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KupRite: Get Your Dishes Done Right

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KupRite: Get Your Dishes Done Right

Client: KupRite, Cedar Rapid, Iowa

Problem Statement

- 74% of household dishwashers owners report having small/light weight cups flip, not get clean, and fill with water.

Objectives

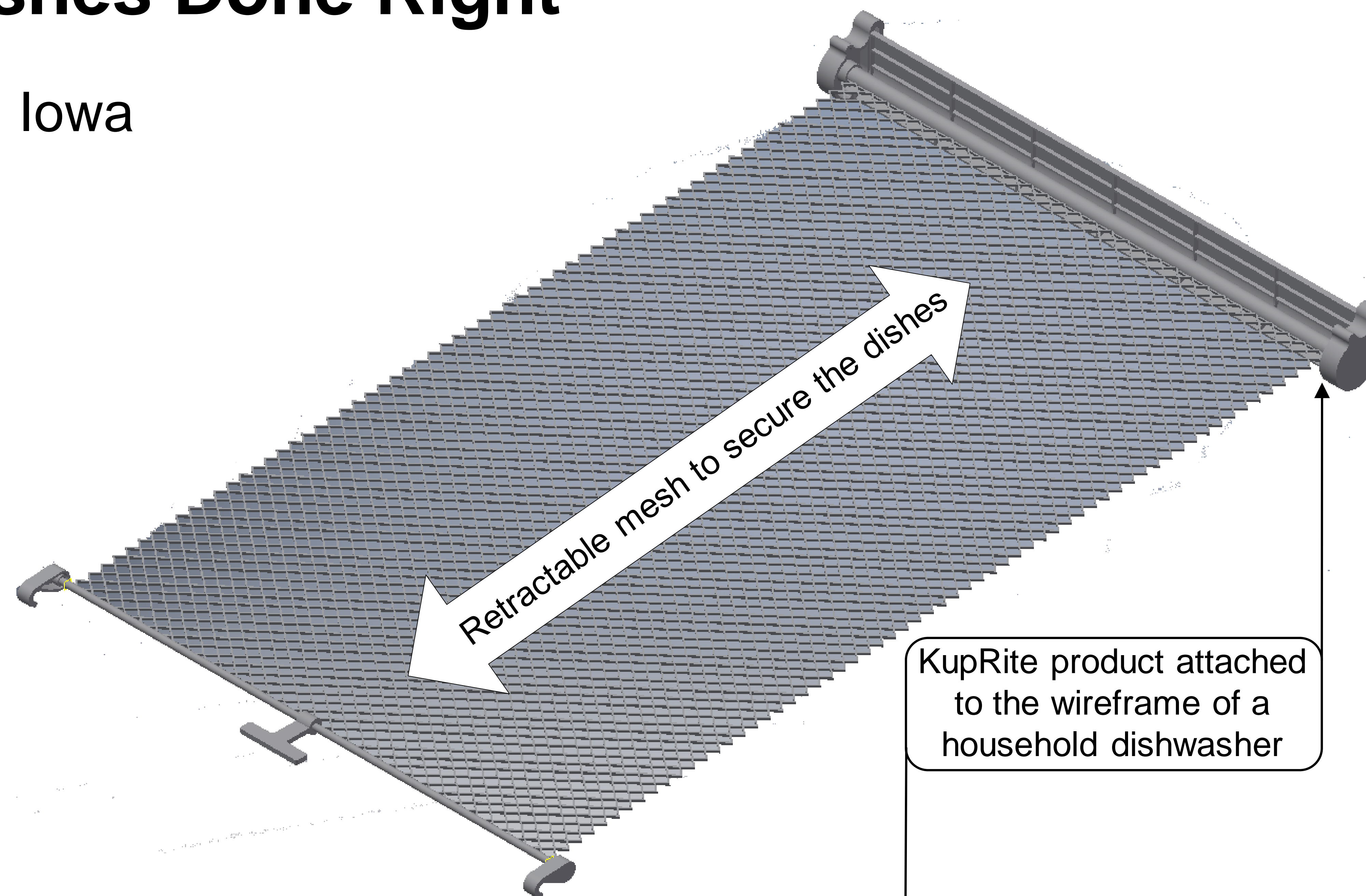
- Improve the overall design of the KupRite product
- Design for manufacturability for small scale production
- Break Even Analysis of 3D printing vs injection molding
- Reduce the manufacturing cost: dollar per unit

Constraints

- Budget: \$10,000
- Deadline for small scale production: May 2018
- Materials: Withstand dishwasher temperatures while being safe and durable

Criteria

- Product looks professionally manufactured
- To be better than the competition
- To be ergonomically friendly



Methods

- Testing
 - Material strength, heat resistance, and safe in conditions over time
- Production Options
 - Injection molding vs 3D printing
- Initial re-engineered Design
 - 3D recreation in Autodesk Inventor
- Future plans for design improvements

Proposed Solutions

- Small scale production:
 - 3D printing parts
 - Current unit cost: \$2.00 - \$2.60 of plastic
- Improve durability and the structural strength of the product for heavy use
- Outsource the spring loaded mechanism and retractable mesh

Major Outcomes

- Build an improved version of the prototype for testing
- Produce an accurate cost analysis and manufacturing method

Benefit to Client

- Save client money
- Provided them with information on the material
- Improved the design of the prototype
- Health benefits to the general public