

PROJECT1

PROPOSAL FOR THE CLOTHINE INFORMATION SYSTEM DEVELOPMENT PROJECT

Abstract

This document contains the process that will be followed to create and implement an information system.

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TABLE OF CONTENT

1. BACKGROUND
2. PROBLEM STATEMENT
3. CONSTRAINTS
4. SCOPE DEFINITION
5. GOALS OF THE PROJECTS
6. OPPORTUNITIES TO IMPROVE
7. SCHEDULE
8. BUDGET
9. INTERNAL RESOURCES
10. PROJECT DESCRIPTION AND SCOPE
11. GRAPHICAL USER INTERFACE REQUIREMENTS
12. FUNCTIONAL DATA, PROCESS, AND INTERFACE REQUIREMENTS
13. NON-FUNCTIONAL REQUIREMENTS
14. CANDIDATE SYSTEMS MATRIX
15. FEASIBILITY SYSTEMS MATRIX
16. USE-CASE GLOSSARY
17. USE-CASE MODEL DIAGRAM
18. QUESTIONNAIRE
19. INTERVIEW QUESTIONS
20. SUMMARY, FUTURE & FURTHER PLANNING

1. BACKGROUND INFORMATION:

Clothing Laundry services is a start-up company located in Mafikeng and it was established on the 20th of October 2021. Mafikeng is a rural town in South Africa, and it is the capital city of the North-west province. This company is still local and focuses only on the town. Their services are washing, drying, starching, and ironing Clothes, Blankets, Curtains, and Shoes. They can do all the above services in the client's houses or at their workshop. Their clients would go to their workplace and book services or book over the phone or on social media.

They keep their records in a book, therefore they want to expand their services by developing a web application that can help their clients make all the bookings online and help keep the information of the clients in a database.

The company is established not only for generating money for the owner but also to help the community with employment and to help youth recognize that ideas can be implemented, and dreams can be followed without any doubt.

2. PROBLEM STATEMENT:

There have been several problems in the company that affects its performance and reputation. The problems that the company has are as follows:

- They don't have effective, flexible, and versatile management in the company.
- There is no effective communication between the employees and the clients.
- Clients can't exactly specify the type of services they kindly want.
- record book can be misplaced.
- information about the client can be written wrongly.
- Their couriers sometimes deliver the client's item to the wrong location.

3. CONSTRAINTS:

The factors that limit or restrict the development are as follows:

- There is no budget for Hardware, Software.
- The business has not been introduced to technology, therefore there is no budget allocated for it.
- There is no IT employee to maintain the system.
- Due to the use of books to store the client's information, the database will have to be used.

- There is no proper place or office to host the hardware once bought.

4. DEFINITION OF THE SCOPE:

This project will develop and deliver a new web application for the Clothine company. The web application will enable the user to make bookings or request services at any time they wish. The web application will provide everything that the user may need. For instance, if the user wants to get in contact with the company, there will be sites in the web app that will lead the client to the company.

The web application will have different sectors that the user will go through when requesting the service.

5. IDENTIFYING GOALS:

This project will develop and implement the system that will reach all the goals that this company have given. The following are the goals that this project will meet. The system must:

- Improve communication between the user and the employees.
- Keep all the records of the client.
- Give view to the client all the services that the company have.
- Help the user option to whether make a house-call which is opting the employees of the company to come and make the services at the client's house or whether services will be made at the company's workshop.
- Allow the user to choose the method of payment.
- Improve business processes by automating the request of the business. It must make all the requests happen over the internet.
- Improve business communication by providing a consistent graphical user interface to the user.

6. OPPORTUNITIES TO IMPROVE:

The following opportunities to improve were identified:

- To improve security in the system, the user will use email and password to log in to the system. The password can be requested when the user has forgotten one and will be sent via email automatically by the system.
- Email will be sent to both the company and the client from the system after the client has done with the service request. This will help the company to know when there is a service request.
- The contact section on the website will help the user to call the administration of the company whenever there is an issue with the system, or anything related.
- Show a report to the user to confirm the services.

