

Meeting Purpose:

To review the progress of P15001 during the third phase and to determine areas for improvement

Materials Reviewed:

Project 15001 Subsystem Design Review Presentation

Attendees:

Adam Podolec:	Electrical Engineer / Project Lead
Megan Ehrhart:	Senior Electrical Engineer
Jared Green:	Senior Mechanical Engineer
Tyler Leichtenberger:	Mechanical Engineer
Noah Schadt:	Mechanical Engineer / Team Facilitator
Geni Giannotti:	Biomedical Engineer / Treasurer
Ed Hanzlik:	MSD Guide
Dr. Beth DeBartolo:	Customer

Recorded by: Noah Schadt: Mechanical Engineer / Team Facilitator

Noah Schadt (signature)

Meeting Date: 10/23/2014

Previous Open Action Items:

A001	Consider Permanent Elastic in front	Noah & Tyler	11/11		By DDR
A002	Refine foot-lift model with angles	Noah	11/11		By DDR
A003	Consider not using a quick connect	Noah & Tyler	-		Gate Review

Discussion (describe any relevant discussions not captured in actions / issues / decisions tables):

- Guide/Customer
 - *Team P15001*
- Have the schematics been reviewed by experts?
 - *Yes*
- What do you mean by specify materials?
 - *Resolved/Clarified*
- Could you make the schematics any smaller ☺
- Are we almost out of pins? What do we have left?
 - *Resolved/Clarified*
- Are there any better Arduinos? Do we need the big development board? (PCB?)
 - *See A005*
- Orifice impedance – might need to throttle the inlet flow
 - *Future consideration*
- Technology behind the sensor?

- *Discussed – good to understand how it works since it may be helpful later on*
- Millisecond not Megasecond (11.6 days)
- Is the level ground associated with 0.5v? Reference state?
 - *Resolved/Clarified*
- We're loving this, you guys have done great work
- When will you make the decision on PBC? Why?
 - *Clarified/Understood*
- Is there enough memory storage? (pretend you're talking to a MechE)
 - *Clarified*
- Could you save a week's worth of gait data? **The gait technology has applications beyond orthotics**
 - *Not feasible*
- Something like fabric or just cotton could be used for lower foot attachment.
- You need a metric for comfort
 - *See A008*
- Some people wear compression sleeves under AFOs
 - *See A009*
- The AFO could slip over compression sleeves or socks?
 - *See I001*
- Standard pain/comfort scales for pressure there's a name for it - google it
 - *See A008*
- Conclusions indicate a change in system concepts, where is the change in drawings?
 - *See A010*
- There is a guy coming from Autodesk tomorrow (10/24) about a new fusion program
- Deflection test, what happens if the moment are is smaller?
 - *Clarified/Resolved*
- Priority and customer need for a tank pressure sensor / developing passive mode?
 - *Customer agreed we could add it in later if necessary see A014*
 - *We may also want to consider a manual holder using string or something*
- MSD II:
 - The first two weeks are regroup
 - After that there are 3 week phases with prototype progress reviews
- Testing with different users
 - *See D001*
- Solid engineering in all other parts, the mushy part is difficult
- When are we going to build this?
- Risks, hopefully the risk list will have reduced likelihood by next phase
- Wash, rinse, repeat engineering in the next phase
- Risks: disagree with the severity of the fishing line risk
 - *See A013*
- We are expected to walk in to the next review with a upper-lower attachment integration prototype
 - *See D002*
 - *Lends itself to bringing it in and demonstrating*
- Customer: You are asking the right questions, and answers seem reasonable
- Guide: submit phase documents, label them properly,

Action Items					
Item #	Description	Responsible	Due Date	Close Date	Comments
A001	Consider Permanent Elastic in front	Noah & Tyler	11/11	IP	By DDR
A002	Refine foot-lift model with angles	Noah	11/11	IP	By DDR
A003	Consider not using a quick connect	Noah & Tyler	-	11/06	Gate Review
A004	BOM: add columns (vendor/shipping)	Geni	11/11	11/06	By DDR (long term)
A005	Look into downsizing electrical side	Megan	11/11	11/10	By DDR (long term)
A006	Add music to videos	Noah	-	11/18	(optional :)
A007	Color correlation on the M-opt plot	Noah	11/11		Make EGDE clearer
A008	Engineering metric for foot attachment	Geni	11/11	IP	Need to quantify comfort
A009	Ask Dr. C about compression sleeves	Geni & Jared	11/11	10/30, 11/11	Nazareth clinic
A010	Tweak/update sketched	Geni	11/11	IP	GAD models
A011	Color code the risk table with changes	Tyler	11/11	11/11	Expect likelihood changes
A012	Test strain of fishing line	Noah	11/11	11/13	Hang weights on the line
A013	Increase severity of fishing line risk	Tyler	11/11	11/04	See other strain risk
A014	Move pressure alert priority down	Megan	11/11	11/06	On prioritized task list

Issues					
Item #	Description	Responsible	Open Date	Close Date	Comments
I001	The AFO could be slippery with socks	Geni	10/23	IP	Relates to A009

Decisions				
Item #	Description	Contributing Individuals	Decision Date	Comments
D001	Testing comfort with different users	Geni - Tyler	10/23	This is an ongoing resolution
D002	Bring Upper-Lower attachment prototype	Geni - Tyler	10/23	Decided as goal for DDR