



**DEPARTMENT OF INFORMATICS
GROUP ASSIGNMENT**

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Module Code	INF	2	7	1
Assignment number	Deliverable 1			
Date of Submission	26/05/2022			
Name of Lecturer	Dr Pillay			
<p>Declaration: I declare that this assignment, submitted by us, is our own work and that we have referenced all the sources that we have used.</p> <p><i>The University of Pretoria commits itself to produce academic work of integrity. I affirm that I am aware of and have read the Rules and Policies of the University, more specifically the Disciplinary Procedure and the Tests and Examinations Rules, which prohibit any unethical, dishonest, or improper conduct during tests, assignments, examinations and/or any other forms of assessment. I am aware that no student or any other person may assist or attempt to assist another student, or obtain help, or attempt to obtain help from another student or any other person during tests, assessments, assignments, examinations and/or any other forms of assessment.</i></p>				
Signature of Leader	L.Madonsela			

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System name: ProAcFuture System
Group: 31

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GROUP PHOTO



1.INTRODUCTION

Businesses rely on information system to carry out and manage their operations, interact with their customers and suppliers, and compete in the marketplace. As time goes, the current systems become less efficient and need to be updated to meet users needs. The purpose of the project is to get to understand the problem and performance of the current system for our chosen business and help find the solution to improve efficiency.

2.CLIENT INFORMATION

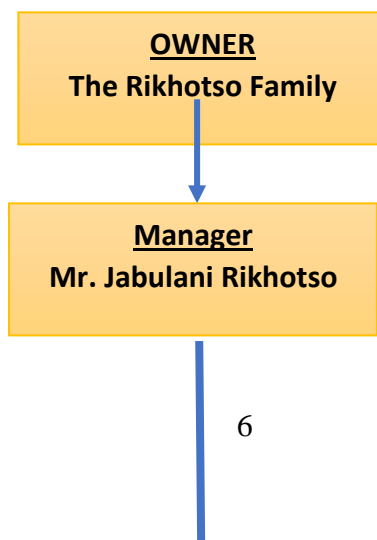
2.1 Introduction: This section outlines the necessary information about our client, Ka-Mhanintsongo. It outlines the history, background, geographic location and the organizational structure of the business.

2.2 History and Background of the organization

Ka-Mhanintsongo is a family-owned multi-TuckShop business that consists of 4 TuckShops located in busy streets of the township of Chiawelo in Soweto. The business was founded in 2001 and it started as just 1 TuckShop, and it branched out later during the years. The business specializes in fast food and small-scale quick access grocery items such as bread, milk, snacks, maize meal etc. The business is not yet officially registered and therefore not recognized as a VAT vendor. Out of those four stores, 3 of them sell both fast food and grocery items and only 1 shop focuses on fast food and beverages only.

2.3 Organizational Structure

There's only one manager Mr. Rikhotso, who manages all the stores. He usually drives in between all the stores daily to check if everything is going well. Each store has 2 employees, a chef and a cashier. If there's a busy day in one of the stores, the manager's wife usually joins in to give an extra hand, either as a cashier or chef. Mr. Rikhotso uses the business' pickup truck to inventory from multiple suppliers for all the four shops. They do not have any system to keep track of stock, revenue or fast-food orders whatsoever.





2.4 Contact Particulars

Our direct contact to the business for this project is Mr. Jabulani Rikhotso, the manager for all the four stores.

Cellphone Number: 073 356 6572

Email-address: jabuvictor@gmail.com

3.PROJECT REQUEST

3.1 Introduction: The project request is the original request of the client. What the client originally wanted for his/her business.

3.2 Description of project proposal

Mr. Rikhotso; the manager of MKM requested; has requested us to create/design a web-based system / online ordering system that is going to replace the manual system they currently have. The system that they're currently using is paper based and it only allows; the chef to take orders and write them down in a notebook and prepare them, the cashier to write all the transactions and calculate them using a calculator, and the manager to calculate sales and inventory level and generate sales report using a notebook. The web-based system will make things easier for all the stakeholders by:

- Allowing customers to order while still home using an online ordering system.
- Allowing regular customers to redeem promo codes for discounts.
- Tracking sales and inventory levels.
- Automatically calculating total sales and expenditure.
- Automatically generating daily sales report.

3.3 Conclusion: In conclusion of what was requested of us, we hope to provide our client with a system that will help them manage their daily activities effectively and efficiently and understand why our system is better

4.PRELIMINARY INVESTIGATION

4.1 Introduction: Preliminary investigation is a step taken to determine whether the problem or deficiency in the current system really exists. The main aim of preliminary analysis is to identify the problem. It refers to a collection of data that will guide the management of an organization to evaluate the merits and demerits of the project request and make an informed decision about the feasibility of the proposed system for the organization.

4.2The Problem/Vision Statement

4.2.1 The Problem

Customers come to the shop to buy items or order fast food. If the customer wants to order fast food or small grocery items, they place their order to the chef/cashier and wait while she prepares them. The waiting time sometimes tends to be longer as there is only one chef and one cashier on each shop. All transactions are recorded and calculated manually, and this makes it hard and lengthy for the manager to calculate total sales for the day, week and month and draw up the weekly and monthly sales report and inventory level.

4.2.2 Stakeholders Affected by the Problem

- Manager
- Cashier
- Chef
- Customers

4.2.3 The impact on each stakeholder

•Manager: Having to go and check and calculate total sales, inventory and expenditure manually in all four different stores can be stressful, tiring and time consuming.

•Cashier: Longer hours, the more the customers the longer it takes for the cashier to finish his/her work and have time to rest since each store has only 1 cashier.

•Chef: Longer hours. With increasingly demanding and rigorous customers expecting more and more from restaurant, the chef is expected to finish orders on time of which is tiring since there tend to be a lot of customers ordering take outs and she is the only chef that prepares all the orders.

•Customers: It is time consuming for customers to stand in the queue waiting to purchase/order food.

4.2.4 Benefits of successful solution

1. Increase customer satisfaction and loyalty.
2. Greater reach, it will reach thousands of people at a time.
3. Monitor expenses incurred, inventory levels and profits.
4. Customers have higher probability of receiving the correct order in a timely manner.
5. Gives enough time for the chef and cashier to prepare the orders on time.

4.3 Smart Business Goals and Objectives

(1) Want to Increase the business Profits

Specific: We will increase revenue while cutting down on expenditure. Moving to a new line of technology that will reach to a lot of people and increase number of customers who purchase at our stores.

Measurable: We will increase sales over the next 3 months by selling food via online ordering system.

Attainable: I will improve my current customer relationships and promote the business through posts and through social networks. This will help us find more leads and therefore see to an increase in revenue for the business.

Relevant: moving to a cheaper establishment will reduce the operational cost of the business and therefore give room to the growth of profits.

Time-bound: The business will have increased the profit by the end of the coming three months.

(2) Be More Efficient In all Business Operations

Specific: Will improve the efficiency in business operations by challenging all the workers. They could also work on improving the order/items preparation time from 60 minutes to at least 30 minutes maximum.

Measurable: The number of online orders should increase as well.

Attainable: I will conduct a survey to find out what both the clients and the sales team think about the idea. I will implement it as soon as the idea passes as valid.

Relevant: Hiring more chefs and cashiers to help with the preparation of grocery items/orders so that the customers can get their orders on time.

Time-bound: This should happen in a period of 6 months.

(3) Grow the Business Operation

Specific: Open more shops in other locations and the other provinces as well within five years' time.

Measurable: The objective is to increase operations and revenue for the business. This will, in turn, facilitate the growth to other more branches.

Attainable: Increasing the current selling space by 25% and the number of workers, which will mean more production. This can help me save for the planned growth to more branches in other provinces.

Relevant: Increasing production, operations and revenue will mean a larger client base thus the need for more branches will not be a wasteful idea after all.

Time-bound: Creating more shops/branches should be within the next five years.

(4) Improve Customer Service Quality

Specific: Improve the quality of customer service to achieve a 90% customer satisfaction rating on accuracy, timeliness and courtesy measures in 6 months.

Measurable: Achieve a 90% customer satisfaction rating by using our newly implemented systems.

Attainable: Provide training sessions to ensure all employees understand expectations and are prepared to execute proper procedures. Ensure we have standards in place to assess customer satisfaction. Customer complaints will be reviewed, and corrective action will be taken where necessary.

Relevant: Excellent customer service is key to maintaining and growing our customer base.

Time-Bound: We will see results within six months' time.

