

## Senior Design Project Data Sheet

Project #	Project Name	Project Track	Project Family
17702	ABVI: Synthetic Fiber Upcycling		Sustainable Textile Industries
Start Term	Team Guide	Project Sponsor	Doc. Revision
Fall 2016	Sarah Brownell	Goodwill-ABVI, Autodesk	

### Project Description

#### **Project Background:**

Goodwill of the Finger Lakes (GWFL) is seeking a new revenue and job creation opportunity by upcycling textiles that have not sold at retail. Every year, an estimated 400 million tons of fabric products are sold at wholesale by the nationwide network of independent Goodwills. The goal is to develop products that are made from the textiles being sold wholesale in manner that is profitable, creates and sustains jobs in the greater Rochester NY area. The business model needs to be replicable on a regional basis.

#### **Problem Statement:**

The main purpose of this project is to come up with a portfolio of profitable products made from the textiles currently being wholesaled by the Goodwills in the Northeast region.

#### **Objectives/Scope:**

- Gain a greater understanding of the textile recycling industry as it pertains to Goodwill
- Explore all possibilities for a viable profitable products, from soft goods to composites
- Research ways to utilize both cotton and synthetic fibers together in one solution

#### **Deliverables:**

- Primary
  - Prototype of products made from recycled clothing
  - Work optimization production plan
  - Process flow diagram
- Optional
  - Finished factory layout
  - Marketing/business plan

#### **Expected Project Benefits:**

- Less clothing in landfills across the country
- Newfound profit for Goodwill
- Potential to create new jobs for the Rochester community
- Basis for future senior designs

### Core Team Members:

- Pauline Dziama
- Corey King
- Cat McCarthy
- Erin Podhaisky
- Valeria Villa

### Strategy & Approach

#### **Assumptions & Constraints:**

1. The products should ideally include both recycled cotton and synthetic fabric
2. Our base materials will consist of materials being wholesaled.
3. The product should be easily manufacturable
4. Be competitive products in their markets
5. Our budget is \$1500

#### **Issues & Risks:**

- Project Research
  - Narrowing down possibilities
  - Identifying key fabrics and their properties
  - Analyzing the percentages of different materials received by Goodwill
- Prototype Modeling
  - Finding the most efficient program to model product
- Recycling
  - Mixing materials may be problematic for the final result
  - Recycled materials might not produce the level of quality needed
  - Total process might not have a net positive impact on environment or profit
- Available Resources
  - Obtaining clothing for testing
  - Obtaining recycled raw goods from current industry leaders
  - Order Parts/Hardware
  - Lead Time