Golf Club Grip

Start Date	01 Dec 2017
Initiated Activity	TOM:Melbourne Makeathon 2017
Challenge	Golf Club Grip
Photo	
Stage	PROTOTYPE
Type	ACCELERATOR WORKSHOP EVALUATE

About the project

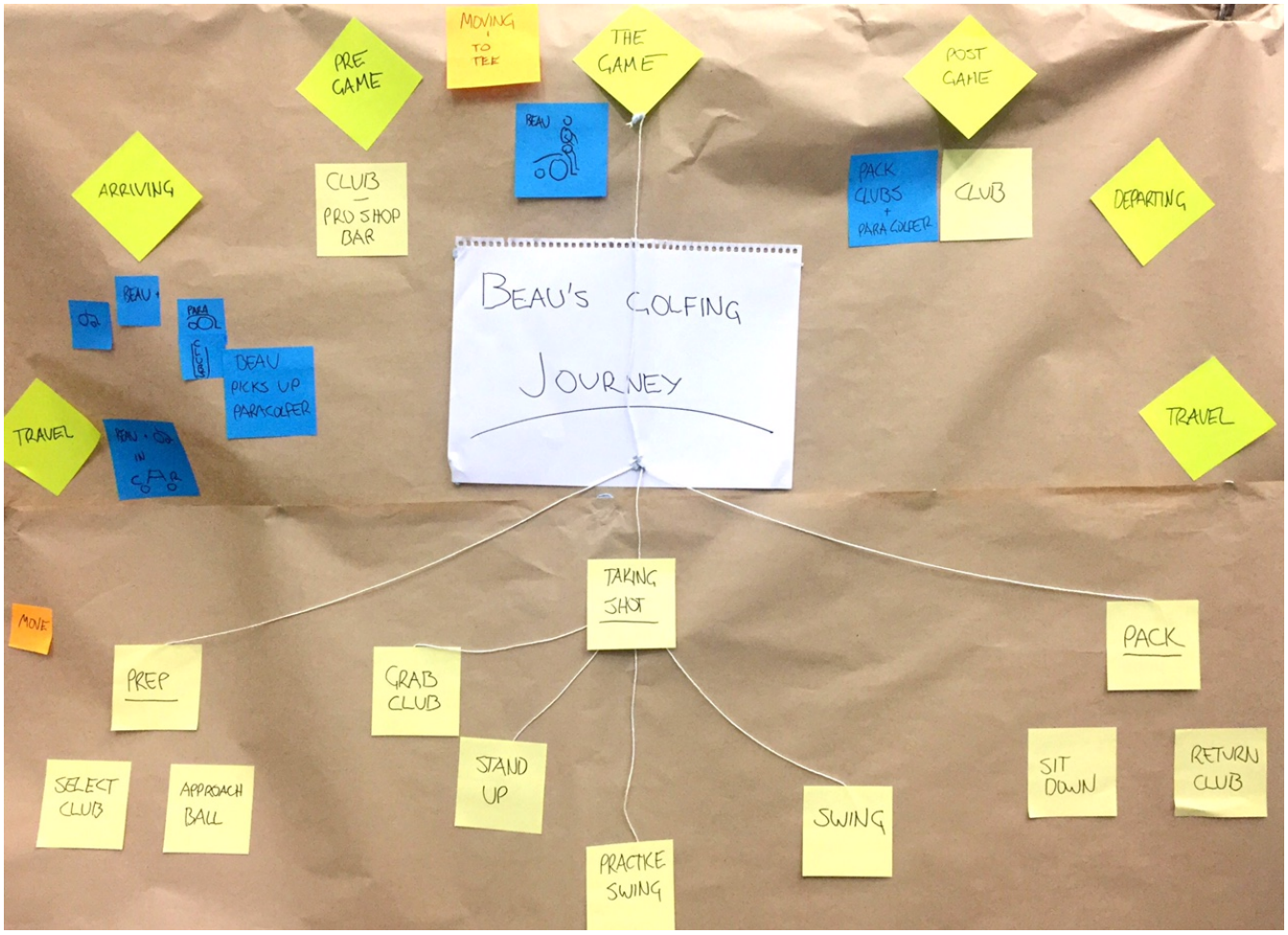
	English Details	Local Language Details
Need Knower Background	As a result of a sporting accident, Beau sustained a spinal cord injury (C6) resulting in quadriplegia. The injury left him with limited movement of his arms and no finger movement at all. Beau is a very active and sporty person and would love to play 9 holes of golf with his mates. Currently, he can only go to the driving range to play where he has to a tape golf club to his hand.	
Challenge	Whilst Beau can hit the ball quite effectively one-handed and with the tape solution he really wants to play 9 holes with his mates. Therefore Beau is looking for a gripping solution so that he can take clubs in and out of the bag and hold them whilst swinging. Also, the taping solution is uncomfortable and causes unwanted strains on his wrist, running the risk of injury. We spent lots of time listening to Beau establishing an understanding of the problem and what he wanted out of a design.	
Solution	The device is a glove which interfaces with a golf club and is made out on physical components. No electronics, no software only parts that are easily sourced.	

Team	Vince Lorefice, Rick Reid, Tim Elliot, Kristina Markovic, Julian Chua, Kin Ly, Nawaal Ovais, Johan du Plessis, Judit Szukacs, Melissa Fuller and Beau Vernon.