4.4 Detailed problems, Opportunities & Directives Matrix

Table 1: Problems, Opportunities & Directive Matrix

PROJECT: Proacfuture	PROJECT MANAGER:<instructor's name>
CREATED BY: Luyanda Madonsela	LAST UPDATED BY:<Luyanda Madonsela>
DATE CREATED: 05/18/2022	DATE LAST UPDATED: 05/20/2022

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. Dissatisfied clients	Number of clients and total sales amount drops.	Attract more clients who can conveniently place their orders online from the comfort of their homes.	6 months	System to support clients is paper-based and problematic	R0; business knowledge input from the client; 6 months of hard dedicated work by 5 INF271 students

2. Customers don't get their orders on time.	Customers have to wait for quite some time to receive their orders since there's only 1 chef and 1 cashier.	Customers will only come to the shop to pick up their order they've placed online, now they won't need to wait for too long.	6 months	All the orders are taken/recorded to a notebook	R5000
3. Manually calculating sales and expenditure.	Calculating sales and expenditure is lengthy and non-efficient as the business keeps growing.	Easy to track total sales and expenditure on the system.	2 months	Calculating everything manually.	R35000
4. Potential data loss or damage is very high because data is stored in notebooks or tangible files.	Difficult for the business to retrieve information as data is stored manually.	Using a system that keeps all data will assist the manager to provide the stakeholders with information needed effectively and efficiently.	3 months	Keeping all records/ transactions manually.	R0; business, accounting and auditing knowledge from the INF 271 students.

Brief Statements of Opportunity	Urgency	Visibility	Annual Benefits	Priority or Rank	Proposed Solution
1. Replace current manual system with an online web-based system to reach more clients.	6 months	High	R10000-R50000	1	New system.
2. Hiring more workers in each store to help with the preparation of orders as there will be more orders coming in.	4 months	Medium	R25000	5	New development

3. SARS requires small businesses to do more visible reporting on income received	6 months	Medium	Will help the business to make more revenue.	6	New development
4. Important data needs to be tracked and kept in one spot (in one system) for easy access to the manager.	6 months	High	Make financial statements based on the accurate data stored on the system.	3	New system

4.5 Preliminary assumption and Constrains

4.5.1 Project Assumptions

- We thought we were going to have access to all the resources we needed to complete the project, both human and material.
- Project team members will have the resources they need to complete their individual tasks on time.
- The business will be able to cover all costs for the project.
- Presuming that all the customers will be keen to use the system we are going to create for the business.

4.5.2 Project Constraints

- Resources: Not having enough resources kind of limited us when choosing our elicitation techniques. We couldn't get the business resources specifically where they record everything that's related to their business operation.
- Cost: For this project to be complete we need a certain budget to cover all costs in the process of creating a system, and the business isn't making that much profit, meaning we might have a very tight budget for the project.

4.6 Elicitation Techniques

Table 2: Elicitation Techniques and Motivative Techniques

Elicitation Techniques	Technique Explanation	Why we chose this technique
------------------------	-----------------------	-----------------------------

1. Brainstorming	<ul style="list-style-type: none"> • The requirements elicitation process begins with brainstorming. To facilitate focused and fruitful brainstorming sessions, business analysts work together for capturing new ideas. Suggestions coming out of brainstorming sessions should be properly documented in order to draft the plan of action. 	<ul style="list-style-type: none"> • We were all able to come up with different ideas and among those ideas we then chose the one that is going to fit the business operations.
2. Interview	<ul style="list-style-type: none"> • A great way to extract critical data is via this elicitation technique. Business analysts engage in group or one-to-one interviews in an informal or formal setting to elicit project requirements through questions directed at Subject Matter Experts, stakeholders, and end-users. By exploring diverse opinions, business analysts gain in-depth knowledge of the requirements. 	<ul style="list-style-type: none"> • The data we collected when conducting the interview with the business manager gave us enough information on how we can help them create a productive system for both the business and its stakeholders.
3. Questionnaires	<ul style="list-style-type: none"> • In this technique, multiple Subject Matter Experts and stakeholders are involved in a project, business analysts conduct a survey for the elicitation of requirements. Everyone involved is given a questionnaire to fill out. Subsequently, the responses are analysed to refine the requirements. Surveys are less expensive than other requirements elicitation techniques, easy to administer, and can produce both qualitative and quantitative results. 	<ul style="list-style-type: none"> • With this elicitation technique we got the accurate information from a large audience and the questions were open-ended questions, meaning the respondents were given freedom to answer using their own thinking/words rather than selecting from the predefined responses.

4.7 Elicitation Technique Checklist

4.7.1 Interview

Table 3: Preparation for Interview Elicitation Checklist

Preparation checklist		
No	Task	Done
1	Decide which type of interview	<input checked="" type="checkbox"/>
2	Decide on interview goal	<input checked="" type="checkbox"/>
3	Create list of questions	<input checked="" type="checkbox"/>
4	Identify potential interviewees	<input checked="" type="checkbox"/>
5	Decide on location for interview	<input checked="" type="checkbox"/>
6	Invite interviewees	<input checked="" type="checkbox"/>
7	Send questions to interviewees (optional)	<input type="checkbox"/>

1. Decide which type of interview.
 - The group members agreed on conducting a video call interview.
2. Decide on interview goal.
 - The goal of the interview is to get an idea on how Mr. Rikhotso's business works and what problems he faces in the business and how he would like them to be resolved.
3. Create list of questions.
 - List of questions to be asked
 - How many stores do you have?
 - How many employees do you have?
 - How many customers come to each store in a day?
 - How do you keep track of the inventory?

- How do you keep track of fast-food orders?
 - How do you keep track of all the accounting cycles happening in your stores?
 - What do you think is the main issue with the current system of your business?
 - What do you think can be done to improve the current system?
4. Identify potential interviewees.
 - The group members agreed on interviewing only Mr. Rikhotso, the business owner.
 5. Decide on location for interview.
 - Since the interview is going to be conducted through a video call, everyone is expected to be in their comfort zones.
 6. Invite interviewees.
 - Mr. Rikhotso was called and asked to attend the interview.

Table 4: During Interview Elicitation Checklist

During Elicitation checklist		
No	Task	Done
1	Describe purpose of interview	<input checked="" type="checkbox"/>
2	Confirm interviewees' roles	<input checked="" type="checkbox"/>
3	Address any concerns	<input checked="" type="checkbox"/>
4	Explain how information will be recorded and shared	<input checked="" type="checkbox"/>
5	Ask predefined questions	<input checked="" type="checkbox"/>
6	Summarize the session	<input checked="" type="checkbox"/>

1. Describe the purpose of the interview.
 - The purpose is to collect all the functional requirements for the project
2. Confirm interviewees' roles.
 - The role of the interviewee is to answer all questions asked, and to explain in more detail on how he would like the system to improve.

3. Address any concerns.
 - There were some misunderstandings on what the interviewee wanted to tell us due to language barrier, but it was eventually resolved.
4. Explain how information will be recorded and shared.
 - Information is recorded through minutes taken and posted on the WhatsApp group for every member to access.
5. Ask predefined questions.
 - Before the interview, more than 20 questions were brought up by the group members and assessed, only the best 8 questions were selected to be used in the interview.
6. Summarize the session.
 - A conclusion was reached on what the interviewee wants for their business.

Table 5:After interview Elicitation Checklist

After Elicitation checklist		
No	Task	Done
1	Organize information	<input checked="" type="checkbox"/>
2	Confirm results with interviewees	<input checked="" type="checkbox"/>
3	Share information with stakeholders	<input checked="" type="checkbox"/>
4	Schedule follow-up interview if needed	<input checked="" type="checkbox"/>

1. Organize information.
 - The information was written down and collected into a file for later use.
2. Confirm results with interviewees.
 - The interviewee was asked to confirm the results.
3. Share information with stakeholders.
 - The stakeholders were given a copy of the information collected.
4. Schedule follow-up interview if needed.
 - There is no follow-up interview

4.7.2 Questionnaire

Table 6: Preparations for Questionnaire Elicitation Checklist

Preparation checklist		
No	Task	Done
1	Define objective	<input checked="" type="checkbox"/>
2	Define target survey group	<input checked="" type="checkbox"/>
3	Select survey or questionnaire type	<input checked="" type="checkbox"/>
4	Select sample group	<input checked="" type="checkbox"/>
5	Select distribution methods	<input checked="" type="checkbox"/>
6	Select collection methods	<input checked="" type="checkbox"/>
7	Set target level	<input checked="" type="checkbox"/>
8	Set timeline for response	<input checked="" type="checkbox"/>
9	Determine if individual interviews are needed	<input checked="" type="checkbox"/>
10	Write survey questions	<input checked="" type="checkbox"/>
11	Test survey or questionnaire	<input checked="" type="checkbox"/>

1. Define objective.
 - To get an idea of what the customers and employees of Mr. Rikhotso's business think about the business current system and if they have any complaints.
2. Define target survey group.
 - Our target group are customers and employees of Mr. Rikhotso's multi-store business.
3. Select survey or questionnaire type.
 - The group agreed on using google forms for conducting this technique.
4. Select sample group.