7. SCHEDULE FOR THE PROJECTS:

<u>PROJECT DEFINITION</u>	<u>STEPS IMPLEMENTED</u>	<u>PROPOSED DATES</u>
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SCOPE DEFINITION	<ul style="list-style-type: none"> • Scope definition in the project proposal. 	05-01-2022
PROBLEM ANALYSIS	<ul style="list-style-type: none"> • Identifying the overriding problem. • Identifying the causes and effects of the problem. 	05-01-2022
REQUIREMENTS ANALYSIS	<ul style="list-style-type: none"> • Identifying business rules and objectives. 	01-02-2022
CONCEPTUAL DESIGN	<ul style="list-style-type: none"> • Define the outlines of the system. 	01-03-2022
LOGICAL DESIGN	<ul style="list-style-type: none"> • Specification of the business. 	01-03-2022
PHYSICAL DESIGN & INTEGRATION	<ul style="list-style-type: none"> • Design and implement a database. • Develop and create the system. 	01-03-2022
DECISION ANALYSIS	<ul style="list-style-type: none"> • Document and evaluation. 	02-03-2022
IMPLEMENTATION AND LOADING	<ul style="list-style-type: none"> • Install DBMS and programming software. • Create the database and load it with data. • Create and develop the system. 	30-05-2022
TESTING & EVALUATION	<ul style="list-style-type: none"> • Test the database and the system. • Make evaluation. 	30-05-2022
OPERATION	<ul style="list-style-type: none"> • Identify problems and come up with a solution. 	30-05-2022
MAINTENANCE & EVOLUTION	<ul style="list-style-type: none"> • Check for errors and fix them. 	30-05-2022

8. BUDGET:

MAN PER HOUR COST:

Internal cost: working 9 hours for 6. Months @ R50/hour

Which becomes: $50 \times 9 = 450$ each day.

$450 \times 30 = 13\,500.00$ per month

Period of 6 Month = $13\,500.00 \times 6 = 81\,000$.

The following materials are also impacting the budget:

- **SOFTWARE** to be used:
 - VISUAL STUDIO CODE: FREE
 - VISUAL STUDIO LICENSE: R 675.00 per month which is a total of R 4 050.
 - DBMS: FREE
- DOMAIN for hosting the web application:

- Will be paid directly by the business.

TOTAL BUDGET: R 4050 + R 81 000 = R85 050.

9. INTERNAL RESOURCES:

- The whole process of the project will be led to success by five (5) members who will work 9 hours a day on the project including weekends for 6 months:

NAMES:

OMPHEMETSE SENNA

BABEDI PAAI

KARABO KGOBALALA

MXOLISI MOLEFE

THULI EMBANE

10.PROJECT DESCRIPTION AND SCOPE:

The primary deliverable of this project is to improve and solve the issues that are currently faced by the CLOTHINE services. The model will be a fully functioning system that will have a welcome form or page that has a few doors on the website. For instance, the option where the user can request a password and others. The web application will have all the needs that the user might want to integrate.

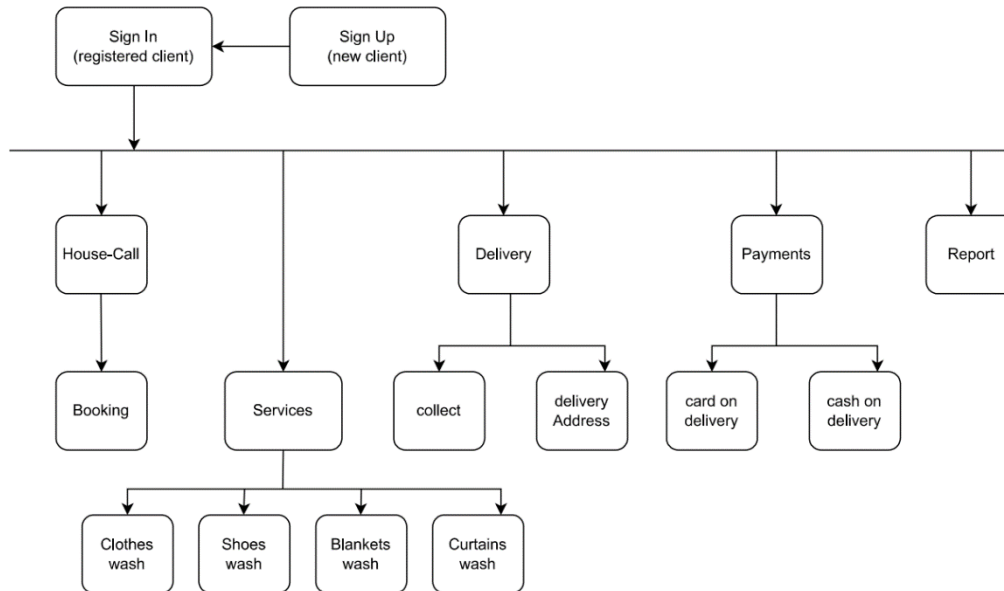
The following are the functionality of the web application:

