**GNG 1103 Deliverable 2**

**Speaker Statements:**

- Specific gravity is needed to understand alcohol content.

- Wants to glance down and see the gravity and be able to understand what’s going on.

- Critically important to be accurate and constantly read.

- Only can measure once to twice a day

- Takes 10 minutes to do gravity check, must do ten checks a day.

- Wants ability to see graphs and curves of the gravity.

- Fermentation graph important for taste.

- Needs to monitor it in real time.

- Problem is inefficient in time and inefficient for money.

- Ability to monitor without losing liquid and wasting workers time would be a massive plus.

- Can’t use free floating devices.

- Other home models aren’t efficient enough, bigger models become too expensive.

- Previous devices have yeast build up which must be prevented by some means.

- Needs to monitor in tank (hard install) to monitor fermentation and curve (3-4 week period).

- Don’t have budget for big tech.

- Unit to connect that allows sample of beer to flow into reader that would send data to computer.

- Sample would be an equal to the rest of the batch as beer is constantly moving.

- After beer is boiled, beer enters closed system, once beer leaves, its done.

- Anything to be installed needs to be mounted onto port.

- Most value would be logging fermentation value, allows much more control.

- Bluetooth vs wi-fi, Bluetooth may be more preferred, but no big concern.

- Device needs to be food grade but that is it.

- Currently company is in expansion mode for estimate of 2 years.

- Main software doesn’t matter, simple basic system. Data is logged by hand.

- Ideal world would be a unit that can be removed and cleaned.

- Wants unit for just fermenting tanks, 16 fermenting tanks.

- Wants single unit per tank that are connected to one main computer.

- Stainless steel wall then jacket then insulator then jacket, is about 3 inches, depth of reader needs to be past 3 inches.

- Ports sit from 7 ft to 5 ft; beer level is about 80% – 90% of the tank.

- Battery back up for any power outage would be “amazing”

- Trying to avoid subscription-based software.

- Wants to store data forever.

- About every 3 weeks fermentation tank gets cleaned fully.

- 25’000 dollars for 16 tanks is the range.

- Device needs to withstand pressure of about 2 PSI and needs to be able to withstand mild alkaline chemical.

- Unit is ideal to remove for cleaning process.

- Additional measurements, specific gravity, time, temperature.

- Love to visualize data in a graph, but also wants to see raw data.

- Peak is 26 plato, legally cannot go higher.

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**Needs:**

1. Needs to monitor in the tank to monitor fermentation and curve.
2. Needs to spit out a reading every 10 seconds.
3. Needs to be removable in order to carefully be cleaned.
4. Needs to be food safe.
5. Needs to be kept under $25,000 dollars for 16 units.

**Problem Statement:**

There is a need for a component that can accurately monitor the fermentation stage with constant readings, must be simple and easy to clean, and reasonably priced within our budget.