- At least 10 participants were chosen, employees and customers.
- 5. Select distribution methods.
 - We are going to send the google form questions link to the participants through WhatsApp
- 6. Select collection methods.
 - After the survey is done, the results will be collected from google forms.
- 7. Set target level.
 - The participants should not be more than 30.
- 8. Set timeline for response.
 - Each participant is supposed to complete and submit the forms in 2 days.
- 9. Determine if individual interviews are needed.
 - They are not needed.
- 10. Write survey questions.
 - Question for customers
 - Are you satisfied with the customer service at KaMhanitsongo?
 - If you chose NO, describe in a short sentence what you're unsatisfied with?
 - What do you think KaMhanitsongo can improve on in terms of customer service?
 - On a scale of 1-10, rate the customer service at KaMhanitsongo?
 - Questions For Employees
 - Are you satisfied with the current system of KaMhanitsongo?
 - Do you feel overwhelmed by the amount of workload you have to do?
 - Describe in a short sentence what changes to the current system can make your work much easier?
- 11. Test survey or questionnaire.
 - We tested the questionnaire process among the group members before we could distribute it to the participants chosen

Table 7: After Questionnaire Elicitation Checklist

After Elicitation checklist		
No	Task	Done
1	Document results	<input checked="" type="checkbox"/>
2	Share results with survey group	<input checked="" type="checkbox"/>

3 Share results with stakeholders



1. Document results.

- A summary of the results was collected from google forms and documented.

2. Share results with survey group.

- The results were collected and shared with the participants.

3. Share results with stakeholders.

- The results collected were also shared with Mr. Rikhotso (the business owner)

4.7.3 Brainstorming

Table 8:Preparation for Brainstorming Elicitation Checklist

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

1. Define area of interest.
 - To come up with different ideas that are going to help us create a new or upgraded system for Mr. Rikhotso's business
2. Define time limit.
 - There is no time limit
3. Identify participants.
 - Only the group members will be available.
4. Identify facilitator.
 - Any group member can volunteer to act as a facilitator.
5. Invite participants.
 - Only the group members and the business owner are allowed to attend.
6. Invite facilitator.
 - Since the facilitator will be one of the group members, there was no need for an invitation
7. Meet with participants to explain expectations.
 - It is expected for every group member to come up with any idea they think of so that all ideas can be assessed.
8. Establish evaluation criteria.
 - Different ideas on how to solve Mr. Rikhotso's business problems will be brought to the table and the best ones will be chosen
9. Book venue/meeting room.
 - IT building level 5 sitting area.

Table 9:During Brainstorming Elicitation Checklist

During Elicitation checklist		
No	Task	Done
1	Share new ideas	<input checked="" type="checkbox"/>
2	Record all ideas	<input checked="" type="checkbox"/>
3	Build on ideas	<input checked="" type="checkbox"/>

4 Elicit as many ideas as possible



1. Share new ideas.
 - A lot of different new ideas are brought forward for assessment.
2. Record all ideas.
 - All the ideas shared were written down.
3. Build on ideas.
 - Each idea brought to the table was discussed and assessed thoroughly and built upon.
4. Elicit as many ideas as possible.
 - Many ideas were brought up by each member. No idea was left undiscussed, and no idea was deemed to be less of an idea.

Table 10:After Brainstorming Elicitation Checklist

After Elicitation checklist		
No	Task	Done
1	Discuss and evaluate ideas	<input checked="" type="checkbox"/>
2	Create list of ideas	<input checked="" type="checkbox"/>
3	Rate ideas	<input checked="" type="checkbox"/>
4	Distribute final list of ideas	<input checked="" type="checkbox"/>
5	Schedule follow-up if needed	<input checked="" type="checkbox"/>

1. Discuss and evaluate ideas.
 - The ideas brought up by each member were given a chance to be discussed and evaluated. Each member was given an opportunity to explain their idea.
2. Create list of ideas.
 - List of Ideas
 - A system that consists of a point-of-sale system and an online ordering system.

- A system that keeps track of local suppliers for different products sold in the store.
 - A system that tracks inventory levels, transactions and includes a customer mobile app for online orders and promo services.
 - Creating A system that's going to have track of all the suppliers around each geographical area that we can order stock from, and they deliver for us.
 - Creating a system that helps keep the customers busy while orders are being prepared.
3. Rate ideas.
 - All the ideas that were brought forward were rated by the group to find the best ones for the project.
 4. Distribute final list of ideas.
 - Upon the ideas that were brought forward, the best ones were picked and written down and distributed.
 5. Schedule follow-up if needed.
 - N/A

4.8 Elicitation Technique Proof

4.8.1 Interview Proof

4.8.1.1 Interview with Mr. Rikhotso

1. 1.How many stores do you have?
 - I currently have four stores in different locations around Soweto.
2. How many employees do you have?
 - Each shop has two employees, a cashier, and a chef.
3. How many customers come to your shop in a day?
 - Each store receives around 60-80 customers a day.
4. How do you keep track of the inventory?
 - Every day I travel between the stores checking if there's still inventory left and how much inventory has been sold, I then record the information I gathered in my inventory book.
5. How do you keep track of all fast-food orders?
 - When customers come to buy fast foods, they wait in a queue to get their chance of placing an order, the cashier writes the order details on an order book and sends it to the chef.
6. How do you keep track of all the accounting cycles happening in your stores?
 - Everything related to the finances of the business is calculated with a manual calculator.
7. What do you think is the main issue with the current system of your business?

- There's just a lot of things going on that I can't keep up with, sometimes we run out of stock because I failed to realise the stock is short. Many customers have been complaining lately about the poor customer service. I don't even know how much profit I make at the end of the month; I just know that I make some money.
8. What do you think can be done to improve the current system?
- The system could be a lot better if I could find better a way of tracking my inventory, provide good customer services for my customers and be able to track the business's money

4.8.1.2 Interview summary.

From the interview conducted, the group was able to identify most of the problems the current system of KaMhanitsongo stores faces. The problems identified are, lack of trustable and consistent accounting system, long queues when ordering foods, inventory tracking is done manually which can be faulty at times. These results are going to help the group to create a new system for KaMhanitsongo stores that solves all its problems.

4.8.2 Questionnaire Proof

4.8.2.1 Questionnaire Questions and results

5/26/22, 8:57 PM

Questionnaire for KaMhanitsongo store.

Questionnaire for KaMhanitsongo store.

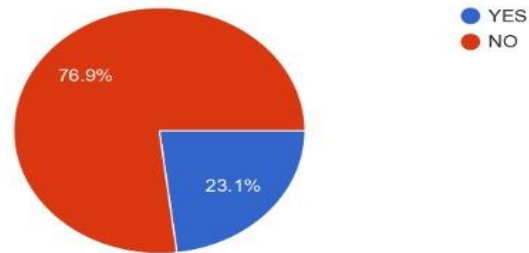
14 responses

Customer Section

Are you satisfied with the customer service at KaMhanitsongo?

 Copy

13 responses



If you chose NO, describe in a short sentence what you're unsatisfied with?

10 responses

Long queue

They sometimes take long to help us

They have the worst service ever

Customer service

Milk had expired

Take-outs waiting time

There's usually some bit of delays when they have to calculate how much I need to pay for the items I want to purchase. And The queues for fast food are usually too long at times.

Waiting time for fast food orders is long. They also sometimes forget my order.

Food

<https://docs.google.com/forms/d/15jWSuqS3qGVxh7FCnRKtuS777L1yorLoAtpzKsw8CRs/viewanalytics>

1/4

Figure 1:Customer results 1

5/26/22, 8:57 PM

Questionnaire for KaMhanitsongo store.

What do you think MKM can improve on in terms of customer service?

10 responses

Try to help customers fast

Maybe hire someone who will help with the work load

Get employees that are friendly to customers

Waiting time

Check expiry dates

Hire more workers to assist the chef and cashier

Hire new employees

They should get something that will help them make less errors when calculating purchase totals and change. And I wish there was a way they could notify us when there is a price change on certain items.

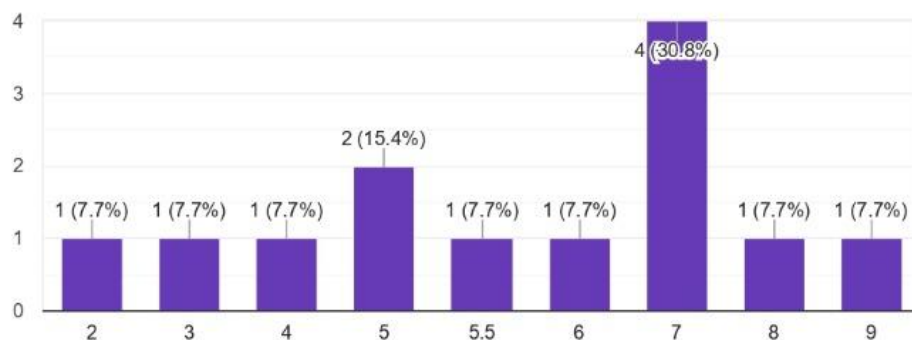
They can find better way to keep track of orders

Speedy service

In a scale of 1-10, rate the customer service at KaMhanitsongo?

