FPR

Alfred

(Wifi-Enabled Automated Mixed Drink Maker)

Team 15:
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April 20, 2018

Team Members

Chris

Advisor:
Professor Moritz

Ben

John

Pat

Problem Statement

- **Time-Saver:** People wait too long at bars trying to get the bartender's attention to order simple mixed-drinks
- **Eliminates Bartender Pouring Errors:** Bartenders can disproportionately pour drinks or provide the wrong drink
- **Alleviates Congestion:** The amount of people around the bar trying to order a drink is a nightmare

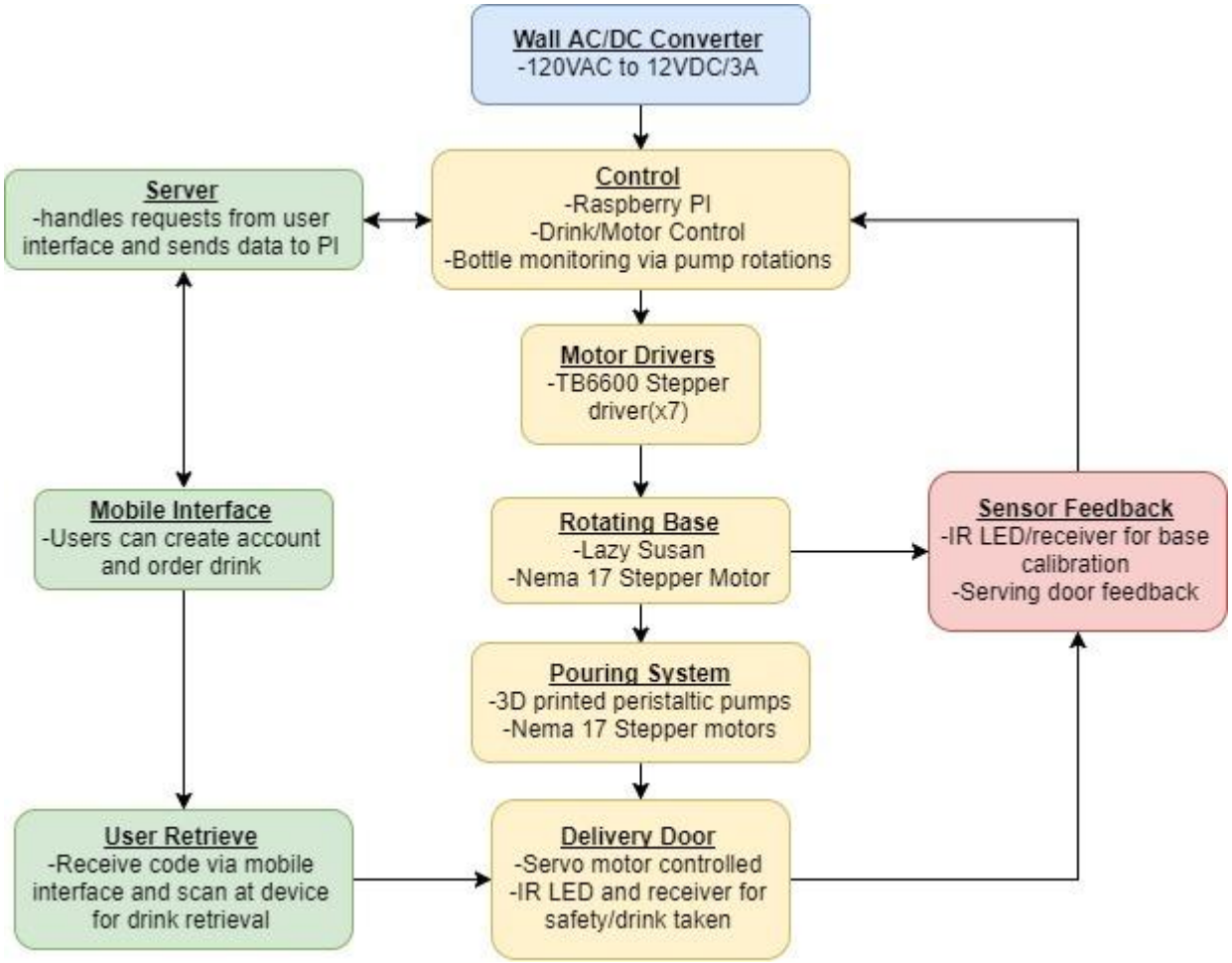
System Specifications

- Order through mobile device
- Pour a perfect drink in under 2 minutes
- Bartender can insert choice of alcohol (750mL) and mixers into dispensers
- Choice of 4 different drinks
- Does not spill the drinks
- Tab system to order drinks
- Drink served to correct customer using door system
- Rotatable base to access different cups to dispense the liquids

