Sandra Patricia Mejias Vega
Department of Entertainment Technology

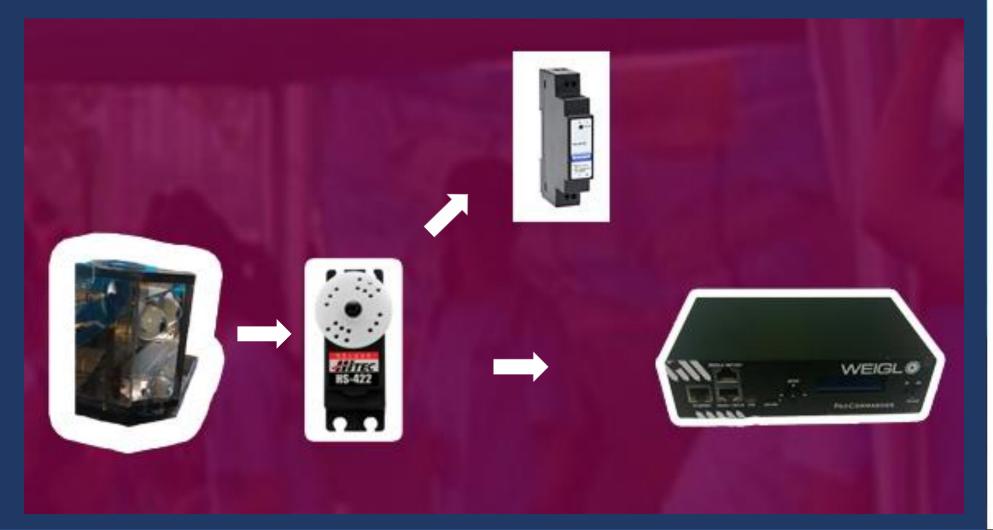


ELECTRONIC COMPONENT / CONNECTIONS



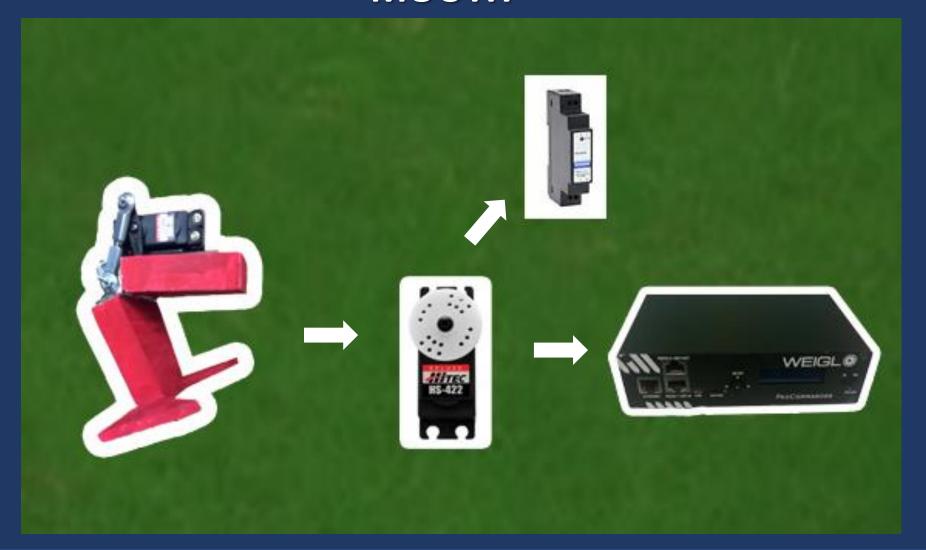
Mr. J Audio - Animatronic Robot

EYES





MOUTH



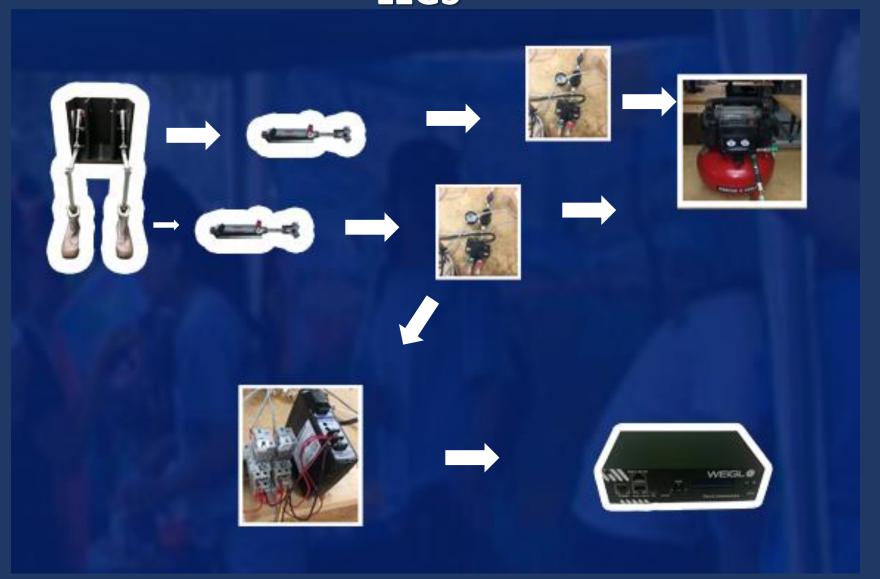






Mr. J Audio - Animatronic Robot

LEGS





LED LIGHTS





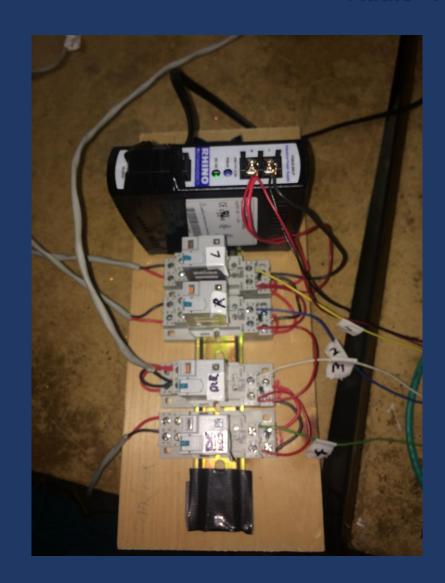
Mr. J Audio - Animatronic Robot

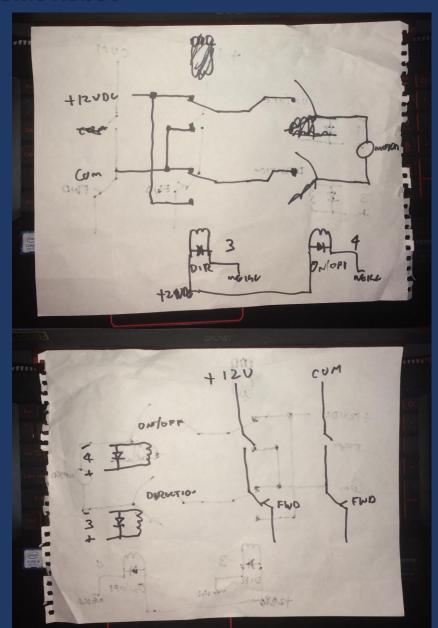
SPEAKERS





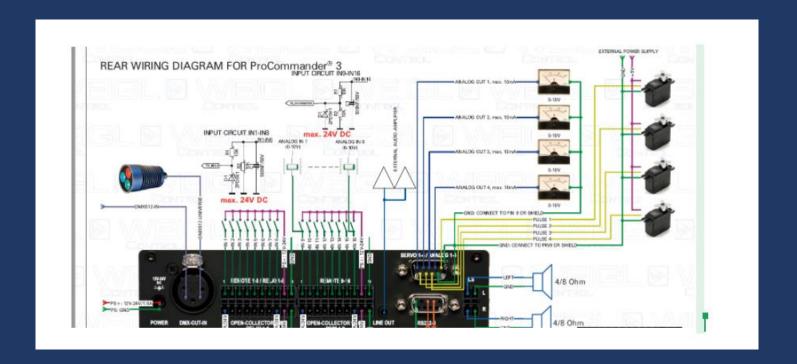
Mr. J Audio - Animatronic Robot





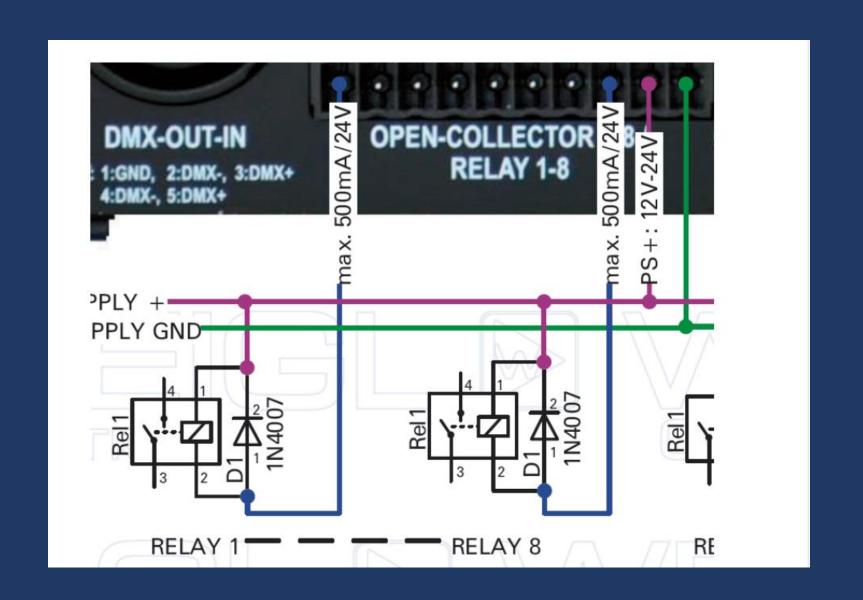


Mr. J Audio - Animatronic Robot





Mr. J Audio - Animatronic Robot





Mr. J Audio - Animatronic Robot





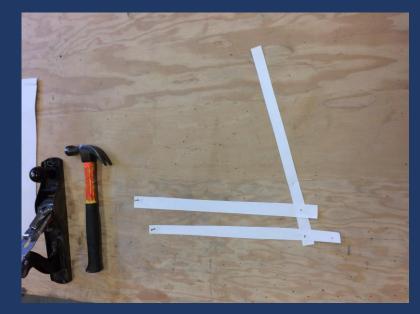
Mr. J Audio - Animatronic Robot

PROTOTYPES



Mr. J Audio - Animatronic Robot









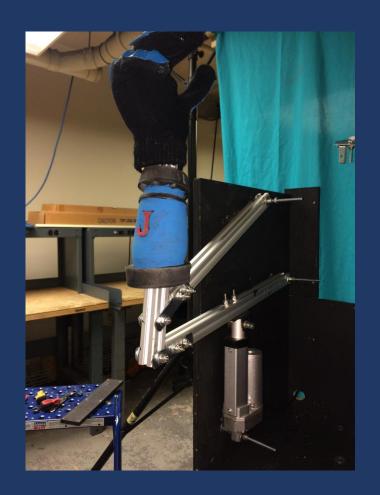