 Copy

13 responses



Employee Section



Figure 2: Customer results 2

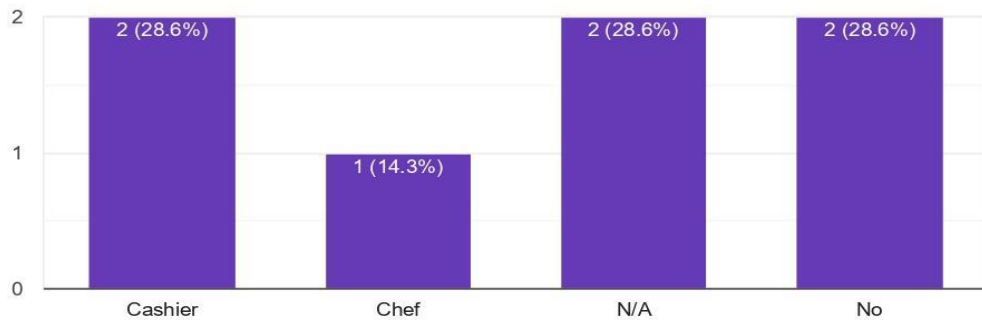
5/23/22, 9:52 PM

Questionnaire for KaMhanitsongo store.

Indicate if you are a Chef or a Cashier?

 Copy

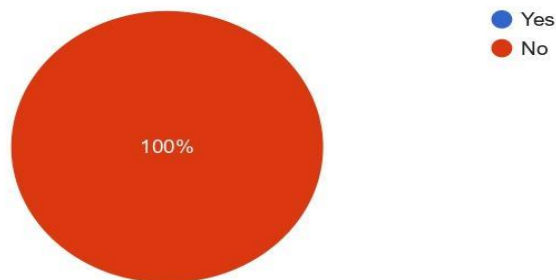
7 responses



Are you satisfied with the current system of MKM?

 Copy

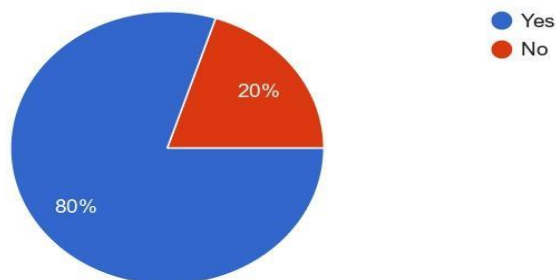
5 responses



Do you feel overwhelmed by the amount of work-load you have to do?

 Copy

5 responses



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3/4

Figure 3: Employee Results 1

5/23/22, 9:52 PM Questionnaire for KaMhanitsongo store.

Describe in a short sentence what changes to the current system can make your work much easier?

4 responses

A system to help me keep track of all pending food orders.

Instead of just a cash register. They could get us a computer system that will scan the items and automatically calculate the price instead of us having to do all the work manually.

Having more employees

If maybe there can be a point of sale system so I won't be troubled to calculate all the items customers buy

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Google Forms



<https://docs.google.com/forms/d/15jWSuqS3qGVxh7FCnRktuS777L1yorLoAtpzKsw8CRs/viewanalytics>

4/4

Figure 4: Customer Results 2

4.8.2.2 Questionnaire Summary.

From the questionnaire conducted, it was clear that a lot of customers have complaints about the poor customer service at KaMhanitsongo stores, long queues when ordering food was the most common complaint. The employees on the other hand had complaints about doing business activities manually.

4.8.3 Brainstorming Proof

4.8.3.1 Here are the proposed systems

1. (A) A system that consists of a point-of-sale system and an online ordering system
2. (B) A system that keeps track of local suppliers for different products sold in the store.
3. (C) A system that tracks inventory levels, transactions and includes a customer mobile app for online orders and promo services.
4. (D) Creating a system that helps the keep the customers busy while orders are being prepared
5. (E) Creating A system that's going to have to track all the suppliers around each geographical area that we can order stock from, and they deliver for us.

4.8.3.2 How do each of the systems work?

1. The system has a point-of-sale system in a form of a desktop computer with a barcode scanner, cash register roll and a dedicated accounting operating system or software that keeps track of transactions and inventory levels per shop. The System is also connected to a mobile app that allows customers to place online orders for fast food. The customer must pay via EFT before they can collect their order. Trusted regular customers can order and pay with cash upon collection of the order.
2. The system uses internet indexing to track local suppliers that supply products that are sold in the store at a discount rate.
3. Same as A, but it also offers a promo system for regular and a few random new customers. When a customer makes a purchase in the store, the system will print a code on the cash register roll slip that is presented to the customer. The customer will have to redeem the code on the store app and if they are lucky, they will get a discount for their next purchase. Customers also get promos if they refer the app to new potential customers. The system will generate profits in consideration to how the business is doing financially.
4. There manager hires entertainers to entrain the customers while orders re being prepared
5. An app is created that notifies the managers when suppliers are around the township.

4.8.3.3 Which problems will each system solve?

1. Bookkeeping, keeping track of inventory levels, reducing queues for fast food in the store.

2. Reduces the need for the store manager to buy stock in person, the system tracks suppliers that also offer delivery. Reduces the time needed for inventory to be replaced per store.
3. Same as A. But in addition, the promo system helps with business exposure, since there is usually a lot of competition for such businesses in the townships. It also promotes customer retainment.
4. The customers would be too busy being entertained to even realize the order is taking too long
5. The managers would know on which day he should go stocking.

4.8.3.4 Conclusion: The preliminary Investigation was conducted perfectly. In short, the problems, need and opportunities were discussed among the stakeholders, and the system requirements were identified.

5.PROBLEM ANALYSIS

5.1 INTRODUCTION: Problem Analysis is a way of understanding real-world problems and user's needs and proposing the solution to meet those needs. We will make use of Rich Pictures to get the better understanding of the problem and identify our stakeholders that are involved.

