## **Plan Overview**

## **Mission**

ALLDET’s mission is to provide an affordable, accurate, easy-to-use solution for liquid level tracking in a metal container. The solution is intended to be affordable, quickly set up, and easily detached and moved to a different keg. Inventory tracking is a tedious component of the restaurant industry and ALLDET’s focus is to eliminate as many man-hours put into inventory tracking as possible. Through an easy-to-use application, users can have a hands-off approach to monitoring their beer keg inventory and have an automated re-ordering process.

## **Objectives**

* Advance the ALLDET name locally and nationally
* Develop a trademark
* Determine the liquid level accurately and consistently
* Produce a website to advertise our product to potential customers
* Design compact case for solenoid and circuit board
* Create an easy-to-use platform in which customers can monitor their inventory and re-ordering processes.

Before the device can be sold to the leading market, the product must read the liquid level consistently and accurately. In addition to having accuracy and consistency, the device must also be compact enough to fit on the containers without affecting the storage capacity.

Creating an excellent user experience on our customer interfaces is essential to the success of the product. It is for this reason that the website and inventory tracking platform must be intuitive and elegant. The usability of the customer interfaces will also aid in spreading the brand locally through word-of-mouth.

## **Keys to Success**

* User-friendly mobile application for inventory tracking
* Positive reputation in the food industry
* Low cost compared to alternative liquid level measuring systems on the market

The main benefit of the product by making the user’s life easier. Therefore, it is paramount that the user interfaces be helpful and easy-to-use. Having a strong emphasis on excellent user experience will increase the positive reputation of the company.

To further spread the customer-centric brand of ALLDET, a partnership with local beverage vendors is made to allow for distribution of the product for free for a limited time to prove its effectiveness. Once a positive presence has been established locally, the company can focus on spreading its brand to a national audience.

In addition to having a well-established brand with user-friendly interfaces, low cost is essential to providing more value to customers than the primary competitors in the industry. To maintain low pricing, the device must cost less than $200. This will make it the most economical option in the industry.

## **Competitive Advantage**

* Easily attached and used
* Low cost
* Automated usage history tracking

Numerous companies provide beer inventory tracking and monitoring. Their solutions, however, require physical reconstruction of tap walls as they use proprietary beer taps to monitor flow control. In addition to the cost of downtime during reconstruction, these are large initial costs. One popular method currently available for determining the liquid level in a container uses scales to determine the weight of the keg and its contents. This method is not ideal because it requires the customers to lift their containers from their serving station or take them off of the storage rack to place on the scale and manually calculate the amount of liquid remaining. Attaching the device to the side of the containers prevents heavy lifting, making our product more accessible than other options currently on the market. Manual entry of data increases the likelihood of incorrectly recording the liquid level as well as causes employees to spend more time on tedious inventory tracking. Our product automates the entry and analysis of data, allowing employees to spend their time on more important issues. Another method available involves tap lines that have flow meters and sensors. This requires new construction of displaying taps to put the new product in place [6]. Our product differentiates itself in that it can be easily attached and removed from the container rather than modifying the keg or line.

## **Target Market**

ALLDET could be sold to breweries, homebrewers, distributors, and even oil and chemical companies. Initially, ALLDET plans to partner with distributors in an attempt to get the device in as many restaurants and/or bars as quickly as possible to establish a consistent customer base.

## **Basic Strategies**

ALLDET’s strategy for start-up funding will be to initially secure funding from the Mississippi State e-center through the Venture Catalyst program. This will allow ALLDET to operate for an extended amount of time until additional funding can be obtained. In order to market the product, focus groups will be conducted among our customers in order to determine what features of our product we want to highlight when advertising. For product manufacturing and distribution, ALLDET will rely on outsourced manufacturing and will handle distribution ourselves. At first, ALLDET will mainly market to the bar and restaurant industry; however, once there is a strong customer base in that market, the technology could be expanded to other industries, such as the oil and chemical industries.