Mr. J Audio - Animatronic Robot





Mr. J Audio - Animatronic Robot







Mr. J Audio - Animatronic Robot





Mr. J Audio - Animatronic Robot

LEGS





Mr. J Audio - Animatronic Robot









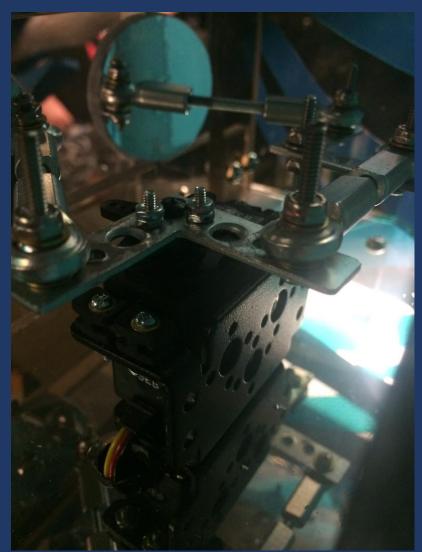






Mr. J Audio - Animatronic Robot

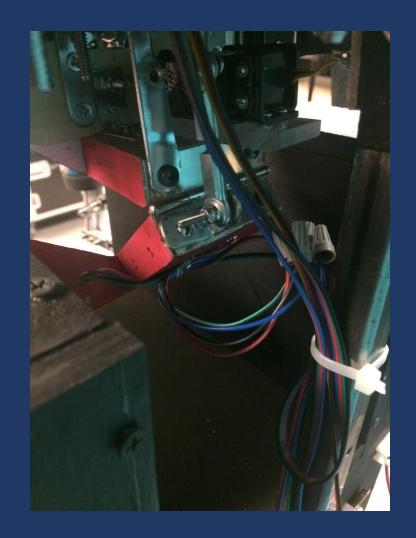






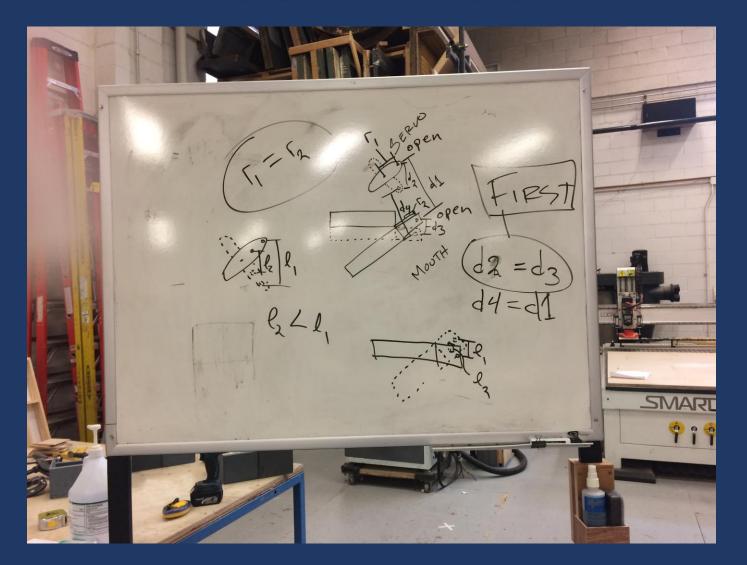
Mr. J Audio - Animatronic Robot





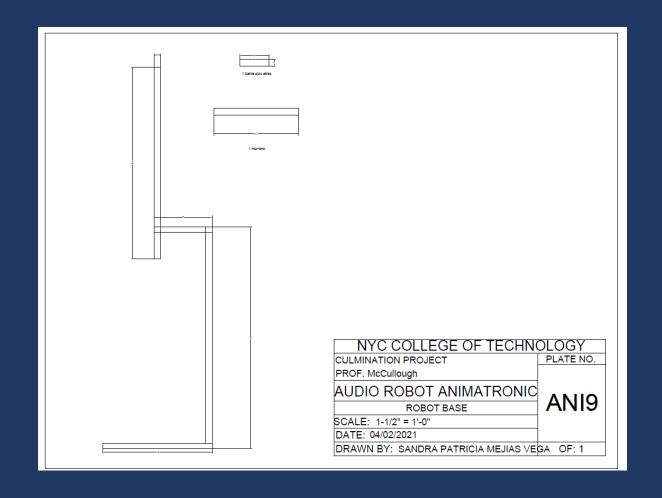


Mr. J Audio - Animatronic Robot



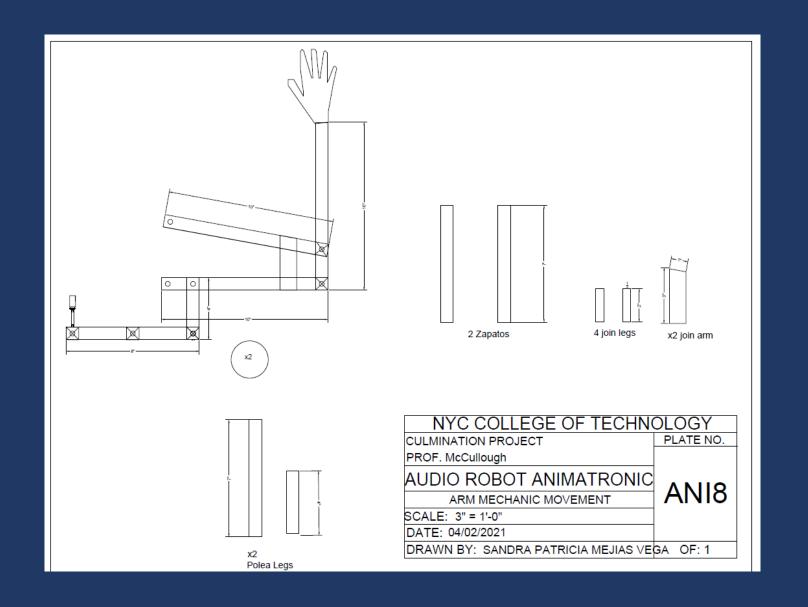


Mr. J Audio - Animatronic Robot



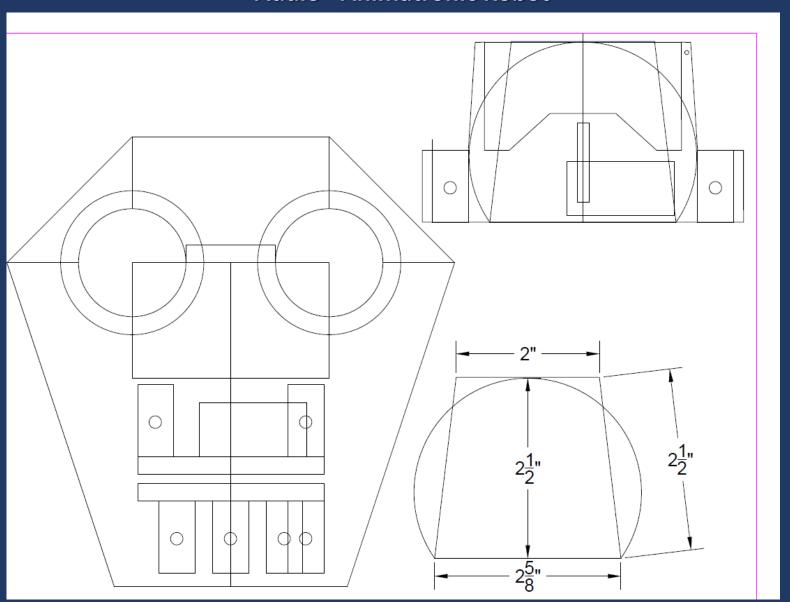


Mr. J Audio - Animatronic Robot



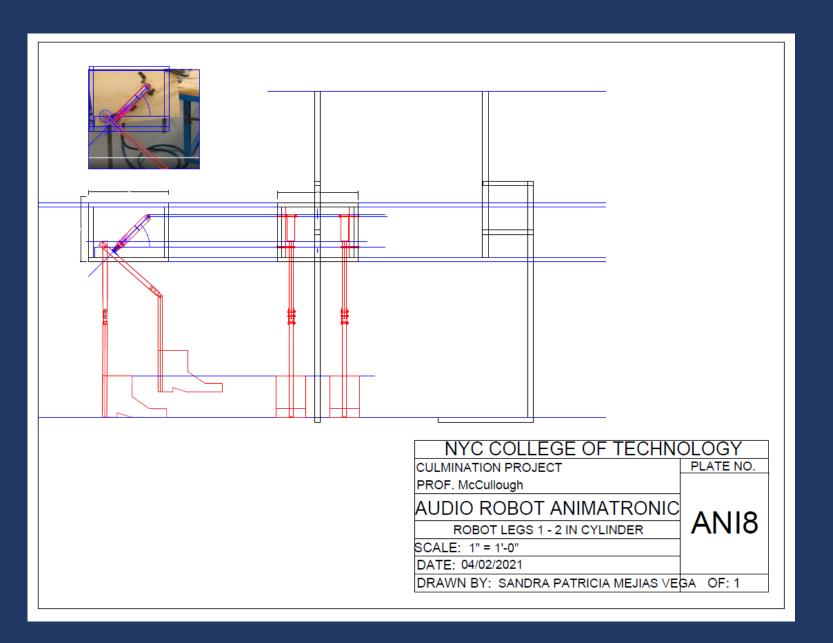


Mr. J Audio - Animatronic Robot





Mr. J Audio - Animatronic Robot





Mr. J Audio - Animatronic Robot

