

# Making Medication Easy

## Interactive Medication Dispenser

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## Motivation

- First or second-hand experience with complicated medical conditions
- Hard to keep track of what medications to take and when
- Results in compromise of medications' effectiveness and disruption of daily routine
- Need for a simple yet effective system to ease the daily routine of multiple prescriptions
- Taking medicine can be disruptive – need for discreet and portable solution

# Current Systems

- Current products fall short
  - Stationary: too large/bulky to carry around
  - Alarms: easy to dismiss reminders/forget
  - Pill boxes: possible to confuse pills/forget



# Proposed Design

- Portable Pill Box



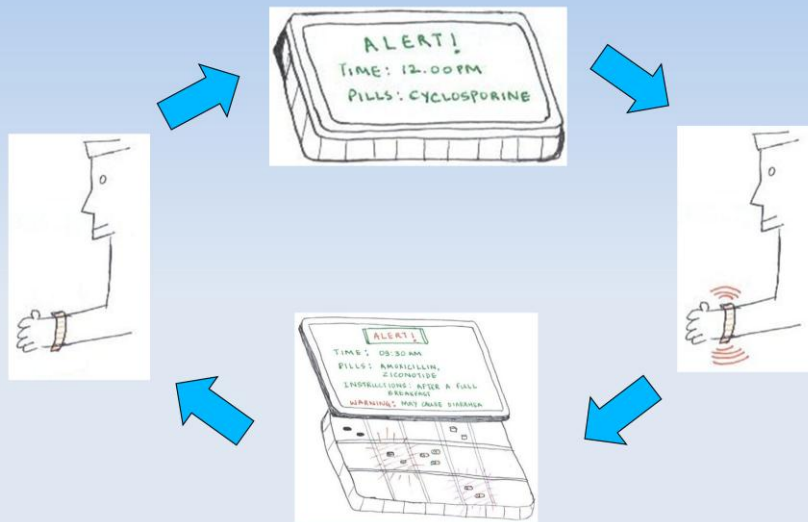
- Wrist Band



- Pill box with small LCD display on top, pills below
- Schedule is programmed to Arduino board enclosed in box
- LCD displays image of pill to be taken and any relevant instructions
- Pill section slides from underneath, divided into compartments for each pill
- LED under each compartment
- Wrist band that user wears for tangible signal
- Pill box can be carried in bag, purse, pocket, etc.

# Proposed Design

- Interaction Loop



- Schedule activates at time for pill to be taken
- Pill box signals wrist band (wirelessly), pill box can also have ambient/vibration/auditory display (optional)
- Wrist band discretely vibrates, alerting user (ambient displays also an option)
- User retrieves pill box, views pill info on LCD
- User slides pill compartment open, removes correct pill, indicated by LED lighting
- System senses pill removal, sends signal to wrist band to stop vibration response
- LCD display turns off, waits for next pill on schedule

## Benefits

- Box can be stored in bag, purse, pocket, etc.
- Wrist band is discrete and unobtrusive
- Vibration grabs user's attention in almost any environment without causing disruption
- LCD display combined with LEDs assure correct pill to take
- Vibration response can only be de-activated when pill is removed from box – helps ensure that pill is actually taken

## Discussion

- Original Idea: Stationary System
  - Pill dispenser holds pill bottles
  - Pill dispensed to tray
  - Ambient lighting (and/or audio) alerts user, intensity increases as time elapses
  - Removal of pill from tray stops ambient displays
- What do you think?