

◆ Hozhoni Cleaning Crew 10/26/2016



Concept Generation and Evaluation

➤ Group 34:

- Fahad Alaenezi (Web Designer)
- Amber Juare (Secretary/ Document manager)
- Calvin Schnorbus (Client Contact)
- Hussain Alwateeb (Budget Liaison)
- Hasan Aldhefeery (Project Manager)



Client's Information :

- Hozhoni (ho-sho-nee) Foundation company.
- This Company works to help disabled people.
- Client: Ms. Charlene Turman from the Hozhoni Foundation.



Project Description

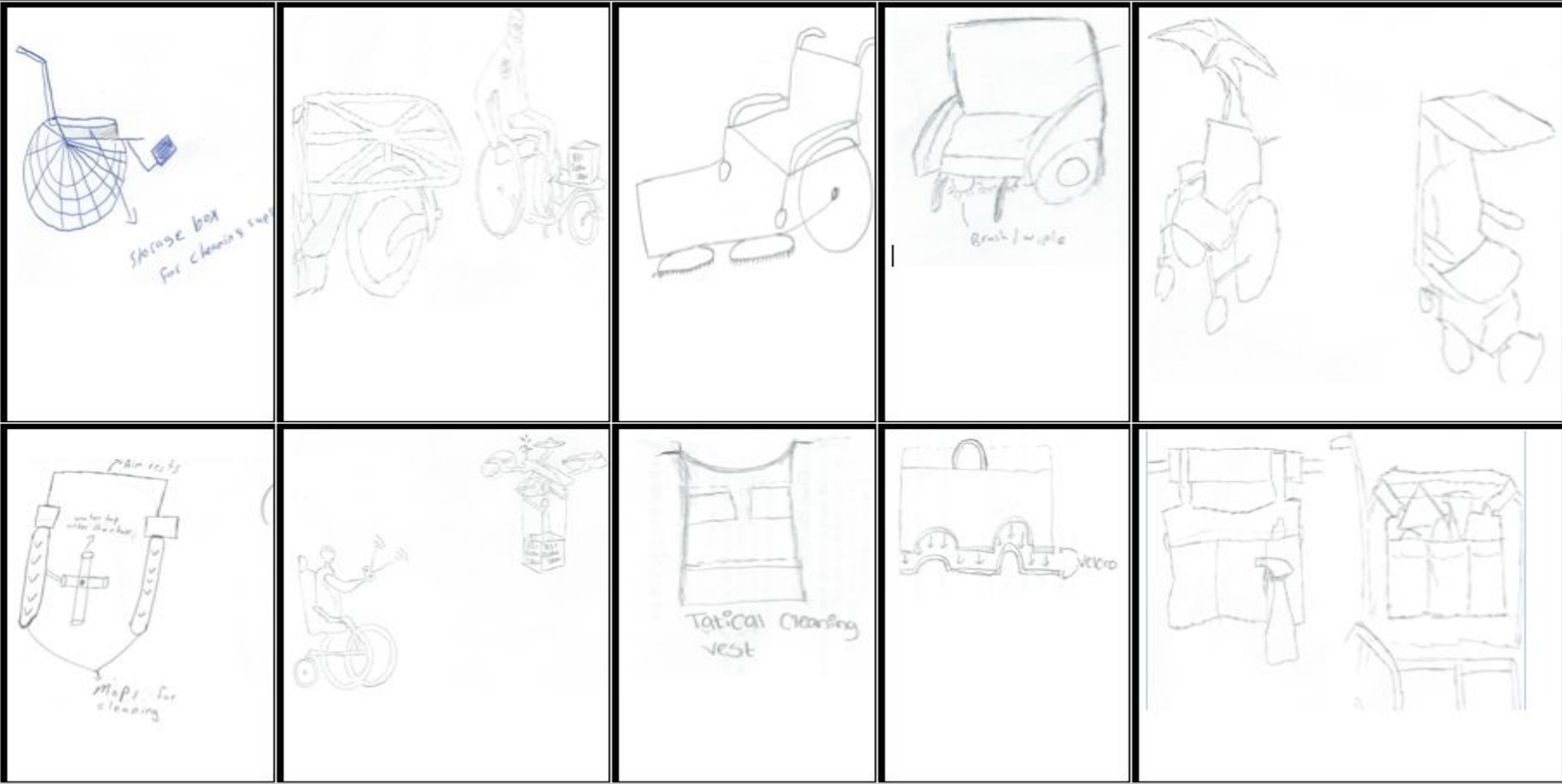
- Create a device that can efficiently carry cleaning supplies for those in wheelchairs.
- Device must be storable and be compatible with different wheelchairs.
- Our goal is to create a system that allows wheelchair users to easily and efficiently carry cleaning supplies.
- The solution must be adaptable for different sizes or types of wheelchairs.



