Shanti Trading T/A Butterbread

DELIVERABLE 1: PROJECT PROPOSAL PRESENTED BY

DoughY - Group 10

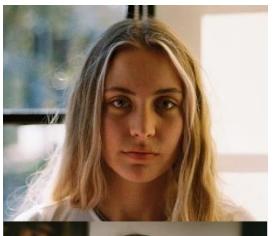
Deliverable 1

This Project Proposal, formally known as Deliverable 1, will entail a combination of information regarding our client- Shanti Trading T/A Butterbread.
The information inside this document is discussed in the following order: a client description, project request, preliminary investigation, problem analysis, requirements analysis, and a feasibility study.

Deliverable 1 is composed with the sole purpose of gaining a solution for our client, Mr. Jooste, regarding his problematic organisational system.

Our aim of this project proposal is to provide Butterbread a fluent system so that production can be more at ease as well as to minimalize stock theft and production damages.

The information in the Project Proposal was acquired in a professional manner and in-depth research was done to provide our client with excellent service. A sign-off by our client is provided as well to show recognition from the owner.



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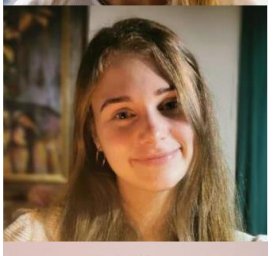

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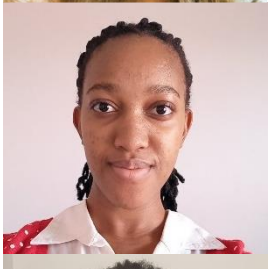

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1 TABLE OF CONTENTS

2 DOCUMENT INTRODUCTION

Shanti Trading T/A Butterbead (referred to as Butterbread during this document) is a bakery situated in the Lowveld. The business focusses on the production and selling of bread loaves and variations of buns to rural communities and to other businesses.

Bryan Jooste contacted us on behalf of Shanti Trading T/A Butterbread in regards to the problematic system he currently has installed for his business.

We as DoughY, will use our expertise on how to find the appropriate solution to this business.

In this Project Proposal we will conduct in-depth research on the company's matters and how efficiently they work in the following topics: a client description, project request, preliminary investigation, problem analysis, requirements analysis, and a feasibility study.

3 CLIENT INFORMATION

3.1 INTRODUCTION

In this section, we attained vital particulars regarding Butterbread's business information and is displayed in such a manner that the user of this documentation can acquire the information as well. This section will contain the history as well as the background details of Butterbread; an in-depth description of the organisation and the preferred contact particulars.

3.2 HISTORY AND BACKGROUND OF THE ORGANISATION

Butterbread is a bakery situated in the Lowveld. It has been in business for over 20 years and has made a lasting impression on the community. The business pride itself on good quality bread at a reasonable price. Butterbread mainly produces 4 different types of bread (600g White, 600g Brown, 500g White and 500g Brown) as well as two types of buns (hotdog buns and burger buns).

The infamous blue and yellow packaging are well known by the rural communities. They all know that this packaging means good quality bread.

Butterbread has a unique way of selling its bread. Aside from the orders placed by schools, shops, and retirement homes, they have drivers that go into the community and sell their products out of their delivery vehicles at the selling price. This process of selling out of a cehicle makes it easily accessible and affordable for everyone living in rural communities.

3.3 IN-DEPTH DESCRIPTION OF THE ORGANISATION

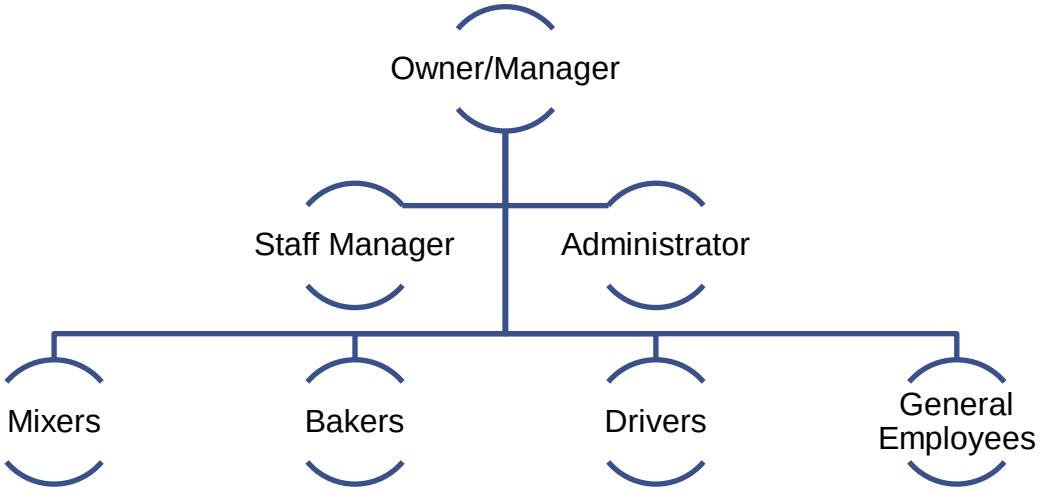
3.3.1 Management Structure

Bryan Jooste serves as the owner as well as the general manager of the business. He has employees that are part of six groups:

- Administration- In charge of all administrative purposes.
- Staff Management- Manages the staff and the stock.
- Mixers- In charge of mixing the ingredients together in preparation for the baking process.
- Bakers- In charge of the baking of the production as well as the slicing and bagging of bread.
- Drivers- Purpose is to sell bread from their delivery cars and/or to deliver orders.
- General employees- Can be versatile and work at any station.

3.3.2 Organisational Structure

3.3.2.1 Figure 1: Organisational Structure



3.3.3 Area of Business

Butterbread's area of business are that of a bakery producing baked goods, especially bread loaves. They cater for businesses as well as everyday users.

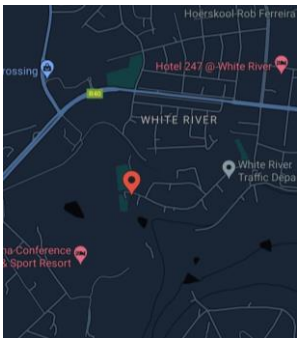
3.3.4 Geographic Location

Butterbread's geographic location is located at the following address where the produce their products:

25°20'24.1"S 31°00'26.7"E,

White River, 1240, Mpumalanga, South Africa.

This business sell goods in a 30km radius to accompany communities and businesses.



3.3.5 Business Environment

The current business environment consists of a simple excel sheet that manages the stock control, and another excel sheet printed per day that each driver must allocate the amount of bread loaves they are dealing with. Orders from other businesses are placed via cell phone to the owner. The production orders for when the baked goods are sold from the drivers' vehicle are produced according to the demand of the previous day.

The amount of bread baked each day is based on the amount of demand from the previous day. The owner is the general manager at the time. The bakers are dependent on the mixers and the drivers are dependent on the bakers. There are general employees that are versatile and can work in any department. The stock is

dealt with the mixers and the staff manager. The Staff Manager deals with stock control as well as managing the staff during the day.

3.4 CONTACT PARTICULARS

The following information is provided on who and how we contacted to service the business Butterbread.

3.4.1 Organisational Contact:

Bryan Jooste

3.4.2 Background:

Bryan Jooste grew up in a bakery, his own father had a profitable bakery nestled in the Lowveld and he worked with him at a young age. Going off to university and earning his degree in being a dental technician, he noticed that his heart stayed at the bakery. Mr. Jooste decided to start his own business in the baking industry. Having over 40 years of experience in this industry, Bryan Jooste made the profitable Butterbread as all we know today.

3.4.3 Position:

- Owner
- Manager

3.4.4 Contact Details

- Email: jooste.bryan@gmail.com
- Cell Phone Number: 082 453 0531

3.5 CONCLUSION

With the information provided, Bryan Jooste is the owner of the company Butterbread and has years of experience with baking and selling bread. With regards to the geographics of this business and the outdated system that ran for over 20 years, we can improve the system for Mr. Jooste.

4 PROJECT REQUEST

4.1 INTRODUCTION

In this section we obtained the most important information regarding the project proposal- the project request. This entails why and what the motivation is for the request from the client.

4.2 DESCRIPTION OF THE PROJECT REQUEST

The owner, Mr. Jooste has contacted us with regards to a failure within their organizational system. His main request is that he wants to have a maximum output from his company with a correlating minimal input. The focus being that of control analysis in his company.

