



Mobile Athlete Monitoring System

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Project Overview

- Allow for remote tracking and monitoring of a cross country skier
- Track skier via GPS
- Monitor:
 - Heart Rate
 - O2 Saturation
 - Respiration
- Transmit all information to remote laptop
- Display all transmitted information in useful manner

Transceiver (Details)

- Aerocomm AX4490-200
- Frequency: 902-928 MHz
- Power: 3.3 Volts
- Data Rate: Up to 115 kbps
- Range: ~4 miles
- Dimensions: 1.90 x 1.65 x 0.20 inches
- Weight: < 0.75 oz
- RS-232 Compatible

Microcontroller (Details)

- Motorola HCS08-GB60 MCU
- 8-bit microprocessor
- Operates down to 1.8 Volts
- 7 input ports
- Analog to Digital Converter
- CodeWarrior IDE included with C and C++ compiler

Extra Memory (Details)

- SRAM
- 2Mb – 4Mb
- Power: 3.3 Volts
- Access Time: 7.5 – 12 ns

Pulse Oximeter (Details)

- Nellcor Pulse Oximeter
- Uses Adhesive To Stick To Forehead
- Power: 3.3 Volts
- Output: Analog
- Can Monitor Heart Rate and O2 Saturation

Respiration Sensor (Details)

- Two elastic straps that connect around the chest and abdomen
- The sensor will measure the straps as they expand and contract
- Power: 3.3 Volts

GPS (Details)

- Garmin Geko 201
- Power: 2AA Batteries
- Weight: 3.1 oz (with batteries)
- Accuracy: 10 – 49 feet
- Dimensions: 3.9 x 1.9 x 0.96 inches



Software (Details)

- For software development on the laptop we will use C# (Microsoft Visual Studio .net)
- For the backend database we will use either Microsoft SQL Server or Microsoft Access



Questions?

