MEDSense

Pill Dispensing and Communication Device
Outline

- Background
- Current Products
- Objectives
- Requirements
- Project Description
- Budget
- Conclusion
"We streamlined the FDA's drug approval process in response to concerns about its cumbersome nature. We took those steps with one objective in mind: to move drugs to the marketplace more quickly. The result, however, has been an increasingly cozy relationship between the FDA and the pharmaceutical industry." --Congressman Rahm Emanuel, former senior advisor to Pres. Clinton, as quoted in The World is Flat
MEDSense:

“Worrying about your health, so that you don’t have to...”
Med-Time Automatic Pill Dispenser:

• Releases medication at prescribed times

• Too small for people with motor skill problems to use

• Does not send offsite alert or cut pills
Current Market

Monitored Automatic Pill Dispenser MD2:

• Alarm system, offsite alert
• Bulky and expensive
• Incapable of cutting pills in half
Objectives

• Affordable, easy-to-use pill dispenser
• Accommodate a wide variety of users
• Manage user’s prescription medication schedule
• Simplify life
• Multi-modal alert system
• Accurately cut pills in half
• Dispense medication at programmed times
• Offsite alert
• Simple user interface
• Protect the safety and security of the users and their families
Project Description

Program Device

Cut specified number of pills

Medication Time

Alarms

Button pushed

Alarms off

Meds dispensed

Reminders

Records meds have been taken

Button not pushed

Meds not dispensed

Offsite notification

Records meds have not been taken
Seven Subunits

- Notification system
- Cutting mechanism
- Schedule programming
- User interface

- Pill transportation mechanism
- Offsite alert
- Physical properties
Notification System

- Multimodal alarms: visual and audio
- Uses previously programmed schedule to notify patients when it is time to take medication
- Ability to alert patients at chosen amount of time before scheduled medication time
- Notification to refill medication
Schedule Programming

• Simple program for patients to self-program
• Questions asked by device and answered by patients
• How many pills per dose?
• How many times per day?
• When is the expiration date?
• Alternative design: scanning device
User Interface

- Simple keypad with Braille
- Large LCD screen
- Easily visible in daylight
- Easy-to-use for patients intimidated by technology
Cutting Mechanism

- Steel blade powered by motor
- Pill stabilized by conical design
- Accommodate range of pill sizes and shapes
Transportation Mechanism

- Use of gravity to dispense pills
- Screw conveyor to move pills through device
- Button pushed to start mechanism and dispense pills once alarm goes off
Movement of Pills

- Two pill reservoirs: Whole pills and Half pills
- Travels through screw conveyor to cutting mechanism
- Dispensing tray
• Bluetooth wireless technology
• Sends signal to computer with internet connection
• Text message sent to caretaker’s cell phone
• Offsite alert activated if pill not taken within half hour of scheduled time
Physical Properties

- Maximum 2x2x2 feet
- Maximum 10 pounds
- Plastic casing

- Inert materials
- Waterproof
- Durable
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Conclusion

- Revolutionizes medication dispenser market
- Eases the process of taking medication
- Keeps users healthy
Questions?
Concerns?
Comments?