With more damaged goods and theft arising in his company, he wants to install a system that can easily monitor the activities within his business. Butterbread's requests for an optimal system has the following business requirements that is important for the new improved system:

4.2.1 Mixing Process System

A Mixing process starts at 06h00 in the evening. Each mixing process should have the correct measurements of ingredients. A wrong measurement could result in a damaged good. In the past, employees poorly handled the ingredients, being ignorant to the instructions. A system should be placed to ensure that the correct ingredients are measured and used. The system should give the measurements of each ingredient before the mixing process to an employee and then it should be mixed immediately to avoid potential problems and to save time.

4.2.2 Production Damages System

Noticing that there have recently been more baked products thrown away for being damaged, resulted in a big loss in profit for Butterbread. The company wants a system that can ensure that the employees minimize the probability of damaged goods.

4.2.3 Oven Management System

Ovens are vital in any bakery. Poor management regarding the ovens at Butterbread has resulted into damages in the ovens as well as baked goods being thrown away for being burnt. The business wants a system that can check and ensure control over the ovens so that the temperature always has the correct temperature for each baked good and manages the time limit per bake. It should also have a maintenance check every 6 months. A batch of loaves bakes for a total of 3 hours.

4.2.4 Slicing bagging System

Bread should be sliced when it is cooled down to the correct temperature. The blades should be replaced at the correct hour. A hot/warm bread makes the blade blunt. Blunt blades damage bread. A system should be made to ensure that employees slice the bread and bag them at the correct time

4.2.5 Delivery and Selling of Bread System.

A driver collects the bread each morning and brings the amount of money they received in the afternoon. Each driver should know what the appropriate amount of bread loaves is to sell for the day. Each driver should account for how many baked goods they load into their truck (they cannot be compensated for something they haven't sold), and what they have sold according to the selling price. All loaves should be bought from the drivers as they cannot sell today's products the following day. Each bread loaf has a shelf life of 5 days. The drivers bring the cash to the owner at the end of the day.

4.2.6 Stock Control System

Management of stock control had resulted in theft from stock. A system needs to be made to acknowledge who has access to stock, who had taken from the stock, and what has been taken. When stock should be restocked. The amount of each type of product in stock and the shelf life of each stock should be accounted for.

4.3 CONCLUSION

In conclusion, we can assume with the above-mentioned information that Butterbread's stock control is at risk with damaged goods resulting in a big loss of profit for the company. Mr. Jooste requested a system that can help manage stock and avoid producing damaged goods. We will thus supply a solution that'll help manage the stock control inside the business on an app; provide drivers a chance to scan the bread to correlate with the money received and the amount of bread they returned with and to provide easy to follow recipes for the mixers to read.

5 PRELIMINARY INVESTIGATION

5.1 PROBLEM/VISION STATEMENT

Problem/Vision statement:

5.1.1.1 The Problem/Vision Statement Table

The problem of	Butterbread's bakery has a problem with stock control. The business has experienced an increase in the amount of theft from its stock. During the stock control check, the business noticed that the amount of stock represented in the book does not correlate with the stock being physically counted. There is a huge problem with the business keeping track of the stock and the products it produces. In order to reduce loss in profits. There is also a problem with efficiently controlling the number of ingredients being used in the mixing process of the production of the products. They have a problem with giving the correct measurements to employees before the mixing process starts.
Affect	Employees Customers Business owner
The impact of which is	Employees are affected, due to a lack of good performance in mixing the correct ingredients and the stocktaking, they have extra work to fix those mistakes Customers are affected because of stock being stolen and some products being thrown away due to damage, the customers are then given old stale bread The business owner will lose profits. This will have an impact on the business. As the business owner may they will lose money for repairs of the ovens, renewing stock and pay employees.
A successful solution would	• The stock theft will be reduced as we can have an accurate and reliable system that records that amount of stock. • Employees have a reliable tool to use so they can measure ingredients accurately. • Maximizes profit, when the value of the last unit of products equals the cost of producing the last unit of production.

5.2 BUSINESS GOALS

LIST OF BUSINESS GOALS AND OBJECTIVES

5.2.1 Business Goals

- Reduce theft of stock
- Reduce products being damaged
- Minimize products being thrown away
- Improve customer service
- Minimize waste of ingredients before the mixing process
- Accurately record stock taken out
- Accurately record who had access to stock
- Increase productivity
- Maximize output

5.2.2 Business Objective

- Create a system that will record stock going in and out.
- Create a system that will manage the number of goods be produced, in order to reduce waste
- Create a system to control oven temperature. In order to ensure the bread is baked at the correct temperature and can give
- Create a system that will monitor business activities such as the amount of bread produced.
- Create a system that will monitor the amount of stock being sold. The specific type of product bread sold as well as the products that don't sell.

Create a system that will monitor employees if employees are measuring the ingredients correctly before putting them into the mixers.

5.3 DETAILED PROBLEMS, OPPORTUNITIES & DIRECTIVES MATRIX

PROJECT: Deliverable 1	**PROJECT MANAGER: Eloise Dyson**
CREATED BY: Kgothatso Khanyisile Manzini	**LAST UPDATED BY: Kgothatso Khanyisile Manzini**
DATE CREATED: 05/24/2022	**DATE LAST UPDATED: 05/24/2022**

Brief Statement of Problem	The impact the problem is causing	Expected benefits from any potential solution	How quickly can the problem potentially be resolved	What is the underlying source of the problem?	What will it cost to solve the problem?
1. Products are being stolen and there is no system to check stock control, because of too little security or control	Leaves less product/bread to sell to the customers and some may get old stale bread. There might be data about the stock that is redundant or inaccurate.	More fresh products/bread can be sold to customers. This leads to an increase in profits	3-6 months	A manual stock record system	R0; business knowledge input from the client
2. Mismanagement and waste of ingredients	Result in an increase in business	There will be a reduction in	3-9 months	Employees are not measurin	R0; business knowledge input from

	costs. Results in damaged bread/product being produced Bread/product will be thrown away as waste.	operating expenses		g the ingredients correctly or at all	the client
3. Increase in the number of products being damaged goods	This resulted in an increase in damaged products	Reduction of products waste and the potential increase in profits	3-9 months	Employees are not minimizing the number of damaged goods	R0; business knowledge input from the client
4. No management system to track the process the making the products	There is no quantitative way of tracking the amount and type of product being backed at a specific time	We can easily track the type and number of products the business has baked	3-6 months	There is currently no management system for the process of making bread. There is only one person (the Staff Manager) who deals with stock control as well as managing the staff	R0

				during the day. So, there might be mistakes	

Brief Statements of Opportunity	Urgency	Visibility	Annual Benefits	Priority or Rank	Proposed Solution
5. Replace the current system with an online stock control system to reduce the potential of stoke being stolen. Produce data about stock that reliable and accurate	6 months	High	Unknown	1	New systems that control and monitor who had access to stock, and what stock was taken.
6. Create a system that will monitor and check if an employee measured the correct amount of ingredients	5 months	High	Unknown	2	The new system will help employees measure ingredients more efficiently, and thus reduce the number of products being wasted
7. Replace the current system of manually adjusting the temperature and reduce product getting burnt	9 months	Medium	Unknown	5	The employee can bake more efficiently. They can easily control the temperatur e when baking, and be notified when the system

Brief Statements of Directive	Urgency	Visibility	Annual Benefits	Priority or Rank	Proposed Solution
8. The owner requires controlled analysis in the form of a report on the activities of the company	6 months	High	Unknown	2	The owner will have an analysis of any stock that was stolen, products damaged, or the number of products sold during a period
9. The business will require an oven that can collaborate with the system	7 months	Low	Unknown	5	There is an increase in productivity . the product can be baked at the correct temperature and manage the time limit per bake.
10.					

5.4 LIST OF ASSUMPTIONS AND CONSTRAINTS

5.4.1 ASSUMPTIONS

- We can get all the resources we need to complete projects
- All equipment such as the oven, are in good condition
- The business had an online ordering system, for a customer to make orders
- The bakery gets its products from a big supplier, their ingredients or
- Had more than one franchise.
- Sells pastry such as cakes, croissants as well
- It was a coffee shop where customers can walk in to buy bread.