BUILDING ANIMATRONIC ROBOT	Jan	Feb F	eb Fe	b Feb	Feb	Feb F	eb M	far Ma	ar Ma	Mai	r Mar	Mar	Mar N	1ar M	far M	1ar M	ar Ma	r Mai	Mar	Mar	Mar I	Mar M	lar Ma	ar Ma	r Mai	Mar	Mar	Mar I	Mar M 25 2	ar Ma	r Ma	ar Ma	r Mar	Mar	Apr	Apr A	pr Ap	r Apr	Apr A	Apr Ap	r Apr	Apr A	Apr Ap	рг Арг	Apr
TASKS / 2021	21	22	23 2	4 25	26	27	28	1 2	3	4	5	6	7	8 5	9 1	10 1	1 12	13	14	15	16	17 1	8 19	20	21	22	23	24	25 2	6 27	28	3 29	30	31	1	2 :	3 4	5	6	7 8	9	10 1	11 12	2 13	14
Purchase of servos, sensor, 5DCV power supply, cables, and other electronic parts.																					1																								
Meeting with electronic professor	-		200		100		337	92.	925				200	- 45	100	100			200	33 - 52	92		.00		200			100			200	22	0				100	72	92.	200	200 200	200			
Meeting with Mechanical professor	1 ×	18		3	8	18	98	8	8	3	3	000	š	18	18		S:	8	(9) (5)	8 8	8	3		10	000		Sept		8	100	8			- 8		1 13	18		8	8	8 8	98		1	
Finding the story behind the Robot			- 2													- 1 - 2			2	4 8					,																	- 2			
