



ISWP Standards Working Group

August 9, 2017 Standards Working Group (SWG) Meeting Recap

The ISWP Standards Working Group met by conference call on Wednesday, August 9, 2017 from 12:00 p.m. to 1:30 p.m. U.S. Eastern Time. This document provides objectives and a recap.

Objectives

1. Discuss progress updates from the subgroups and related future work.

Discussion

1. Grant Extension
 - a. Funding requested submitted by ISWP to USAID
 - i. Cap of \$250,000 was allotted.
 - ii. If awarded, we will be covered till January.
 - iii. Current grant cycle ends this month.
 - iv. Funding to be used for personnel, equipment and other standards work.
 - v. USAID is in the process of working out their funding mechanism.
 - vi. A stakeholder meeting will be possibly held to drive USAID's work and understand what WC related topics should receive funding.
2. Design Guidelines:
 - a. ISWP Pitt received a contract for publishing the design guidelines.
 - i. Hi-res pictures will be supplied to the publication agency.
3. Caster Testing
 - a. Update slides: <https://drive.google.com/open?id=0B3o-KpFV8x-8NmhINF90WXZJazA>
4. Publications:
 - a. Two papers from the group accepted to the African Journal of Disability
 - i. Standards review paper
 - ii. Caster test development paper
5. Test Equipment Drawings



- a. ISWP Pitt received an approval to disseminate the drawings and assembly instructions for caster test, double drum and curb drop tester.
6. Whole Chair Testing:
- a. The FWM team acknowledged the design and drawings of the test dummy. Joe Ott from ISWP Pitt led the effort.
 - b. The whole chair tester can accommodate 4 wheelchairs for testing at once.
 - c. The test setup includes a crossbar to move the tether up and down.
 - d. Patterns of obstacles on the conveyor belt can be added.
 - e. Strain gages have been put on the push handles to measure strains encountered on the frame.
 - f. To keep the belt flat, there are four 6” rollers and steel plates.
 - g. September is when the equipment will be shipped from South Dakota to California.
 - h. Tether on the rear axle is something that comes close to someone propelling it.
 - i. Matt – Concern with tethering to axle due to wheelie like issues.
 - j. The team is designing a ramp to simulate a curb – 50mm in height. Casters and rear wheels to drop off.
7. Rolling resistance testing:
- a. Senior design project ideas were discussed
 - i. Caster testing on RR test.
 - ii. 300 mile tester.
 - b. Dr Pearlman comments
 - i. Validate RR test based on different surfaces that you see overground.
 - ii. Use smartwheel to measure propulsion force on actual wheelchairs
 1. Provides evidence on which wheel to use
 2. Understand impact of wheel/tire design on possible health implications like carpal tunnel syndrome, shoulder pain, overuse.
 - iii. Design changes to wheel/tire based on findings from the study and testing.



Subgroups (for reference)

- Design Guidelines: Mark Sullivan (lead), Daniel Martin, Jon Pearlman, Norman Reese, Chris Rushman, Eric Wunderlich
- Casters: Anand Mhatre (lead), Matt McCambridge, Jon Pearlman, Norman Reese, Don Schoendorfer, Joseph Ott, Stephanie Lachell
- Corrosion: Matt McCambridge, Don Schoendorfer, Anand Mhatre, Jon Pearlman
- Rolling Resistance: Norman Reese (lead), Matt McCambridge, Jon Pearlman
- Whole Chair Testing: Don Schoendorfer, Matt McCambridge, Josiah Auer, Mark Sullivan, Daniel Martin, Jon Pearlman, Norman Reese, Anand Mhatre, Dave Mahilo, Joseph Ott

Participants

- ✓ Daniel Martin, Shonaquip
- ✓ Matt McCambridge, MIT
- ✓ Norman Reese, LeTourneau University
- ✓ Bonnie, Free Wheelchair Mission
- ✓ Don Schoendorfer, Free Wheelchair Mission
- ✓ Karl-Erik Westman, Handicap International
- ✓ Eric Wunderlich, LDS Church
- ✓ Chris Rushman, Motivation
- ✓ Dave Mahilo, Invacare
- ✓ Dr. Rory Cooper, University of Pittsburgh
- ✓ Anand Mhatre, University of Pittsburgh
- ✓ Dr. Jonathan Pearlman, University of Pittsburgh
- ✓ Nancy Augustine, University of Pittsburgh
- ✓ Ben Gebrosky, University of Pittsburgh
- ✓ Scott Walters, Mobility Worldwide
- ✓ Josiah Auer, Free Wheelchair Mission
- ✓ Joseph Ott, University of Pittsburgh
- ✓ Stephanie Lachell, University of Pittsburgh
- ✓ Krithika Kandavel, ISWP

Prepared by: Anand Mhatre, University of Pittsburgh