- There was a receptionist who was taking the orders
- The same person does the baking and mixing

5.4.2 CONSTRAINTS

- Can only work on Windows
- Only bakes products based on what was popular the previous day or in general.
- Only caters to a local rural town
- Doesn't have an online customer ordering system

5.5 LIST OF ELICITATION TECHNIQUES

- Interviews
- Brainstorming

5.6 MOTIVATION OF ELICITATION TECHNIQUES

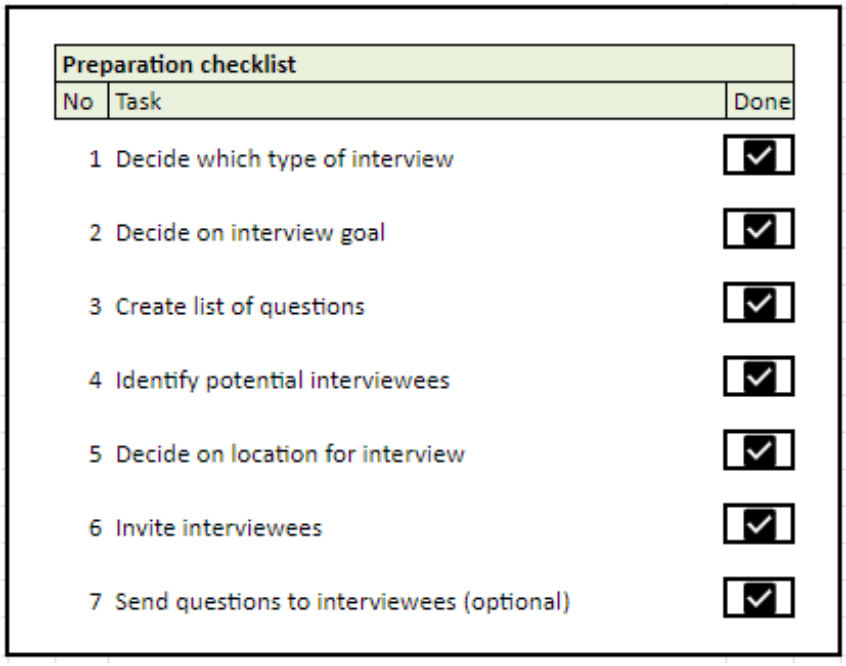
ELICITATION TECHNIQUE	MOTIVATE
Interviews	The interview was a one to group interview, in order to gather information from the owner. Interviews are the best way to get relevant information. We interviewed the owner to gather information about the history business and how long it was open, we ask how the business operates and what type of products do they produce? With the interview, we can discover what type of problems the business is experiencing. Interviews would allow the interviewee (owner) to respond freely and openly to questions. With an interview, it provides an opportunity to ask to follow up questions
Brainstorming	As a group, brainstorming was the best way for us to put all our ideas together. Brainstorming allowed the group to give their own input and perspective in order to receive a vast amount of information at once. This also allowed the group to uncover the unknown information.

5.7 ELICITATION TECHNIQUES

5.7.1 Proof of Elicitation

This section provides the elicitation checklists, summaries, and proof of the elicitation procedures we utilised before, during, and after each one.

A. Interview



Preparation checklist		
No	Task	Done
1	Decide which type of interview	☑
2	Decide on interview goal	☑
3	Create list of questions	☑
4	Identify potential interviewees	☑
5	Decide on location for interview	☑
6	Invite interviewees	☑
7	Send questions to interviewees (optional)	☑

Detailed explanation of the preparation checklist

1. Decide which type of interview.

We will conduct an informal interview with Mr Bryan Jooste. We've prepared a list of questions to ask during the interview.

2. Decide on the interview goal.

The team would want to meet with the customer for our first interview so that we can ask all of the preliminary questions about the system that we are currently creating for the Butterbread bakery.

3. Create a list of questions.

Below are some of the questions that we asked the owner to get more information about the bakery.

- What is the issue with the bakery's present system?
- What is the present system's function?
- Who do you anticipate using and gaining from the system?
- What do you want the system to do for you?
- How would the system be used daily?
- Do you have any further system recommendations for us?

4. Identify potential interviewees.

We will be conducting this interview with Mr Bryan Jooste, the owner, and the manager of the bakery. Who will also act as our contact person with the organisation?

5. Decide on location for interview

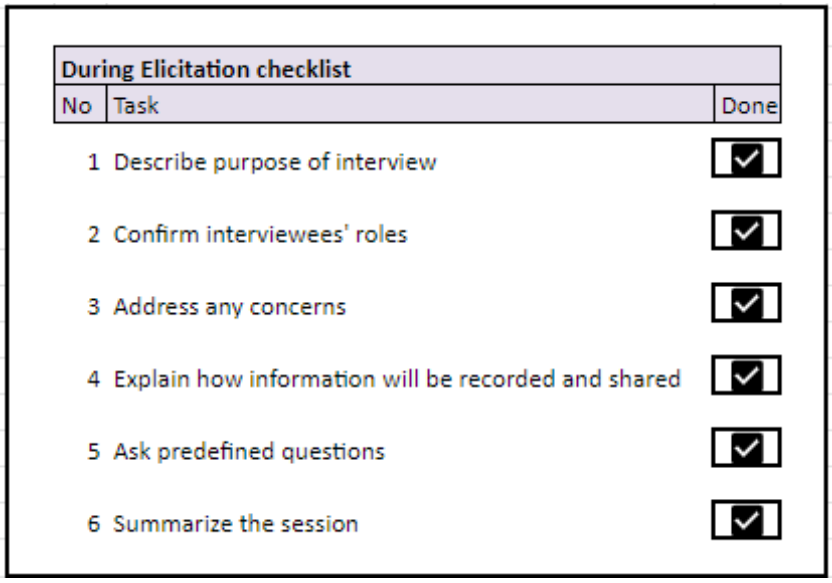
We have decided to hold the meeting virtual using google meets.

6. Invite interviewees.

Mr Jooste was invited to the interview using Email.

7. Send questions to interviewees (optional)

We didn't provide Mr Jooste our questions in advance.



During Elicitation checklist		
No	Task	Done
1	Describe purpose of interview	☑
2	Confirm interviewees' roles	☑
3	Address any concerns	☑
4	Explain how information will be recorded and shared	☑
5	Ask predefined questions	☑
6	Summarize the session	☑

Detailed explanation of the during elicitation checklist

1. Describe the purpose of the interview.

We mentioned that the interview was for clarity on the system request that the bakery had sent us.

2. Confirm interviewees' roles.

Mr Bryan Jooste has been verified as our organisational contact, and any problems our group may have will be sent to him first.

3. Address any concerns.

The group handled all of the issues raised by the client. The interview report has further details.

4. Explain how information will be recorded and shared.

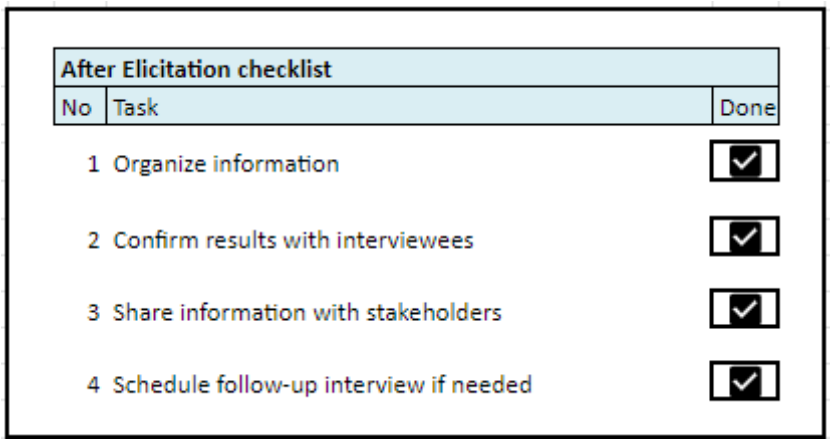
We stated that the group members who are now asking the questions will gather notes from the interview. And share those notes with those not asking questions via email with answers provided.

5. Ask predefined questions.

All of the prepared questions were asked, and group members gave any explanation needed.

6. Summarise the session.

At the conclusion of the meeting, a summary was given to corroborate what had been discussed with Mr Jooste. The interview report has further details.



After Elicitation checklist		
No	Task	Done
1	Organize information	☑
2	Confirm results with interviewees	☑
3	Share information with stakeholders	☑
4	Schedule follow-up interview if needed	☑

Detailed explanation of the after elicitation checklist

1. Organise information.

All of the group members wrote up all of the notes they took throughout the interview and organised them on a Google Drive and WhatsApp group that the group built.

2. Confirm results with interviewees.

We raised any issues we had following the interview to Mr Jooste for clarification.

3. Share information with stakeholders.

As our project proceeds, information from this interview will be shared with stakeholders in follow-up sessions.

4. Schedule follow-up interviews if needed.

Mr. Jooste, the owner and manager, was scheduled for an interview.

Interview report

This was the group's first interview with the Butterbread bakery after deciding to develop and implement a system for them. Mr. Bryan Jooste will function as our client's organisational contact. The goal of this interview was to gain clarification on Mr Jooste's project requirement.