# **2. Company Summary**

## **2.1 Company Description**

ALLDET will be a Limited Liability Corporation (LLC) with the founders being the five team members: JR Ladd, Andrew Bullington, Jesse Tutor, Khara Robinson, Zach Fauver.

## **2.2 Company Location and Facilities**

ALLDET is based out of Starkville, MS housed in a building owned by one of the founders. This building will have sufficient space for inventory storage and any necessary testing stations.

## **2.3 Company Strategy**

To begin selling the product, ALLDET plans to partner with a beverage distributor to include the device with their orders. This will allow for a significant increase in company visibility, which is paramount to the success of the company. Due to the low manufacturing cost of the product, the early distribution of the product for a low cost will not greatly impact profitability. Low manufacturing costs also give a significant advantage over competitors in the market. Most other devices for this application cost more than $200. This price is considerably higher than manufacturing costs for the product, which allows for ALLDET to be sold at a lower cost without sacrificing profits. Hiring a professional engineer will be necessary to comply with the state of Mississippi LLC requirements.

## **2.4 Startup Costs**

|  |  |  |  |
| --- | --- | --- | --- |
| No Borrowing |  |  |  |
|  |  |  |  |
| **Startup Expenses** |  |  |  |
| Legal |  | 100.00 | LLC startup fee & PE fee |
| Prototype Dev |  | 750.00 | Large portion of prototyping already finished |
| Initial Advertising |  | 300.00 | Social media/YouTube/etc. |
| Insurance |  | 0.00 |  |
| Rent |  | 0.00 |  |
| Expensed Equipment |  | 0.00 | Simrall Lab |
| Other |  | 0.00 |  |
| **Total Startup Expenses** |  | 1,150.00 |  |
|  |  |  |  |
| **Startup Assets needed** |  |  |  |
| Cash Balance on Starting date |  | 2,500.00 |  |
| Startup Inventory |  | 1,000.00 | Parts for initial inventory (~50 devices) |
| Other Current Assets |  | 200.00 | Soldering irons, instrumentation, etc. |
| Total Current Assets |  | 3,700.00 | Total Capital |
|  |  |  |  |
| **Total Startup Requirements** |  | 4,850.00 |  |
|  |  |  |  |
| **Funding** |  |  |  |
|  |  |  |  |
| **Investment** |  |  |  |
| Investor1 |  | 3,500.00 |  |
| Investor2 |  | 3,500.00 |  |
| Other |  | 0.00 |  |
| **Total Investment** |  | 7,000.00 | Investors have covered total costs |
|  |  |  |  |
| **Current Liabilities** |  |  |  |
| Accounts Payable |  | 0.00 |  |
| Current Borrowing |  | 0.00 | No liabilities to start |
| Other Current Liabilities |  | 0.00 |  |
| **Total Current Liabilities** |  | 0.00 |  |
|  |  |  |  |
|  |  |  |  |
| Long-term Liabilities |  | 0.00 |  |
| **Total Liabilities** |  | 0.00 |  |
|  |  |  |  |
| **Left To Finance** |  | -2,150.00 |  |
|  |  |  |  |
| Loss at Start-up |  | 3,300.00 | Total Investment-Total Capital = Startup Expense |
| Total Capital |  | 3,700.00 | Total Assets - Total Liabilities |
| Total Capital and Liabilities |  | 3,700.00 |  |
| Checkline |  | 0.00 | Should always be zero |

Initial investments will be sought through the Entrepreneurship Center at Mississippi State University. Additional financial support will be sought through a partnership with a beverage distributor, which will allow access to numerous customers that would otherwise be difficult to reach.

# **3.** **Product Summary**

## **3.1** **Product Description**

ALLDET enables customers to detect the liquid level in their kegs and manage their inventory in a timely manner. It is an easily attachable, battery-powered device that vibrates a metal container by striking it with a solenoid. The piezoelectric sensor captures the vibration and communicates with the Raspberry Pi Zero W through an analog-to-digital converter. The Pi converts the vibration into frequencies for different liquid levels and uses an algorithm to determine the liquid level accurately in percentages of fullness. The device’s accuracy is within 5 percent of the actual amount of liquid inside the keg. With this information, the Raspberry Pi transmits the detected liquid level to the server and then transmits the data to the application, where it is displayed and stored for the customer.

