

#### NORTHERN ARIZONA UNIVERSITY

#### THE HOPE DEVICE



#### PRESENTED BY:

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## **Project Description**

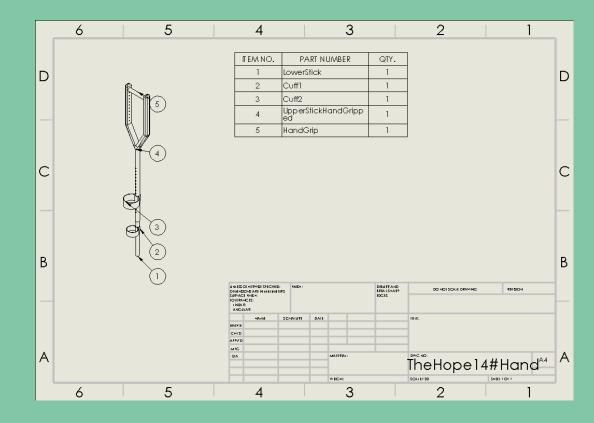
- The hope project is about a device which is designed for specific people who are not able to move their bottom parts (legs) However they still able to use their hands. The device will help them walk with less efforts by using their hands.
- Our stakeholders who also happened to be the primary sponsors are :

• Dr. Sarah Oman.

• The Mechanical Engineering Department.

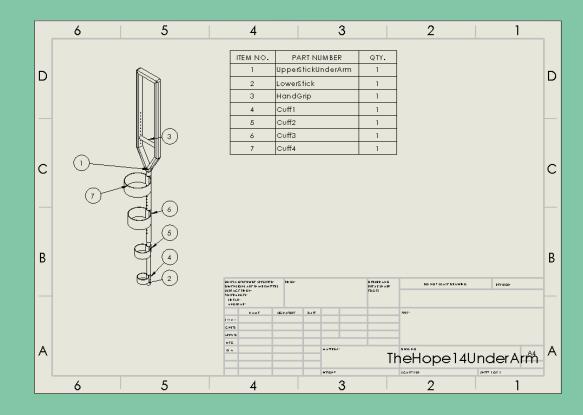
## **Design Description**

#### Hand Gripped Crutch



## **Design Description**

#### **Underarm Crutch**



# **Design Implementation**

- Sticks
- Grips & Holders
- Cuffs
- Legs Bases
- Foams



#### **Meeting Customer Requirements**

• It has light weight which is 4.65kg.

• Contains comfort and convenience for the user by using materials such as Aluminum, Rubber and Foam.

• Affordable.

• Appropriate cost for manufacturing and repair parts.

Mohammad

#### **Gantt Chart**

GANTT Project	4	$\overline{\Box}$	2018																												
			Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18	Week 19	Week 20	Week 21	Week 22	Week 23	Week 24	Week 25	Week 26	Week 27	Week 28	Week 29	Week 30	Week 31	Week 3
Name	Begin date	End date	1/21/19	1/20/10	24/19	3/11/19	2/10/10	325/19	24/19	01919	3/10/10	32519	4/1/10	49/19	4/15/10	422/19	429(1)	59/10	8999	\$20(10	\$22/14	6010	6/10/10	(/17/10	((24/1)	7.1/10	7/9/10	7/19/10	7/22(10	7(29/14	0.010
Team Charter	1/22/18	1/25/18									3	23/18																			
Presentation1	1/29/18	2/6/18		-																											
Website Check1	2/12/18	2/14/18				-																									
TA Meeting	2/6/18	2/27/18	1			_	_																								
Presentation2	2/22/18	2/27/18	1																												
Preliminary Report	2/26/18	3/2/18							1																						
Team memo	3/9/18	3/16/18	1						E	_	1								1										11		
Website Check2	3/26/18	3/28/18										-																			
Final presentation	4/2/18	4/17/18	1										-		-																
· Final CAD & BOM	4/10/18	5/2/18	1											-																	
Website Check3	4/30/18	5/2/18	1										1				-		1				1			1			1		
Final prototype	4/30/18	5/4/18															-														
· FINAL PROPOSAL RE	6/1/18	6/5/18	1																		[	- 2				1			1		
Website Check 1	6/11/18	6/13/18																													
Midpoint Report	6/20/18	7/1/18	1																							1					
Draft of poster and op.	7/10/18	7/18/18	1																												
· Final poster and opera	7/25/18	8/1/18																													
Final Report and CAD		8/7/18																											1		

Abdulrahman

## Budget

- Total budget estimated to be \$200 \$300
- Material used:
- Aluminum with specific thickness and rubber for cuffs (\$200)
- Foam for underarm and grips. (\$50-\$100)

Abdulrahman



• [1]https://www.grainger.com/product/GRAINGER -APPROVED-Aluminum-Sheet-Stock-15V221