Glovers

A6

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Introduction

- Our client has Tourette’s syndrome which causes physical tics that put them at risk
- They currently don't have a viable solution
- Our task is to create a glove that is robust enough to protect their hands, while also being aesthetically appealing, comfortable and convenient for everyday and long-term use

Summary of Work

- Deliverable A: Client meet 1, we learn about our client and their needs
- Deliverable B: Problem statement, benchmarking, target specs
- Deliverable C: We develop our initial concept
- Deliverable D: Prototype 1, physical, comprehensive, low-fidelity
- Deliverable E: Midterm presentation
- Deliverable F: Prototype 2, physical, comprehensive, med-hi fidelity
- Deliverable G: Business model and economic report

Customer Needs

The glove is equipped with thick padding for the first and second knuckles

The glove is heat resistant on the palm surface

The glove allows free use of fingertips

The glove can be worn all throughout the day and can be easily washed

The glove is breathable and light for all day use

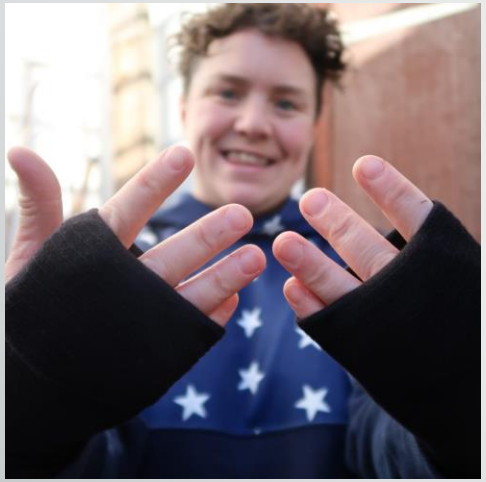
The glove is cut-resistant

The glove fashionable and incorporates earthy/neutral tones

Target Specifications

- Heat resistance: 100-150 C
- Blunt force: 800-1500 N
- Heat dissipation: 40-50 C
- Cut resistance: index 2-4
- Comfortability and aesthetic: up to the client

Solution Options on the Market



Tubi Gloves

BMX Gloves

MMA/ Boxing Gloves

Issues With the Current Solutions

Tubi Gloves

- Insufficient padding
- Not cut-resistant
- Not burn-resistant
- No knuckle padding

BMX Gloves

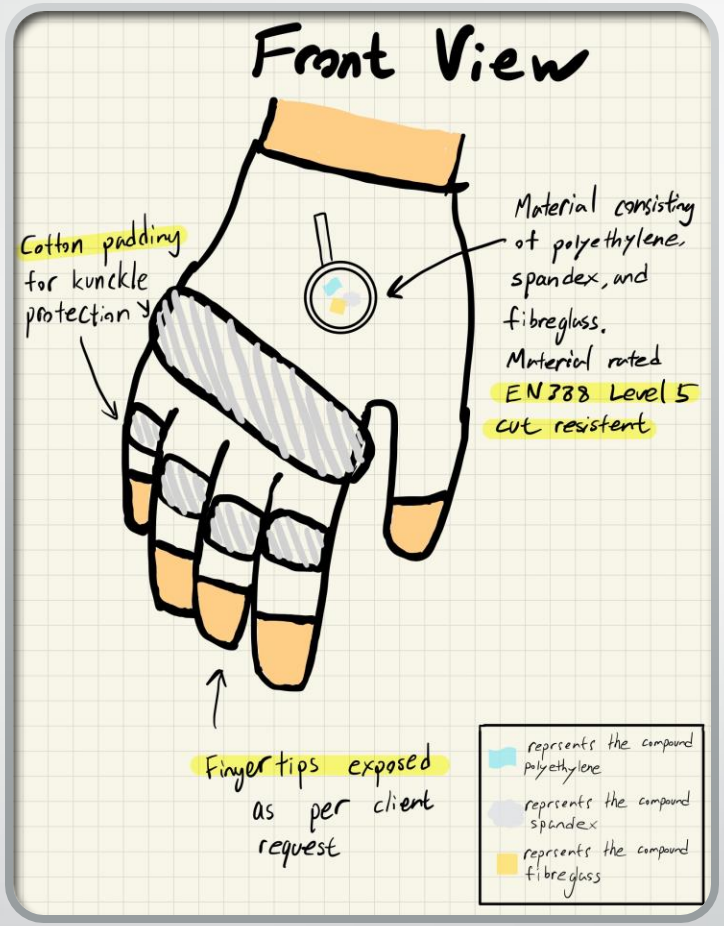
- Not breathable
- Constrained fingertips
- Insufficient padding
- Lack of knuckle padding