1. Welcome page which is the first page of the web app.
2. About page.
3. Sign in, sign up and forget password page.
4. Maintenance of the laundry (Clothes, Curtains, Blankets, and Shoes).
5. Maintenance of the clients (details of clients who have requested the services).
6. House calls option.
7. Booking.
8. Delivery option.
9. Payment option.
10. Report page.
11. Close page (optional).

The non-functional requirements that must be satisfied by the website:

1. Provide an identifier for user to enter their details including name, surname and username and others in other forms.
2. The system will be accessed by any user who needs the services of the business.
3. Security: The user will have to confirm the email when requesting for password. A checkbox will be provided when the User creates an account. It will be used as an agreement of the user to comply with the rules.

11. Graphical User Interface Requirements:



12. Functional Data, Process, and Interface Requirements:

Sign up as a new client		
Input Data	Processing	Output
<ul style="list-style-type: none"> Username Password Checkbox Email address Cell number 	<ul style="list-style-type: none"> If the same user's email exists in the database, the website will give a warning message. Validate that: the attribute has been entered. When the user presses the submit button, all the details will be sent directly to the database. 	<ul style="list-style-type: none"> Error message: if the user entered the invalid input like wrong cell phone length. Error message: if the user has entered the wrong email. Error message: when the user did not check the Checkbox. Error message: if the mandatory textbox has been skipped. Successful Message via email to the user if the details are successfully captured.

Sign in as an old client		
Input Data	Processing	Output
<ul style="list-style-type: none"> Email Password 	<ul style="list-style-type: none"> The user will enter his/her name and password to sign in. 	<ul style="list-style-type: none"> An error message will appear if the user has entered the wrong email.

		<ul style="list-style-type: none"> • An error message will appear if the user has entered the wrong email or password that is not valid in the database. • A successful message will appear when the user has put the correct name and correct password.
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Forgot password		
Input Data	Processing	Output
<ul style="list-style-type: none"> • Email 	<ul style="list-style-type: none"> • The user will enter their email two times. 	<ul style="list-style-type: none"> • An error message will appear if the user has entered the unmatching email on the textboxes. • Password will be sent to the email if the email is correct.

House-Call option		
Input Data	Processing	Output
<ul style="list-style-type: none"> • Yes button • No button 	<ul style="list-style-type: none"> • The user will choose one of the options to request the booking or not. • After any of the buttons are clicked, the details will be saved to the database. 	<ul style="list-style-type: none"> • If the user chooses the Yes button, it will redirect the user to the booking page else, it will redirect the user to the services page.

Bookings		
Input Data	Processing	Output
<ul style="list-style-type: none"> • Address1 • Address2 • Address3(optional) • City • Postal code • Calendar • Time 	<ul style="list-style-type: none"> • The user will be required to fill in mandatory textboxes. • Will be required to select time and date. • After the submit button is clicked, the details will be saved to the database. 	<ul style="list-style-type: none"> • An error message will appear if the user has not filled the mandatory textboxes. • If successful, the user will be redirected to the services page.

Maintenance of the laundry

Input Data	Processing	Output
<ul style="list-style-type: none"> Select the types of services. Select the quantity of the services. 	<ul style="list-style-type: none"> Display all the services the company provide and allow the user to choose. Select the quantity after selecting services. After the submit button is clicked, the details will be saved to the database. 	<ul style="list-style-type: none"> An error message will appear if the user has not selected any of the services. An error message will appear if the user has not selected the quantity of the services. If successful, the user will be redirected to the next page.

