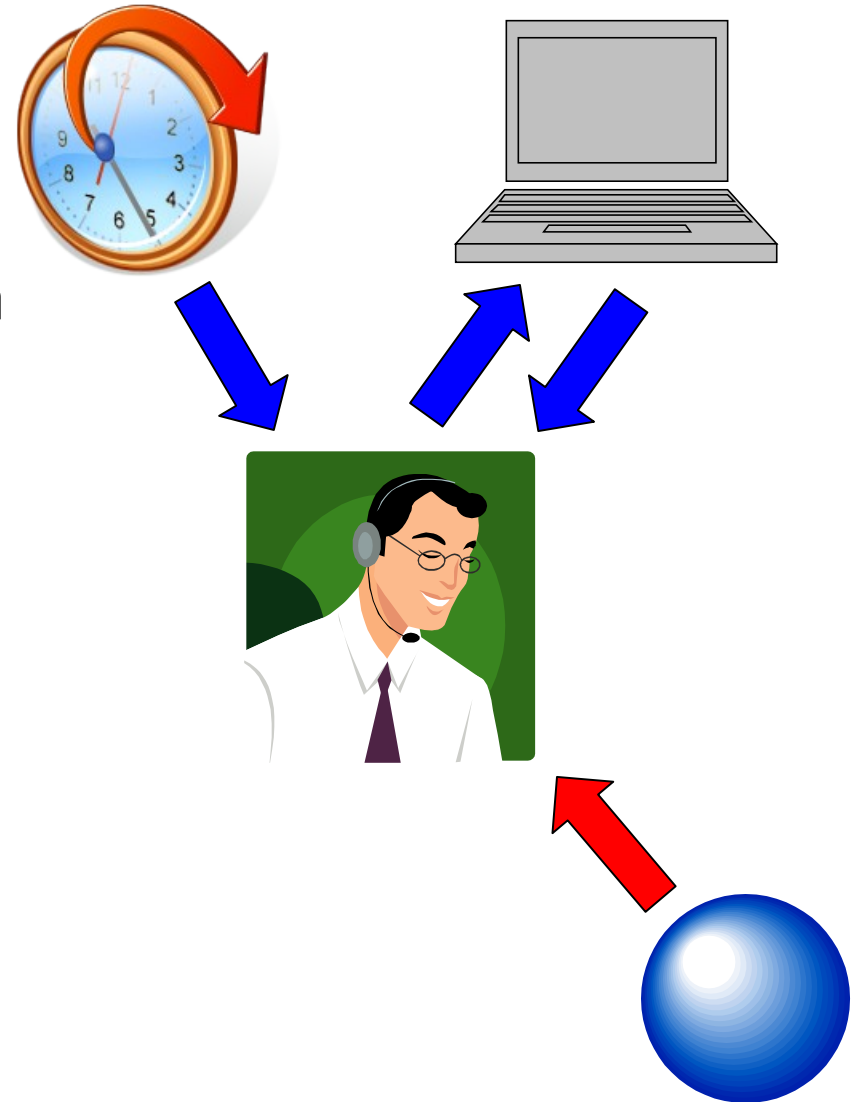# Rememberall

Mobile Widget Platform

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Concept

- Device conveys information via color gradients on a semi-opaque orb
- Frequently synchronizes with laptop via Bluetooth
- Charges wirelessly
- Allows user to readily query for complex information at a glance
- User extensible plugin interface
- Use cases: bus arrival times, personal schedule, weather.

Competitive Analysis

- Weather Beacon
  - Non-portable table top cube that represents weather via color
  - Expensive - $99
- Ambient Stock Orb
  - Non-portable desk unit that represents stock prices, weather and AIM information via colors
  - Uses a nationwide wireless network
  - $100 and out of stock (out of manufacture)
- Illuminated Color LED Morphing Orb
  - Completely meaningless colors displayed

Requirements

- The device must allow the user to turn it on, sleep it, and turn it off on demand
- When asleep or on the device maintains a concept of time
- Device alerts user to beginning of events via vibrate and color features
- Device will keep up to date information by synchronization with computer
- The method of update must be accepted as long as the update conforms to the RCF (Rememberall Communications Format) API, which will be published soon
- The device must work, using a standard battery, under nominal loads, work for at least 2 days
- The task of deciphering the LEDs must not present cognitive overload

Technical Specifications

- Persistent storage will be accessible by all the subsystems and will help isolate the stateful segments of all the subsystems. We will strive to make the other subsystems as stateless as possible
- AVR ATMega 128 with 6 PWM channels
- This chip contains an internal oscillator to maintain time
- 2 tricolor LEDs
- brightness and blinking will be controlled through the PWM channels on the primary controller
- BRF6150 Bluetooth SoC from Texas Instruments
- Extremely small (less than 1cmx1cm)
- Contains an antenna, baseband controller and HCI transport layer and software stack support
- Lithium Ion button batteries — 3V and >= 50mAh
- Ammeter and charge controller circuit.
- Piezoelectric charger (maybe?) or an inductive charger (maybe?)