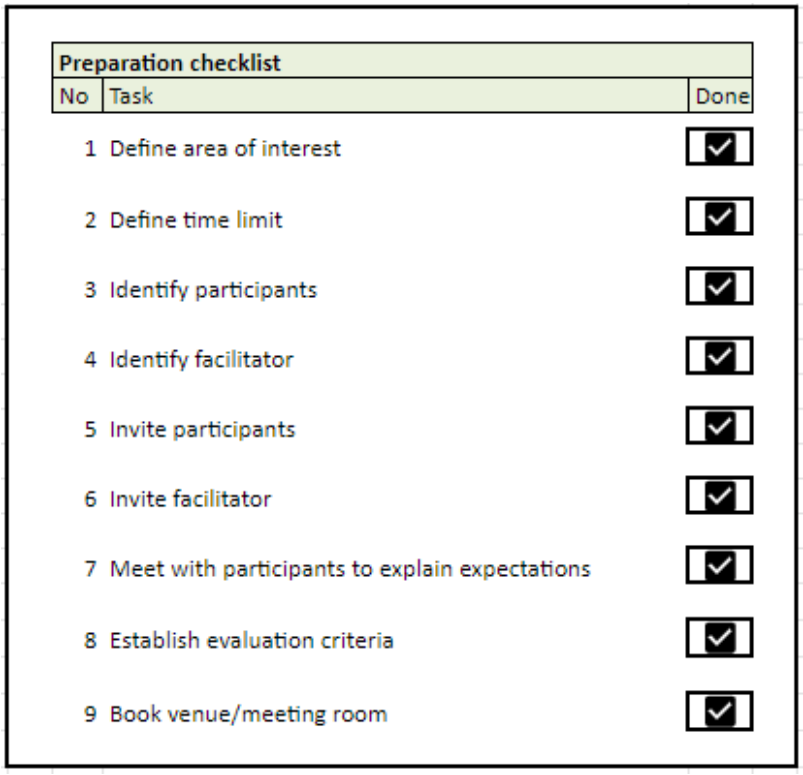
We asked him the questions we had prepared ahead of time during the interview. As we proceeded through the questions, any uncertainties we or the client had were addressed. During the interview, each group member took notes on the replies to our questions and wrote up their notes, which were then posted to our Google Drive and WhatsApp group for organisation.

We inquired about the bakery's current issues and learned that their whole system is paper based. All the bread produced for the day is distributed to the drivers without being numbered; the drivers then hand in the cash in the afternoon after selling the bread at their own pricing for the day. This is all incredibly time-consuming work since no one knows how many loaves of bread are cooked each day, how much each loaf costs, or how many loaves are sold each day.

We asked Mr. Jooste if a smartphone app for drivers to scan the bread would be useful in tracking the amount of bread sold every day. We also inquired about the bakery's use of a point-of-sale system to track the number of loaves produced each day. He also stated that this technique will help them run their company more efficiently and reduce stock theft.

We also inquired whether he would want a time estimate and data record capturer in the program to ensure that each employee contributes and works within their assigned period. Also, to record recipes and notify them when they are out of ingredients.

B. Brainstorming



Preparation checklist		
No	Task	Done
1	Define area of interest	☑
2	Define time limit	☑
3	Identify participants	☑
4	Identify facilitator	☑
5	Invite participants	☑
6	Invite facilitator	☑
7	Meet with participants to explain expectations	☑
8	Establish evaluation criteria	☑
9	Book venue/meeting room	☑

Detailed Explanation from above checklist

1. **Define area of interest**

To determine which users will be utilising our system and which system features they should have access to.

2. **Define time limit**

The brainstorming session has a three-hour time restriction.

3. **Identify participants**

All of the members of the group, as well as Mr. Jooste, the owner and manager of Butterbread Bakery, will be in attendance.

4. **Identify facilitator**

Mr Jooste.

5. **Invite participants**

Mr Jooste will be in attendance.

6. **Invite facilitator**

Mr Jooste.

7. **Meet with participants to explain expectations**

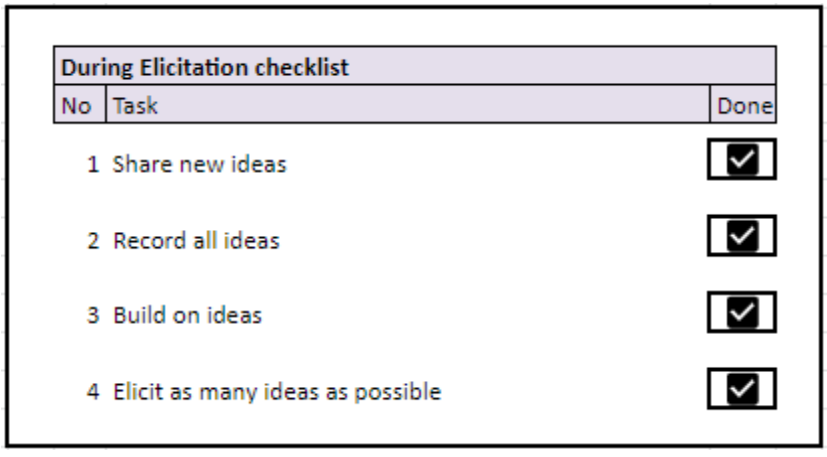
The team will examine the Butterbread expectations and find limits, which they will address with the Butterbread bakery owner.

8. **Establish evaluation criteria**

Users will be assigned responsibilities depending on their interactions with the system. Following that, various elements of the positions will be explained.

9. **Book venue/meeting room**

Merensky Library, discussion room.



During Elicitation checklist		
No	Task	Done
1	Share new ideas	☑
2	Record all ideas	☑
3	Build on ideas	☑
4	Elicit as many ideas as possible	☑

Detailed Explanation from above checklist

1. **Share new ideas**

The sorts of user roles that the group had in mind were discussed and agreed upon by Mr Jooste. The idea of multiple interfaces for various roles was proposed. The method through which users would interact with the system was considered.

2. **Record all ideas**

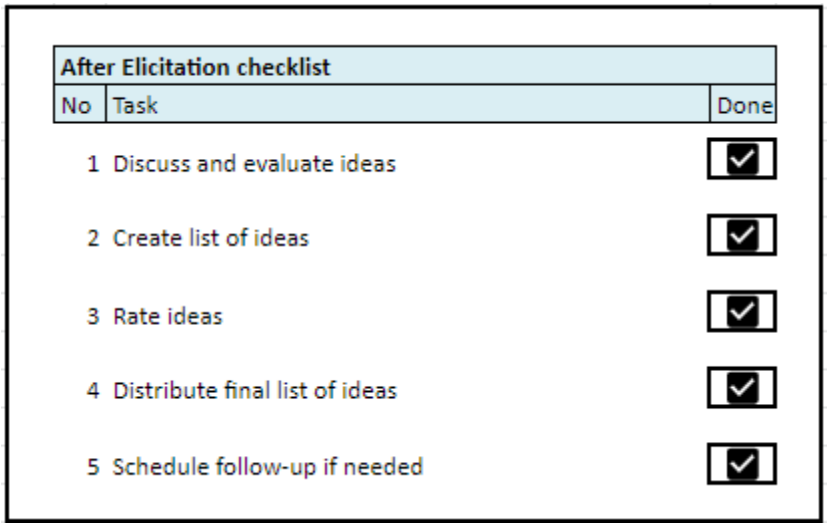
The user roles were documented, as well as the functionality available to each user.

3. **Build on ideas**

The team took notes on each member's suggestions and elaborated on them. The advantages and disadvantages of the concepts were discussed, and solutions were found and recorded.

4. **Elicit as many ideas as possible**

Every suggestion made by the participants was taken note of and investigated further.



After Elicitation checklist		
No	Task	Done
1	Discuss and evaluate ideas	☑
2	Create list of ideas	☑
3	Rate ideas	☑
4	Distribute final list of ideas	☑
5	Schedule follow-up if needed	☑

Detailed Explanation from above checklist

1. Discuss and evaluate ideas

Every member spoke and shared their thoughts. Following that, the group debated each concept and voiced their perspectives.

2. **Create list of ideas List was created as follows:**

- Driver, baker, and administrator are examples of user roles. All have their own interface.
- Some owner and admin functions have the same administrative interface.
- Various login interfaces
- The login interface is the same.
- Superuser role of the manager

3. **Rate ideas**

The ideas were discussed, and the group decided which ones to pursue.