System Specifications (cont'd)

- 8 cups with ice placed onto base
- 15.9" diameter base
- Dispenses correct proportions of liquids into each specific drink
- Failsafes:
  - Sensor to make sure cup is removed before closing door
  - Sensor to detect correct orientation of base

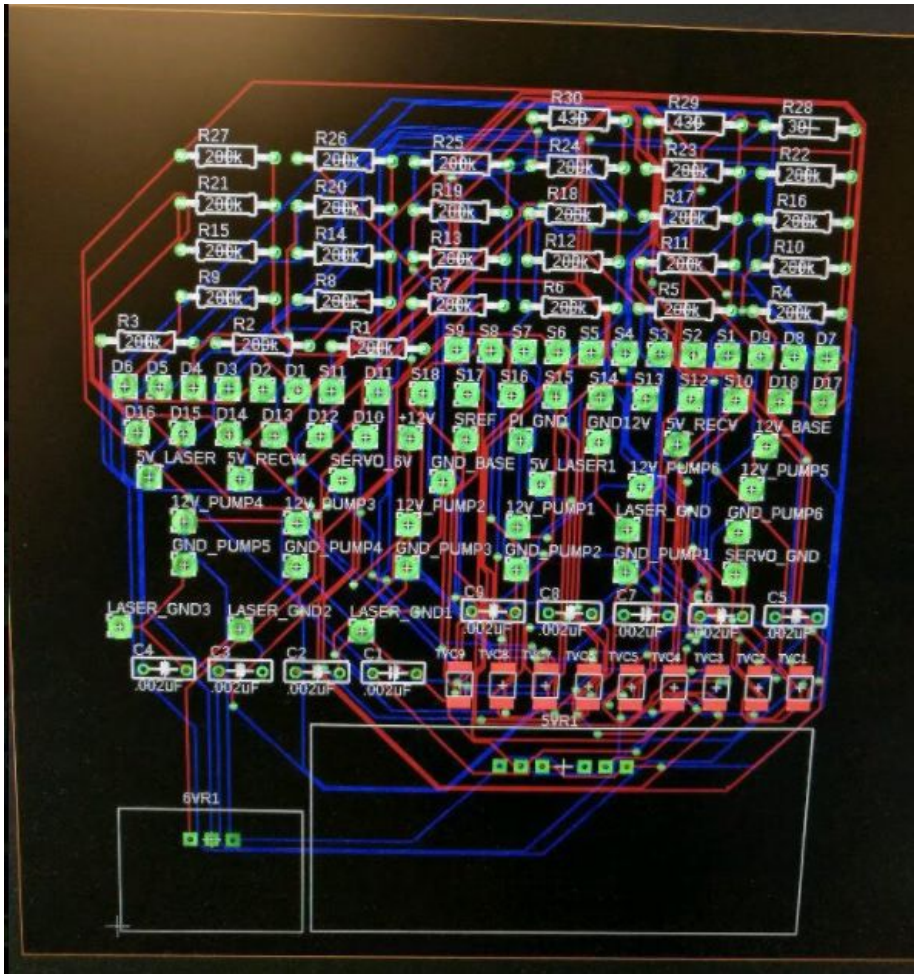
Block Diagram



Proposed FPR Deliverables

- ✓ Splash Guards will be mounted near the tubing - currently liquids splash a little when liquid level increases in cups
- ✓/✗ PCB completed
- ✓ Outer casing for whole project
- ✓ Secure the password reset for accounts
- ✓ Fully automated through Pi
- ✓ Completed algorithm for base rotation
- ✓ Personal identification code for completed drinks (barcode/QR code/keypad)