What we have done after the previous presentation:

- Engineering requirements and customer requirements for the (HOQ).
- Each Engineering requirement has a target.
- With HOQ and product research in mind, the team developed viable designs.
- Using Pugh Chart and Decision Matrix for decision selection to choose the best design.

The (10) Considered Designs :

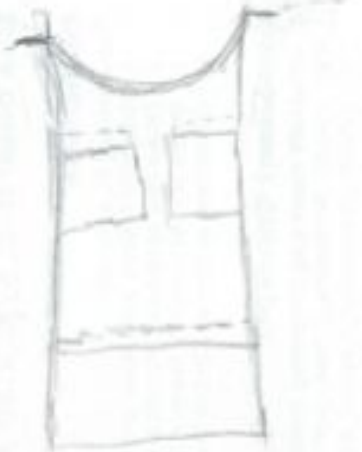


Pugh Chart:

	1	2	3	4	5	6	7	8	9	10
Adaptability	-	-	+	-	+	D	-	-	-	-
Light Weight	-	+	+	-	-	A	-	-	-	-
Portability	-	+	+	-	+	T	-	-	-	-
Ease of Building	+	-	+	-	+	U	-	+	-	-
Modular	+	+	+	+	+	M	-	-	-	-
Attach/ Detach ability	-	-	+	-	+		-	-	-	+
Σ +	2	3	6	1	5		0	1	0	1
Σ -	4	3	0	5	1		6	5	6	5

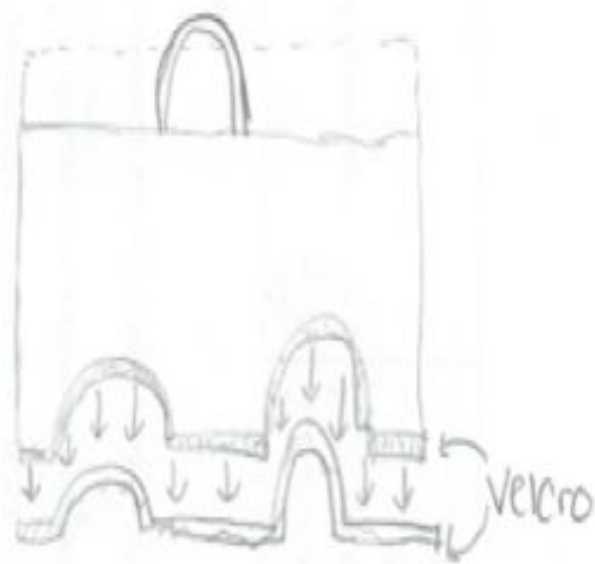
Design(s) Selected:

- First selected design: Side Pouch.
- Second selected design: Lap Table.
- Third selected design: The Vest.
- Customer approval/preference is needed.



Tactical cleaning vest

The Vest



Lap Table



Arm Side Pouch



1- Side Pouch :

- Pros: Frees up users hands, easily attach/detachable, lightweight, easy to build, versatile.
- Cons: not suitable for larger items.



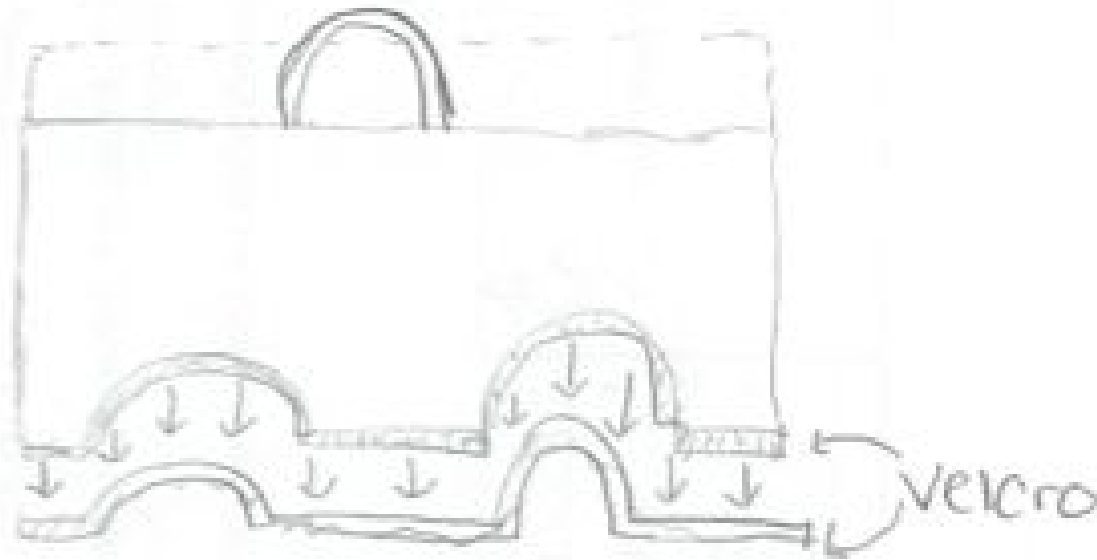
2- Cleaning Vest :

