Meeting Minutes (01/26/2015)

- Reviewed each subsystem and what specifically will be done by first Design Review
  1. Microcontroller (Karina)
     - ★DR1: figure out how to control the mixer, decide the inputs and outputs
  2. Communications: what is the best communication device for our remote? (Justin)
     - TV remotes are easy, so IR might not be a problem
     - Microcontroller may have IR or RF built into the board; check documentation
     - ★DR1: Show sending a signal between two boards
     - Safety: What happens if the mixer loses signal from controller?
       - Should stop and alert user
       - Make an acknowledge timer to indicate status
  3. Control system (Matt)
     - Uses standardizing clock cycles as a safety feature
     - ★DR1: manually control speed of mixer
     - Safety: Controlling both the speed and how quickly it gets to that speed (be aware of the material that are in the bowl so they don't fly everywhere)
  4. Mixer changes (Justin)
     - Check if client can lift new mixer head alone
     - Difficult to accomplish since it's a lot of weight
       - Add some sort of counterweight to make it lighter for the client?
     - ★DR1: Not necessary; too mechanical
     - Safety: Locking the bowl in place on the stand
     - Safety: Preventing the mixer from working when the bowl is not in place
  5. Power: what type of supply? (Arnaud)
     - AA batteries: easy to change, would need a method for determining low battery
     - Rechargeable batteries: can be used as a learning experience in responsibility for client, requires building a charging cradle, need to determine how to make electrical connection in the cradle (induction, etc.)
     - Powering the microcontroller internal to mixer
       - either batteries or tapping into the mixer's power supply
       - can use a transformerless power supply
  6. Auxiliary materials
     - Scale
       - possibly combine the scale and the remote: using the same displays for weighing and control
       - would include an indicator of how close to the target the client was (a series of lights, etc.)
       - use of special cups on the scale is possible
- Additional information:
  - Encouraged to understand the learning objectives of this activity
  - The minimum number of devices is a remote for controlling the speed of the mixer safely