Reporte de Testeo Entregable

Test Plan

Nombre: Spirit.1

Objetivo: Arreglar fallos potenciales

Tipo de Testing: Caja negra-Desarrollador

Criterio de Entrada: v1.0.0

Criterio de Salida: Test completados y, en caso de fallas, corregidas.

Componentes por probar:

Comunicación Serial UART

- Correcto envío y recibimiento de mensajes
- Respuesta correcta de motores a pasos

Movimiento de motor a pasos

- Correcta respuesta usando comandos manuales
- Correcta respuesta llegando a coordinadas deseadas.

Mecanismo Core XY

- Calibración de pasos para llegar a distancia deseada
- Alcanzar una velocidad adecuada
- Mecanismo se mueve a una posición deseada

Interrupciones de software

• Interrupciones paran la tarea en ejecución del SPARC

Mecanismo de Touch

- Solenoide se extiende cuando se desea.
- El toque del solenoide se registra en una pantalla touch.

Componentes eléctricos

- Circuito electrónico sirve en protoboard
- Circuito electrónico sirve soldado

Configuración de ambiente de testeo: Pickit 3, PIC18F4550, NEMA17 motor a pasos, MPLAB X, DuckLight, YP-05 UART receptor.

Estimados de esfuerzos en testeo: 2 personas, 12 horas

Número estimado de ciclos de testeo: 15 ciclos.

User Story / Requirement ID	User Stor	ry/Requirement Under Test	
01	C	Core XY Calibration	-
Is it valid?			
Yes			
	If not valid, what is the new/Extra inforn	nation from Marketing/Product Owner?	
Test Case ID		Test Case Name	
10			
	· C	forrect Movement from Core XY	
Preconditions	Oper	Serial Terminal in Computer	
	Circ	ruit Connected Appropriately	
	Serial Co	ommunication Module Connected	
	Prog	ram Compiled and Debugged	
		er Motor and Driver Connected	
		XY Mechanically Assembled	
	Cole	AT Medianically Assembled	
Inputs	K	eyboard to Serial Terminal	
	Seri	ial Communications Module	
	Test Cas	e Steps	
Step Number	Step description	Expected Result	Real Results
1	Relate distance to each step the motor	Each step from the stepper motor should equate to the	The solenoid moves with a precission of +- 5mm
	takes.	solenoid moving less than a millimeter.	
2	Get solenoid cart to move smoothly	Distances should match across the system and close to no vibration should be recorded.	The system has vibrations and atypical sounds.
3	Move cart with manual commands.	The solenoid holder should move in 4 directions with no	The solenoid moves into 4 directions
3	Move cart with manual commands.	problems.	The solehold moves into 4 directions
Estimated Time	5 hours	Real time	1 hour

User Story / Requirement ID	User Stor	ry/Requirement Under Test	
02	(Core XY Calibration	
Is it valid?			
Yes			
	If not valid, what is the new/Extra inform	nation from Marketing/Product Owner?	
Test Case ID		Test Case Name	
10			
	· C	orrect Movement from Core XY	
Preconditions	Oper	a Serial Terminal in Computer	
	Circ	euit Connected Appropriately	
	Serial Co	ommunication Module Connected	
	Prog	ram Compiled and Debugged	
		er Motor and Driver Connected	
		XY Mechanically Assembled	
Inputs			
inputs	K	eyboard to Serial Terminal	
	Ser	ial Communications Module	
	Test Cas	e Steps	
Step Number	Step description	Expected Result	Real Results
1	Relate distance to each step the motor takes.	Each step from the stepper motor should equate to the solenoid moving less than a millimeter.	The solenoid moves with a precission of +- 3mm
	takes.	soleloid moving less than a minimeter.	
			Even the system has sounds, the vibration decreases
2	Get solenoid cart to move smoothly	Get solenoid cart to move smoothly Distances should match across the system and close to no vibration should be recorded.	
			Because of the applicated oil
3	Move cart with manual commands.	The solenoid holder should move in 4 directions with no	The solenoid moves into 4 directions
		problems.	
Estimated Time	3 hours	Real time	45 min
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User Story /	licar Story	//Requirement Under Test	1
Requirement ID	OSEI SION	y negationist officer rest	
Stepper_XY	Nen		
Is it valid?			
yes			
	If not valid, what is the new/Extra information	n from Marketing/Product Owner?	
Test Case ID		Test Case Name	
10.1			
	· Con	rect response from stepper motors	
Preconditions	Oron	Social Terminal in Computer	
		Serial Terminal in Computer uit Connected Appropriately	
	Serial Co	mmunication Module Connected	
	Progr	ram Compiled and Debugged	
	Steppe	r Motor and Driver Connected	
Inputs	Ke		
	Serie	al Communications Module	
	Test Case Ste	ps	
Step Number	Step description	Expected Result	Real Results
1	Get Stepper Motor to move in any direction	Stepper motor should move when the terminal commands it to.	System recognizes specific
			commands to move
2	Get Stepper Motor to move the desired steps	The stepper motor should move exactly as the terminal tells it to.	X axis an Y axis are inverted
3	Get two Stepper Motors to move independently	Each motor should move independently according to the Core XY Mechanism.	Motors move on the opposite way
4	Get two motors to move to a desired location.	Both motors should work together to get to desired location.	Motors move together but not in the
			Correct way
Estimated Time	5 hours	Real Time	0.5 hours