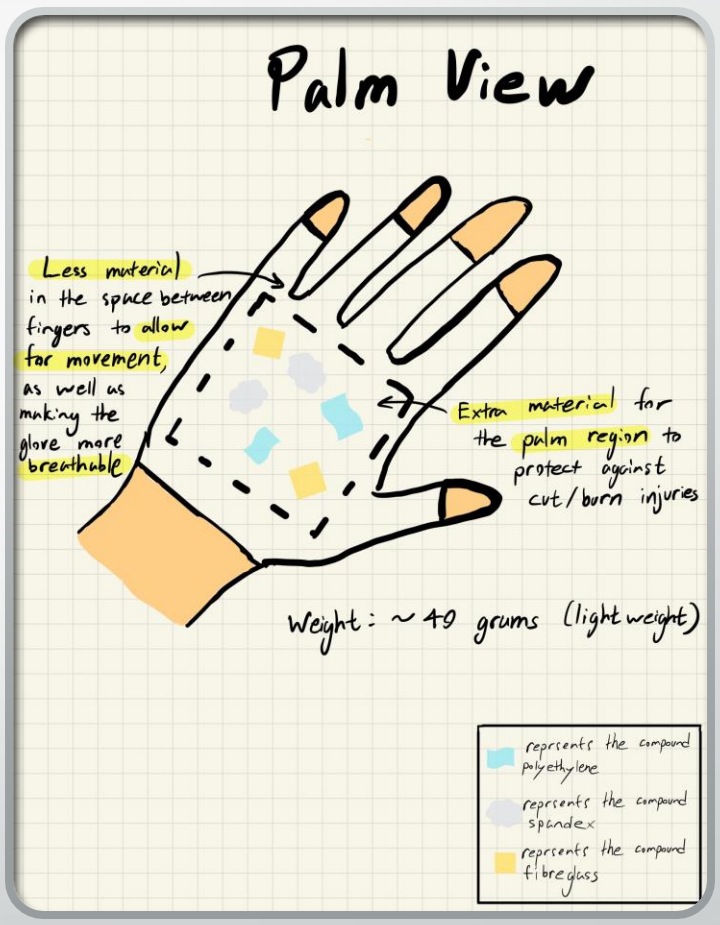
MMA / Boxing Gloves

- Prevents movement of fingertips
- Heavy
- Bulky
- Not fashionable
- Not breathable

Initial Concept

- Cut resistant fabric
- Foam padding for knuckles
- Exposed fingertips for dexterity
- Lightweight and breathable





