REXOS

Test Plan for a

Rehabilitation Exoskeleton Hand Device

Project Team: Anton Khomutskiy
Joshua Law
Tony Lee
Seungjun Lee
Doug Tao

Contact Person: Tony Lee
leetonyl@sfu.ca

Submitted to: Dr. Andrew Rawicz–ENSC 440W
Steve Whitmore–ENSC 305W
School of Engineering Science
Simon Fraser University

Issued Date: April 7, 2015

Revision: 1.00

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The system test plan for the RexoGrip device will consist of testing two main functionalities: the power supplies and finger mechanisms of the frame. This test plan will be only applicable to the demonstration model that will be presented by Rexos on April 17th, 2015.

The following is the basic test plan for validating that the power supplies for the device is functioning properly.

Power Supply Test	
Microcontroller Power Supply	
Action:	Turn on microcontroller *on/off* switch
Expected Result:	Green LED under the microcontroller *on/off* switch will turn on and stay on.
Results:	☐ Pass ☐ Fail
Comments:	
Component Power Supply	
Action:	Turn on component *on/off* switch.
Expected Results:	Green LED under the component *on/off* switch will turn on and stay on.
Results:	☐ Pass ☐ Fail
Comments:	

For the finger mechanisms, the checklist that follows will thoroughly check the functionalities of the mechanisms for each individual finger (index, middle, ring, and pinky) to ensure that the normal operating state of the device will not harm the user.

Finger Mechanism Frame Test	
Index Finger Mechanism	
Action:	Move index finger upwards, actuating the sensor on fingertip.
Expected Results:	Mechanism will pull index finger upwards until it reaches the predefined software limited servo position.
Results:	☐ Pass ☐ Fail
Comments:	

Action:	Move index finger downwards, actuating the sensor on fingertip.
Expected Results:	Mechanism will push index finger downwards until it reaches the predefined software limited servo position.
Results:	☐ Pass ☐ Fail
Comments:	
Middle Finger Mechanism	
Action:	Move middle finger upwards, actuating the sensor on fingertip.
Expected Results:	Mechanism will pull middle finger upwards until it reaches the predefined software limited servo position.
Results:	☐ Pass ☐ Fail
Comments:	
Action:	Move middle finger downwards, actuating the sensor on fingertip.
Expected Results:	Mechanism will push middle finger downwards until it reaches the predefined software limited servo position.
Results:	☐ Pass ☐ Fail
Comments:	
Ring Finger Mechanism	
Action:	Move ring finger upwards, actuating the sensor on fingertip.
Expected Results:	Mechanism will pull ring finger upwards until it reaches the predefined software limited servo position.
Results:	☐ Pass ☐ Fail
Comments:	
Action:	Move ring finger downwards, actuating the sensor on fingertip.
Expected Results:	Mechanism will push ring finger downwards until it reaches the predefined software limited servo position.

Results:	☐ Pass ☐ Fail
Comments:	
Pinky Finger Mechanism	
Action:	Move pinky finger upwards, actuating the sensor on fingertip.
Expected Results:	Mechanism will pull ring finger upwards until it reaches the predefined software limited servo position.
Results:	☐ Pass ☐ Fail
Comments:	
Action:	Move pinky finger downwards, actuating the sensor on fingertip.
Expected Results:	Mechanism will push ring finger downwards until it reaches the predefined software limited servo position.
Results:	☐ Pass ☐ Fail
Comments:	

