Using Technology to Measure Adherence of Complicated Medication Regimens

Progress Report 13

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Problem Statement
According to a recent study, almost 75% of patients, especially the elderly, do not adhere to their medication regimens for various reasons. This lack of adherence can prevent a patient’s recovery. Additionally, the present state of affairs is such that if a patient reports no improvement, a physician does not definitively know whether to try a different medication or whether the patient is simply not taking the medication regularly. To improve general health of patients assigned complicated medication regimens, we are to make a device that keeps a record of when a patient takes their medication.

Project Schedule/Important Dates
March 9th  Midsemester Presentation
May 4th  Poster Presentation
May 9th  Final Papers Due

Summary of Team Accomplishments
• Printed circuit board has been ordered and received
• Computer interface is almost complete
• Poster is completed

Current Difficulties
• A forgotten delay function was the cause of a serious problem; specifically the microcontroller would not respond to serial commands.

Activities
Sujan
Poster 6 hrs
Communications 0.5 hrs
Group Meeting 1.5 hrs
Group Meeting 3.5 hrs

**Total:** 11.5 hrs

**Cara**
Group Meeting 1.5 hrs
Shopping with Nipun 3 hrs
Construction 3 hrs
Construction 6 hrs
Construction 4 hrs
Construction 2 hrs

**Total:** 19.5 hrs

**Farshad**
Meeting with David 1.5 hr
Working on PCB design 13 hrs
Web and notebook Update 0.25 hr
Group Meeting 1.5 hrs
Group Meeting 3.5 hrs

**Total:** 19.75 hrs

**Nipun**
Programming 16 hrs
Group Meeting 1.5 hrs
Shopping with Cara 2 hrs
Shopping 1.5 hrs
Group Meeting 3.5 hrs
Express PCB 1.5 hrs
Construction 2 hrs
Meeting With David 0.5 hr
Progress report 0.5 hr

**Total:** 29 hrs

**Team Total Hours for this Week:** 69.75 hrs
**Cumulative Team Hours this semester:** 269.5 hrs
**Cumulative Team Hours to Date:** 714.75 hrs

**Expenses**
- Microcontroller (PIC18F4685-I/P-ND) $027.44
- Watch chip (DS1307) $017.58
- USB to serial (TTL) interface (DLP-USB232M) $031.47
- Plexiglas $004.21
- Microcontroller (PIC18F4550) $030.50
- Pill box $004.16
- Wires $006.32
- Piezo Electric Buzzers $009.05
- Diodes and Ribbon Cables * $018.50
- Wire $006.32
- Construction supplies $038.35
- Switches $027.12
- Printed circuit board $125.90
Total: $346.92

* Dr Jeurgens has made the payment for these components directly.