5.2 Overview of the current System

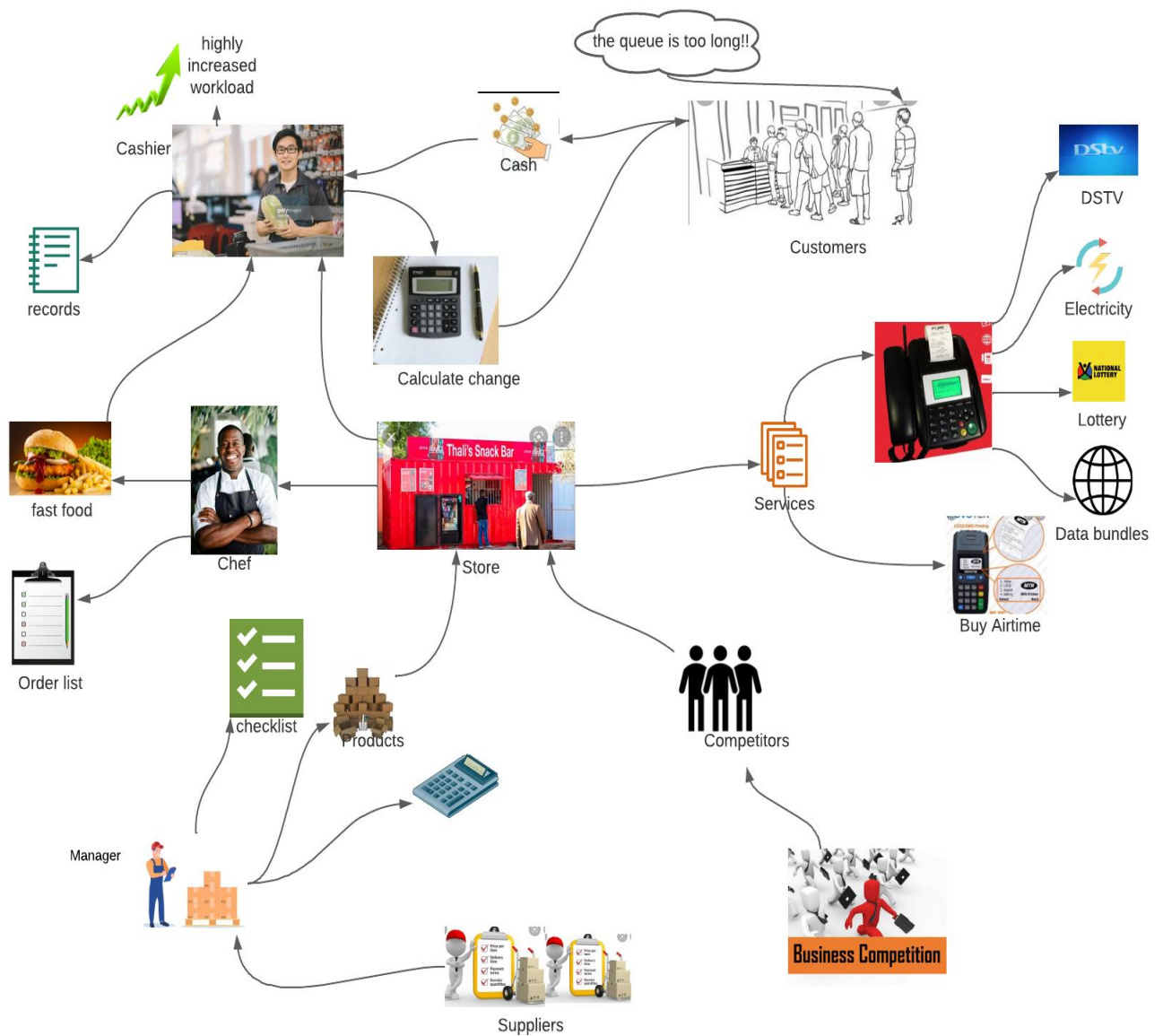


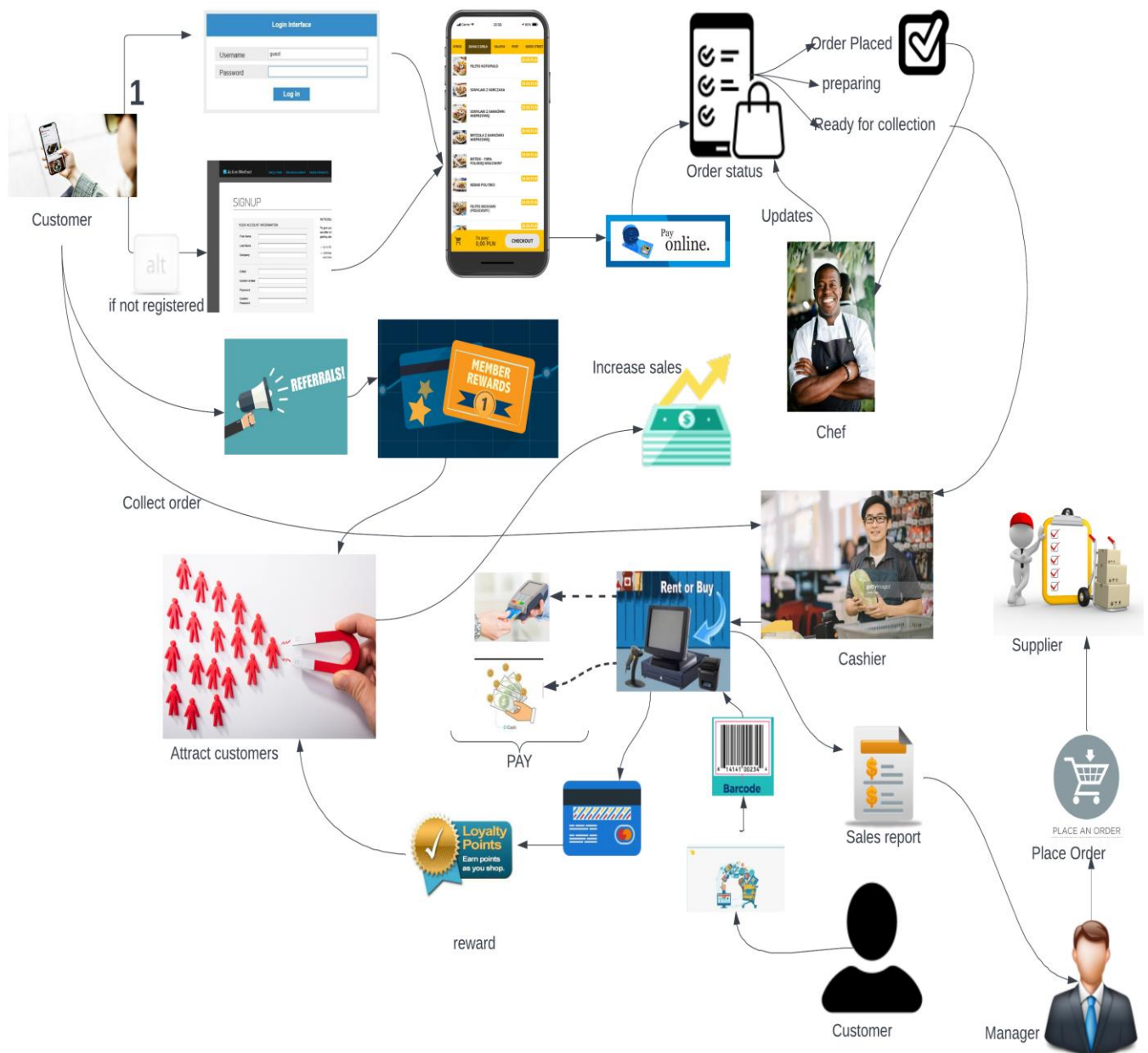
Figure 5: Current system

5.3 Systems Capabilities Analysis**Table 11: System capabilities**

Current system capabilities	Required system capabilities	Capability gap	Recommendation
<ul style="list-style-type: none"> Only cash payment method is applicable 	<ul style="list-style-type: none"> The system will accommodate multiple payment methods, Customers will securely be able to pay for their orders online using their credit card or in person 	<ul style="list-style-type: none"> Multiple payment methods will be convenient for all customers instead of only cash payment. 	<ul style="list-style-type: none"> In a case where a customer pays online, only essential information should be required and can easily correct some errors.
<ul style="list-style-type: none"> Orders are taken manually 	<ul style="list-style-type: none"> The system will have mobile/tablet friendly website/app with ordering capabilities 	<ul style="list-style-type: none"> Customers will place orders and see a menu on the website/app rather than going to wait on a long queue to order. 	<ul style="list-style-type: none"> The manager and the employees can make use of social media platforms to promote their menu and to make people aware of their website.
<ul style="list-style-type: none"> Customers are known in person by their frequent purchase in the shop. 	<ul style="list-style-type: none"> The system will keep customer's data and create public and private coupon for existing and new customers. 	<ul style="list-style-type: none"> Discount will be given to deserving customers also if they refer new potential customers on the app which will help attract more customers and improve customer satisfaction. 	<ul style="list-style-type: none"> More efficient discount should be used such as event/seasonal discount rather than buy one get one free discount as the business is not yet on a level to be making huge profits and may end up making losses in the process.
<ul style="list-style-type: none"> Sales records are kept manually 	<ul style="list-style-type: none"> The system will produce sales reports to look back over the transactions. 	<ul style="list-style-type: none"> More accurate reports will be produced and help the manager to monitor the performance of the business and make better decisions. 	<ul style="list-style-type: none"> Right data should be gathered such as revenue generated within a specific time and if sales are falling a clear action plan must be made for the next coming period to make sure

			the sales increase.
<ul style="list-style-type: none"> Total sales are calculated using a calculator. 	<ul style="list-style-type: none"> The system will calculate the amount to be paid for products and change to be given to the customer. 	<ul style="list-style-type: none"> The system will help speed up the checkout process, reduce discrepancy and improve accuracy. 	<ul style="list-style-type: none"> The system must be easier to use, and receipts should be printed out for customers.
<ul style="list-style-type: none"> The inventory is managed using hand-counting. 	<ul style="list-style-type: none"> The system will have an automated inventory tracking 	<ul style="list-style-type: none"> The system will reduce the time the manager needs to devote to check on stock and the need for error-prone inventory hand-counting, the manager will not have to worry about how much inventory they have on hand. 	<ul style="list-style-type: none"> There must be a set up notification for when the stock gets low in a store.

5.4 A New Proposed System



5.5 Conclusion: In conclusion, a rich picture of the current system, a rich picture of the new system and the system capabilities is put together to get an overview of how the system looks and how the new one will look.

6.REQUERIMENT ANALYSIS

6.1 Introduction: Functional requirements specify what the system must do, the non-functional requirements specify how the system performs its functions. Below is a list of functional and non-functional requirements for the Ka Mhanintsongo's new planned system.

6.2 Functional Requirements

6.2.1 functional requirement(s)-Make Order

- 1.The system should enable the customer to place an order using the Ka Mhanintsongo app
- 2.The system must send an email or SMS to confirm the placed order
- 3.The system must estimate how long it will take for the order to be prepared, and it should send that information to the customer.
- 4.The system should allow customer to login using their username and password.
- 5.The system should allow the new user of the app to create a new account.
- 6.The system should make the customer pick which payment method they will use.
- 7.The system should allow customer to make payment.

6.2.2 functional requirement(s)-Chef

- 1.The system should minus the scanned items from the inventory in store.
- 2.The system should give the chef time to prepare each order by giving them an estimation of how much time they should take on preparing a certain order and when they should start preparing it.
- 3.The system should allow the chef to change the status of an order to "ready to collect" when the order has finished being made ready.
- 4.The reference on the finished order should be included on the digital slip and be used during customer collection.

6.2.2 functional requirement(s)-management

- 1.The system should show inventory going in and inventory going out of the store.
- 2.The system should report when inventory is running low, it should report to the supplier and manager simultaneously.
- 3.The system should generate a sales report every month.

