Disposable Camera Redesign - 7/12/13

Couch Potatoes
- Peter DeMartino
- Joseph Helbling
- Keiran Sloane
- Briley V. Marchetti

For Shareholders of Fujifilm
EDSGN 100 - 201
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Introduction

• Goal
  ○ To increase the profitability of Fujifilm disposable cameras by making them more sustainable, and therefore more appealing to the customer.

How Does it Work?

Subsystems:
- Film spools
- Flash and circuitry (battery)
- Lens and Viewfinder
- Plastic Outer Body
Recognizing the Need

- Increase sustainability of the camera

Camera: http://www.wellpromo.com/upload/upimg84/15-Exposure---Fujifilm-Flash-C-44284.jpg
Define the Problem

- Electronic Waste from the Disposable Camera
  - Alkaline Batteries

Broken Battery Image: http://goran.mobile9.com/download/media/442/iphonesbro_69rqr6e7.jpg
Intended Customers

- Senior Citizens and Children


Children: http://familyroutes.com/wp-content/uploads/2013/03/students.jpg
Customer Data

Features Customers Want

- Zoom: 43%
- Resolution: 29%
- Waterproof: 14%
- Smaller: 7%
- Recyclable: 7%

Cost Analysis

- Average Cost
- Assumed Cost
- Willing to Pay

Did Customers Know the Camera is Recyclable?

- Yes: 22%
- No: 78%
Specifications

- Similar Durability
- Similar Voltage Output from Battery
- Reduction of hazardous material within components
- Zoom Feature
- Cheap
Brainstorming Ideas

● Use More Sustainable Materials

○ Camera Shell
  ■ Cardboard
  ■ Polystyrene
  ■ High-Density Polyethylene
  ■ Recycled Paper

○ Battery
  ■ AAA Alkaline
  ■ AAA Lithium
  ■ AAA Nickel Cadmium
Brainstorming Ideas

- **Flash**
  - Crank to Charge
  - Shake to Charge
  - Total Elimination
  - More Efficient Bulb to Conserve Battery Life

- **Capacity**
  - More Pictures

- **Overall Appeal**
  - Grips
  - Easy Button
  - Color Switch

- **Lens**
  - Upgrade Lens Entirely
  - Zoom
    - Switch that Moves a Second Lens

- **Recycling**
  - Advertise for Awareness
  - Dropbox
  - Mailing Kit
Evaluation of Ideas
Our Design will include...

● Materials
  ○ Lithium Battery
    ■ "Scrap L91 and L92 batteries are not hazardous waste and they are not regulated by DOT as hazardous materials."
  ○ High-Density Polyethylene
    ■ "Recycled HDPE creates no harmful emissions during its production or during its use by the consumer. Also, HDPE leaks no toxic chemicals into the soil or water."

● Zoom Feature
  ○ Arm that holds magnifying lens to rotate over primary lens
    ■ 2x Zoom
Evaluation Of Ideas

- Overall Appeal
  - Textured grips for user comfort

- Recycling
  - Label
    - Advertises Drop-off Boxes for Recycling
    - Awareness of Environmentally-Friendly Materials
Conclusion
Sources

http://epsplasticlumber.com/index.cfm/page/b_hdpe/what-is-hdpe.cfm
Fujifilm is not maximizing the ability to build sustainable disposable cameras. Our team has designed a camera that uses High-density Polyethylene (HDPE) plastic that is more sustainable. Additionally, the new camera design features a zoom option by simply sliding magnifying lens over the existing shutter. The key outcomes of this design will be more appealing to the aspiring photographer (children) as well as the elderly population. On top of the increased appeal, the new design is environmentally-friendly and more profitable for Fujifilm. Our presentation will outline our design process which led us to final co
## Appendix B

### Customer Survey Results

<table>
<thead>
<tr>
<th>Assumed Cost</th>
<th>Willing to pay</th>
<th>Added Feature</th>
<th># of Photos</th>
<th>Disposal</th>
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<td>$5</td>
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<td>Zoom</td>
<td>More</td>
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<td>Zoom, Flash</td>
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<td>$8</td>
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<td>Zoom, Resolution</td>
<td>OK, More</td>
<td>DROP BOX</td>
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**Average:**

- Assumed Cost: $10
- Willing to pay: $15
- Added Feature: Zoom, Resolution
- # of Photos: OK, More
### Appendix C

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<th>Selection Criteria</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
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</tbody>
</table>

**Concept Key:**  
A=Plastic Change (PS to HDPE)  
B=Shake to Charge  
C=Zoom  
D=Color Switch  
E=No Flash  
F=Textured body  
G=Lithium Battery  
H=More Photos