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## **Decision Table - Moody Loody**

### **Proposed Designs:**

- Fully automated (single nozzle) - this is a fully self contained unit that cools a keg and serves a person, while verifying age and accepting payment.
- Fully automated (multi nozzle) - same as above but with several kegs and taps, while serving multiple people simultaneously.
- Beer vending machine - same as normal coke machine but with beer instead and age verification system.
- "Drive through" - vendor accepts payment and verifies age while machine handles pouring and serving of the beer.
- One touch fill - vendor accepts payment, verifies age and places cup under device. The device then fills the cup to the appropriate level.

### **Design Goals:**

- Serving accuracy - pour beer within 1% of desired volume
- Speed - deliver beer at least as fast as a human
- Politics and law - operate within the legal limits. Includes age verification and consumption control.
- Cost - should not exceed \$1200.

- Health and safety – No containments. The beer is healthy to consume. No danger to operator.
- Size – should fit within the booth size.
- Durability – should be able to withstand the elements present at the festival (liquid, high temperatures and etc.).
- Mobility – easy to move and assemble to the festival booth.
- Convenient to use – interface is ergonomic and keg rotation does not hinder service.
- Easy to maintain – interchangeable parts, easy to clean.

### **Weighting Factor (1-10):**

- Serving accuracy – needs to be consistent to keep customers happy as well as vendors. Also to keep track of inventory.
- Speed – the main goal of the project is to increase the serving speed, thus it is an important factor for the design.
- Politics and Laws – the device has to conform to all rules and regulations regarding alcohol in the state of Texas so it can be used at festivals and events.
- Cost – the project can have some extra funding such as private investors.
- Health and safety – it is important to maintain customers' health.
- Size – there is a designated size but there is also extra available space around the tent.

- Durability – since vendors will depend on this design to sell all of their beer, it is important for the design not to fail in the middle of service.
- Mobility – since the festival gets set up in advance, it is not too important for the design to be easily and quickly moved.
- Convenient to use – the easier it is to use, more beer it can be sold and that is the main goal of the project.
- Easy to maintain – maintenance will be done before or after event so maintenance time is not a big factor.

<b>Design Goals</b>	<b>Weighting Factor</b>	<b>Fully automated - single nozzle</b>	<b>Fully automated - multi nozzle</b>	<b>Beer vending machine</b>	<b>“Drive through”</b>	<b>One touch fill</b>
Serving Accuracy	9	9	8	10	9	9
Speed	10	4	6	5	10	6
Politics and Laws	10	4	4	4	10	10
Cost	7	4	4	7	8	9
Health and Safety	8	5	5	10	7	7
Size	5	5	4	4	9	10
Durability	9	10	10	7	10	10
Mobility	5	6	4	4	9	10
Convenient to Use	7	7	7	8	10	9
Easy to Maintain	5	6	5	6	9	10
<b>Total:</b>	<b>75</b>	<b>453</b>	<b>444</b>	<b>498</b>	<b>688</b>	<b>663</b>

**Table : Decision Table**

**Conclusions and Recommendations:**

As seen in the decision table above, the only viable solutions are the “Drive through” design and the One Touch design. “Drive through” outperforms the one touch in the heavier weighted design goals. Since speed is the most important design constraint of our project, the design that best fits this constraint should be the main deciding factor. Drive Through surpasses all of the minimum design goals, leaving no objective reason for rejecting this design. From the decision table, it was decided we should choose the Drive Through as our design for this project.

Where the Drive Through design did not perform well, we should work to make improvements to the design. The design can meet the standards for health and safety better by building in preventative maintenance and ensuring adequate seals around fluid lines. Cost will be high because we are expecting to use high quality hardware for durability. If this design were to be mass produced, the cost would be much lower than the price for a single unit.