

StreamFi

Team 10

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Motivation

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



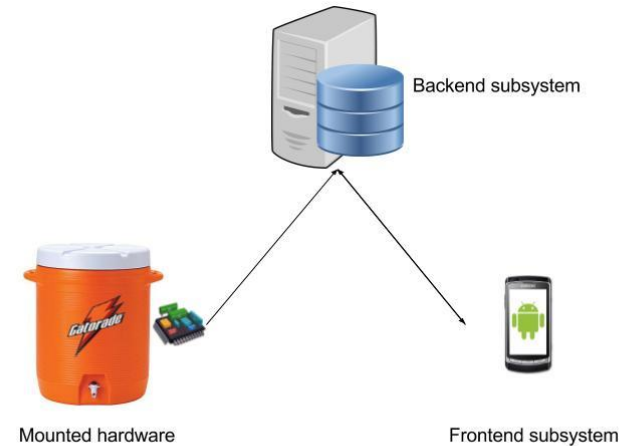
212.0K

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 mobile application



Competitive Analysis



Vessyl (\$199)

- Tracks calorie content of beverage in cup
- Detects different kinds of liquids



H2OPal (\$99)

- Attaches to the bottom of a water bottle
- Detects water usage statistics using accelerometer/weight sensor



KegBot (\$129/tap)

- Provides real-time statistics on how much beer each user is drinking
- Detects how much beer is in the keg

Requirements

- **Notify the user on condition after determining liquid level**
 - Mobile application or simple email/sms notification
 - Stream's lifetime data stored
- **Non-intrusive to container**
 - Attached to the outside and quick calibration
- **Easily maintainable**
 - Notification on damage or low power
- **Robust and durable**
 - Liquid resistant, communication fault-tolerant and consistent data
- **Uniquely identifiable and specific to a user**
 - Own multiple streams and view an aggregated dataset

Technical Specifications

Transducer

Sweep vibrations across container



Adafruit Medium
Surface
Transducer



MAX98306
audio
amplifier

Power source

Must be rechargeable/last a full day on one charge



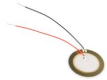
Lithium Ion
Battery



USB LiPoly
Charger

Piezoelectric sensor

Read back vibrations from vibration sensor



Piezo element
(SparkFun)

S3 and AWS Lambda

Backend data storage and processing



WiFi module

Communication between container and backend



ESP8266

Android app

Frontend display and notifications

