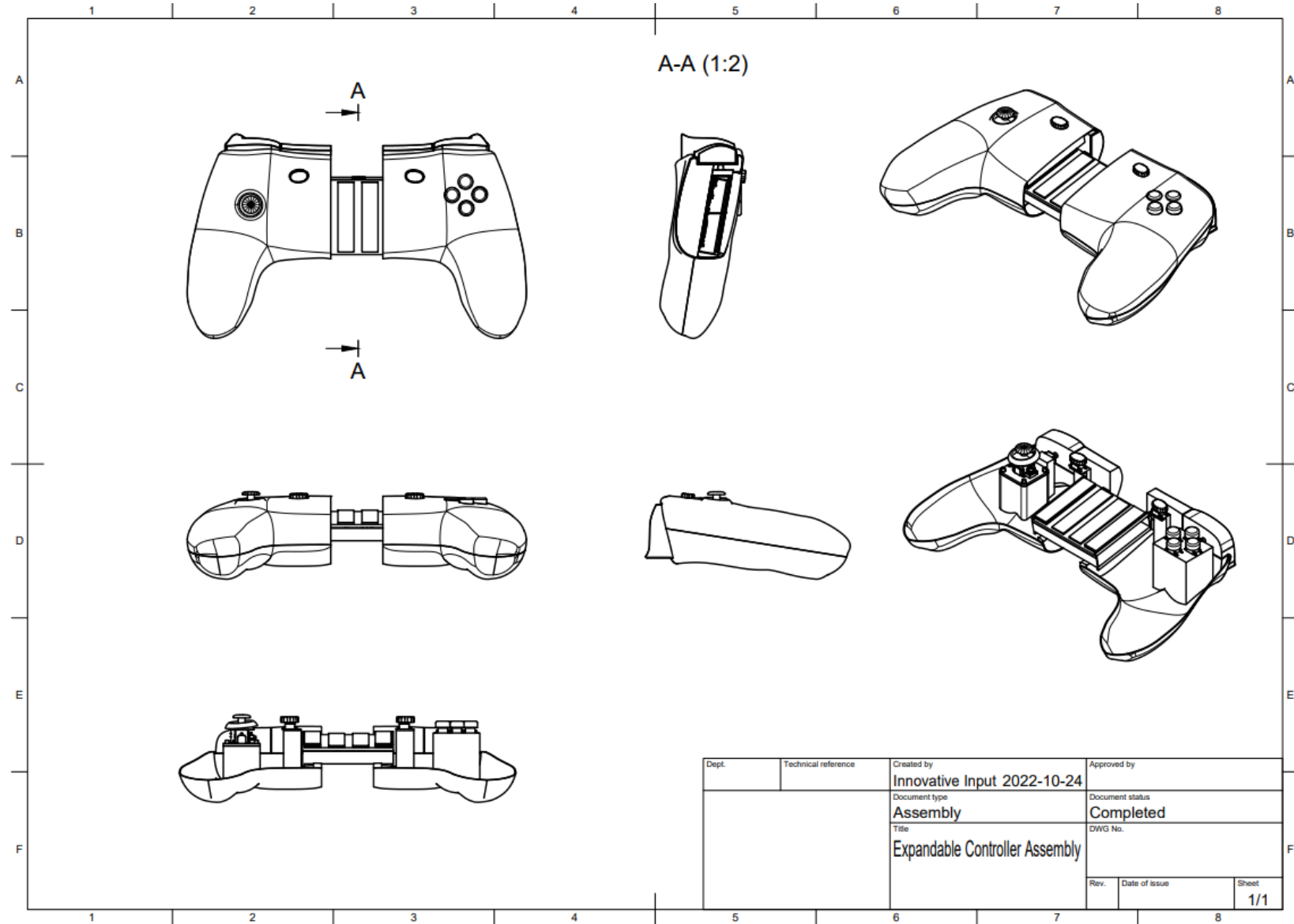


Bill of Materials/ Exploded View

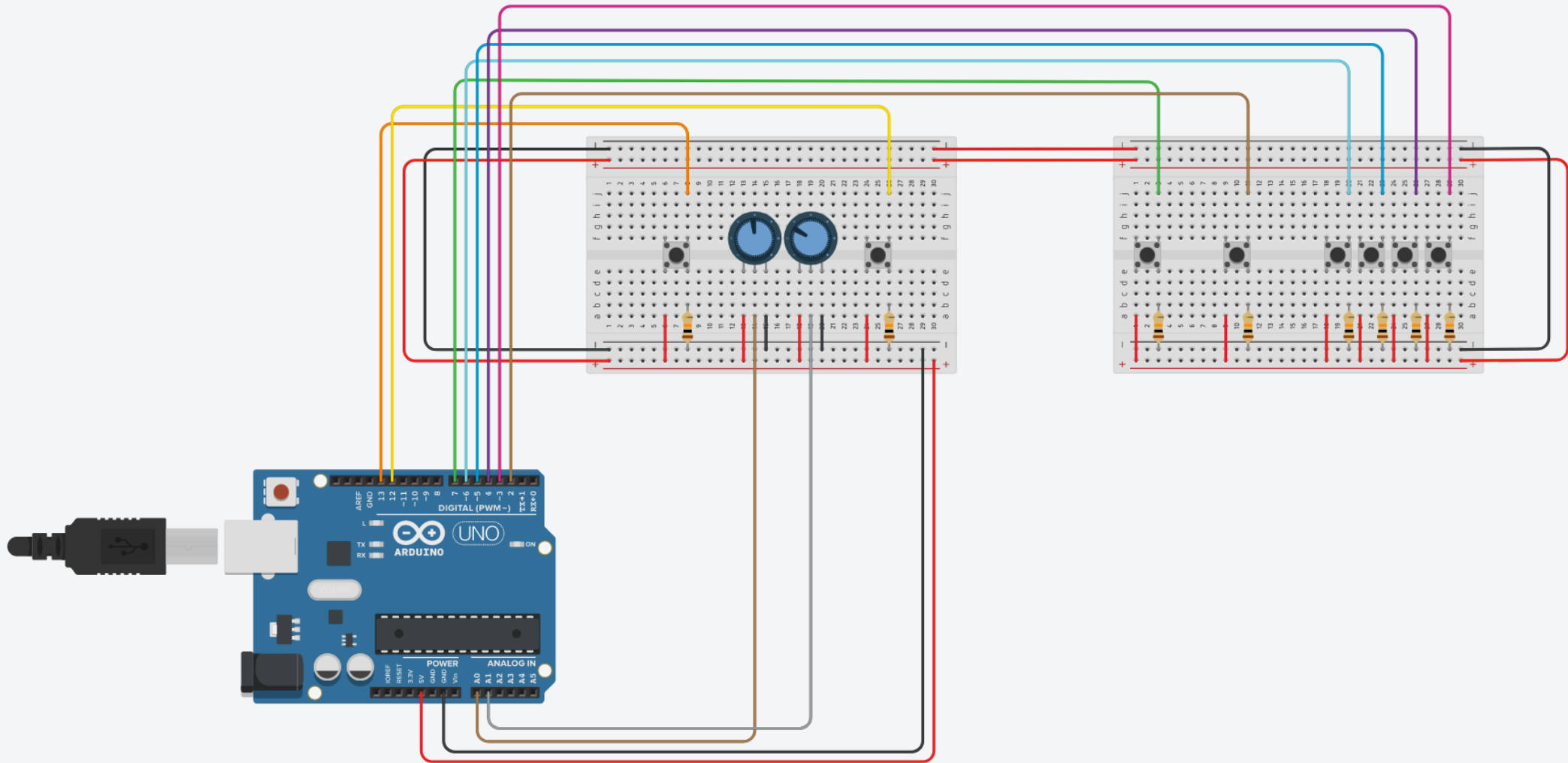
Parts List												
Item	Qty	Part Number	Description	Material								
1	1	Right Side Bottom Support	Right side bottom support for shell.	Printed PLA Plastic								
2	1	Bottom Shell Right	Bottom right shell of controller.	Printed PLA Plastic								
3	1	Arduino Shell	Shell to hold Arduino Nano Every.	Printed PLA Plastic								
4	8	Push Button	Buttons used for input.									
5	1	Right Buttons Holder	Platform to hold main buttons.	Printed PLA Plastic								
6	1	Magnet	Magnets used to contract and expand controller.	Aluminum								
7	1	Main Button Cap	Caps to enclose main buttons.	Printed PLA Plastic								
8	1	Menu Button Cap	Caps to enclose start and select buttons.	Printed PLA Plastic								
9	1	Top Shell Right	Top right shell of the controller.	Printed PLA Plastic								
10	1	JoyStick	General joystick for control.									
11	1	Joystick Loop	Outer joytick loop.	Printed PLA Plastic								
12	1	Start Button Holder	Platform to hold start button.	Printed PLA Plastic								
13	1	Arduino NANO Every	Arduino used to program controller. The microcontroller.									
14	1	Middle Back Right	Plating beside right trigger.	Printed PLA Plastic								
15	1	Select Button Holder	Platform to hold select button.	Printed PLA Plastic								
16	1	Pegs	Pegs to hold down joystick.	Printed PLA Plastic								
17	1	Trigger Holder Left	Shell to hold left trigger button.	Printed PLA Plastic								
18	1	Joystick Holder	Platform to hold joystick.	Printed PLA Plastic								
19	1	Middle Back Left	Plating beside left trigger.	Printed PLA Plastic								
20	1	Trigger Left	Left Trigger cap for pressing.	Printed PLA Plastic								
21	1	Top Shell Left	Top left shell of the controller.	Printed PLA Plastic								
22	1	Trigger Right	Right trigger cap for pressing.	Printed PLA Plastic								
23	1	Left Side Bottom Support	Left side bottom support for shell	Printed PLA Plastic								
24	1	Bottom Shell Left	Bottom left shell of controller.	Printed PLA Plastic								



