Using Technology to Measure Adherence of Complicated Medication Regimens

Progress Report 6

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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
• Installed Plexiglas modifications onto pill box lids.
• Interface between microcontroller and computer is operational
• Microcontroller can respond to commands given to it

Current Difficulties
• For an unknown reason, the bootloader needed to be re-installed once. David Marcovitch tells us that this should not have happened and should not happen in the future.
Activities

Sujan
- Class Meeting: 1.25 hrs
- Communications: 0.25 hr
- Science Expedition: 1 hr
- Work on pill box: 2 hrs
- Notebook: 0.5 hr
- Team Meeting: 2 hrs
Total: 7 hrs

Cara
- Class Meeting: 1.25 hrs
- BSAC: 0.75 hrs
- Science Expedition: 1 hr
- Work on pill box: 3 hrs
- Mid-semester presentation: 1 hr
- Team Meeting: 2 hrs
- Pictures: 0.25 hr
Total: 9.25 hrs

Farshad
- Class Meeting: 1.5 hrs
- Work on computer interface: 3.5 hrs
- Mid-semester presentation: 0.5 hr
- Notebook and Web update: 0.25 hr
- Team Meeting: 2 hrs
Total: 7.75 hrs

Nipun
- Work on microcontroller: 1.5 hrs
- Class Meeting: 1.25 hrs
- Purchasing pill box: 1 hr
- Mid-semester presentation: 1.5 hrs
- Team Meeting: 2 hrs
- Progress report: 0.25 hr
Total: 7.5 hrs

Team Total Hours for this Week: 31.5 hrs
Cumulative Team Hours this semester: 95.25 hrs
Cumulative Team Hours to Date: 540.5 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