Using Technology to Measure Adherence of Complicated Medication Regimens

Progress Report 8

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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
• Finished mid semester presentations
• Created computer interface
• Found prospective solutions for wiring all the switching
• Found a way to access time from the watch chip
• Found a way to get the microcontroller to sleep, and wake up from sleep. This still needs to be tested

Current Difficulties
• Once again the bootloader needed to be reinstalled. However, this David Markovitch found that there was an error in our bootloader, and was able to repair the fault.
Activities

Sujan
Group Meeting for Science Expedition 1.5 hrs
Meeting with David Markovitch 1 hr
Communications 0.5 hr
Total: 3 hrs

Cara
Group Meeting for Science Expedition 1.5 hrs
Group Meeting for Science Expedition 1.5 hrs
Research .75 hrs
Class Meeting 1.5 hrs
BSAC .75 hr
Total: 6 hrs

Farshad
Website Update and Notebook 0.25 hrs
Class Meeting 1.5 hrs
Meeting with David Markovitch 1 hr
Meeting with David Markovitch 0.75 hr
Work on Microcontroller 1 hr
Total: 4.5 hrs

Nipun
Meeting with David Markovitch 1 hr
Meeting with David Markovitch 0.75 hr
Work on Microcontroller 2 hr
Group Meeting for Science Expedition 1.5 hrs
Group Meeting for Science Expedition 1.5 hrs
Work on Science Expedition Poster 1 hr
Meeting with David Markovitch 1 hr
Progress report 0.25 hr
Total: 9 hrs

Team Total Hours for this Week: 22.5 hrs
Cumulative Team Hours this semester: 139 hrs
Cumulative Team Hours to Date: 584.25 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
Total: $116.36