Non-Functional requirements:

a. Don't damage existing mine infrastructure.

b. Equipment to develop for includes:
   i. 12+ telosb tmotes sky motes
      - 802.15.4 Radio
        - Chipcon CC2420
        - Integrated on-board antenna with 50m range indoors / 125m range outdoors
      - MSP430F1611 CPU
        - 10Kbyte RAM, 48Kbyte Flash
        - Very low power in periods of inactivity
   ii. 4 Quanmax PC's (embedded)
      - Atom processor
      - 1 GB ram
      - 160 GB hard drive
   iii. 2 Servers:
      - modi.mines.edu: Debian, MySQL database, behind firewall.
      - thor.mines.edu: Debian, Apache, firewall holes at ports 20, 80, 443.

c. Infrastructure:
   i. The 10 infrastructure motes will be USB-powered, and attached to the Quanmax boxes, 2 or 3 per Quanmax.
   ii. The Quanmax boxes will be powered via their Cat-5 network connection, using standard power over Ethernet.
   iii. Infrastructure motes and Quanmax boxes must be packaged against moderate humidity and physical disturbance.
   iv. Infrastructure devices must be attached to existing mine infrastructure with zip-ties.

d. Project development:
   i. Use SVN as a repository for code development
   ii. Use the Trac system on modi (modi.mines.edu/projects/2010_CSM1/) to document progress, goals, programs, etc.
   iii. Use TEP-3 standards for TinyOS code in nesC.
   iv. Use appropriate language standards for all other code.
   v. Install system in Edgar Mine, including Cat-5 and USB wiring.