BarMate

Blue B Sketch Model Review
Introduction

Problem

• Bartenders can’t keep up with the number of customers on busy nights
• Bartenders in a rush are prone to over pouring and spilling, increasing liquor costs

Those Affected

• Primary: Nightclubs – 5000 establishments
• Secondary: Bars near college campuses, banquet halls. “Drinking establishments” total more than 57,000 in US.
Effects of Overpouring

- Alcohol provides 50-75% of revenue
- An average nightclub serves $2000 of drinks per night, or 400 drinks; around 200 are drinks like rum and coke, gin and tonic, or vodka sprite
- If overpours average 0.25oz per drink, that’s 50 oz per night, or 540 liters of liquor per year.
- At $15/liter, that’s more than $8000/year due to overpours!
Our Solution: The BarMate
Benefits

• Makes a mixed drink at the touch of a button
• Precise liquor dispensing, ensuring no overpours
Arduino

- Programmed to concurrently activate pumps and open solenoid valves

Pump System

- Requires 12 volt supply
The Aims of our Testing

- Can we make it consistent and reliable?
  - We could easily control the volume of liquid dispensed.
  - The water level in jug did not affect consistency
  - We could constantly get the correct ratio each time

- Does this improve bartenders’ efficiency?
  - Makes a cocktail in 5 seconds!
Benchmarks

<table>
<thead>
<tr>
<th>Features</th>
<th>Smart Bar</th>
<th>LazyDrinker</th>
<th>The Qube</th>
<th>BarMate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottle Capacity</td>
<td>16</td>
<td>12</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td># of Drinks</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Mechanism</td>
<td>Pumps</td>
<td>CO2 pressure</td>
<td>Gravity</td>
<td>Pumps</td>
</tr>
<tr>
<td>Target Market</td>
<td>Banquet Halls/Bars</td>
<td>Home Use</td>
<td>Bars/Hotels</td>
<td>Clubs</td>
</tr>
<tr>
<td>Interface</td>
<td>Touch Screen</td>
<td>Computer</td>
<td>Computer</td>
<td>Computer</td>
</tr>
<tr>
<td>Size</td>
<td>Large/Bulky</td>
<td>Small</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Market Niche</td>
<td>All-in-one Bar</td>
<td>Ease of Use</td>
<td>Self Service</td>
<td>Extra &quot;Bartender&quot;</td>
</tr>
<tr>
<td>Retail Cost</td>
<td>$15,000</td>
<td>$550</td>
<td>$3,000</td>
<td>~$1000 (goal)</td>
</tr>
</tbody>
</table>
Conclusion

- **Issues to consider:**
  - Does carbonation of liquid affect consistency/time?
  - Will carbonated drinks be de-carbonated when fed through pumps?
  - Is it easy to clean and maintain the Barmate?
  - Will the Barmate take too much physical space?
  - Is it easy to refill?
  - Can we make customizing the drinks easy enough?