



# NEGOTIATED PROJECT PRESENTATION

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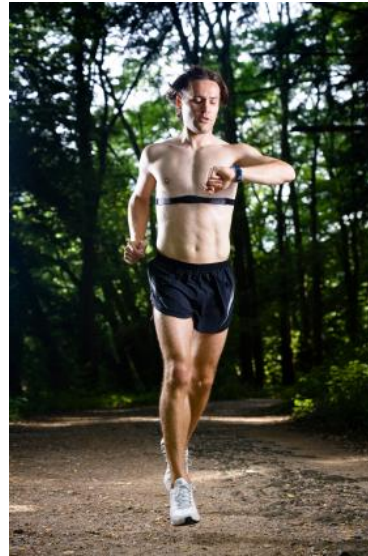
# Project Motivation

- Sportsman
  - Run
  - Cycle
  - Row
- Problem Identified:
  - Separate electronic devices required to listen to music, track progress:
    - iPod
    - Heart Rate Monitor
    - Pedometer/GPS tracker
      - Expensive
      - Cluttered
- Awkward when running/cycling/rowing/climbing/walking

# Current Product Background

- Watch & Heart Rate Monitor

**YORK**  
FITNESS



## ○ Mp3 Player & Pedometer



- GPS Distance Recorder, Heart Rate Monitor & Watch
- GPS Distance Recorder, Thermometer & Watch



**GARMIN**™



- Mp3 Player and Watch



# Idea

- To develop a product that amalgamates such technologies into a solitary device
  - Reduce clutter
  - Wrist mounted
  - Simple user interface
    - Inclusive Design



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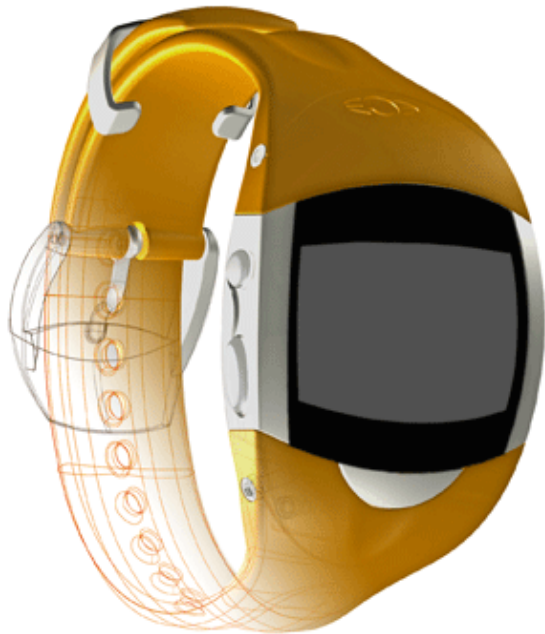


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# Skills Possessed

1. Proficient with Autodesk Maya 2010
  - o 3D design of the device



2. Good researching skills
  - o Literature Review experience
  - o Interview experience
  - o Questionnaire production experience

# Skills Required

1. Knowledge of the Arduino interface development programme
  - o User interface prototyping platform
  - o [www.arduino.cc](http://www.arduino.cc)