- Pros: Can be used by anyone, easy storage, attaches/detaches easily.
- Cons: strain on shoulders might occur when the vest is fully loaded.



3- Lap Table :

- Pros: Light weight, easily detachable, frees up users hands, supplies can sit securely on user's lap.
- Cons: Can affect the user's ability to reach low areas(i.e. cleaning baseboards).



Decision Matrix:

Criteria	Weight	Design 1 (The vest)	Design 2 (Lap Table)	Design 3 (Wheel Chair Arm Side)
Adaptability	19%	7	5	7
Light Weight	20%	5	5	10
Portability	20%	9	5	6
Modular	10%	4	2	4
Attach/ Detach ability	18%	6	5	7
Cost	13%	3	5	5
Total	100%	34	27	39

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Budget




- Our budget in this project is \$1,500 funded by Hozhoni to create the system(s).

Allocating Costs:

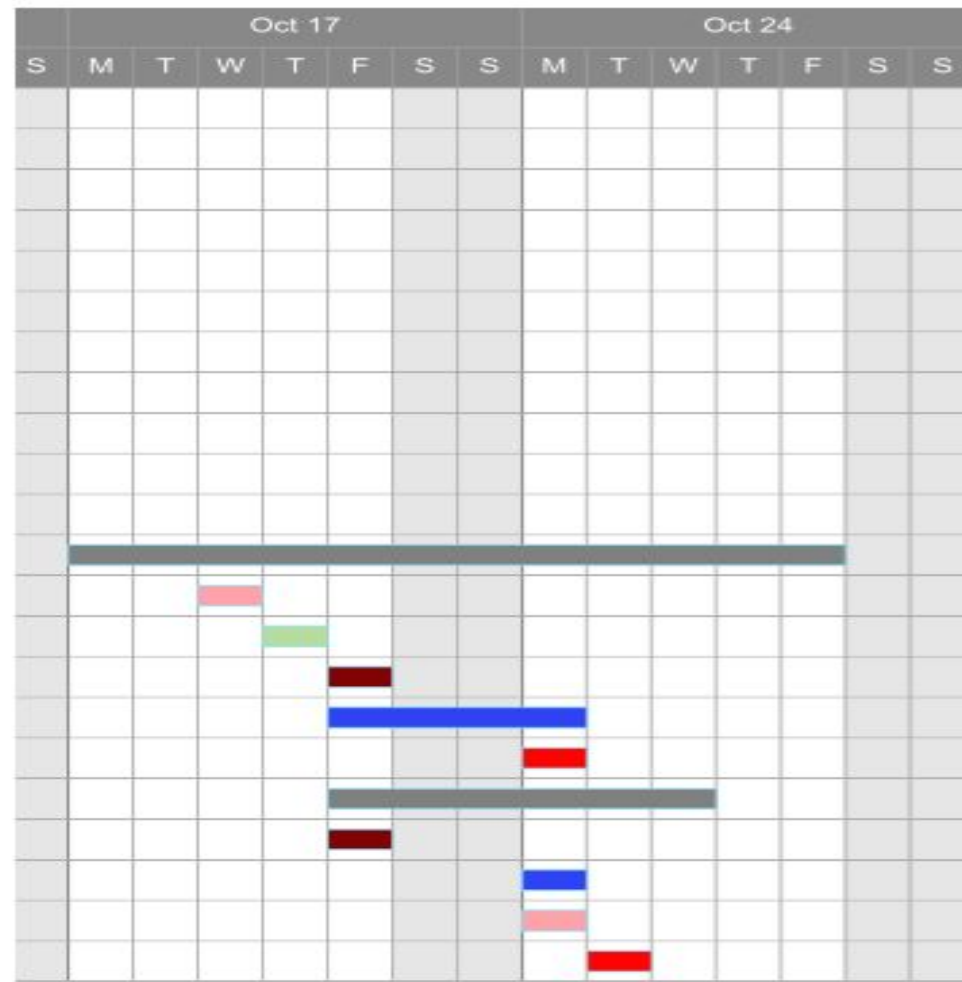
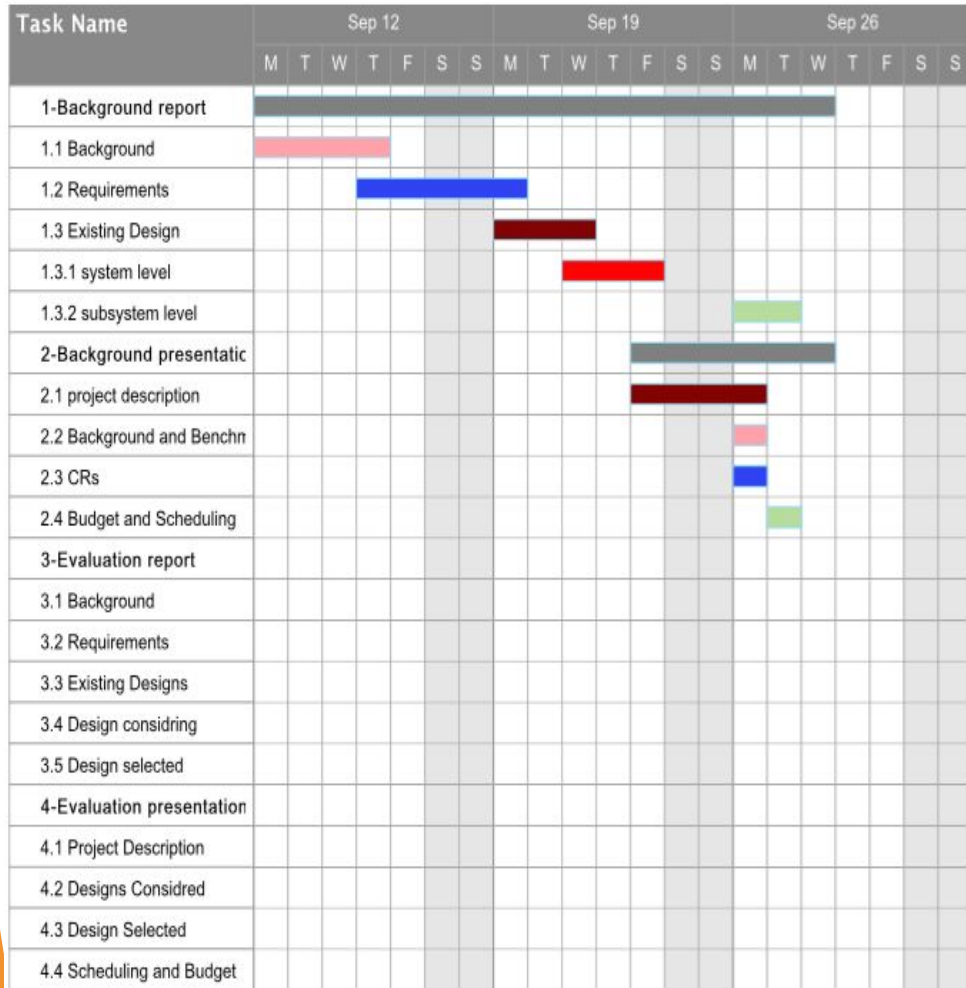
- 1- Materials (850 \$)
- 2- Prototyping (150 \$)
- 3- Advertisement (150 \$)
- 4- Manufacturing (100 \$)
- 5- Remaining (250 \$)



Budget for our selected Designs:

 <p>Tactical Cleaning vest</p> <p>The Vest</p>	 <p>Lap Table</p>	 <p>Arm Side Pouch</p>
<p>Materials: 1- Fabric</p>	<p>Materials: 1-Plastic or Wood</p>	<p>Materials: 1-Fabric 2-Leather</p>
<p>Assumed cost: 1000\$ out of 1500\$</p>	<p>Assumed cost: 1200\$ out of 1500\$</p>	<p>Assumed cost: 1100\$ out of 1500\$</p>

Schedule



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Questions?