Delivery method		
Input Data	Processing	Output
<ul style="list-style-type: none"> Delivery button Collect button 	<ul style="list-style-type: none"> The user will choose one of the options to indicate which method of delivery they would like to have. After any of the buttons are clicked, the details will be saved to the database. 	<ul style="list-style-type: none"> If the user chooses Delivery, will be directed to the delivery page to fill in addresses. If the user chooses to Collect, will be directed to the report page.

Delivery Address		
Input Data	Processing	Output
<ul style="list-style-type: none"> Address1 Address2 Address3(optional) City Postal code Collector's name Collector's last name Collector's cell phone number. 	<ul style="list-style-type: none"> The user will be required to fill in mandatory textboxes. After any of the buttons are clicked, the details will be saved to the database. 	<ul style="list-style-type: none"> An error message will appear if the user has not filled the mandatory textboxes. Error message: if the user entered the invalid input like wrong cell phone length. If successful, the user will be redirected to the payment page.

PAYMENT		
Input Data	Processing	Output
<ul style="list-style-type: none"> Card on the delivery button Cash on the delivery button 	<ul style="list-style-type: none"> Display all the delivery options and allow the user to choose. The user will choose one of the options to indicate 	<ul style="list-style-type: none"> If the user chooses any of the buttons, the user will be redirected to the report page.

	which method of delivery they would like to have. <ul style="list-style-type: none"> • After any of the buttons are clicked, the details will be saved to the database. 	
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REPORT		
Input Data	Processing	Output
<ul style="list-style-type: none"> • Confirm button 	<ul style="list-style-type: none"> • Display all the requests made by the user. • After the user has clicked the confirm buttons, the details will be saved to the database. 	<ul style="list-style-type: none"> • Email will be sent to the user and the admin.

WELCOME		
Input Data	Processing	Output
<ul style="list-style-type: none"> • Sign In button • Sign Up button • About button • Social media button • Contact button • Social-media button • Terms and Condition 	<ul style="list-style-type: none"> • Display details about services. • User will have to choose options from this form. 	<ul style="list-style-type: none"> • Direct the user to the form desired.

13.Non-Functional Requirements:

Requirements	PIECES Categories
<ul style="list-style-type: none"> • Provide an identifier for user to enter their details (names, password, email address, physical address, and cell number) 	<ul style="list-style-type: none"> • Control.
<ul style="list-style-type: none"> • The system/website will be accessed by any user that needs our services 	<ul style="list-style-type: none"> • Security or control
<ul style="list-style-type: none"> • Database will hold data of the client for over 100 clients' services a week. 	<ul style="list-style-type: none"> • Security, Performance information and data. • Capacity
<ul style="list-style-type: none"> • The program manager will oversee the running of the system and will also have access to it. 	<ul style="list-style-type: none"> • Control or security
<ul style="list-style-type: none"> • The website will only use the English language. • In terms of Currency for payments, the South African rand will be the only currency accepted. 	<ul style="list-style-type: none"> • Localization.

14.Candidate Systems Matrix:

Characteristics	Candidate 1	Candidate 2	Candidate 3
INPUT DEVICES:	<ul style="list-style-type: none"> Keyboard and Mouse 	<ul style="list-style-type: none"> Same as Candidate1 	<ul style="list-style-type: none"> Same as Candidate1
SOFTWARE TOOLS NEEDED: Software tools are needed to design and build the candidate.	<ul style="list-style-type: none"> Microsoft Visual Studio for back-end and front-end. 	<ul style="list-style-type: none"> Same as Candidate1 	<ul style="list-style-type: none"> Same as Candidate1
BENEFITS: Brief description of that portion of the system that would be realized for the candidate.	<ul style="list-style-type: none"> This solution will take time and will not be implemented easily because it is a built solution. 	<ul style="list-style-type: none"> Same as Candidate1 	<ul style="list-style-type: none"> Same as Candidate1