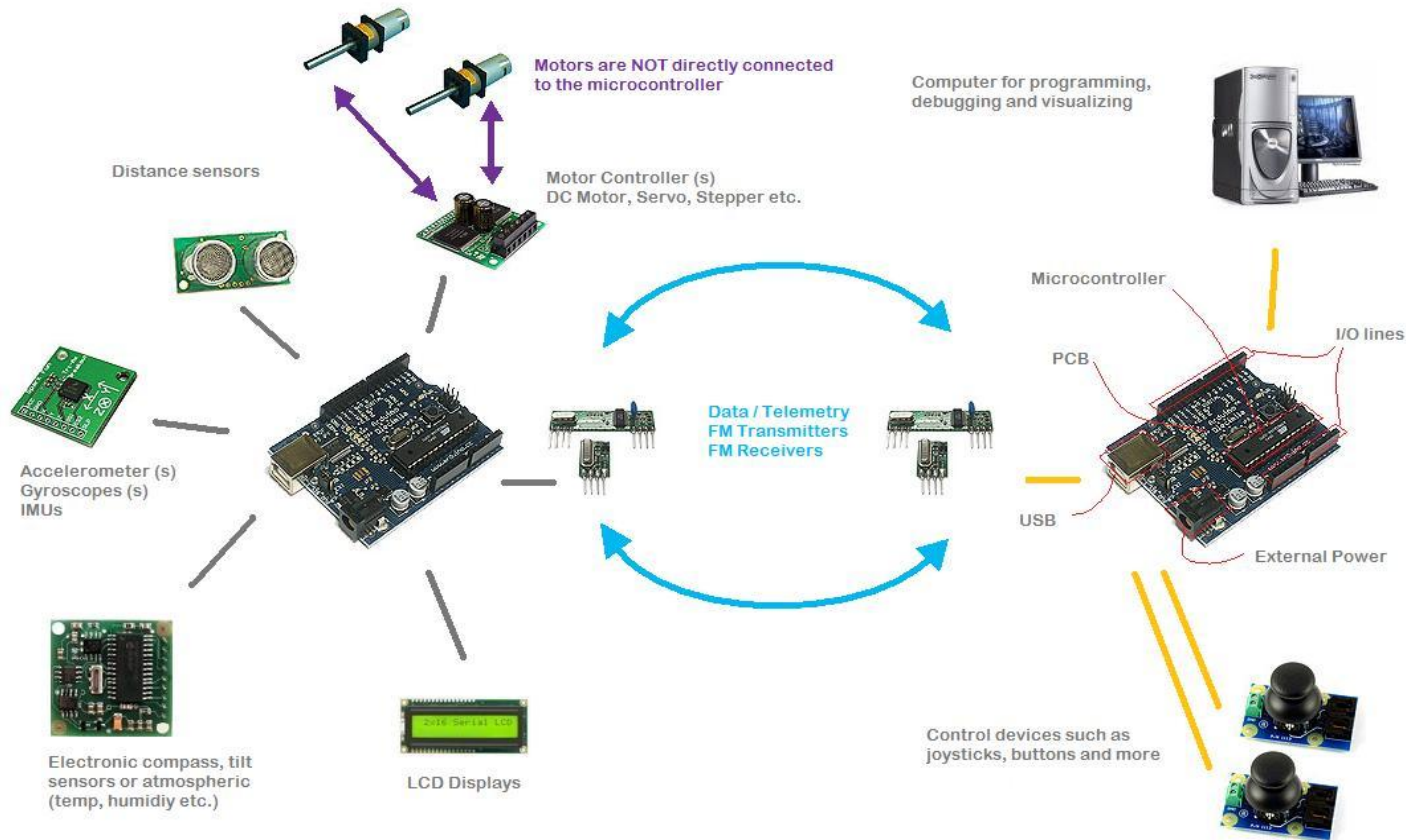


Fig. 1. The Arduino Interface.

Source: <http://www.robotshop.ca/images/design/arduino-interface-examples.jpg>

## 2. Knowledge of suitable materials and finishes

- Weather Resistance
- Robustness
- Colours



## 3. Theory behind cognitive ergonomics & user-centred interface design

- Better understand the needs of the target user group
- Produce a user-friendly product

## Working Title

- Run, Record, Relax

# Aim

- To develop a design solution employing a process of user-centred design that meets the exact needs of athletes to record exercise data and provide entertainment within a solitary, wrist mounted electronic device.

# Objectives

## Research

1. To study and report on literature published about the design of products concerning ergonomic design
2. To study and report on literature published concerning user-centred design involving human-computer interfaces
3. To study and report on suitable materials and colours relevant to a sports orientated, wrist mounted electronic device
4. To understand physical design and interface design attributes of current products
5. To engender a “user-centred approach” using a focus group of athletes to discuss their needs for the design element and human-computer interface

## Development

6. To develop a 3D prototype of the wrist mounted device using Autodesk Maya 2010
7. To produce a subsequent physical model of the device using rapid prototyping
8. To develop a prototype of the human-computer interface on Arduino
9. To test, evaluate and refine the prototypes through employment of heuristic consumer evaluation
10. To produce a brand and promotional media such as a brochure and/or a video

# Methodology

## ○ Primary Research

### 1. **Focus Group Research:**

- A group of 5-10 people who regularly exercise

### 2. **Questionnaires:**

- To be distributed amongst a wider target consumer base in order that a greater variance of opinion be gathered

### 3. **Usability testing of existing products:**

- Evaluation of alternative designs and interfaces

### 4. **Prototyping:**

- 3D Modelling using Autodesk Maya 2010
  - Physical Prototype
- Prototype interface using Arduino

### 5. **Observation**

- To observe the user group operating the prototype to assess the success of the user-centred approach.