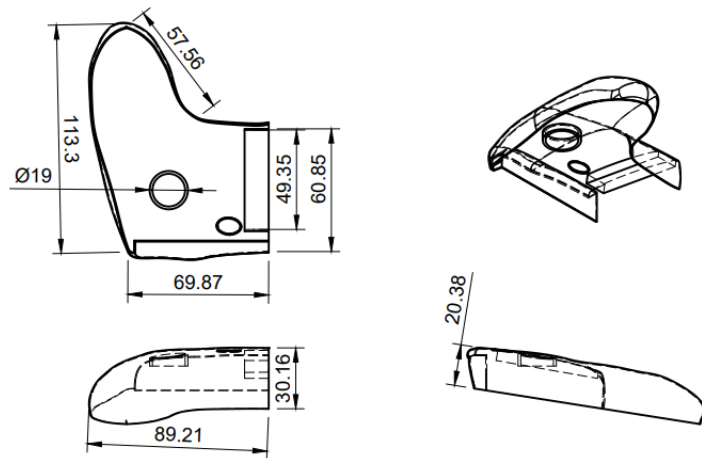
Assembly



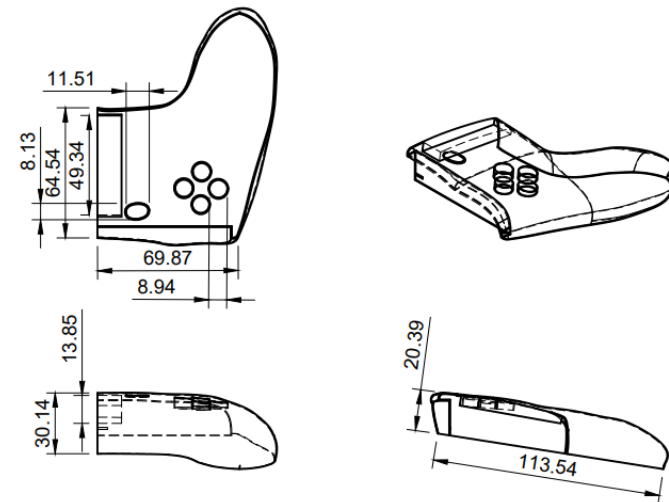
Schematics



Technical Drawings

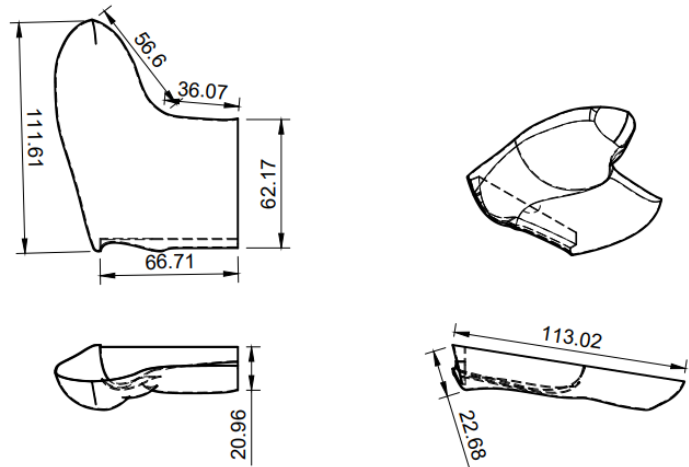


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		Document type Assignment Submission	Document status
		Title Top Shell Left	DWG No. 21
Rev.	Date of issue	Sheet	
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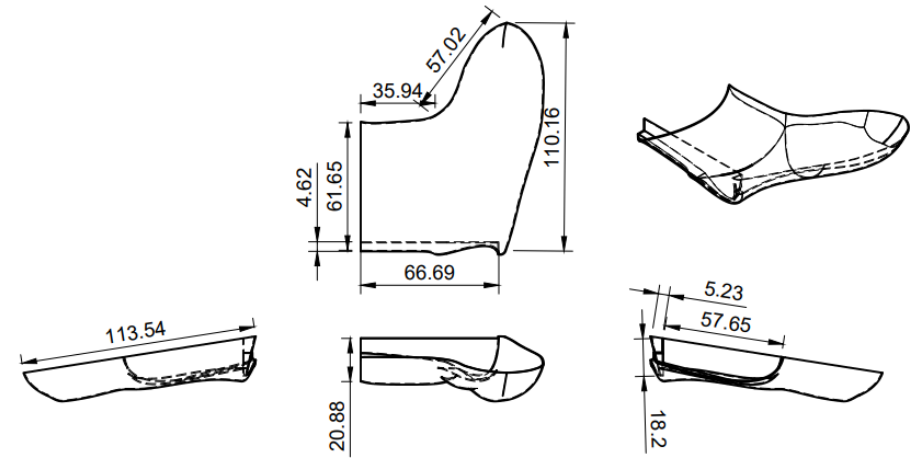