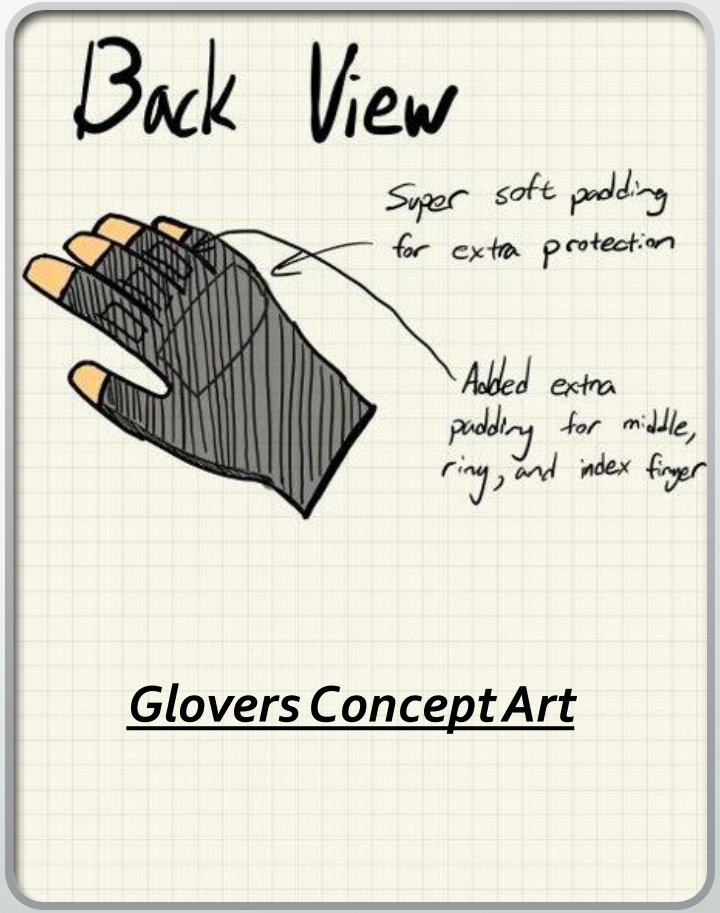
Prototype 1

Test Type	Result
Try on test (comfort + breathability)	
Blunt force test	
Cut resistance test	
Heat resistance test	
Wash test (durability)	

Failed	Not at required level	Passed

Final Concept

- Kevlar material is cut resistant, burn resistant
- Polyurethane padding for every injury prone knuckle (every knuckle is different)
- Fashionable and stylish
- Breathable
- Exposed fingertips to allow for freedom of movement
- Elastic material for perfect fit
- Ultra-lightweight
- Washable



Prototype 2 & Final Prototype

Test Type	Testing Result
Try on test (comfort + breathability)	
Blunt force test	
Cut resistance test	
Heat resistance test	
Wash test (durability)	

- Client approved fitting and glove features
- Only changes from prototype 2 are aesthetic

Business and Economic Model

<table>
<tr>
<td rowspan="2">Key Partners

-Material company (Kevlar)

-Foam/padding company

-Shipping company (Canada Post, UPS.. Etc)

- Tourette Syndrome Foundation of Canada</td>
<td>Key Activities

-Production
-Designing gloves
-Designing customizations
-Sales
-Shipping</td>
<td rowspan="2">Value Propositions

Providing hand protection against physical tics</td>
<td>Customer Relationships

Personal assistance</td>
<td rowspan="2">Customer Segments

Individuals struggling with tic's/Tourette's and need hand protection against injury</td>
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<tr>
<td>Key Resources

-Materials for production
-Efficient employees
-Website to intake orders
-Space for manufacturing and shipping</td>
<td>Channels

Online webstore, allowing customers to interact with us firsthand</td>
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<tr>
<td colspan="2">Cost Structure

Fixed
-Rent of manufacturing space
-product development
Variable
-shipping cost
-materials cost
-marketing</td>
<td colspan="3">Revenue Streams

-Sale Price
-Set pricing off customization and demand (not a huge market)
-Prices are set to make gloves affordable and useful – not trying to make as much money as possible</td>
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Core Assumptions

We expect that around $1000 dollars of marketing cost invested into a marketing team will net us significant increase in sales the second and third year

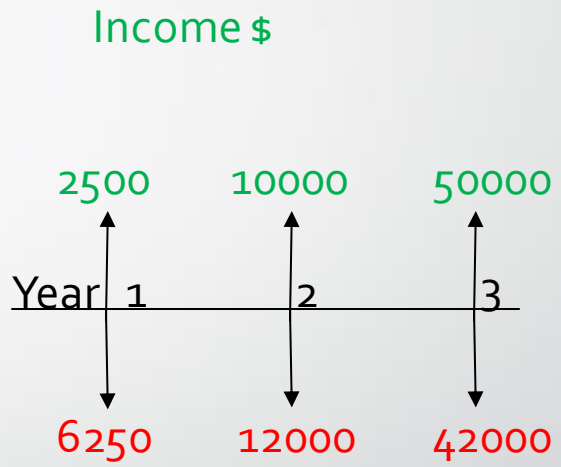
We assume that shipping each product will cost us around $15 dollars

We are assuming rent of manufacturing space and cost of product development will be our fixed cost

We assume that our gross profit will overtake operating profits, this is assuming that our media efforts will net us annual increase in customers

We believe that shipping, materials, marketing, and wages/benefits for employees (variable costs) will all be market standard

NPV Analysis			
	Price in first year ($)	Price in the second year ($)	Price in third year ($)
Sales price per unit	50	50	50
Variable Cost	2750	8000	38000
Variable Cost per unit	55	40	38
Fixed cost	4000	4000	4000
Fixed cost per unit	80	20	4
Break-even point	800	400	333.33



Decisions Made

- Material and construction
- Compromises on time vs quality

Challenges

- Development of prototype
- Finding a professional to construct glove
- Acquiring necessary materials

Lessons Learned

- Clean sewing is difficult
- Testing is the most important step of the process
- Project management

Questions?