



## PROGRESS REPORT

### Overview

FASM Solutions is on schedule with the design stages and prototype fabrication of our RYB Mixer. Meetings have been in the form of daily project work on the Simon Fraser Campus in order to meet the deadlines and deliver the closest replication of the proof-of-concept product on December 16<sup>th</sup>, 2011. Work has been done on individual parts of the device, with incremental integration and concurrent debugging.

### System Progress

#### Mixing Unit

The fabrication of the enclosure has been complete. For testing prior to the demonstration in December, the paint cups and valves have been attached into the frame to confirm the dispense area. Additionally, each valve has been tested to make sure they are still operational. Control circuitry will be mounted onto the frame along with the microprocessor boards. Timing has been calibrated and will be used in final prototype testing stages.

#### Touchscreen and LCD Display

User interface has been completed, with minor changes required in the software to send the RGB values to the color space conversion and valve control algorithm. The additional LCD display has been programmed to display the color based on the RGB values set by the user or sent from the wireless sensor. The transfer of these values from touch screen to the LCD display will be programmed this week. Both screens are operating as needed.

#### Wireless Color Sensor

Circuit complete for communication between the transmitter on the color sensor board and receiver on the Arduino microcontroller. Color sensor is being calibrated to send 8-bit RGB values to the microcontroller. Software must be updated to get these values onto the touchscreen hub in place of the manual user input.



## Budget

FASM Solutions had to spend a little more than the allocated ESSEF fund to meet our parts requirements. This expense could not be avoided since the hardware chosen was the cheapest on the market. The major portion of the fund was spent on shipping costs to meet our deadlines. Account details shown at the end of this document outline our relevant purchases for this project.

## Action Items

Wiring of the prototype will be put on hold and postponed to next week, as full wireless integration needs to be debugged. Touchscreen, color LCD and wireless sensor are being tested together this week before wiring into the enclosure along with the valve connections. Next step is to integrate the valve-timing algorithm and test how much functionality can be delivered in the proof-of-concept prototype.



Created by Faiz Parkar (CFO)

**Accounts (Sep - Dec 2011) : ESSEF Fund \$500**

**FASM Solutions**  
Vancouver, Canada

Product ID	Description	Seller	CA Price	Quantity	Tax	Shipping	Total
Touchscreen	TFT Resistive Touch Screen	ESSEF Loan	-	1	-	-	-
Arduino Uno	Microprocessing Unit	CanaKit	\$ 29.95	1	\$ 3.59	-	\$ 33.54
Plastic Baster	Paint syringe for trials	Dollar Store SFU	\$ 1.25	3	-	-	-
Sewing organizer	Plastic holder to test paints	Dollar Store SFU	\$ 1.50	1	\$ 0.63	-	\$ 5.88
Gravity Cups	Paint Holders	NTXTools.com	\$ 9.79	5	-	\$ 37.25	\$ 86.20
Battery	9V Alkaline	R.P Electronics	\$ 3.29	1	\$ 0.39	-	\$ 3.68
DBM-09	9 PIN D-SUB Male	R.P Electronics	\$ 1.35	1	-	-	-
US-928	Mini USB 2.0 5POS Conn	R.P Electronics	\$ 3.95	1	-	-	-
310-645	2.1 Plug - 9V Clip	R.P Electronics	\$ 3.30	1	-	-	-
310-513	2.1 Jack - 1.3x3.5 Plug	R.P Electronics	\$ 2.60	1	-	-	-
110-305-5	LED 3MM GRN 4-18MCD	R.P Electronics	\$ 1.69	1	-	-	-
110-504-5	LED 5MM YLW 4-30MCD	R.P Electronics	\$ 1.69	1	-	-	-
110-502-5	LED 5MM RED 1.8-5.0 MCD	R.P Electronics	\$ 1.49	1	-	-	-
30-11410	TACTILE Switch 5Pcs	R.P Electronics	\$ 4.20	1	-	-	-
425-S	Desolder Braid 2.9mm 1.5M	R.P Electronics	\$ 2.89	1	-	-	-
SR-360	Solder Pack Lead Free SIL	R.P Electronics	\$ 3.70	1	\$ 3.22	-	\$ 30.08
Paints	Water based paints	Home Depot	\$ 13.97	5	\$ 9.79	-	\$ 79.64
644008Y	Key Combination 3/4"	RONA	\$ 9.89	1	-	-	-
84169	Pliers Locking Curved 7"	RONA	\$ 10.59	1	-	-	-
Steel Nipple	BK Steel Nipple THD 3/8"	RONA	\$ 1.09	4	\$ 3.04	-	\$ 27.88
Deluxe Marinade	Syringe	Dollar Store SFU	\$ 2.50	1	\$ 0.30	-	\$ 2.80
BD309620	Syringe Bd Cath tipe 2oz	Regency	\$ 2.59	5	\$ 1.56	-	\$ 14.51
Arduino Mega	Arduino Mega 2560	Lee's Electronics	\$ 65.00	1	-	-	-
11012	RF Link Transmitter 315 MHz	Lee's Electronics	\$ 4.20	1	-	-	-
11013	RF Link Receiver 315 MHz	Lee's Electronics	\$ 8.35	1	-	-	-
3302	Realy HKE HRMI 24VDC 5A	Lee's Electronics	\$ 4.50	5	-	-	-
10564	Electrical Tape	Lee's Electronics	\$ 1.00	1	\$ 12.13	-	\$ 113.18
Valve	3/8" Solenoid valve	Ebay	\$ 9.95	5	-	\$ 26.95	\$ 76.70
Avago sensor	Color light sensor	Sparkfun	\$ 4.95	1	-	-	-
Header kit	Arduino Stackable	Sparkfun	\$ 1.50	2	-	-	-
Shield	Arduino Protoshield kit	Sparkfun	\$ 16.95	1	-	\$ 26.79	\$ 51.69
Sensor mount	Color sensor mount kit	Sparkfun	\$ 14.95	1	-	-	\$ 40.00
Wood	Hayman Panels 24x48"	RONA	\$ 4.96	2	\$ 1.19	-	\$ 11.11
Mounting Tape	Tape	Home Depot	\$ 2.98	1	\$ 0.36	-	\$ 3.34
Nails	Nails set	Home Depot	\$ 4.19	1	-	-	-
d21	d21	Home Depot	\$ 1.50	2	-	-	-
Lumber	Lumber cut	Home Depot	\$ 2.00	1	\$ 1.10	-	\$ 10.29
<b>Total Inventory Value</b>			<b>\$ 260.25</b>	<b>65</b>	<b>\$ 37.30</b>	<b>\$ 90.99</b>	<b>\$ 590.52</b>