### 6. **Interviews & Questionnaires**

- User satisfaction survey

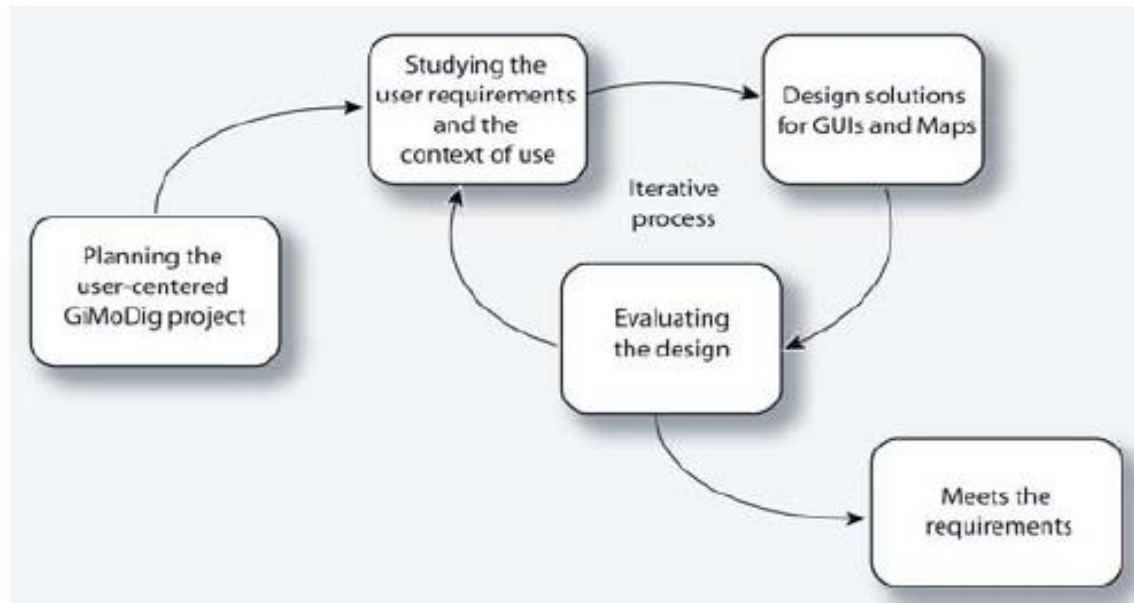


Fig. 2: User Centred Design Cycle. (Nivala et al. 2005)

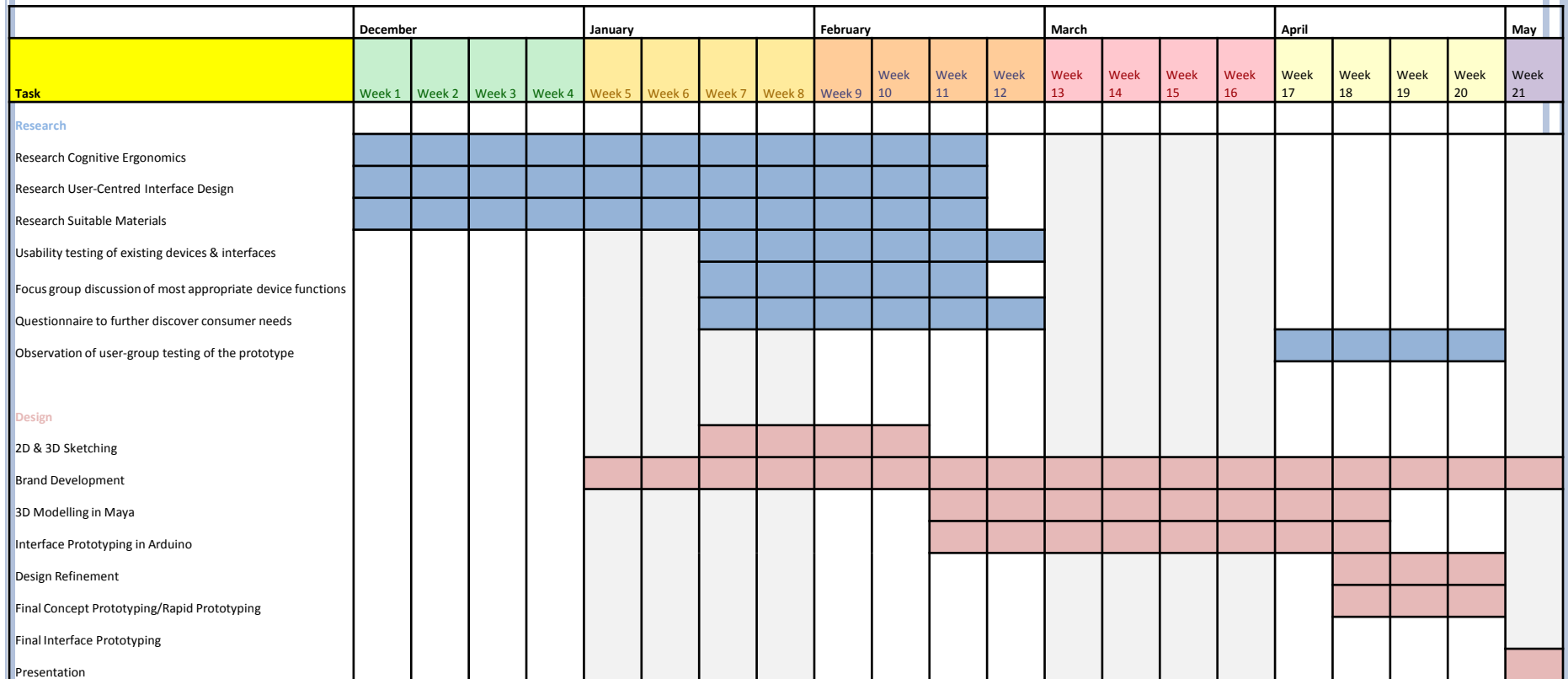
## ○ Secondary Research:

- **Literature review research of:**

- Ergonomic design
- User-centred design of the human-computer interface
- Suitable materials

# Gantt Chart

Joe Shepherd - Negotiated Project  
 Gantt Chart Timeline for Thesis  
 Project  
 MA Design 2009/2010  
 University of Leeds



## Bibliography

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Thank you for your time

Any questions please?