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Technical Drawings

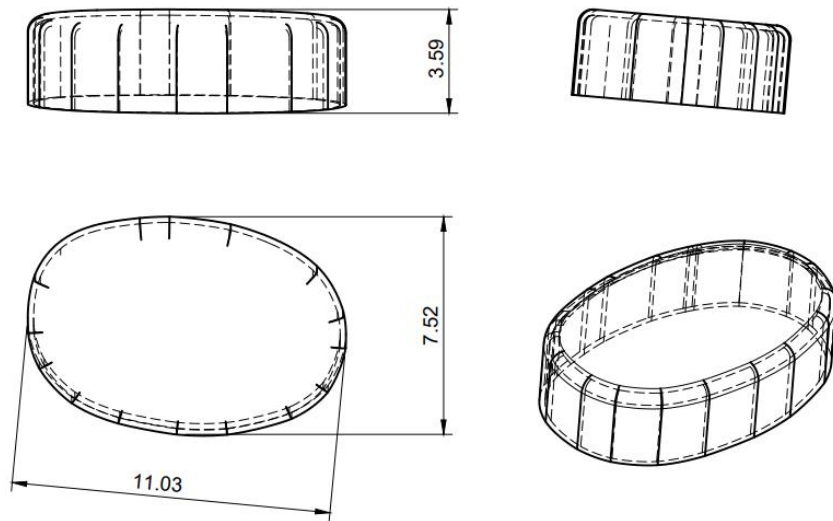


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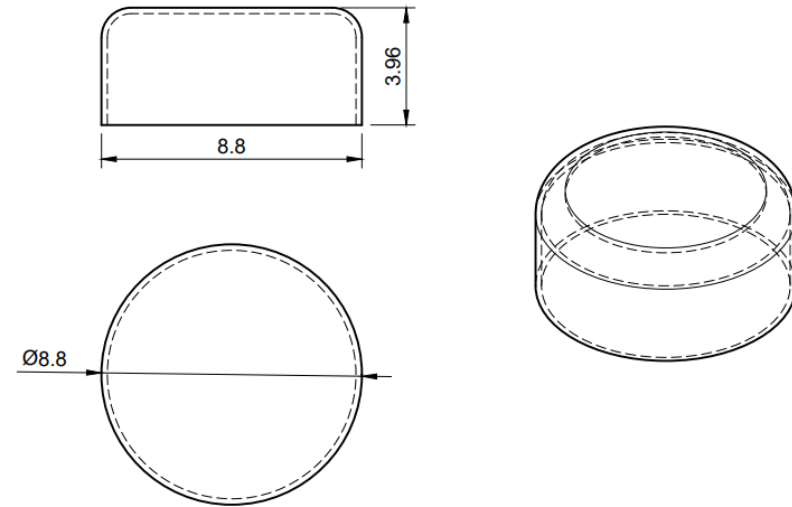