PCB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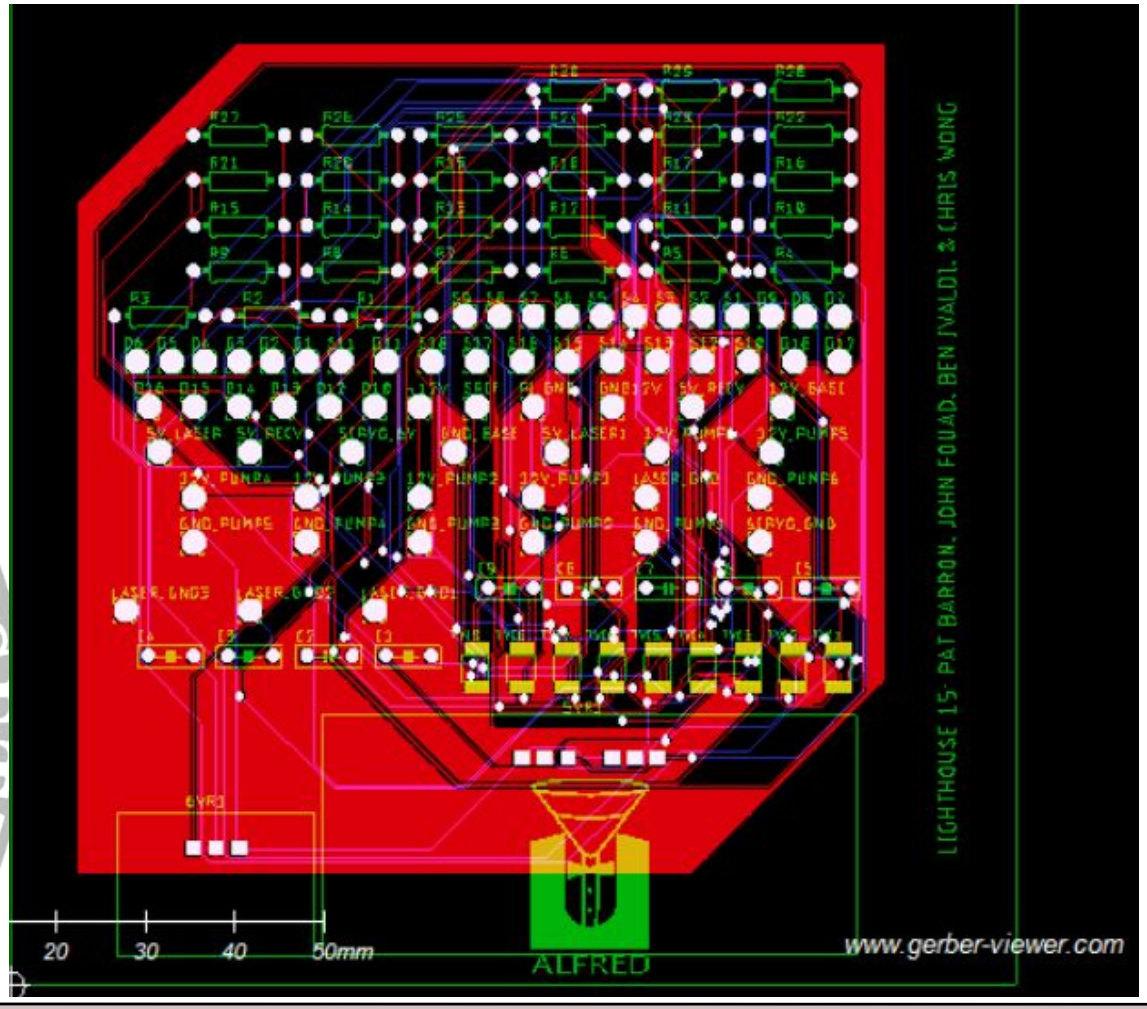
S9 S8 S7 S6 S5 S4 S3 S2 S1 D9 D8 D7
D6 D5 D4 D3 D2 D1 S11 D11 S18 S17 S16 S15 S14 S13 S12 S10 D18 D17
D16 D15 D14 D13 D12 D10 +12V SREF PI_GND GND12V 5V_RECV 12V_BASE
5V_LASER 5V_RECV1 SERVO_6V GND_BASE 5V_LASER1 12V_PUMP6 12V_PUMP5
12V_PUMP4 12V_PUMP3 12V_PUMP2 12V_PUMP1 LASER_GND GND_PUMP6
GND_PUMP5 GND_PUMP4 GND_PUMP3 GND_PUMP2 GND_PUMP1 SERVO_GND
LASER_GND3 LASER_GND2 LASER_GND1
C9 C8 C7 C6 C5
C4 C3 C2 C1
.002UF
5VR1
6VR1

PCB


LIGHTHOUSE 15- PAT BARRON, JOHN FOUAD, BEN JVALDI, & CHRIS WONG
20
30
40
50mm
ALFRED
www.gerber-viewer.com

Cost of Materials

ITEM	QUANTITY	PRICE PER UNIT	TOTAL PRICE
Nema 17 Stepper Motors +Drivers	6	$24.99	$149.94
Silicon tubing	3	$9.99	$29.97
Ball Bearings	2	$9.02	$18.04
Screw Assortment Kits	2	$21.99	$43.98
USB Keypad	1	$8.99	$8.99
Power Supply	1	$17.99	$17.99
PCB	5	$2.71	$13.55
Lazy Susan Base	1	$17.95	$17.95
Raspberry Pi	1	$34.93	$34.93

Cost of Materials (cont'd)

ITEM	QUANTITY	PRICE PER UNIT	TOTAL PRICE
Raspberry Pi Power Supply	1	$9.99	$9.99
32GB MicroSD	1	$12.99	$12.99
		Total Price:	$358.32

DEMO

Questions??