6.2.3 functional requirement(s)-Promotion

- 1.The system should include a code in every customer slip.
- 2.The code in every slip should be redeemable on the app.
- 3.Codes should not be accepted by the system when they have expired.
- 4.Codes not created and acknowledged by the system should not be accepted.
- 5.System should allocate a promotion to only a few codes so that less money is used on promotion.
- 6.The system should allocate the following to lucky codes: either a discount on a certain item or a free item when a particular item has been bought.

6.3 Functional Requirements Description

Table 12:Place order requirement

Functional Requirement	Explanation
Requirement number:	1.1
Requirement name (use case name):	Place an order
Requirement short description:	The system must allow the customer to place an order.
Requirement detailed description and constraints:	The customer should be able to place an order, of any items they want, on the Ka Mhanintsongo business app.
Business rules applicable to this requirement	Only customers who have logged in to the account they created can make an order.
Revision date and Revision number:	2022-05-22 Version 1.0
Criticality/Priority:	Must

Table 13: Login requirement

Functional Requirement	Explanation
------------------------	-------------

Requirement number:	1.2
Requirement name (use case name):	Login
Requirement short description:	The system must allow the customer to login.
Requirement detailed description and constraints:	The customer should be able to provide their password and username in a given space and then login to the system.
Business rules applicable to this requirement	Only a customer who have an existing account can be able to login.
Revision date and Revision number:	2022-05-22 Version 1.0
Criticality/Priority:	Must

Table 14: Create account requirement

Functional Requirement	Explanation
Requirement number:	1.3
Requirement name (use case name):	Create account
Requirement short description:	The system must allow the customer to create an account.
Requirement detailed description and constraints:	The customer should be asked their name, surname, phone number, email and new created password in order for them to be able to get an account created for them.
Business rules applicable to this requirement	Only customers who have field all required fields correctly will get an account created for them.
Revision date and Revision number:	2022-05-22 Version 1.0
Criticality/Priority:	Must

Table 15: Make payment Requirement

Functional Requirement	Explanation
Requirement number:	1.4
Requirement name (use case name):	Make payment
Requirement short description:	The system must allow the customer to make payment for what they purchased.
Requirement detailed description and constraints:	The customer should be able to provide their card number, card cvv and card expiry date which will be used to start the payment or they can indicate that they will pay cash when they collect their order.
Business rules applicable to this requirement	Only customers who have indicated what they want to buy can move on into the make payment step.
Revision date and Revision number:	2022-05-22 Version 1.0
Criticality/Priority:	Must

Table 16: Scan ordered Items Requirement

Functional Requirement	Explanation
Requirement number:	2.1
Requirement name (use case name):	Scan ordered items
Requirement short description:	The system must allow the chef to scan ordered items.
Requirement detailed description and constraints:	The customer should be able to scan ordered goods or items so that an inventory update can happen on the system.
Business rules applicable to this requirement	Only the amount of goods or items ordered should be scanned.
Revision date and Revision number:	2022-05-22 Version 1.0
Criticality/Priority:	Must

Table 17: Place Order requirement

Functional Requirement		Explanation
Requirement number:	2.2	
Requirement name (use case name):	Prepare order	
Requirement short description:	The system must indicate that the chef is preparing the customer's order.	
Requirement detailed description and constraints:	The system should show that the chef is preparing an order and it should place limited time for them to finish with making the order ready.	
Business rules applicable to this requirement	Only placed orders will be prepared, items added to the order list but not placed will be ignored until the customer clicks the place order button for them.	
Revision date and Revision number:	2022-05-22 Version 1.0	
Criticality/Priority:	Must	

Table 18: Status Requirement

Functional Requirement		Explanation
Requirement number:	2.3	
Requirement name (use case name):	Change status to "ready to collect"	
Requirement short description:	The system must allow the chef to change the order's status.	
Requirement detailed description and constraints:	When the chef is done preparing the order, they should be able to change the status of it to "ready to collect".	
Business rules applicable to this requirement	Only orders which have been prepared should get a "ready to collect" status on the app.	
Revision date and Revision number:	2022-05-22 Version 1.0	
Criticality/Priority:	Must	

Table 19:Collect Order Requirement

Functional Requirement	Explanation
Requirement number:	2.4
Requirement name (use case name):	Collect order
Requirement short description:	The customer must provide proof from the system which says they should collect their order.
Requirement detailed description and constraints:	The customer should provide their system generated digital slip to the cashier who will then give them their order which is referred to in their slip.
Business rules applicable to this requirement	Customers cannot collect an order when they do not have the digital slip to prove that it's them who made it.
Revision date and Revision number:	2022-05-22 Version 1.0
Criticality/Priority:	Must

Table 20: Inventory level notification requirement

Functional Requirement	Explanation
Requirement number:	3.1
Requirement name (use case name):	Inventory low level notification
Requirement short description:	The system must notify the suppliers of low-level inventory.
Requirement detailed description and constraints:	At any given time when the inventory gets close to being empty, the system must send a notification of low inventory levels to both the supplier and manager.
Business rules applicable to this requirement	When inventory is still enough, no notification regarding inventory should be sent to anybody.
Revision date and Revision number:	2022-05-22 Version 1.0
Criticality/Priority:	Must

Table 21: Generate sales report requirement

Functional Requirement	Explanation
Requirement number:	3.2
Requirement name (use case name):	Generate sales report
Requirement short description:	The system must be able to generate a sales report.
Requirement detailed description and constraints:	In the first day of every month the system should generate a sales report which will be sent to the manager.
Business rules applicable to this requirement	A detailed sales report will only be sent to the manager.
Revision date and Revision number:	2022-05-22 Version 1.0
Criticality/Priority:	Must

Table 22: Redeem code on app requirement

Functional Requirement	Explanation
Requirement number:	4.1
Requirement name (use case name):	Redeem code on app
Requirement short description:	The app system must allow the customer to redeem their code.
Requirement detailed description and constraints:	The customer should be able to type their code from the slip into the app, the app should then on submit of the code determine whether they got promotion or not.
Business rules applicable to this requirement	Invalid codes will not be accepted.
Revision date and Revision number:	2022-05-22 Version 1.0
Criticality/Priority:	Must

6.4 Non-functional requirements list

1. The system can only take a maximum of 200 orders.
2. The chef and/or cashier of each store can be able to login to the system and access information about how many orders have been made generally in the Ka-Mhanintsongo business and how may have been made in each store for a particular time.
3. The system should shut down when hacked such that customers cannot use the app to order.
4. The app should be easy to use.
5. Only the manager can view the sales report.
6. The system should only take orders in business hours(8am-5pm).
7. The system will run on Android mobile devices

6.5 Conclusion:

This part of the focused on the document focused on the function and non-functional requirements for KaMhanitsongo business.

7 Feasibility/Decision Analyses

7.1 Introduction

Feasibility analysis is a way to efficiently compare different proposed candidate systems according to their Operation and Technical specifications, Economical and schedule feasibility.

7.1.1 Purpose

After carefully analysing the gap between the current business system and the recommended system from the problem analysis, our team proposed 3 systems that might solve the identified system gaps in the business. So, the purpose of the feasibility analysis is to analyse and compare the 3 candidate systems and choose one that will most effectively serve the business needs. The comparisons are undertaken on the following criteria:

Operational Feasibility: This criterion considers whether the operational part of the system does serve the organizational needs.

Technical Feasibility: is the measure of the practicality of the proposed system, the availability of required resources and expertise necessary to establish the solution.

Schedule Feasibility: considers the time needed for the full development of the system.

Economic feasibility: is the measure of the cost efficiency of the proposed system.

7.1.2 Background

The client requires a system that will effectively keep record and track of available inventory, do all the accounting and bookkeeping processes automatically, and possibly help with business exposure.