## **3.2** **Customer Needs and Benefits**

Customer Needs:

* Inventory tracking
* Accurate liquid level monitoring
* Simple, easy-to-use device

## Customer Benefits:

* Save time on inventory tracking
* No heavy lifting of kegs
* Automated reordering process

## The needs addressed by ALLDET relate to tracking the current amount of liquid in a restaurant or bar’s kegs. ALLDET’s customers not only need to know the number of drinks they have available to sell on hand, but they also need to know usage estimates to be prepared for the busiest hours of the day. Having a time consuming or an inaccurate method of liquid level tracking can cost a company by making them run out of drinks or be unable to serve customers quickly because of the time spent checking their resources or replacing a keg after it has completely run out.

## **3.3** **Future Products**

Initially, the ALLDET product is designed to operate for one-sixth barrel kegs. This concept will be expanded to kegs of all sizes, as well as other industries. Other applications for this concept include oil level tracking in transforms and oil drums, paints for automobile manufacturing plants, and chemicals stored in metal containers.

## **3.4** **Competitive Comparison**

The primary method for liquid level detection on the market is a keg scale. This method requires the users to manually lift their kegs onto the scale and enter the results into a spreadsheet to track usage history. Another method for monitoring liquid levels is to have a specialized tap that measures the amount of liquid that has left the keg and subtract that amount from the total. This method often requires modification to the racks that the kegs are stored in and requires cleaning of the extra equipment. ALLDET simplifies the user’s life by making an attachable device that continuously monitors the liquid level in the container and updates the user through the mobile application. This prevents the user from performing manual labor and spending time on tedious tasks such as entering the results into a spreadsheet, cleaning extra equipment, or invasive attachment procedures.

## **4. Market Summary**

## **4.1 Market Analysis**

The main customer base initially for the product will be restaurants and bars. While the product could be utilized in many industries, the lack of a product combining accurate liquid level measurement with automated inventory analysis makes this market the optimal area for ALLDET. Multiple local companies have already expressed interest in the product in the initial market testing. Once ALLDET has established itself in this market, other industries will be targeted including the manufacturing industry for transformers and automobiles, as well as other industries that require the measuring of liquid level in a metal container.

## **4.2 Marketing Strategy**

Initially, ALLDET intends to partner with a beverage distributor to include the device with their orders. This will allow for exposure to a large customer base and for the establishment of a quality brand as ALLDET begins to penetrate the market.

In addition to partnering with a beverage distributor, ALLDET will focus its marketing on local companies through personal contact and product trials. Interest in this product has already been shown from local restaurants and bars. Capitalizing on that interest will be the primary focus of the marketing strategy initially.

Additionally, a strong social media presence will be necessary for the success of the product. The first thing customers do in almost any industry before they make a purchase is research online to find the best product and deals. Showcasing the effectiveness and comparably inexpensive price will allow for customers to feel confident as they try the new product.

## **4.3 Sales Projection**

To be competitive with other products on the market in this industry, the ALLDET will be priced at $199.99. This is lower than the vast majority of other products in this industry on the market. This price both ensures profitability for the company, as the cost of the hardware is less than $100, and a quick return on investment for the users.

As stated above, the initial release strategy is to partner with a beverage distributor. Once the product has gained sustainable traction in the marketplace, sales directly to customers will become the primary means of product consumption. Focusing on sales in local areas first, ALLDET estimates the sale of fifty units in year one, seven hundred and fifty individual units in year two and an increase to two and a half thousand in year three.

## **4.4 Manufacturing and Distribution Strategy**

ALLDET devices will initially be made by the design team to be distributed by a beverage distributor. This ensures that ALLDET devices will get exposure to restaurants and breweries that may not have heard of the device. This strategy will continue until the demand for the product grows. Once the demand is high enough, The team will decide on a more sustainable manufacturing process.

