Week 4 Progress Report

Freely Adjustable and Accessible Keyboard for Client with Cerebral Palsy

Team # 6
Nolan Skop
Stephen Heussler
Parts Update

- Parts Received
  - Female Header Receptacle
  - PCB Mountable Cherry MX Switches
Work Completed

- Measurements and Testing of Cherry MX Switches
Work Completed (cont’d)

- Protoboard Mounting Measurements
Work Completed (cont’d)

- Measurements agree with Cherry specifications
- Incorporate measurements into PCB Design
Work Completed (cont’d)

- PCB Design
  - One solid board instead of two
  - Double Layer (standard) can incorporate the switches and LEDs
  - Preliminary Design of switch layout
Work Completed (cont’d)
Work Completed (cont’d)

- X-Keys Macro Programmer
  - Research into keyboard programming
  - Testing of certain programs on Lab CPU
  - Review of example developer programs
    - Learn what methods other developers used
Conference with Miriam
  - No meeting past Wednesday
    - Snow Day
  - No meeting this week
    - Hampton Elementary on break
  - Favored rubber base
  - Approved of proposed key and arrow pad layout
Work Completed (cont’d)

- Design of Base
  - Hinge to allow keyboard tilt
  - Locking mechanism in back
    - Allows keyboard to be tilted at multiple angles
    - Sam can adjust to his needs
Future Work

- Test full scale model of LEDs
  - Mount on protoboard
  - Provide voltage source identical to batteries that will be used
- Finalize Design of PCB
  - Fix up switch layout
  - Incorporate LED circuit
Future Work (cont’d)

- Replacement Grip
  - Research best mechanism for Sam
  - Replace current weight being used

- Control Board Program
  - Testing and development of keyboard program
Project Review

- Final Keyboard Design
- PCB Design incorporating all switches
  - Created with PCB Express
- Testing of switches and LEDs
- Programming of X-Keys with Macro Programmer
Hours Worked

- Stephen Heussler
  ~11 hours

- Nolan Skop
  ~12 hours