7.1.3 Scope and Structure

The feasibility analysis will be comparing three proposed systems that can potentially solve the client's problems and solve the existing gap in his business information systems need. The three proposed systems have the following features:

Candidate 1:

- Point of Sale System
- Card Payment System
- Customer Desktop Website and Mobile App
- Online ordering system
- Accounting subscription software

Candidate 2:

- Point of sale system
- Supplier tracking search engine

Candidate 3: Proacfutur:

- Point of sale system
- Card Payment system
- Fast Food online ordering system
- Customer mobile app and desktop website
- Customer loyalty reward service

7.2 Feasibility Analysis

Feasibility Criteria	Weight	Candidate 1	Candidate 2	Candidate 3: Proacfutur
Operational Feasibility Functionality. A description of to what degree the candidate would benefit the organization and how well the system would work.	40%	<u>Functionality</u> This candidate has a point-of-sale system in a form of a desktop computer with a barcode scanner and a cash register. This candidate has a third-party accounting subscription software. This system is linked to a customer mobile app and a desktop website. The sole purpose of the app and website is for fast food orders. The customer orders and pays online via EFT before they can collect their orders. The app/website allows regular customers to place orders and pay with cash upon collection of their orders.	<u>Functionality</u> This candidate has a point-of-sale system in a form of a desktop computer with a barcode scanner and a cash register. This candidate has a third-party accounting subscription software. This candidate has a custom developed internet indexing engine that will find nearby suppliers who supply the products sold by the business. The search system prioritizes suppliers who offer discounts and cost-efficient delivery.	<u>Functionality</u> This candidate has a point-of-sale system in a form of a desktop computer with a barcode scanner and a cash register. This Candidate has a purpose specific lightweight custom developed accounting software. The accounting software has an employee and a managerial side of accounting and bookkeeping. This system is linked to a customer mobile app and a desktop website. The system keeps track of available inventory in the store. The app and website keep up to date with the available inventory items and price changes per each store. The app/website

<p>Political. A description of how well received this solution would be from both user management, user, and organization perspective.</p>	<p><u>Political</u></p> <p>The accounting software has an employee and a managerial side of bookkeeping.</p> <p>The system will reduce the time needed for cashiers to do accounting processes manually</p> <p>The system will eliminate errors caused by cashiers when calculating customer purchase totals.</p> <p>The system will help the chefs keep a sequential track of all pending orders.</p>	<p><u>Political</u></p> <p>This candidate reduces the need for the manager to buy and pick up stock from suppliers himself.</p> <p>The candidate reduces the time needed to replace the depleted inventory in the store.</p>	<p>supports online orders for fast food items.</p> <p>The system adds a reward system for loyal customers and some new customers. After a purchase, the system prints a code on the cash register roll slip that is handed to the customer. The customer has to redeem the code on their app/website profile.</p> <p>The system produces rewards according to how the business is doing. The system uses an algorithm to determine which codes qualify for which discounts.</p> <p><u>Political</u></p> <p>The accounting software has an employee and a managerial side of bookkeeping.</p> <p>The system will reduce the time needed for cashiers to do accounting processes manually</p> <p>The system will eliminate errors caused by cashiers when calculating customer purchase totals.</p> <p>The system will help the chefs keep a sequential track of all pending orders.</p>
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				<p>The reward system will attract more customers and increase loyalty in the current customers.</p> <p>Score: 50</p>
		Score: 70		Score: 100
<p>Technical Feasibility</p> <p>Technology. An assessment of the maturity, availability (or ability to acquire), and desirability of the computer technology needed to support this candidate.</p> <p>Expertise. An assessment to the technical expertise needed to develop, operate, and maintain the candidate system.</p>	25%	<p><u>Technology</u></p> <p>The system will use Sage Pastel for accounting and bookkeeping purposes</p> <p>The Customer website will be developed using the most common web development languages.</p> <p>The mobile app will be developed using C# Xamarin from Visual Studio</p> <p><u>Expertise</u></p> <p>The Customer App and Website will be developed and maintained by our team at no extra cost.</p> <p>The business should hire an accounting professional to train the employees and management on how to use Sage Pastel.</p> <p>Score: 100</p>	<p><u>Technology</u></p> <p>The indexing engine will need much processing power.</p> <p><u>Expertise</u></p> <p>The entity will need to hire a professional software developer and information scientist to develop the mini search engine.</p> <p>Score: 50</p>	<p><u>Technology</u></p> <p>The accounting software will be developed using C# on Visual Studio.</p> <p>The Customer website will be developed using the most common web development languages.</p> <p>The mobile app will be developed using C# Xamarin from Visual Studio.</p> <p><u>Expertise</u></p> <p>The Accounting software, Customer app and website will be developed by our team at no extra cost. The software will be user friendly and will include a quick user tutorial.</p> <p>Score: 100</p>

Economic Feasibility Cost to develop: Payback period (discounted): Net present value: Detailed calculations:	25%	<u>Cost to Develop</u> Approximately R40000 for all four shops <u>Detailed Calculations</u> Full desktop computer: R5000 + Cash Register: R10000 + Barcode Scanner = R1000 =R7000 x 4 stores =R28000 + Sage Pastel Annual fee: R3 510 + 1 month Sage Pastel training fee: R10000 = R41510 (Starter TOTAL)	<u>Cost to Develop</u> Approximately R50000 <u>Detailed Calculations</u> Full desktop computer: R5000 + Cash Register: R1000 + Barcode Scanner = R1000 =R7000 x 4 stores =R28000 + Once off software development fee: R15000 = R43000 (TOTAL) Score: 60	<u>Cost to Develop</u> Approximately R30000 for all four shops <u>Detailed Calculations</u> Full desktop computer: R5000 + Cash Register: R10000 + Barcode Scanner = R1000 =R7000 x 4 stores =R28000 (TOTAL) Score: 90		
		Score: 75				
		Schedule Feasibility An assessment of how long the solution will take to design and implement.	10%	Approximately 5 months	Approximately 3 months	Approximately 7 months
				Score: 80	Score: 90	Score: 60
Ranking:	100 %	79.75	56.5	93.5		

7.2.1 Recommendations from Feasibility Analyses

7.2.1.1 Operational Feasibility

Candidate 3 scored a higher score due to having more features than the other candidates. The added loyalty reward system on Candidate 3 as compared to Candidate 1 helps mostly in business exposure and customer retainment, which is one of the most essential business aspects for a township business. The reward service will cause the business to make less profits per sale, but it will surely bring more customers to the business.

7.2.1.2 Technical Feasibility

Both Candidate 1 and 3 score higher in technical feasibility due to the availability of resources to develop the systems. Our team is well equipped in almost all the necessary skills needed to develop systems for candidate 1 and 3.

7.2.1.3 Economic Feasibility

Candidate 3 scores higher in economic feasibility due to cost efficiency. The need to outsource an expert increases the cost for Candidate 1 and 2.

7.2.1.4 Schedule Feasibility

On top of the base point-of-sale system per each candidate, Candidate 2 requires only one extra software. So, it takes less time to develop and implement it. Using a third-party subscription software (Sage Pastel) saves the developers time needed to develop the accounting systems traditionally as compared to Candidate 3. Thus, Candidate 3 scores the less on Schedule Feasibility

7.2.2 Conclusion

Our three Candidate systems have been ranked under the four feasibility analysis criteria: operational, technical, economical and schedule feasibility. And after considering the final ranking scores from the feasibility matrix, Candidate 3 is the clear winner of the 3 systems. The feasibility analyses suggests that Candidate 3 is the better system solution to meet our client's information systems' needs.

8. APPENDIX B: OTHER SYSTEMS INVESTIGATED

8.1 Introduction: There are already existing systems in use to help businesses achieve their operation excellence, improved decision making and customer/supplier intimacy, the focus is on point-of-sale system and online ordering system as our functional requirements depicts more the two systems functionalities.

A point-of-sale (POS) system is the hardware and software that helps a business accept payments from customers and make sales in person. It also routes funds to a customer's bank account after each sale. Modern POS systems help merchants manage inventory, track sales performance, manage staff, collect customer contact information, and much more.

At its most basic level, a POS system calculates the sum of the items a customer wants to buy, processes the payment, and modifies the inventory levels to reflect the sale.

Here's what the typical POS system workflow looks like:

1. A customer chooses to buy a product
2. A POS system calculates the total price
3. A customer pays
4. The point-of-sale transaction is finalized

8.2. System 1: Thrive Software



Thrive is a POS solution by **Granbury** solution that helps streamlining operations, customer management, online ordering, and restaurant marketing. It includes modules for delivery, online ordering, customer loyalty marketing and enterprise reporting.

Thrive's mobile app allows customers to place their orders and claim loyalty awards. Other features include checkout with on-screen cart pop out for review, address validation and stored payment functionality.

While thrive is suited for multiple food service businesses including fast casual, quick-service and full-service restaurants, bars, pubs and cafes, thrive was built around the unique needs of pizzerias.

Pricing: R2685

Free Trial: Not available

Free version: Not available

Reviews: 4.23

(Software Advice, n.d.)

8.2.1 Advantages

- It has a good promotion process.
- It has the best customer experience.
- It offers customer satisfaction and loyalty
- It manages online orders efficiently.
- It has multiple software packages; you buy what you need.

8.2.2 Disadvantages

- The price is too high.
- It offers poor security.

8.2.3 Why we chose this system: It was chosen because it has some features that align with the system we proposed. The features include Online ordering, business marketing, customer loyalty.

8.3 System 2: Modern MicroBiz POS Software for Retail

8.3.1 MicroBiz POS Software: Streamline the front register transactions and automate special customer orders, inventory management, customer accounts, purchasing and receiving and more. MicroBiz is designed to be simple to use yet can grow with the business.

8.3.2 MicroBiz POS Features to Speed-up Checkouts

MicroBiz has all the front-end features needed to ring up sales fast and easy, including:

1. Support of bar code readers, bar code printers, electronic cash drawers, customer pole displays and receipt printers.
2. Customer relationship management and customer house accounts.
3. Layaways, special orders, holds and invoices in progress

8.3.3 Back-end Store Management Features

The back-end features of MicroBiz can support most single store specialty retailers and include functions such as:

1. Inventory management, including handheld scanner for physical inventory
2. Purchasing and receiving, including back orders and min/max inventory levels
3. Employee time clock manager to keep track of employee hours
4. Accounts receivables and customer statements for customer credit accounts
5. Sales and promotions such R off, % off, buy x get y, etc.