15. Feasibility Systems Matrix:

Description	Candidate 1 IS	Candidate 2 HTML	Candidate 3 Designed Solution
Risk feasibility	<ul style="list-style-type: none"> N/A <p>Score 0</p>	<ul style="list-style-type: none"> The team has basic knowledge of HTML, so there is a low chance that the system might not be implemented. <p>Score 10</p>	<ul style="list-style-type: none"> As the team has a basic knowledge of HTML, the risk of the solution not being implemented is low. <p>Score 75</p>
Operational feasibility	<ul style="list-style-type: none"> This candidate will be used by anyone who needs the services of the business. It will enable users to choose the kind of services they would like to be assisted with. This candidate is not time-consuming although it requires data to be used. <p>Score 60</p>	<ul style="list-style-type: none"> This candidate will fulfil the users' requirements since they will use the system in the comfort of their homes. Laundry will either be dropped at the client's place, or the client might come to pick up their items. The system will be easy to be used, and all instructions will be there. <p>Score 40</p>	<ul style="list-style-type: none"> This candidate is more like candidate 2. It will allow users to choose from various options given on how they want to pay, if they want house calls, and choose the type of services they want when booking an appointment. The system will be created to be user-friendly for every user to be able to use it. <p>Score 55</p>
Schedule feasibility	<ul style="list-style-type: none"> If this candidate is chosen, no changes will be made. 	<ul style="list-style-type: none"> The team has basic knowledge of HTML; therefore, it might take time to develop the website. 	<ul style="list-style-type: none"> On this candidate, the team that will create the website will need to start creating the user interface from scratch. More time is going to

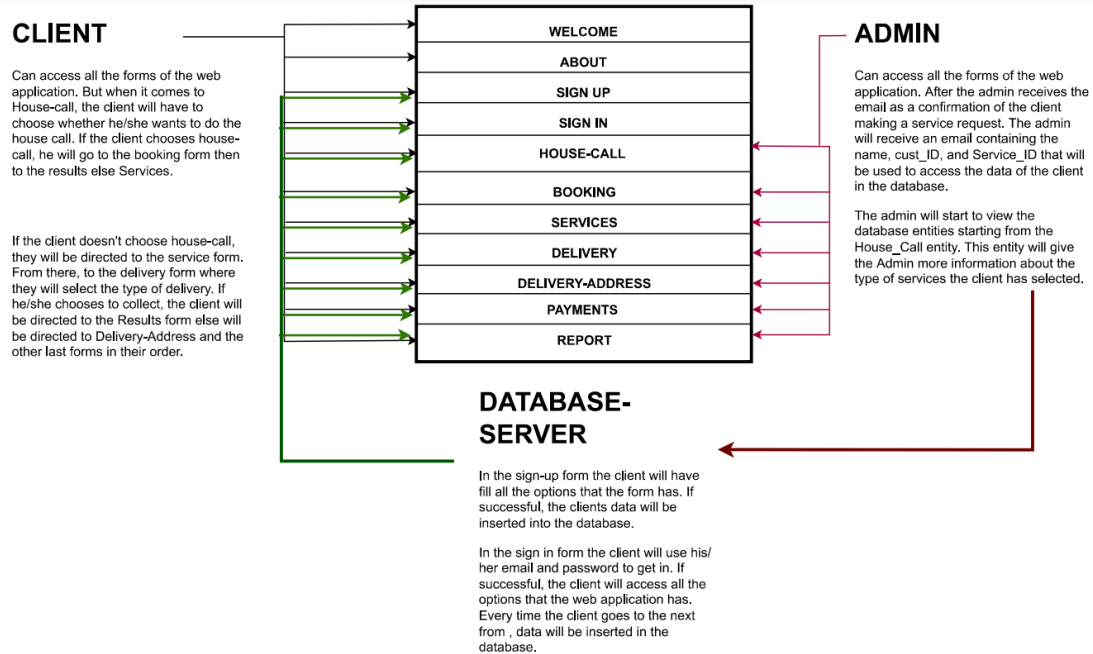
	Score 10	Score 40	be needed for this candidate. Score 80
Legal feasibility	<ul style="list-style-type: none"> This candidate has no legal problems. Score 100	<ul style="list-style-type: none"> This candidate has no legal problems. Score 100	<ul style="list-style-type: none"> This candidate has limited legal problems. Score 80
Weighted feasibility	49%	57%	72%

