Risk Assessment (high technology) and Proof-of-concept

High Risk Technologies:
- **Computer Components**: Select the right component (small size, low power, within budget)
- **LCD Touch Screen**: Select an LCD Touch Screen that will be compatible with the computer component, the Operating System (drivers available for the selected OS). It should also last a long time and be within a certain budget.
- **Battery**: Select a battery that is able to last long enough to satisfy the customer’s needs (16 hr battery life).
- **Operating System**: Select an Operating System that will provide a platform that is easy to program for. There should also be appropriate drivers for that Operating System, for the various components of the computer.
- **Connection cables**: If we decide to separate the components around the wheelchair, then we will have to use a cable to drive the audio, video, power and USB cables to the LCD screen by using a single cable. This is a risk since compatibility issues might appear along the way.

Risk for cost:
- **Computer Components**: Single board (or small sized) computers are expensive when buying a single unit.
- **LCD Touch Screen**: Finding the right open frame LCD Touch screen that will be compatible with the computer unit and will provide the lifespan we are looking for is expensive.
- **Mechanical arm**: Buying an arm that is pre-fabricated and will provide the functionality we are looking for, is extremely expensive (covers most of our budget).
- **Battery**: Appropriate batteries will cost around $200 each.

Risk for time / schedule:
- **Machining of case**: The lead time for machining is 2-3 weeks so the LCD Touch Screen needs to be selected in order for the case design to be finalized and machined on time.
- **Ordering of computer components**: The current computer that is selected needs to be ordered from abroad so there will be possible delays during the shipping of the components due to customs and the distance.