Get Weigl unit connected to computer using Weigl Configurator																																													
Get the servosand Solenoids device wired in prototype form	18.8		0					8	8												i i			3			77700		į.	- 8	8 8		8 8	- 8			38	8 3	8 8	- 1	8 9	- 8	- 3	10.	
Research about mechanical motion of robots	12.5		28	20	12 80		383	200						- 533	- 5 (-0.5	28	28 33	35		8.	2	30				100	100	28	33	81 - 82			- 5	78	8	333	30	28 347	28	8.4	-	
Robot desing and sketches with AUTOCAD drawings																					ũ																								\Box
Construction of the mechanical prototype for eyes, mouth and two legs	100		333		100		.00		57.												- 55		.50		3						500	22.	i i					22	0.00	- 2	200 200	225			
Contruction of the Robot Structure	18 8	18	3		18 3	- 18	38	- 8	8			- 8	- 10	10	18		S:	100	33	S 55	(2)	- 33		19	8		}		1	100	3								3 8	- 8	8 8	38		100	
Purchase of foam and other materials for the props																- 1 2				2 33											- 2											- 1			
To make a armor patterns for costumes from a manikin that the school has.								500				,							5,435																										
Construction of the props	1 8	300	8		8 3	- 33	8	8	8	Ž j	N 3	77500	1	3	38		8	Š		3 8	- 3															1 1/4	38	8	8 88		8 9	3	- 5	8	
Add electronic components to the animatronic robot, install speakers, light and sensor.	45. 1					- 6			-					- 14	- 4.	- 45					-										-	_					- 6-								
Program the show with sound and robot movements according to the sound.								0.	Č.																																				
Test animatronic robot and make a video	10. 10	145	335		100		330	92	307			201	200	1	100	100			3.4	330 307	100							100			355	177	0) 0			12.		17	900	- 2	200	335	20		
Final Presentation	10. 3		9		1 8		3	93	8			- 31	3	- 1 Š	3			¥.	8	2 2	- 93	- 3		3	3				8	- 18	9 3		8 8	- 8			3	9 = 3	2 9	3	8 38	9	3	8	

Mechanical, electronic custome materials				
Product	Quantity	Price	Total	
Scene Shop available hours during this pandemic time.		From the sch	nool	
Tools that are in the scene shop like table saw, drill, et	c.	From the sch	nool	
Wood		From the sch	nool	
Steel		From the sch	nool	
Bolts				
Nuts				
Speakers		From the sch	nool	
Two air cylinders (two inches stroke)		From the sch	nool	
Two Valves for air cylinders		From the sch	nool	
One air compressor		From the sch	nool	
DMX cable adapter from 3 pins to 5 pins		From the sch	nool	
DMX cable 5 pins		From the sch	nool	
Weigl unit		From the sch	nool	
Weigl procomander		From the sch	nool	
Two 12 VDC power supply		From the sch	nool	
Four 24 VDC ice cube control relay.		From the sch	nool	
Four socket mount for relay.		From the sch	nool	