## **5.** **Organization Overview**

This section describes the organization and structure for ALLDET as a company.

## **5.1** **Company Structure**



ALLDET’s Chief Executive Officer will be JR Ladd. As such he will oversee the business vision of the company and handle the majority of the business and sales decisions for the company. Jesse Tutor will act as the Chief Technology Officer and oversee the major technical decisions for the company. Zach Fauver will be the company’s Chief Financial Officer and be responsible for tracking cash flow and managing the high-level financial decisions for the company. Andrew Bullington will be the Vice President and will oversee internal operations, as well as improve the operating performance of the company. Khara Robinson will be the head of marketing and focusing on increasing company exposure.

While all team members have their specific roles, each team member will remain heavily involved in the design process for the company. Each team member will still function as an engineer and work to improve product performance on a technical level as well as maintain their previously specified role.

## **5.2** **Personnel Plan**

ALLDET is owned equally by each of its five founding members. As such, each team member is equally responsible for supporting the growth of the company until additional company employees can be justified. Many of the manufacturing and legal aspects of the company will be initially outsourced. This is due to both the lack of expertise within the company in these areas and simplicity. As the company grows, more employees will be added to the company as seen fit by the majority of the founders.

## **6.** **Financial Plan**

Financial plan for first three years of operation.

## **6.1** **Profit and Loss**

As stated in section 4.3, ALLDET is expecting to sell approximately one unit per week in the first year of operation, seven hundred and fifty in year two, with an increase to two and a half thousand in year three. This gross will be due to an increase in social media presence as well as through partnerships with local businesses for product distribution. Below is a spreadsheet detailing the revenue and expected costs over the first three years of operation.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Year1 | Year2 | Year3 |
|  |  |  |  |  |
| Sales |  | $10,000.00 | $150,000.00 | $500,000.00 |
| Materials (cost of sales) |  | $3,000.00 | $10,000.00 | $22,000.00 |
| Wages (cost of sales) |  | $500.00 | $1,200.00 | $3,000.00 |
| **Subtotal (Cost of sales)** |  | $3,500.00 | $11,200.00 | $25,000.00 |
| **Gross Profit** |  | $6,500.00 | $138,800.00 | $475,000.00 |
| **Gross Profit (%)** |  | 65.00% | 92.53% | 95.00% |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| OPERATING EXPENSES |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Recurring Salaries |  | $0.00 | $100,000.00 | $250,000.00 |
| Recurring Wages |  | $750.00 | $1,500.00 | $6,000.00 |
| Rent |  | $0.00 | $9,600.00 | $9,600.00 |
| Utilities(Elec/Gas/Phone) |  | $800.00 | $1,200.00 | $1,200.00 |
| Insurance |  | $1,000.00 | $2,000.00 | $2,000.00 |
| Bldg Maintenance |  | $500.00 | $500.00 | $500.00 |
| Travel |  | $1,000.00 | $3,000.00 | $5,000.00 |
| Advertising |  | $2,000.00 | $5,000.00 | $12,000.00 |
| Bank Finance Charges |  | $0.00 | $0.00 | $0.00 |
| Capital Expenditure |  | $0.00 | $0.00 | $10,000.00 |
| Loan Payments |  | $0.00 | $0.00 | $0.00 |
| Misc |  | $1,000.00 | $1,000.00 | $1,000.00 |
| Depreciation |  | $1,400.00 | $1,400.00 | $1,400.00 |
| **Total Operating Expenses** |  | $8,450.00 | $125,200.00 | $298,700.00 |
| **Operating Profit** |  | -$1,950.00 | $13,600.00 | $176,300.00 |
| **Misc Income** |  | $0.00 | $0.00 | $0.00 |
| **Net Profit (before tax)** |  | -$1,950.00 | $13,600.00 | $176,300.00 |
| Taxes |  | -$585.00 | $4,080.00 | $52,890.00 |
| **Net Profit (after tax)** |  | -$1,365.00 | $9,520.00 | $123,410.00 |
| **Net Profit/Sales** |  | -13.65% | 6.35% | 24.68% |

