

StreamFi

Team 10

Project Update

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Refresher

the best way to know is to lift the keg and **guess**.

- Opaque fluid containers are inconvenient to monitor
- Lack of precise measuring methods




I just lift and estimate. A friend has a cup full of pennies and a cup behind each tap. Pour a pint, move a penny into the cup behind the tap. You get an idea of when you are getting close.

DougC123, Dec 5, 2013 #6

Drankenstein likes this.

DougC123
Devotee (464)
Aug 21, 2012
Connecticut
Subscriber



01-26-2011, 08:47 AM

When it starts spitting foam, it's empty.

cubby_swans
Super Moderator

Estimate How Much Propane is Left in Your Tank with a Glass of Water



David Galloway

7/15/12 3:00pm · Filed to: GRILLING



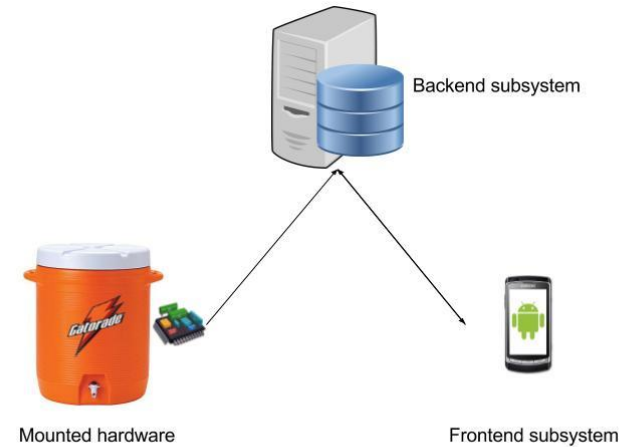
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67



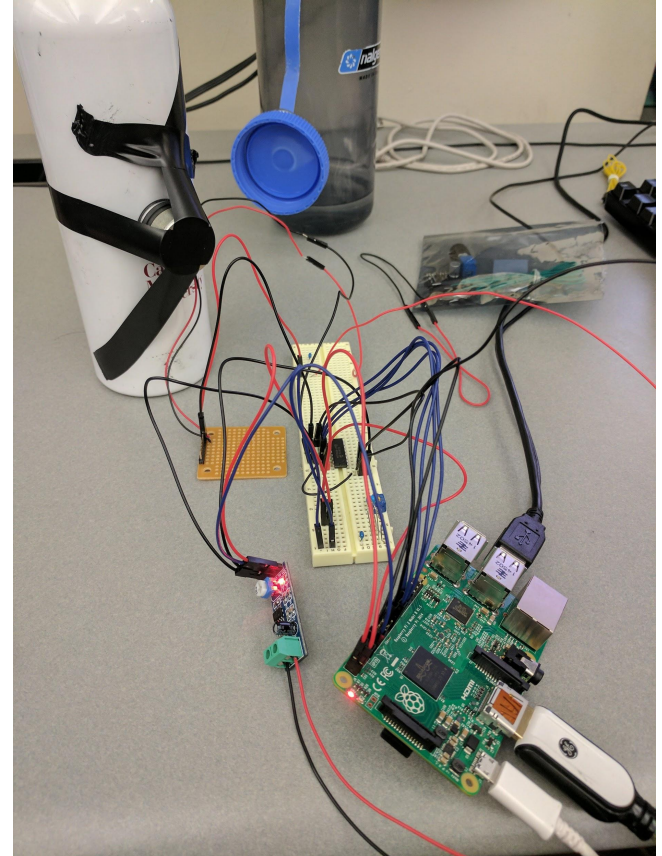
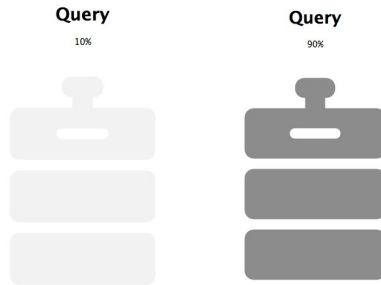
Concept

- Universal retrofit volume measuring platform
 - Home, stadiums, festivals, etc.
- Monitor containers
 - Active acoustic sensing to measure volume
 - Sweep frequencies to determine change
 - Notifications & container tracking via web application