16. Use-Case Glossary:

Use Case	Description	Participating actors and roles
Welcome page	<ul style="list-style-type: none"> The client will have to choose from options on the page. 	<ul style="list-style-type: none"> The client
About page	<ul style="list-style-type: none"> This page allows the user to know much about the company and the web. 	<ul style="list-style-type: none"> The client (User)
Sign-up	<ul style="list-style-type: none"> The client will register to the web app to have the access to the website using his/her unique details. 	<ul style="list-style-type: none"> The client
Sign-in	<ul style="list-style-type: none"> This is where the clients will get access to the website to request the services by providing their details (email and password). 	<ul style="list-style-type: none"> The client
Maintenance of the laundry	<ul style="list-style-type: none"> The event where the client chooses the type of services, he/she wants to be assisted with. 	<ul style="list-style-type: none"> The client The administrator
Delivery Option	<ul style="list-style-type: none"> Clients choose if they want their items to be delivered by Clothine or they will collect the items themselves. 	<ul style="list-style-type: none"> The client The administrator
House-Call	<ul style="list-style-type: none"> Clients choose if they want to do a booking or not. 	<ul style="list-style-type: none"> The client The administrator
Payment	<ul style="list-style-type: none"> Clients are given options to choose from whether 	<ul style="list-style-type: none"> The client The administrator

	they want to pay cash on delivery, or card on delivery.	
Report	<ul style="list-style-type: none"> Clients will view all the options they have chosen. 	<ul style="list-style-type: none"> The client

17. Use-Case Model Diagram:



18. Questionnaire:

1. How many clients require your services daily?

- ☐ 0 to 10 clients
☐ 11 to 20 clients
☐ 21 to 50 clients
☐ more than 100 clients

2. How would you rate the communication between the client and the business with the current system?

- ☐ Good
☐ Average
☐ Bad

3. What would the new system improve?

4. How would you rate the quality and safety of the new system?

- ☐ Good
☐ Average
☐ Bad

5. Will the new system be safe for the capturing of the client's details?

- ☐ Yes
☐ No

6. How will the new system help improve the daily activities of the business?

7. Will the new system be user-friendly?

- ☐ Yes
☐ No

8. How long does it take to book an appointment with the new system?

- ☐ 5 to 30 minutes
☐ 31 minutes to 1 hour
☐ 1 hour to 2 hours

9. Does the current system offer online payments?

- ☐ Yes
☐ No

10. Do you think bringing in the new system will be solving the issues that the business has?

- ☐ Yes
☐ No

19. Interview Questions:

Interviewee: The owner of the CLOTHINE Laundry Services.

The interview was conducted via a zoom session.

Time: 10:00 am.

Date: 1 JAN 2022.

Time allocated	Questions	Answers
2 minutes	<ul style="list-style-type: none">How many items the client needs to provide for services?	<ul style="list-style-type: none">We don't have the exact number of items to be provided. Any number of items will allow.

4 minutes	<ul style="list-style-type: none"> Let us say the courier found that the client is not home by the time of delivery. What must the courier do with the items? 	<ul style="list-style-type: none"> The courier will call the client and if the courier cannot get hold of the client, the courier will have to return the items and additional charges will be added to the client.
3 minutes	<ul style="list-style-type: none"> What will happen if an item of the client gets damaged in your possession? 	<ul style="list-style-type: none"> We will inform the client telephonically that their item is damaged then we will replace the item or pay a fee for the item. We won't allow torn clothes and others, especially the light ones.
3 minutes	<ul style="list-style-type: none"> What will happen if your employees cannot complete a certain service on time? 	<ul style="list-style-type: none"> We have a schedule, and each employee has his/her role in the business.

20.Summary, future & further planning:

This project covered the requirements (functional and non-functional) needed for CLOTHINE laundry services. The project description and definition of scope, and the matrix phase. The system will be implemented for 6 months.