Research

A few days before TOM started our team member Tim visited Beau to do some research in his home environment. The aim of which was to build a understanding that could be shared with the team the morning of day one. The benefit of Tim's research was that as a group we could very quickly build an understanding of Beau and his surrounding situation. Here is a link to the videos Tim captured: Beau Research Videos

Beaus Golfing Journey Map



Product Name: BeauGrip

Final Product Solutions: A glove that interfaces with any kind of golf club, which is not too bulky and made from easily sourced materials.

IMG_3498.MOV

IMG_5391 (1).MOV

Approximate Time to Build	Approximate Cost to Build
5 - 8 hours	$100

General Warnings and Cautions

- Read through entire manual before attempting to build this device.
- Do not attempt a step if you are unsure of what you are doing. Certain steps in this manual require experience with fabrication tools. Incorrect implementation can lead to injury of yourself and others. For assistance or clarification of any step, contact team members.
- Before utilising the Golf Grip Glove make sure all sharp edges are softened and padded.

Meet the Team

Makers:

Vince Lorefice	Rick Reid rick@abilitymate.com	Tim Elliot
Kin Ly kin@abilitymate.com	Nawaal Ovais	Johan du Plessis johan@abilitymate.com

Need Knower:

Beau Vernon

Documentation Contributors:
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Icon Glossary

The following icons may be used throughout this manual—each with its own purpose.

The warning icon is used to signify whenever someone who is attempting the procedure may injure themselves or damage the equipment.

The info icon is used to signify useful bits of information that complement the instructions.

The tip icon is used to provide information for after the procedure is completed, such as tips for disassembly.

Device's Timeline

History of Device

Project Start Date: 25/11/2017

Project End Date: 03/12/2017

Origin of Project: Tikkun Olam Makers Melbourne 2017

Potential Improvements

Cycle #	Cycle Start Date	Cycle End Date	Suggested Modifications	Need Knower Feedback
1	Na	Na	Longer glove, with backing strip	
2			Try to reduce bulk	
3			Select less bulking nuts and bolts	

Component

Physical Description

Brief Physical Description

The dvices is a glove which interfaces with a golf club and is made out on physical components. No electronics, no software only parst that are easily sourced.

Components of Device

Component 1: Glove with straps and D rings

Component 2: PVC Shaped to hand

Component 3: Glove to Club Interface Interface

- **Aluminim Flat bar with taped holes**
- **Aluminim Flat bar with clearence holes**
- **Saddle clamps**

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Bill of Materials

Product Name:							
Part ID / Purchasing Link	Supplier	Part Name	Description	Qty	Units	Unit Cost	Cost
Neoprene	Can be found around the house or at a second hand store. Look for wetsuits, beer coolers, laptop sleeves etc.	na	**Neoprene** is a family of synthetic rubbers. Neoprene exhibits good chemical stability and maintains flexibility over a wide temperature range. Neoprene is sold either as solid rubber or in latex form. We've used it to obtains a snug fit and padding.	na	na	We up-cycled other products	Free!
Metal Conduit Mounting Half Saddle	Bunnings	DETA 20mm Metal Conduit Mounting Half Saddle	This product is used for holding conduit.	2	na	$0.37	$0.74

Mushroom Head Nuts & Bolts M5 x 12mm	Bunnings	Zenith M5 x 12mm 316 Stainless Steel Mushroom Head Bolt And Nut - 5 Pack	 These bolts are low profile Stainless Steel offer resistance to corrosion. Nuts included	4	na	$0.80 (5 per packet)	$3.93 (5 per packet)
3mm thick Aluminium Bar	Bunnings	Metal Mate 20 x 3mm x 1m Aluminium Flat Bar				$6.27	
Wrist Guard	Blade Worx	TRIPLE 8 Slide Wrist	 Slide On wrist guards offer great support and protection. stretchable nylon mesh body for a snug fit with high density impact-resistant molded ABS splints on front and back of wrist for support.	1		$26.95 (Come in a pair Left & Right)	$26.95
Contact Adhesive							
Sand paper							
25mm PVC Pipe						$4.00	
3D Printed D Rings		See STL file Below					

						Total:	

Compiled Resources and References

Tools and Machines Required

Tools and Machines Required

Name of Tool/Machine
Heat Gun - For shaping PVC to shape of hand
Hack Saw - For cuttting PVC pipe
Rotary Tool
Files
Sand Paper
Screw Drivers
Multi Grips
Rivet Gun
Drill
Sewing Machine
PPE Glove, Goggles, Ear Muffs
Tap M5

Supplementary Files

Supplementary Files

CAD Files

DRing_42x28mm.stl

Diagrams

Video Demonstrations

Software and Programming Online Resources

Software and Programming Online Resources

- APIs
- Libraries
- Other Reference Material

- Build Instructions
  - Subassembly #

Subassembly :

- Step #

Instructional Step /

Tools and Machines Required for this Step

Name of Tool/Machine

Materials and Parts Required for this Step

Name of Material/Part	Quantity

Supplementary Files Used for Subassembly

Instructions

-

Step #

Instructional Step /

Tools and Machines Required for this Step

Name of Tool/Machine

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