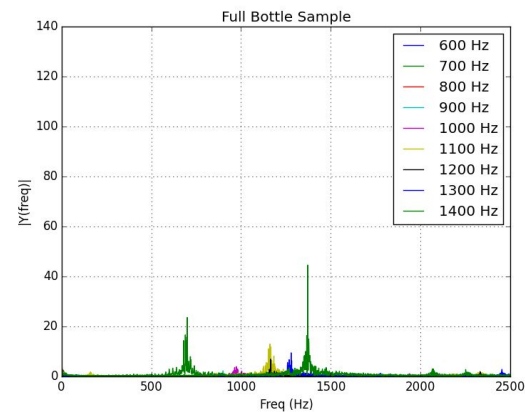
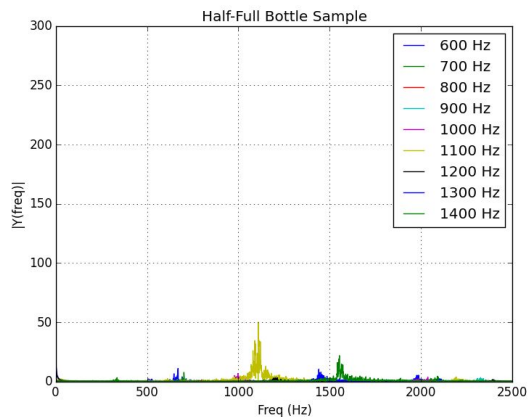
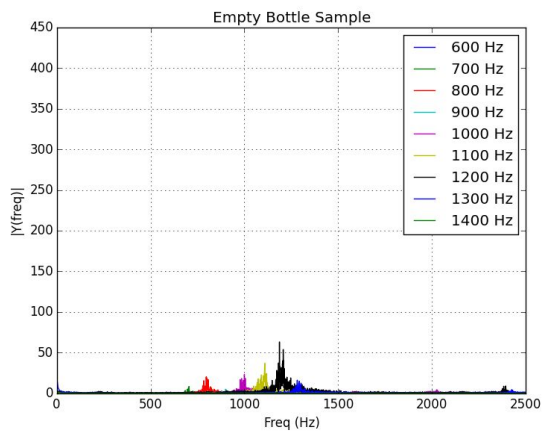
Updates

- Prototyping with Raspberry Pi
 - Volume Estimation
 - Sweeping Frequencies 600 - 1400 Hz
 - PiGPIO
 - Observing resonant frequencies for each container state
- Prototyping web app
 - Basic display
 - Minimal dataset



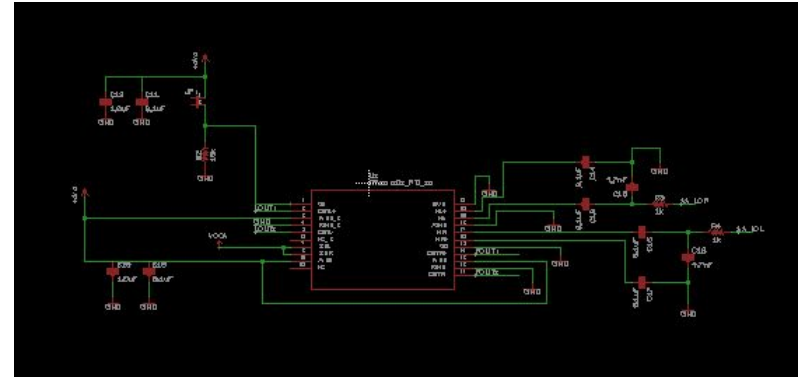
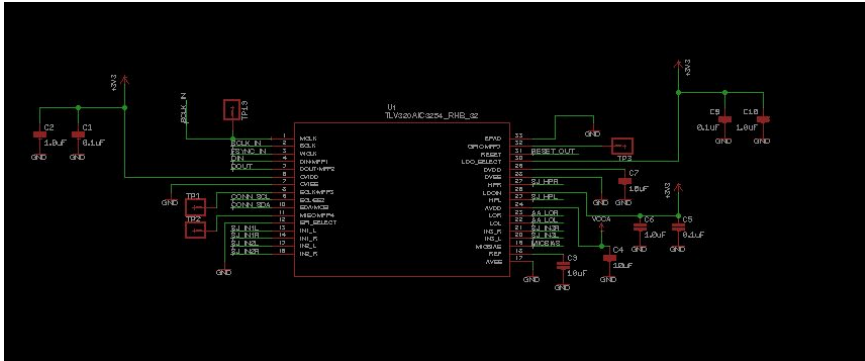
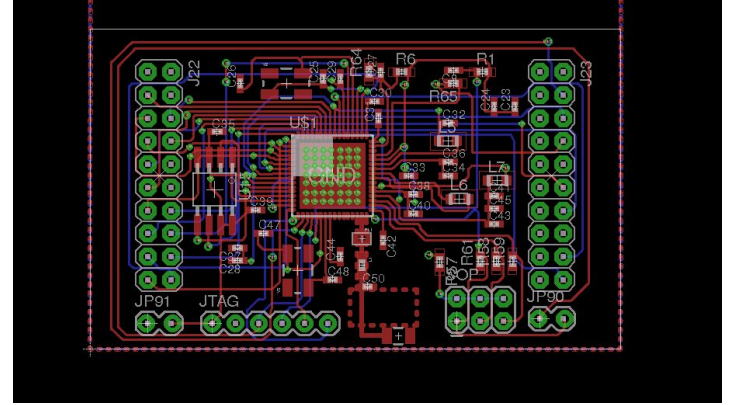
Updates

- Volume Estimation
 - Observed resonance at various frequencies and volume levels
 - Empty, Half, Full
 - 600 - 1400 Hz
 - Still working on relating data to fill level



Updates

- Porting to cc3200
 - Driving transducer with AudioBoost pack
- Custom PCB
 - Stripped down cc3200 breakout board



Final Presentation

- Product
 - At least two devices reading different volumes of different containers
 - Web application integration
 - Calibration for different kinds of containers
- Containers
 - Metal water bottle
 - Keg
 - Gatorade jug
 - Stretch Goal: Observe behavior with propane tanks