Mr. J Audio - Animatronic Robot

Product	Quantity	Price	2	Tot	tal	
5VDC power supply	1	\$	30.00	\$	30.00	
2 servo units	2	\$	12.49	\$	24.98	
Electrical Actuator	1	\$	38.95	\$	38.95	
Servo extension cables	1	\$	9.99	\$	9.99	
Electronic cables for Ethernet connection	1	\$	10.59	\$	10.59	
Computer	1	\$	762.11	\$	762.11	
Printer	1	\$	54.43	\$	54.43	
LED strip - 12 VDC	1	\$	13.99	\$	13.99	
Decorder	1	\$	19.99	\$	19.99	
Welding soldering iron	1	\$	20.97	\$	20.97	
4 pin extension cable for LED strips	1	\$	9.97	\$	9.97	
Solder wire	1	\$	20.40	\$	20.40	
Hot glue gun	1	\$	3.00	\$	3.00	
Acrylic glue	1	\$	20.00	\$	20.00	
Eyes ball	1	\$	20.00	\$	20.00	
Eyes mechanism	1	\$	152.98	\$	152.98	
10mm EVA Foam for Shield and Sor	2	\$	14.99	\$	29.98	
Low Density Eva Foam 2mm, 5mm, 10mm	4	\$	9.99	\$	39.96	
High Density Eva Foam for prop making	1	\$	7.99	\$	7.99	
Scissors	1	\$	2.00	\$	2.00	
Box Cutter	1	\$	1.00	\$	1.00	
Dremel	1	\$	21.37	\$	21.37	
Sand paper	1	\$	1.00	\$	1.00	
Sewing Machine	1	\$	5.99	\$	5.99	
Airbrush	1	\$	15.99	\$	15.99	
Safety Glass	1	\$	2.00	\$	2.00	
Acrylic paints	5	\$	0.89	\$	4.45	
Flexi Filler	1	\$	4.99	\$	4.99	
Contact Cement glue	1	\$	13.00	\$	13.00	
Primer paint - Plasti Dip	1	\$	4.95	\$	4.95	
Totals				\$	1,367.02	





Sandra Patricia Mejias Vega Department of Entertainment Technology

Project Description

Mr. J is an Audio –
Animatronic Robot This
is a soldier that is an
interactive game for kids
where kids will follow the
robot movements

Deliverables:

- •Sound Animatronic Robot Soldier – Video of the show.
- •Documentation of connecting sensors to the Weigl unit.
- •Test program demonstrating Weigl video.
- Production Calendar
- Budget
- •Drawings of building the mechanical structure.
- Photos during the construction of the animatronic robot.
- OpenLab Portfolio.

Methods

Story. To build the animatronic robot. I selected the story that is a song by Bear Hug Band named: Armor of God. So. The animatronic robot will follow this music game. I build a steel structure that is the head and body of the robot. I designed the mechanical movements of the robot. It has five mechanical areas that allow the movement of eyes (left and right direction), mouth, one arm (up and down direction), and two legs (Up and down direction) of the animatronic robot.



Working Areas

Mechanical area. I researched mechanical movements. I made sketches of the robot and mechanical movements.

Electronic area. To connect servos, electrical actuator, two air cylinder, speakers, to the Weigl unit.

Lighting area. To connect LED lights with a decorder and connect it to the Weigl unit.

Props area. Design the robot costumes with EVA foam and fabrics.

Budget

The Entertainment
Technology Department
provided Weigl unit and
software, wood, steel,
tools, power supply, etc.

\$1,367.02 for servos, electrical actuator, computer, printer, costume, etc.

Acknowledgements

- City Tech Entertainment Technology Department
- Technical Advisor / mechanical area: Professor John McCullough
- Electronics area.
 Professor John
 Huntington
- Scene Shop. Professor Rudy Guerrero
- CLT crew team

Mr. J Audio - Animatronic Robot



Mr. J Audio - Animatronic Robot