8.3.4 Integrated Payments

MicroBiz POS eliminates entry errors, manual reconciliation and employee theft with semi-integrated payments.

Reduce Errors

Electronically transfers register transaction totals from MicroBiz to a semi-integrated payment terminal – eliminating data entry errors.

Speed-Up Check Out Process

Eliminates the time employees spend manually entering payment amount and authorization data from one system to another

Lower Fraud Exposure

Customers swipe, dip or wave payment cards directly with semi-integrated payment terminal. Employees do not handle customer cards

8.3.5 MicroBiz hardware includes:

Barcode Scanner
Thermal Transfer Tag Printer
Printer Paper and Label Supplies
Cash Drawer

8.3.6 References

-POS software for retailers

Available at: <https://microbiz.com/> Accessed 27/05/2022

8.4 Conclusion:

The systems above were investigated thoroughly by the group for us to come up with the perfect system for KaMhanitsongo business.

9.APPENDIX A: CLIENT DOCUMENTATION

9.1 Introduction: To progress with the project, we needed assurance from our client for his availability to work with us through our entire Deliverable1 and we can share information with him and be on the same page.

N: B The approval form used is attached below.

5/26/22, 3:20 PM

Group 31-271 | Process Street

Group 31-271

Created by **Group 31-271** May 26 at 3:06PM
Completed by **Group 31-271** May 26 at 3:20PM

Assignees

G3	Group 31-271
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Task Summary

7/7

1	<input checked="" type="checkbox"/>	Basic project information	by Group 31-271 May 26 at 3:20PM
2	<input checked="" type="checkbox"/>	Predicted project timeline	by Group 31-271 May 26 at 3:14PM
3	<input checked="" type="checkbox"/>	Assigned Members	by Group 31-271 May 26 at 3:11PM
4	<input checked="" type="checkbox"/>	Senior Project staff	by Group 31-271 May 26 at 3:09PM
5	<input checked="" type="checkbox"/>	Required resources	by Group 31-271 May 26 at 3:09PM
6	<input checked="" type="checkbox"/>	Monitoring method	by Group 31-271 May 26 at 3:09PM
7	<input checked="" type="checkbox"/>	Signed approval for project	by Group 31-271 May 26 at 3:07PM

Information Systems Development: Group 31-Deliverable 1

5/26/22, 3:20 PM

Group 31-271 | Process Street

1 ☒ Basic project information

Fill in the **basic information** of the project request form using the **form fields below**.

Project name

Information System Development-Group 31

Updated by Group 31-271 May 26 at 3:14PM

Short project description

The project is about developing an information system for a business that currently requires a new system to support his/her business.

Updated by Group 31-271 May 26 at 3:18PM

Project scope (start and end points)

Starts from getting information about the client, getting to understand our chosen business needs, analyse the problems and come up with solutions.

Updated by Group 31-271 May 26 at 3:16PM

 **Group 31-271** checked a task "Basic project inform...". May 26 at 3:20pm

2 ☒ Predicted project timeline

Use the **form fields below** to lay out the **rough timeline** of the project. **Edit this template** to add, remove, or alter the number of phases.

Phase 1

task 1

Preliminary Investigation

Updated by Group 31-271 May 26 at 3:12PM

start date

 Wed May 11 2022

<https://app.process.st/runs/kxxkKH76yeC38SnrlXRFjQ/print>

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Information Systems Development: Group 31-Deliverable 1

5/26/22, 3:20 PM

Group 31-271 | Process Street

end date



Sun May 15 2022

task 2

Problem Analysis

Updated by Group 31-271 May 26 at 3:12PM

start date



Mon May 16 2022

end date



Wed May 18 2022

task 3

Requirements Analysis

Updated by Group 31-271 May 26 at 3:13PM

start date



Mon May 16 2022

end date



Wed May 18 2022

task 4

Feasibility Analysis

Updated by Group 31-271 May 26 at 3:13PM

start date



Wed May 18 2022

end date



Mon May 23 2022

 Group 31-271 checked a task "Predicted project ti...". May 26 at 3:14pm

5/26/22, 3:20 PM

Group 31-271 | Process Street

3  Assigned Members

Note the **teams assigned to this project** and their **roles** in its completion using the **form fields below**.

Remember that you can **edit this template** to alter the number of fields available, or even directly assign team members to this template.

Member 1 Name

Luyanda,Vision

Updated by Group 31-271 May 26 at 3:10PM

Role

Preliminary Investigation

Updated by Group 31-271 May 26 at 3:10PM

Member 2 Name

Portia

Updated by Group 31-271 May 26 at 3:10PM

Role

Problem Analysis

Updated by Group 31-271 May 26 at 3:10PM

Member 3 Name

Lindiwe

Updated by Group 31-271 May 26 at 3:11PM

Role

Requirements Analysis

Updated by Group 31-271 May 26 at 3:11PM

Member 4

Nkateko

Updated by Group 31-271 May 26 at 3:11PM

<https://app.process.st/runs/kxxkKH76yeC38SnrlXRFjQ/print>

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Information Systems Development: Group 31-Deliverable 1

5/26/22, 3:20 PM

Group 31-271 | Process Street

Role

Feasibility Analysis

Updated by Group 31-271 May 26 at 3:11PM

⚡ Group 31-271 checked a task "Assigned Members". May 26 at 3:11pm

4 ✓ Senior Project staff

Now it's time to **record** the **senior figures** which will be **supporting/organizing** the project. This will namely be the **project manager, client, and sponsor (if applicable)**.

Project client

Mr.Rikhotso

Updated by Group 31-271 May 26 at 3:09PM

Project Members

Luyanda,Nkateko,Vision,Portia,Lindiwe

Updated by Group 31-271 May 26 at 3:09PM

⚡ Group 31-271 checked a task "Senior Project staff". May 26 at 3:09pm

5 ✓ Required resources

Documenting the **resources** that will be **required** for the **project to be completed** will greatly help your team to prepare thoroughly and therefore complete their tasks more quickly, and so that is precisely what you need to do now.

Resources required for the project

We only need a stable internet connection

Updated by Group 31-271 May 26 at 3:09PM

⚡ Group 31-271 checked a task "Required resources". May 26 at 3:09pm

<https://app.process.st/runs/kxxkKH76yeC38SnrlXRFjQ/print>

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Information Systems Development: Group 31-Deliverable 1

5/26/22, 3:20 PM

Group 31-271 | Process Street

6 ☒ Monitoring method

You're almost finished - now it's time to record the **method** you'll be using to **monitor the progress of the project** to make sure that everything's running to schedule.

Project monitoring method

We will make use of Asana and google drive to make sure the work goes accordingly and everyone can access it.

Updated by Group 31-271 May 26 at 3:09PM

 **Group 31-271** checked a task "Monitoring method". May 26 at 3:09pm

7 ☒ Signed approval for project

Finally, you need to make sure that this project request form has been approved by all relevant parties - namely, the client, sponsor, stakeholder, manager, and team leaders (if all are applicable).

Client name

Mr. Rikhotso

Updated by Group 31-271 May 26 at 3:06PM

1 ☒ ~~Approved by client~~

Updated by Group 31-271 May 26 at 3:07PM

Project Members

Luyanda,Nkateko,Vision,Portia,Lindiwe

Updated by Group 31-271 May 26 at 3:07PM

1 ☒ ~~Approved by project members~~

Updated by Group 31-271 May 26 at 3:07PM

 **Group 31-271** marked subtask "Approved by client" as completed. May 26 at 3:07pm

 **Group 31-271** marked subtask "Approved by project ..." as completed. May 26 at 3:07pm

 **Group 31-271** checked a task "Signed approval for ...". May 26 at 3:07pm

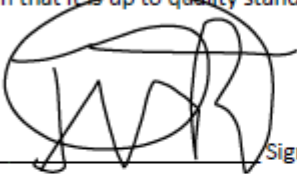
<https://app.process.st/runs/kxxkKH76yeC38SnrlXRFjQ/print>

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9.2 Conclusion: The documents above show the approval by our client, Mr Rikhotso.

10.CLIENT SIGN-OFF

I Jabulani Rikhotso, on behalf of Ka-Mhanintsongo, acknowledge that I have received and reviewed the INF271 Group 31 Deliverable 1 project document for the year 2022 and I confirm that it is up to quality standards.


Signature

Date 26/05/22

11.Document Conclusion

This document concludes group 31 Project proposal for KaMhanitsongo business. The problems have been identified and assessed. The client information, project request, preliminary investigation, problem analysis, requirement analysis and feasibility analysis were conducted efficiently, and the system was proposed. The name of the proposed system is Proacfuture.