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Technical Drawings

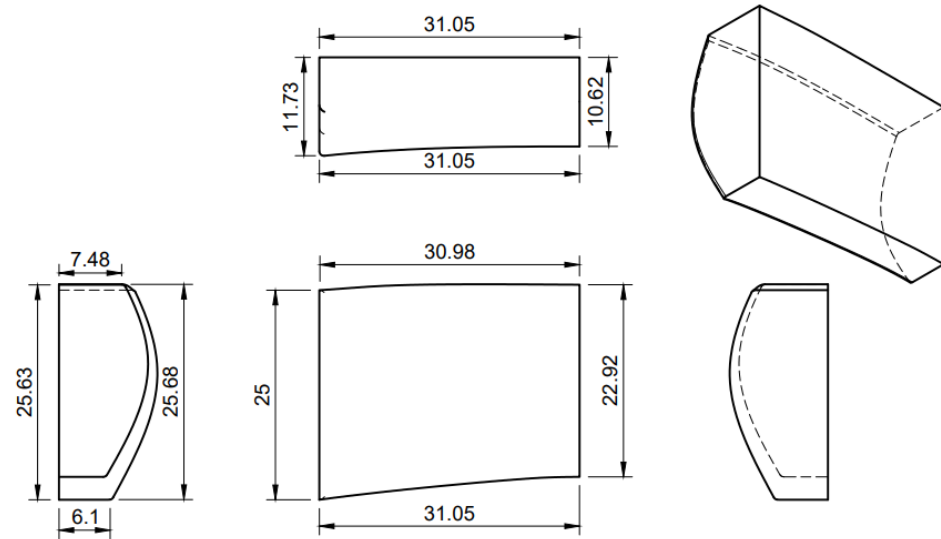


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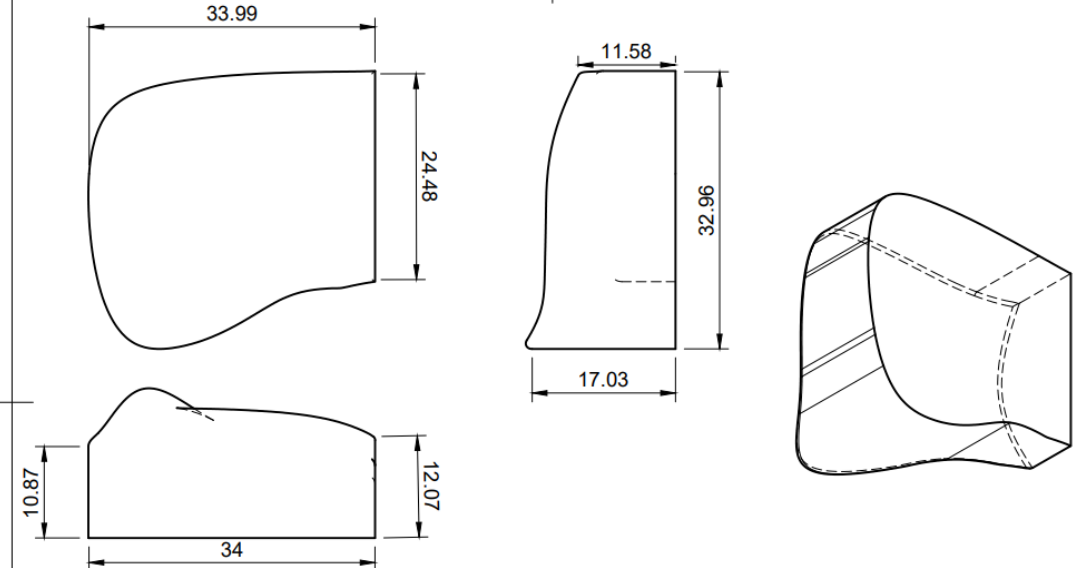