## **6.2** **Projected Cash Flow**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Startup (cash in bank at startup) | Year1 | Year2 | Year3 |
| **INCOME (cash in)** |  |  |  |  |
| Sales |  | $10,000.00 | $150,000.00 | $500,000.00 |
| Capital Received/Loans |  | $0.00 | $0.00 | $0.00 |
| Other Income (investments) |  | $0.00 | $0.00 | $0.00 |
|  |  |  |  |  |
| **Total Inflow** |  | $10,000.00 | $150,000.00 | $500,000.00 |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| **EXPENDITURE (cash out)** |  |  |  |  |
| Materials (cost of sales) |  | $3,000.00 | $10,000.00 | $22,000.00 |
| Wages (cost of sales) |  | $500.00 | $1,200.00 | $3,000.00 |
|  |  |  |  |  |
| Recurring Salaries |  | $0.00 | $100,000.00 | $250,000.00 |
| Recurring Wages |  | $750.00 | $1,500.00 | $6,000.00 |
| Rent |  | $0.00 | $9,600.00 | $9,600.00 |
| Utilities(Elec/Gas/Phone) |  | $800.00 | $1,200.00 | $1,200.00 |
| Insurance |  | $1,000.00 | $2,000.00 | $2,000.00 |
| Bldg Maintenance |  | $500.00 | $500.00 | $500.00 |
| Travel |  | $1,000.00 | $3,000.00 | $5,000.00 |
| Advertising |  | $2,000.00 | $5,000.00 | $12,000.00 |
| Bank Finance Charges |  | $0.00 | $0.00 | $0.00 |
| Capital Expenditure |  | $0.00 | $0.00 | $10,000.00 |
| Loan Payments |  | $0.00 | $0.00 | $0.00 |
| Misc |  | $1,000.00 | $1,000.00 | $1,000.00 |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Taxes |  | -$585.00 | $4,080.00 | $52,890.00 |
| **Total Outgo** |  | $9,965.00 | $139,080.00 | $375,190.00 |
|  |  |  |  |  |
|  |  |  |  |  |
| Income less Expenditure |  | $35.00 | $10,920.00 | $124,810.00 |
| Cash Balance | $25,000.00 | $25,035.00 | $35,955.00 | $160,765.00 |

## **6.3** **Projected Balance Sheet**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Startup | Year1 | Year2 | Year3 |
| **Current Assets** |  |  |  |  |
| Cash Balance | 2,500.00 | 2,127.00 | 12,639.00 | 137,041.00 |
| Merchandise Inventory | 1,000.00 | 0.00 | 0.00 | 0.00 |
| **Subtotal** | 3,500.00 | 2,127.00 | 12,639.00 | 137,041.00 |
| Capital Assets (can be depreciated) | 200.00 | 200.00 | 160.00 | 120.00 |
| Depreciation |  | 40.00 | 40.00 | 40.00 |
| **Subtotal** | 200.00 | 160.00 | 120.00 | 80.00 |
| **Total Assets** | 3,700.00 | 2,287.00 | 12,759.00 | 137,121.00 |
| **Liabilities** |  |  |  |  |
| Current Liabilities | 0.00 |  |  |  |
| Long Term Liabilities | 0.00 |  |  |  |
| **Total Liabilities** | 0.00 | 0.00 | 0.00 | 0.00 |
|  |  |  |  |  |
|  |  |  |  |  |
| **Capital, aka Net Worth (assets-liabilities)** | 3,700.00 | 2,287.00 | 12,759.00 | 137,121.00 |
| **Total Liabilities and Capital** | 3,700.00 | 2,287.00 | 12,759.00 | 137,121.00 |

**References**

[1].”There Are How Many Beers in a Keg? Taking Beer Inventory with BinWise.**“** binwise.com

<https://home.binwise.com/blog/how-many-beers-in-a-keg> (accessed March 1, 2020)