Unfortunate Series of Elevator Events – Test Plan

Engineering Projects VI

EECE73125-22S-Sec1

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Webpage

- All pages linked through home or index page
- GUI interface functions properly
  - Buttons
  - Login
  - Password
  - Links
- Images display suitably
- Embedded files are viewable
- Changes made in Google Documents/Spreadsheets automatically carry over to their respective embedded files
- Formatting remains the same across all pages
- Webpage is accessible from the Raspberry Pi

Raspberry Pi

Remote Connection

- Setup server
- Connect via HTTP and SSH
- View elevators in class lab

Elevator

Wiring

LEDs and Buttons

Connect to this side	P6			This side is already wired
CTX (CAN Tx)	10		10	CTX (CAN Tx)
CRX (CAN Rx)	9		9	CRX (CAN Rx)
LED control input P2	8		8	LED control input P2
N/O (normally open) switch output P2	7		7	N/O (normally open) switch output P2
N/C (normally closed) switch output P2	6		6	N/C (normally closed) switch output P2
LED control input P1	5		5	LED control input P1
N/O (normally open) switch output P1	4		4	N/O (normally open) switch output P1
N/C (normally closed) switch output P1	3		3	N/C (normally closed) switch output P1
N/O (normally open) switch output P3	2		2	N/O (normally open) switch output P3
N/C (normally closed) switch output P3	1		1	N/C (normally closed) switch output P3
N/C	N/C		N/C	
N/C	N/C		N/C	

Connect to this side	P7			This side is already wired
U1 in	10		10	U1 in
U1 out	9		9	U1 out
U2 in	8		8	U2 in
U2 out	7		7	U2 out
U3 in	6		6	U3 in
U3 out	5		5	U3 out
LED F3	4		4	LED F3
LED F2	3		3	LED F2
LED F1	2		2	LED F1
LED Control input P3	1		1	LED Control input P3
N/C	N/C		N/C	
N/C	N/C		N/C	

This side is already wired	P1, P2 and P3			Connect to this side	
LED switch P3 +	6		6	LED switch P3 +	P3
N/C (normally closed) output P3	5		5	N/C (normally closed) output P3	
N/O (normally open) output P3	4		4	N/O (normally open) output P3	
GND	3+2+1		3+2+1	GND	
LED switch P2 +	6		6	LED switch P2 +	P2
N/C (normally closed) output P2	5		5	N/C (normally closed) output P2	
N/O (normally open) output P2	4		4	N/O (normally open) output P2	
GND	3+2+1		3+2+1	GND	
LED switch P1 +	6		6	LED switch P1 +	P1
N/C (normally closed) output P1	5		5	N/C (normally closed) output P1	
N/O (normally open) output P1	4		4	N/O (normally open) output P1	
GND	3+2+1		3+2+1	GND	

Bottom

- LEDs receive appropriate power (+3V)
- Buttons receive appropriate power (+3V)
- Buttons connected to STM32 through debouncing circuitry
- When buttons are activated, LED's light up

Elevator Switch Panel CAN Board

- P7 – pins 2,3,4 connected to power (+5V)
- P7 – pins 5 to 10 connected to switch output
- P1, P2, & P3 – pins 1 to 6 connected to output of switch LEDs

Code

- Buttons are defined
- Floor addresses are defined
- LED states are defined
- CAN bus filters are set
- When blue button on the Nucelo 64 is pressed, the user LED illuminates
- After changing the blue button for the elevator buttons
    - P1 brings elevator to floor 1
    - P2 brings elevator to floor 2
    - P3 brings elevator to floor 3
- The LEDs light up with their respective buttons when elevator reaches that floor
- Elevator doors open and close when button is pressed