4. **Distribute final list of ideas**

After careful analysis, the following proposals were chosen:

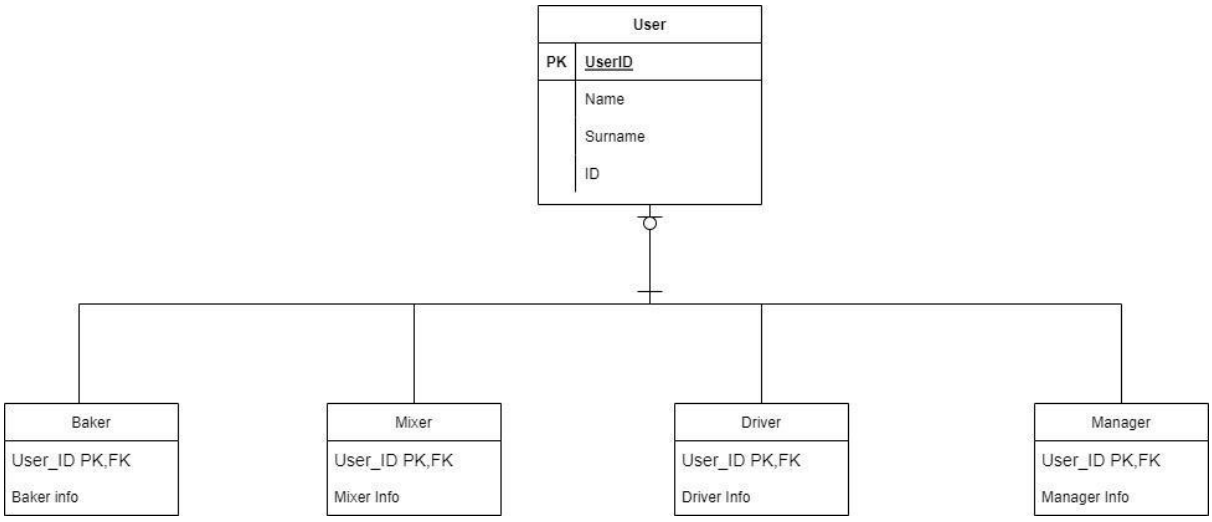
- Driver, baker, mixer, and administrator are our user roles.
- All four have their own interface.
- For owner and admin functions, there is a single administration interface.
- Various login interfaces

5. **Schedule follow-up if needed**

There is no need for a follow-up.

Brainstorm Notes:

During the brainstorming session, the sorts of user roles that would be offered on the system were addressed. The users and their relationships are depicted in the diagram below:



5.7.1.1 FIGURE 3 USER ROLE ERD EXAMPLE

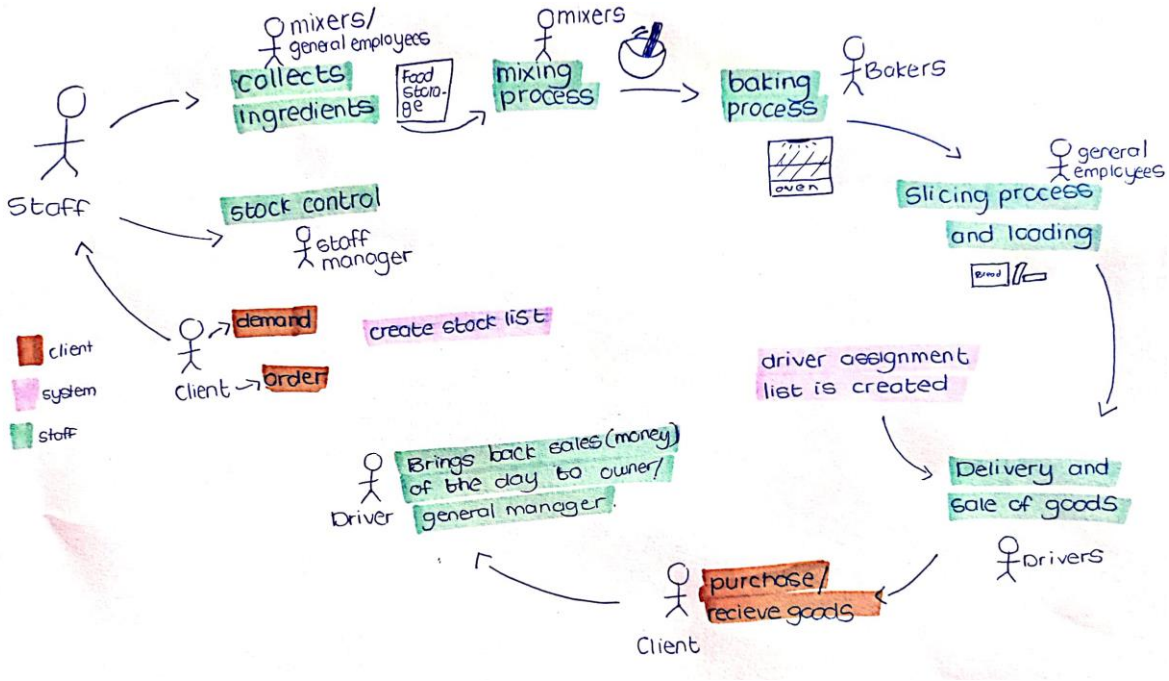
The super user will have the most power and will be able to assign a driver, mixer, baker, or administrator job to any user. Some functions and an interface will be shared by the Manager and the Admin. Viewing a number of cooked bread or invoicing a client are examples of these tasks. They will have various interfaces and functionality aside from these shared features. Report generating, dealing with scheduling, and putting up some price settings are just a few of the admin's responsibilities.

5.8 CONCLUSION

Finally, the issues, opportunities, and instructions were examined, and the needs were defined. As a result, the preliminary inquiry is finished, and it has provided us with significant information that will help us complete the next step of the proposed system.

6 PROBLEM ANALYSIS

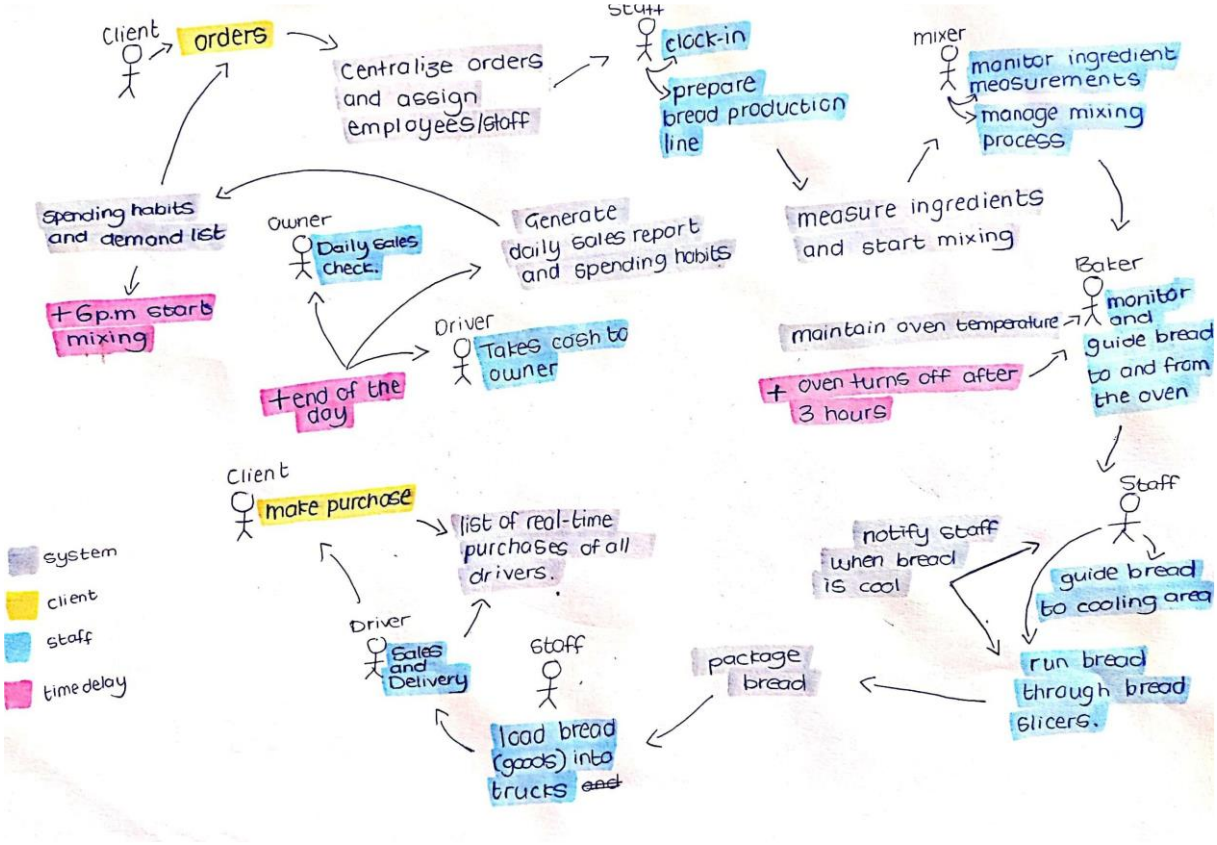
6.1 OVERVIEW ON CURRENT SYSTEM



6.2 CAPABILITIES OF THE SYSTEM

Current system capabilities	Required system capabilities	Capability gaps	Recommendations
Manage stock list through excel	Stock management	Driver to driver, on the road communication	Create communication channel between drivers linked to the system
Create lists of goods assigned to each driver	Bakery management	Customer relationship management	Create bread recipes specific to customer groups, give discounts etc.
			Send the same drivers to the same areas to create familiarity with the customers that purchase face to face
	Security		
	Smart packaging		
	Staff management		
	Smart notifications		
	Sales management		

