AFM 9000

clover

PRESENTED BY PINK A
The Problem

• Clover wants to automate their falafel frying process
• Currently have a dedicated employee forming and frying falafel during the lunch rush
• Food trucks are a growing, $2.7B market with over 20,000 food trucks in the US
Challenge

- Very tight space requirements
- Necessary to output consistent, well-packed falafel
- Needs to output at least 1 falafel every 2 seconds
- Resilient design that can withstand being above a hot fryer
Concept

- Customer places order, machine begins
- Falafel batter pumped from container into shaper
- Shaper rotates and ejects cylindrical falafel into oil
Sketch Model
Sketch Model
## Benchmarking

<table>
<thead>
<tr>
<th></th>
<th>Falafel Throwing Machine</th>
<th>BM60 Falafel Machine</th>
<th>Tamirson Automatic Falafel Maker</th>
<th>Radwan Falafel Machine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Price</strong></td>
<td>$3250</td>
<td>$2995</td>
<td>$2550</td>
<td>$1800</td>
</tr>
<tr>
<td><strong>Production Rate</strong></td>
<td>1 ball per second</td>
<td>1 ball per second</td>
<td>1.3 balls per second</td>
<td>1 ball per second</td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td>36in x 18in x 24in</td>
<td>18in x 14 in x 21 in</td>
<td>18in x 12in x 20in</td>
<td>28in x 14in x 24in</td>
</tr>
</tbody>
</table>
Next Steps

• We have a working model on which to base our design
• Need to work at speeding up the shaping process
• Design the pumping mechanism that will get the falafel into the shaper