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Technical Drawings

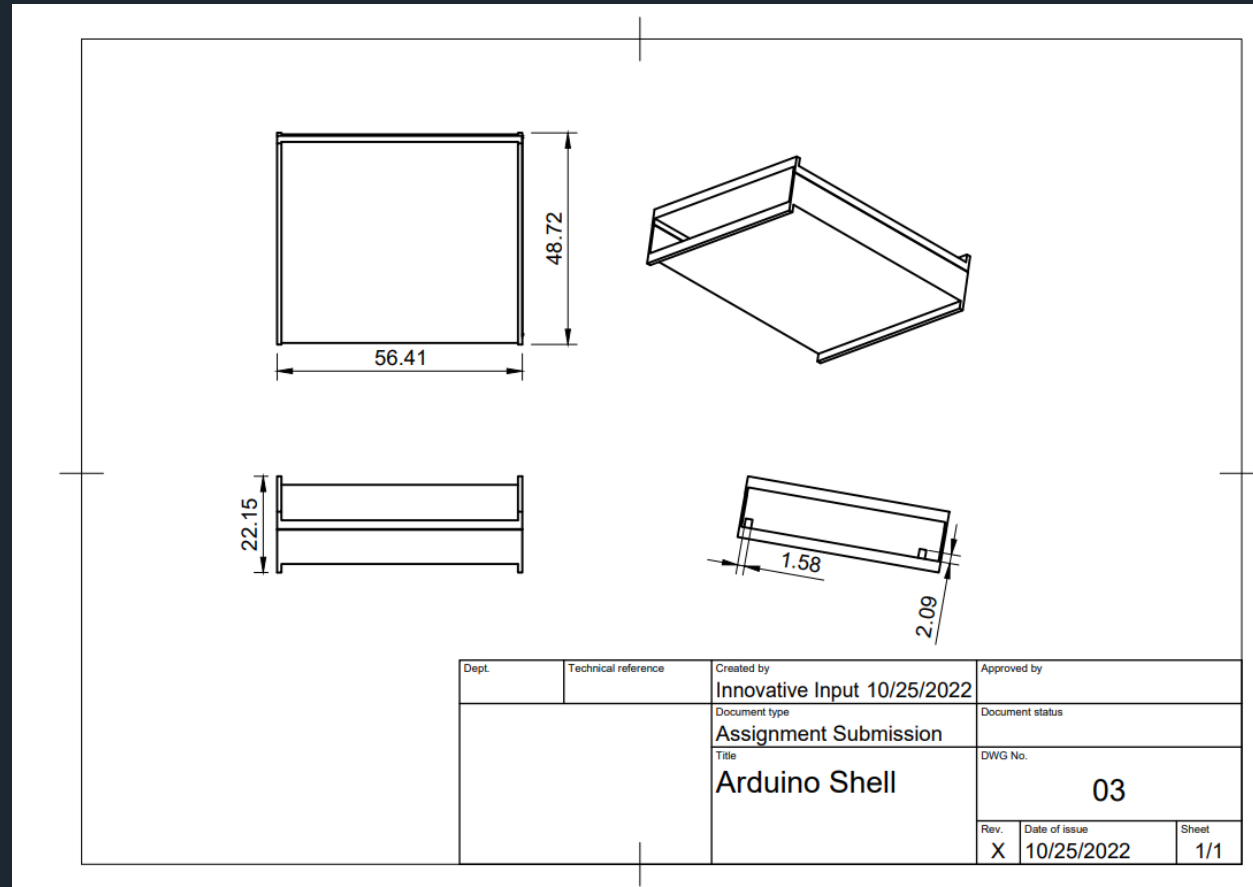


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		Title Middle Back Left	DWG No. 19
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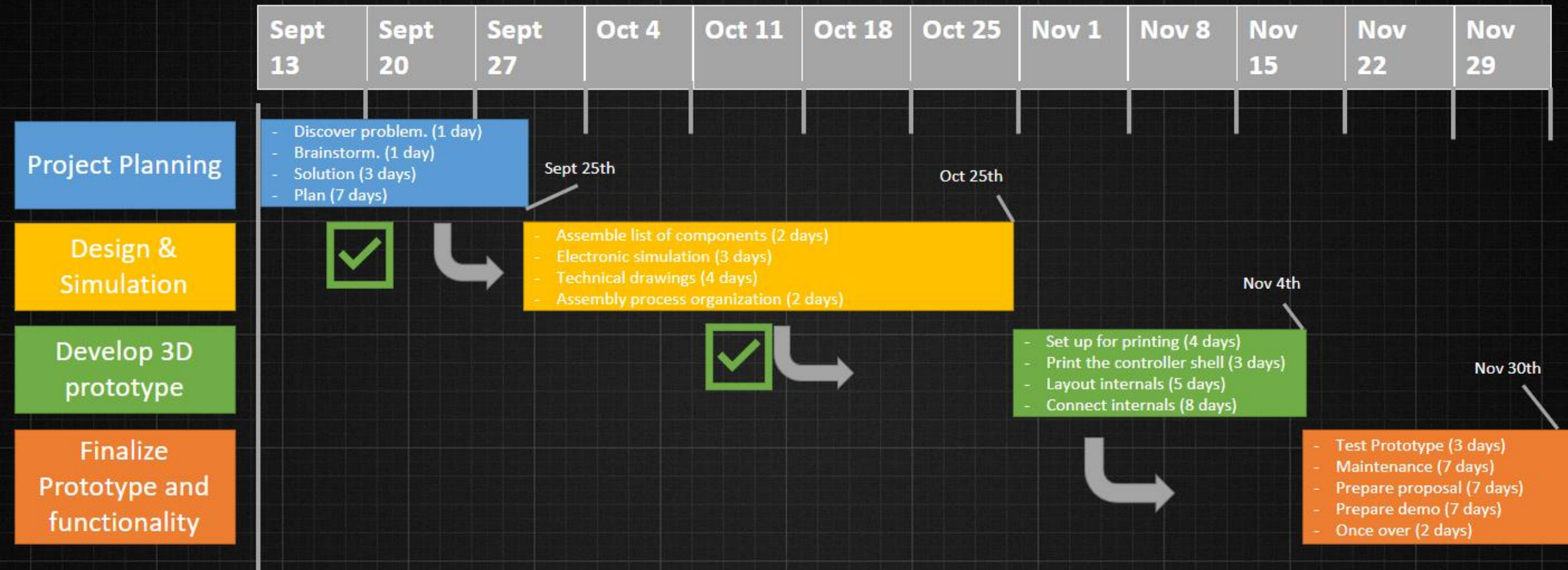


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		Document type Assignment Submission	Document status
		Title Trigger Left	DWG No. 20
Rev.	Date of issue	Sheet	
X	10/25/2022	1/1	

Technical Drawings



Innovative Input Controller Gantt Chart



Gantt Chart