6.3 RICH PICTURE OF THE PROPOSED SYSTEM



7 REQUIREMENT ANALYSIS

7.1 FUNCTIONAL REQUIREMENTS LIST

7.1.1 Baking

1.1 Ingredient measurement

1.2 On-time system

1.3 Ingredient mixing

1.4 Oven control

1.5 Bread monitoring

1.6 Smart packaging

7.1.2 Staff

2.1 Staff management

2.2 Alerts/notifications

2.3 Activity monitoring cameras

7.1.3 Stock

3.1 Stock management

3.2 Daily sales management

3.3 Expense management

7.2 FUNCTIONAL REQUIREMENT DESCRIPTION AND DETAIL

Functional Requirement	Explanation
Requirement number:	1.1
Requirement name (use case name):	Measure ingredients
Requirement short description:	Systems measures ingredients to be used for making bread
Requirement detailed description and constraints:	Bread recipe is needed for the correct measurement of ingredients. System needs to have ingredients pre-loaded into the machine
Business rules applicable to this requirement	Mixers are responsible for monitoring
Revision date and Revision number:	2022-05-23 Version 1.0
Criticality/Priority:	Must

Functional Requirement	Explanation
Requirement number:	1.2
Requirement name (use case name):	Mixing Oven monitor Sales generation
Requirement short description:	Manages uses cases in a timely manor
Requirement detailed description and constraints:	Activities and actions of the system are managed by the systems clock
Business rules applicable to this requirement	None
Revision date and Revision number:	2022-05-23 Version 1.0
Criticality/Priority:	Must

Functional Requirement	Explanation
Requirement number:	1.3
Requirement name (use case name):	Mixing
Requirement short description:	System mixes ingredients
Requirement detailed description and constraints:	Staff manages and controls this activity
Business rules applicable to this requirement	Mixers are responsible for monitoring
Revision date and Revision number:	2022-05-23 Version 1.0
Criticality/Priority:	Must

Functional Requirement	Explanation
Requirement number:	1.4
Requirement name (use case name):	Oven control
Requirement short description:	System maintains the temperature of the oven and time of baking
Requirement detailed description and constraints:	Input that bread dough is in the oven for the clock to start. Staff must put bread dough in and take prepared bread out of the oven
Business rules applicable to this requirement	Bakers are responsible for monitoring
Revision date and Revision number:	2022-05-23 Version 1.0
Criticality/Priority:	Must

Functional Requirement	Explanation
Requirement number:	1.5
Requirement name (use case name):	Bread monitor
Requirement short description:	Systems estimates cooling period of bread and notifies staff
Requirement detailed description and constraints:	Cooling time clock starts when the oven switches off
Business rules applicable to this requirement	None
Revision date and Revision number:	2022-05-23 Version 1.0
Criticality/Priority:	Must

Functional Requirement	Explanation
Requirement number:	1.6
Requirement name (use case name):	Packaging
Requirement short description:	Packages bread
Requirement detailed description and constraints:	Bread is packaged by the system and coded/marked to indicate unique identifier of each good, these goods are then assigned to drivers
Business rules applicable to this requirement	Drivers must collect their order immediately
Revision date and Revision number:	2022-05-23 Version 1.0
Criticality/Priority:	Must

Functional Requirement	Explanation
Requirement number:	2.1 Staff management
Requirement name (use case name):	Staff responsibilities Staff activities Driver sales
Requirement short description:	Manage all staff
Requirement detailed description and constraints:	Manages all the activities, responsibilities, and actions of all staff members in a central location
Business rules applicable to this requirement	Managed by staff manager and owner
Revision date and Revision number:	2022-05-23 Version 1.0
Criticality/Priority:	Must

Functional Requirement	Explanation
Requirement number:	2.2
Requirement name (use case name):	Measuring Mixing Baking Oven control Driver Delivery Driver Sales Stock levels
Requirement short description:	Notifications sent to necessary staff members
Requirement detailed description and constraints:	Notifications sent to relevant staff members to indicate that each process is completed, and the next step needs to be started. Notifications sent to business cell with each bread sale. Daily responsibilities assigned are sent through notification to all staff
Business rules applicable to this requirement	None
Revision date and Revision number:	2022-05-23 Version 1.0
Criticality/Priority:	Must

Functional Requirement	Explanation
Requirement number:	2.3
Requirement name (use case name):	Staff management Security
Requirement short description:	Cameras for floor monitoring and stock control
Requirement detailed description and constraints:	Cameras are used to monitors the activities of on-floor staff members and monitor theft of stock
Business rules applicable to this requirement	None
Revision date and Revision number:	2022-05-23 Version 1.0
Criticality/Priority:	Must

Functional Requirement	Explanation
Requirement number:	3.1
Requirement name (use case name):	Stock management
Requirement short description:	Manage stock levels
Requirement detailed description and constraints:	Monitor who collects what, when and why from the stock storage
Business rules applicable to this requirement	Access only given to Staff manager and owner
Revision date and Revision number:	2022-05-23 Version 1.0
Criticality/Priority:	Must

Functional Requirement	Explanation
Requirement number:	3.2
Requirement name (use case name):	Sales
Requirement short description:	Collect information on all sales and purchases of the day
Requirement detailed description and constraints:	Monitor all purchases and compare prices and amounts of money recieved
Business rules applicable to this requirement	Owner overses
Revision date and Revision number:	2022-05-23 Version 1.0
Criticality/Priority:	Must

Functional Requirement	Explanation
Requirement number:	3.3
Requirement name (use case name):	expenses
Requirement short description:	Monitor expense of bakery
Requirement detailed description and constraints:	Keep record of all stock and other expenses of the bakery and notify owner daily
Business rules applicable to this requirement	Owner oversees
Revision date and Revision number:	2022-05-23 Version 1.0
Criticality/Priority:	Must

Functional Requirement	Explanation
Requirement number:	6.2.1
Requirement name (use case name):	Camera installation for activity monitoring
Requirement short description:	The system must allow the owner to install cameras and virtually check camera activity on the system through his devices.
Requirement detailed description and constraints:	All camera details must be included, the make and location of the camera.
Business rules applicable to this requirement	Only the owner is allowed to have this function on the system accessible by him.
Revision date and Revision number:	2022-05-22 Version 1.0
Criticality/Priority:	High

Functional Requirement	Explanation
Requirement number:	6.2.2
Requirement name (use case name):	Exact measurement of ingredients
Requirement short description:	The system must provide the exact measurement of each ingredient.
Requirement detailed description and constraints:	All bakers must be logged in to use this system function. The owner and bakers reviewed all the measurements and ingredients before given to be uploaded to the system.
Business rules applicable to this requirement	Only the bakers and owner is allowed to use this system function.
Revision date and Revision number:	2022-05-22 Version 1.0
Criticality/Priority:	Must

Functional Requirement	Explanation
Requirement number:	6.2.3
Requirement name (use case name):	Mixing starts at 6pm
Requirement short description:	The system must allow the bakers to start the process of mixing all the ingredients on the system.
Requirement detailed description and constraints:	The bakers must be logged into the system before they can start the system to begin mixing the ingredients. Since this system is strict with the time of starting the process if helps that everyone does their part in a timely and effective manner, meaning the bread will 95% of the time be perfectly made.
Business rules applicable to this requirement	Only bakers are allowed to be logged into this function of the system.
Revision date and Revision number:	2022-05-22 Version 1.0
Criticality/Priority:	Must

Functional Requirement	Explanation
Requirement number:	6.2.4
Requirement name (use case name):	Maintain oven temperature
Requirement short description:	The system must regulate the temperature of the ovens to make sure that the bread is baked at a constant temperature.
Requirement detailed description and constraints:	The head of the bakers and the owner are the only two who have access to log into the system function that regulates the oven temperatures.
Business rules applicable to this requirement	The head of the bakers and the owner have access to regulate the oven temperatures.
Revision date and Revision number:	2022-05-22 Version 1.0
Criticality/Priority:	Must

7.3 NON-FUNCTIONAL REQUIREMENTS

Non-functional requirements

- All staff and the owner can use the system
- Only the owner can see the records of the damaged and lost goods
- Each category of staff e.g. bakers can only login to their category and can only see their past history.
- The system can only work for users that have authorisation from the owner with a certain password given to them

8 FEASIBILITY ANALYSIS

8.1 INTRODUCTION

8.1.1 Purpose

The purpose of a feasibility matrix is to determine whether the proposed system solution is worth going through with. Our proposed system will be compared to 2 other Candidates, namely Jedda and Geni.