User Story /	User Stor	y/Requirement Under Test]
Requirement ID			
Stepper_XY	Ne		
Is it valid?			
yes			
	If not valid, what is the new/Extra information	on from Marketing/Product Owner?	
Test Case ID		Test Case Name	
10.2			
	· Coi	rrect response from stepper motors	
Preconditions	Oner	Serial Terminal in Computer	
		ruit Connected Appropriately	
	Serial Co	ommunication Module Connected	
	Prog	ram Compiled and Debugged	
	Steppe	er Motor and Driver Connected	
Inputs		eyboard to Serial Terminal	
	K		
	Seri	ial Communications Module	
	Test Case Sto	eps	
Step Number	Step description	Expected Result	Real Results
1	Get Stepper Motor to move in any direction	Stepper motor should move when the terminal commands it to.	System recognizes specific
			commands to move
2	Get Stepper Motor to move the desired steps	The stepper motor should move exactly as the terminal tells it to.	X axis an Y axis are correct ut the
			Movement is not correct
3	Get two Stepper Motors to move independently Each motor should move independently according to the Core XY Mechanism.		Motors crashed, the movement is
			Umpredictable.
4	Get two motors to move to a desired location.	Both motors should work together to get to desired location.	Motors moves randomly
Estimated Time	2 hours	Real Time	30 min

User Story /	Hear Char	y/Requirement Under Test	٦
Requirement ID	User Stor	y, nequirement unuer rest	
Stepper_XY	Nei	-	
Is it valid?			
yes			
	If not valid, what is the new/Extra information	n from Marketing/Product Owner?	
Test Case ID		Test Case Name	
10.3			-
	· Cor	rect response from stepper motors	
Preconditions	Open	Serial Terminal in Computer	
	Circ	uit Connected Appropriately	
	Serial Co	ommunication Module Connected	
	Prog	ram Compiled and Debugged	
	Steppe	er Motor and Driver Connected	
Inputs	Ko		
		al Communications Module	
	Test Case Sto		
Step Number	Step description	Expected Result	Real Results
1	Get Stepper Motor to move in any direction	Stepper motor should move when the terminal commands it to.	System recognizes specific
			commands to move
2	Get Stepper Motor to move the desired steps	The stepper motor should move exactly as the terminal tells it to.	X axis an Y axis are correct
	Con Con Manager 1	For house should reconsider the dead of the state of the Const VV	M
3	Get two Stepper Motors to move independently	Each motor should move independently according to the Core XY Mechanism.	Motors are inverted, the movement Goest into the inverted way
			Goest into the inverted way
4	Get two motors to move to a desired location.	Both motors should work together to get to desired location.	Motors move together but not correctly
Estimated Time	1 hours	Real Time	15 min

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User Story / Requirement ID	User Stor	ry/Requirement Under Test	
Stepper_XY	Ne	-	
Is it valid?			
yes			
	If not valid, what is the new/Extra information	on from Marketing/Product Owner?	
Test Case ID		Test Case Name	
10.4			-
	· Con	rrect response from stepper motors	
Preconditions			
		n Serial Terminal in Computer	
	Circ	cuit Connected Appropriately	
	Serial Co	ommunication Module Connected	
	Prog	gram Compiled and Debugged	
	Steppe	er Motor and Driver Connected	
Inputs			
	K	eyboard to Serial Terminal	
	Ser	ial Communications Module	
	Test Case St	eps	
Step Number	Step description	Expected Result	Real Results
1	Get Stepper Motor to move in any direction	Stepper motor should move when the terminal commands it to.	System recognizes specific
			commands to move
2	Get Stepper Motor to move the desired steps	The stepper motor should move exactly as the terminal tells it to.	X axis an Y axis are correct
3	Get two Stepper Motors to move independently	Each motor should move independently according to the Core XY Mechanism.	Motors work in a correct way
4	Get two motors to move to a desired location.	Both motors should work together to get to desired location.	Motors move correctly together
			,
Estimated Time	1.5 hours	Real Time	30 min
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User Story / Requirement ID	User Story/Require	ement Under Test	
Velocity_XY	Core XY speed test		
Is it valid?			
yes	_		
	If not valid, what is the new/Extra information from I	Marketing/Product Owner?	
Test Case ID	Test Case	e Name	
11.0	· Core XY achieves desired speed within a reasonable timeframe		
Preconditions			
	Open Serial Te	erminal in Computer	
	Circuit Conne	ected Appropriately	
	Serial Communica	tion Module Connected	
	Program Comp	piled and Debugged	
	Core XY system	n mechanically set up	
Inputs			
puto	Keyboard to Serial Terminal		
	Serial Communications Module		
	Test Case Steps		
Step Number	Step description	Expected Result	Real Results
1	Stepper motor speeds up in time	System gets to top speed fast.	Motors cannot reach top velocity
2	System reaches reasonable speed	System reaches a speed of 50 mm/s	System reach a good velocity; the team cannot measure
3	Stepper slows down fast	System slows down as it is getting to where it's going.	The system stops radically.
Estimated Time	2 hours		

User Story / Requirement ID	User Story/Require	ement Under Test	
Velocity_XY	Core XY s	peed test	
Is it valid?			
yes	1		
	If not valid, what is the new/Extra information from N	Marketing/Product Owner?	
Test Case ID	Test Case	e Name	
11.1	· Core XY achieves desired	speed within a reasonable timeframe	
Preconditions	Open Serial Te	rminal in Computer	
	Circuit Conne	cted Appropriately	
	Serial Communica	tion Module Connected	
	Program Comp	piled and Debugged	
	Core XY system	n mechanically set up	
Inputs	Keyboard to Serial Terminal		
	Serial Communications Module		
	Test Case Steps		
Step Number	Step description	Expected Result	Real Results
1	Stepper motor speeds up in time	System gets to top speed fast.	Motor reache top velocity but is impresice
2	System reaches reasonable speed	System reaches a speed of 50 mm/s	System reach a good velocity; the team cannot measure
3	Stepper slows down fast	System slows down as it is getting to where it's	The system stops radically.
		going.	The system steps reacting.
Estimated Time	2 hours		