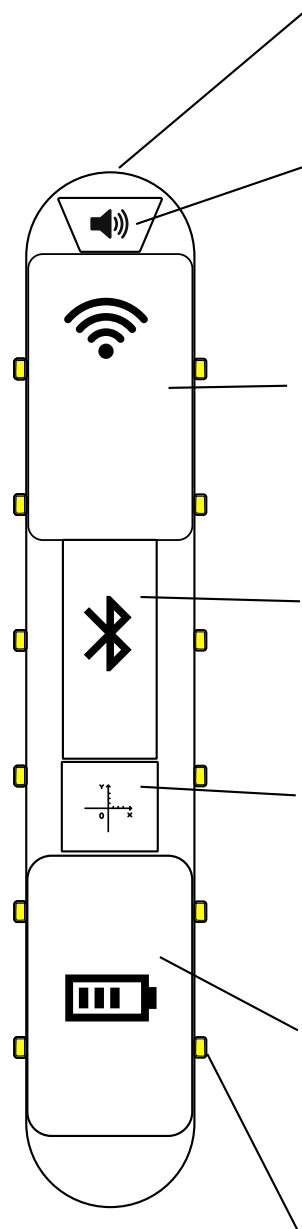
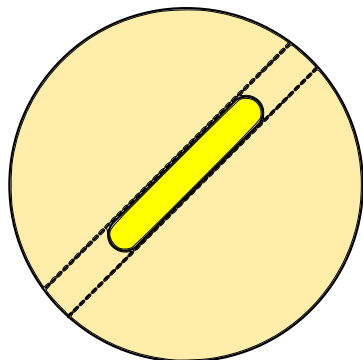


SmartBall Construction

Feb 25 2016

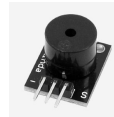


3-D Printed shell

Thin PLA plastic shell with compartments for each component

Power Consumption

Price



Speaker/Vibrator

Small 0.5W speaker or a vibrator for audio feedback

200mA

\$2



ESP8266 WiFi Module

250mA

\$10

Wifi module with MCU.

- Maintains connection with central server
- Collects accelerometer, scan data and performs Level 1 reactions
- Periodically sends accelerometer and scan data
- Receives light, sound instructions
- Sends commands to lights, speaker/vibrator



HM-10 Bluetooth Module

200mA

\$5

- Creates a unique iBeacon (BT central node)
- Periodically scans for nearby iBeacons and sends observed data via serial comm



3-Axis Accelerometer

~100µA

\$15

Provides acceleration values in all 3 axes. Very low power consumption ~100µA



2200mAh LiPo Battery

Maximum power-weight ratio. Should last ~2 hours with all these components

\$10



Addressable LED light strip

4 strips of 6 LEDs

~2A at 5V!

\$20

Thanks Google, Freepik!