8.1.2 Scope

The owner Mr Jooste wants a system that allows control over the processes within the business that will minimize human faults and then eventually maximise profit. The system also keeps track of the amount of bread baked, taken to be sold per driver and the total amount of bread sold.

8.1.3 Structure

The structure of the feasibility matrix consists of comparing our proposed solution system to two other similar systems. We will be comparing Operational Feasibility, how well the system solves the company problems, consisting of Functionality and Political. Technical feasibility, what is practical and reasonable for the system to be able to accomplish, consisting of Technology and Expertise. Thirdly we have Economic Feasibility, estimating the costs and calculating future costs. Lastly Schedule Feasibility, if the project deadlines are reasonable.

8.2 FEASIBILITY ANALYSIS

Now we will compare the three different Candidates' feasibility with similar feasibility solutions in a sense.

Feasibility Criteria	Weight	Candidate 1: Jedda	Candidate 2: Geni	Candidate 3: Mr. Jooste
Operational Feasibility **Functionality**. A description of to what degree the candidate would benefit the organization and how well the system would work. **Political**. A description of how well received this solution would be from both user management, user, and organization perspective.	**35%**	**Functionality:** Not greatly benefit the owner, as the owner will not have the information on hand of the available stock, since the information is only uploaded to the local computer which has the program created for the new solution. **Political:** This solution is well received since there is a solution to the problem and all the info is available as accurate as possible of the sales. **Score: 50%**	**Functionality:** The owner is benefitted with this solution because he can review his sales of his bread on his phone. Not too beneficial that he is only able to see the sales the day after, so that all information must be uploaded by the bakers and drivers before a statement of the sales can be shown. **Political:** The solution is well received by all who is part of the business. They are all able to review the information that was provided. **Score:60%**	**Functionality:** The owner is benefited through this system because he has control over every element in the business. He will be able to maximise his profit because he is able to control the amount of stock damaged and lost because of the new system made for the business to minimize all possible human error. **Political:** The client's will be positively affected by this system because there will be enough fresh bread for all client's, since the damaged and stolen bread is minimized by the new system. The employees also now do not have to do unnecessary extra work because the problem of human error while baking the bread is being minimized as much as possible. The owner will now also be making a bigger profit because all extra expense of baking more bread to replace damaged or stolen bread is less. **Score: 90%**
Technical Feasibility **Technology**. An assessment of the maturity, availability (or ability to acquire), and desirability of the computer technology needed to support this candidate.	**25%**	**Technology:** The system is a bit more difficult to understand and use. It is made for more advanced businesses that have all the additional software and equipment.	**Technology:** The system is easy to use but it has some limitations. It is only useable on Andriod. So any other devices will not be able to run this system. **Expertise:**	**Technology:** The system will be implemented and installed into already owned computers around the bakery and onto the drivers' cellphones. The system is on an app created which will be shared and installed on

Expertise. An assessment to the technical expertise needed to develop, operate, and maintain the candidate system.		**Expertise:** To be able to use this system the guide on how the functions of the system work needs to be studied extensively by the user. **Score: 40%**	The system is easy to use and no need for extra learning to use the system. **Score: 50%**	these devices that the business already owns. **Expertise:** The system is easy to work for all the different aspects of the business. The bakers will easily be able to follow the recipes on the system. The drivers will understand how to scan the barcode of the loaf of bread being sold. The owner will easily be able to view the stock and overlook how the day is proceeding with the baking and selling of bread. The system will be easy to update for when the business grows and needs more aspects to be added to the system. **Score:75%**
Economic Feasibility **Cost to develop:** **Payback period (discounted):** **Net present value:** **Detailed calculations:**	**35%**	Cost to develop: R10000 Payback Period: 5years Net present value: R Detailed calculations: R **Score:50%**	Cost to develop: R5000 Payback Period: 2years Net present value: R Detailed calculations: R **Score: 70%**	Cost to develop: R0 Payback Period: 0 years Net present value: R Detailed calculations: R **Score: 90%**
Schedule Feasibility An assessment of how long the solution will take to design and implement.	**5%**	5 motnhs **Score: 60%**	3 months **Score: 70%**	7 months **Score:50%**
Ranking:	**100%**	**48%**	**61.5%**	**84.25%**

8.3 RECOMMENDATIONS

8.3.1 Operational Feasibility

It is recommended that Candidate 3 system to be built. It is in this view better than both Candidate 1 and 2 in terms of our client. All the requirements stated by the owner is provided by this system, the Candidates 1 and 2 do not cover all the requirements. The stakeholders and users mentioned are positively affected by Candidate 3.

8.3.2 Technical Feasibility

Candidate 3 is clearly the best in terms of technology. Candidates 1 and 2 require extra software, and equipment and have limitations to only work on certain devices.

8.3.3 Economic Feasibility

Candidate 3 is completely free and definitely Economically feasible.

8.3.4 Schedule Feasibility

Candidate 3 will take the longest to be implemented because it was built specifically for this business and has not yet been tested on previous businesses. Candidate 1 has been implemented in bigger businesses, so has Candidate 2.

8.3.5 Conclusion

To make the process of choosing the most feasible Candidate, scores have been given and summed up to choose the highest score, meaning it is the most feasible.

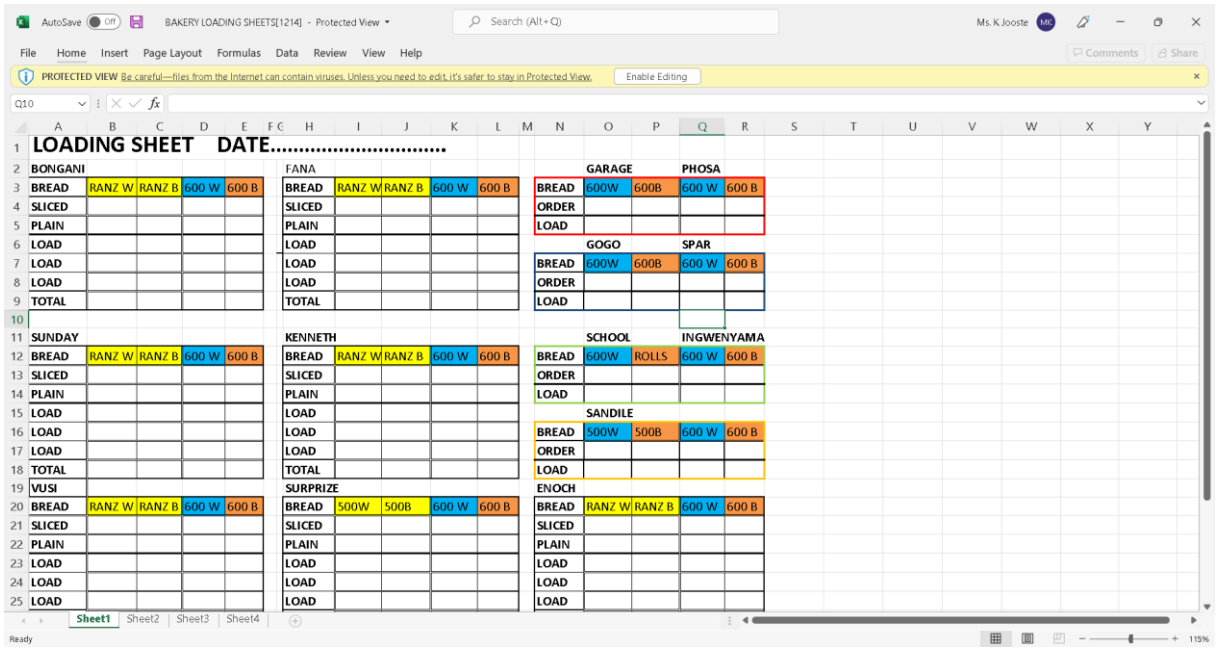
8.4 CONCLUSION

Looking at the final scores and what has been recorded in the feasibility matrix, it is clear to see that Candidate 3 is by far the most feasible system for the owner, Mr Jooste.

9 APPENDIX A: CLIENT DOCUMENTATION

9.1 LOADING SHEETS

These are the excel sheets used when drivers write down how many loaves they take:

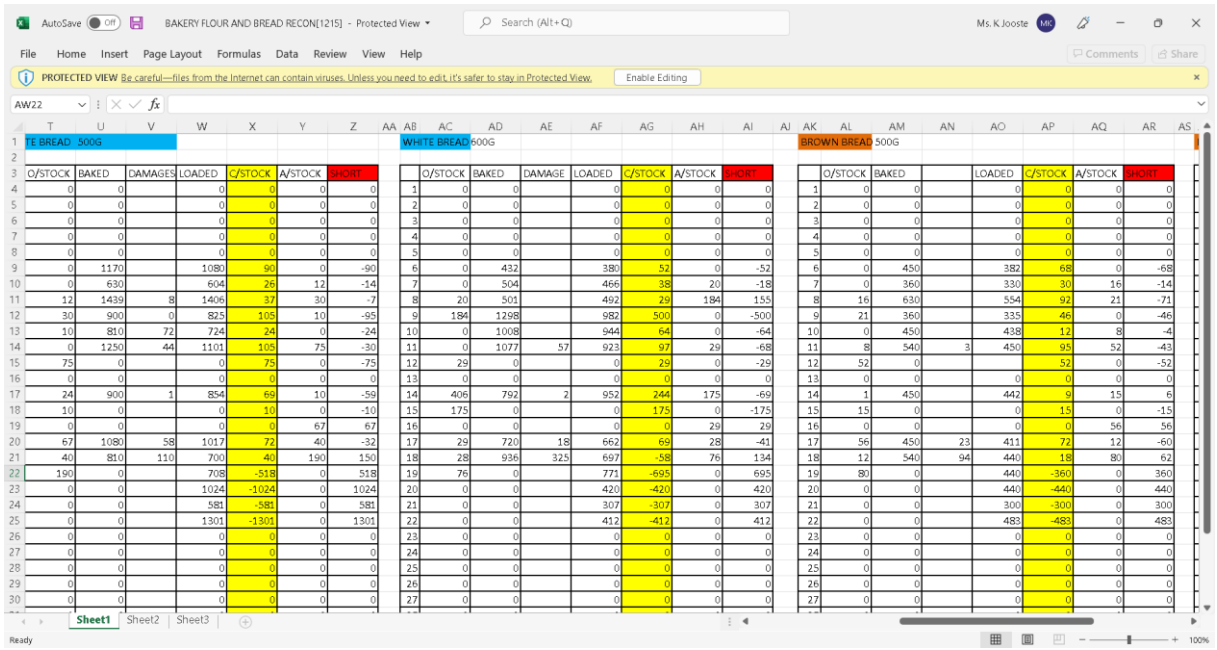


LOADING SHEET DATE.....

BONGANI					FANA					GARAGE			PHOSA	
BREAD	RANZ W	RANZ B	600 W	600 B	BREAD	RANZ W	RANZ B	600 W	600 B	BREAD	600W	600B	600 W	600 B
SLICED					SLICED					ORDER				
PLAIN					PLAIN					LOAD				
LOAD					LOAD						GOGO		SPAR	
LOAD					LOAD					BREAD	600W	600B	600 W	600 B
LOAD					LOAD					ORDER				
TOTAL					TOTAL					LOAD				
SUNDAY					KENNETH						SCHOOL		INGWENYAMA	
BREAD	RANZ W	RANZ B	600 W	600 B	BREAD	RANZ W	RANZ B	600 W	600 B	BREAD	600W	ROLLS	600 W	600 B
SLICED					SLICED					ORDER				
PLAIN					PLAIN					LOAD				
LOAD					LOAD						SANDILE			
LOAD					LOAD					BREAD	500W	500B	600 W	600 B
LOAD					LOAD					ORDER				
TOTAL					TOTAL					LOAD				
VUSI					SURPRIZE					ENOCH				
BREAD	RANZ W	RANZ B	600 W	600 B	BREAD	500W	500B	600 W	600 B	BREAD	RANZ W	RANZ B	600 W	600 B
SLICED					SLICED					SLICED				
PLAIN					PLAIN					PLAIN				
LOAD					LOAD					LOAD				
LOAD					LOAD					LOAD				
LOAD					LOAD					LOAD				

9.2 STOCK CONTROL SHEETS

This are the excel sheet used to take control of the stock.



TE BREAD 500G

O/STOCK	BAKED	DAMAGES	LOADED	C/STOCK	A/STOCK	SHORT
0	0		0	0	0	0
0	0		0	0	0	0
0	0		0	0	0	0
0	0		0	0	0	0
0	0		0	0	0	0
0	1170		1080	90	0	-90
0	630		604	26	12	-14
12	1439	8	1406	37	30	-7
30	900	0	825	105	10	-95
10	810	72	724	24	0	-24
0	1250	44	1101	105	75	-30
75	0		0	75	0	-75
0	0		0	0	0	0
24	900	1	854	69	10	-59
10	0		0	10	0	-10
0	0		0	0	67	67
67	1080	58	1017	72	40	-32
40	810	110	700	40	190	150
190	0		708	-518	0	518
0	0		1024	-1024	0	1024
0	0		581	-581	0	581
0	0		1301	-1301	0	1301
0	0		0	0	0	0
0	0		0	0	0	0
0	0		0	0	0	0
0	0		0	0	0	0
0	0		0	0	0	0

WHITE BREAD 600G

	O/STOCK	BAKED	DAMAGE	LOADED	C/STOCK	A/STOCK	SHORT
1	0	0		0	0	0	0
2	0	0		0	0	0	0
3	0	0		0	0	0	0
4	0	0		0	0	0	0
5	0	0		0	0	0	0
6	0	432		380	52	0	-52
7	0	504		466	38	20	-18
8	20	501		492	29	184	155
9	184	1298		982	500	0	-500
10	0	1008		944	64	0	-64
11	0	1077	57	923	97	29	-68
12	29	0		0	29	0	-29
13	0	0		0	0	0	0
14	406	792	2	952	244	175	-69
15	175	0		0	175	0	-175
16	0	0		0	0	29	29
17	29	720	18	662	69	28	-41
18	28	936	325	697	-58	76	134
19	76	0		771	-695	0	695
20	0	0		420	-420	0	420
21	0	0		307	-307	0	307
22	0	0		412	-412	0	412
23	0	0		0	0	0	0
24	0	0		0	0	0	0
25	0	0		0	0	0	0
26	0	0		0	0	0	0
27	0	0		0	0	0	0

BROWN BREAD 500G

	O/STOCK	BAKED		LOADED	C/STOCK	A/STOCK	SHORT
1	0	0		0	0	0	0
2	0	0		0	0	0	0
3	0	0		0	0	0	0
4	0	0		0	0	0	0
5	0	0		0	0	0	0
6	0	450		382	68	0	-68
7	0	360		330	30	16	-14
8	16	630		554	92	21	-71
9	21	360		335	46	0	-46
10	0	450		438	12	8	-4
11	8	540	3	450	95	52	-43
12	52	0			52	0	-52
13	0	0		0	0	0	0
14	1	450		442	9	15	6
15	15	0		0	15	0	-15
16	0	0		0	0	56	56
17	56	450	23	411	72	12	-60
18	12	540	94	440	18	80	62
19	80	0		440	-360	0	360
20	0	0		440	-440	0	440
21	0	0		300	-300	0	300
22	0	0		483	-483	0	483
23	0	0		0	0	0	0
24	0	0		0	0	0	0
25	0	0		0	0	0	0
26	0	0		0	0	0	0
27	0	0		0	0	0	0

10 DOCUMENT CONCLUSION

All information provided has been done on a respective basis. We as DoughY induced all complications inside the business Butterbread with the following methods: preliminary investigation, problem analysis, requirements analysis and a feasibility study. We presented our solution _ to Mr. Jooste for improving Butterbead's business structure and to unburden the losses of his company.

With all documentation provided above, DoughgY conducted Deliverable 1 - Project Proposal proficiently.

The Deliverable 1 has accordingly been concluded by the client sign-off by Bryan Jooste on behalf of his company.

11 SIGN-OFF BY CLIENT

I, _____, conclude that I have received, reviewed, and approved the above documentation to my standards as **Deliverable 1** from the **Project Proposal** by **Group 10** from the University of Pretoria in correlation to my business, **Shanti Trading T/A Butterbread.** I hereby confirm all information stated above is correct to my understanding and that I am aware of all changes, drafts, and finalisations that was made on documents.

_____ _____

Bryan Jooste Date