



Department of Information Systems
I.T Project Management (INF3011F) - 2022

Final Project Report:
Tracking of the recipients of Menstrual Cups

Team 10: Flo-Riders

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The UCT Knowledge Co-op facilitated this collaborative project between MPower and UCT.

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PART 1:

1.0 Introduction

1.1 Background

The New Moon Trust is a registered Public Benefit Organization (PBO) since February 2022 and provides Mpower Menstrual Cups to women and girls in low resource settings in South Africa. The Mpower Menstrual Cup is a menstrual management solution for all women which has been made in Cape Town, South Africa since 2008. This solution not only provides women and girls with confidence and dignity, but is also eco-friendly, hygienic, reliable, effective, comfortable, and convenient.

1.2 High Level Expectations

The Mpowercup Project has been initiated with the aim to reach out and track 20 000 women and girls after receiving their Mpower Menstrual cup – The biggest menstrual cup handout yet. The high-level expectation is to create an application which will be a one stop destination for women and girls to be educated about Mpower Menstrual Cups, be able to create a safe space for women to interact, be able to buy and sell the product, and most importantly, track their own experience of the use of the Mpower Menstrual Cup.

2.0 Business Objectives

2.1 Goal of the project

The New Moon Trust hopes to track 20 000 recipients (10 000 girls and 10 000 NGO's) after receiving their Mpower Menstrual cup as well as create connections, empowerment and educate women about the product and woman health.

2.2 Business Objectives

- Provide Mpower menstruation cups to women and girls in low resources settings in South Africa.
- Ensure that women and girls manage their period with confidence, comfort and dignity.
- Providing an Mcup development and implementation strategy plans for distribution, education and conversation in collaboration with national partners.

- Strives to continue this work of distribution of a sustainable product to women and girls in low resource settings with a scalable, reproducible program that has demonstrated feasibility, efficacy and impact.
- Improve the environmental impact of sanitary wear.
- Expand the business and empower women by giving them employment opportunities, uplifting and supporting them financially.

3.0 Current Situation of Concern & Opportunity Statement

3.1 Problem definition

- There are currently no existing IT systems. Only the use of WhatsApp.
- The recipients of Mpower Menstrual Cups are from low resource settings which means they have limited access to fast, reliable, affordable, or even available internet access.
- The New Moon Trust currently has no solid platform to reach out, inform, educate, empower as well as collect data of its recipients.

3.2 Opportunities

- The opportunity to create a commute-friendly app solution which does not require the use of a data connection in order to work.
- The ability for the app to facilitate the need for community, women health education, buying and selling of Mpower Menstrual Cups and the tracking of the use of the product all in one place.

4.0 Critical Assumptions and Constraints

4.1 Assumptions

- All users have access to a form of smartphone in order to access the digital platform.
- The New Moon Trust has women health experts available on the app to provide on-demand content as well as answer questions from recipients relating to the use of menstrual cups and related topics.
- The New Moon Trust digital media are up and running and connected to the digital solution to update recipients about any updates about the app or any of New Moon Trust upcoming events (i.e., group discussions) or new projects.

4.2 Constraints

- Budget (as per section 8.0 of PART 1)
- Time (as per section 3.0 of PART 2)

5.0 Stakeholder Analysis (External)

5.1 Stakeholder Roles and Responsibilities

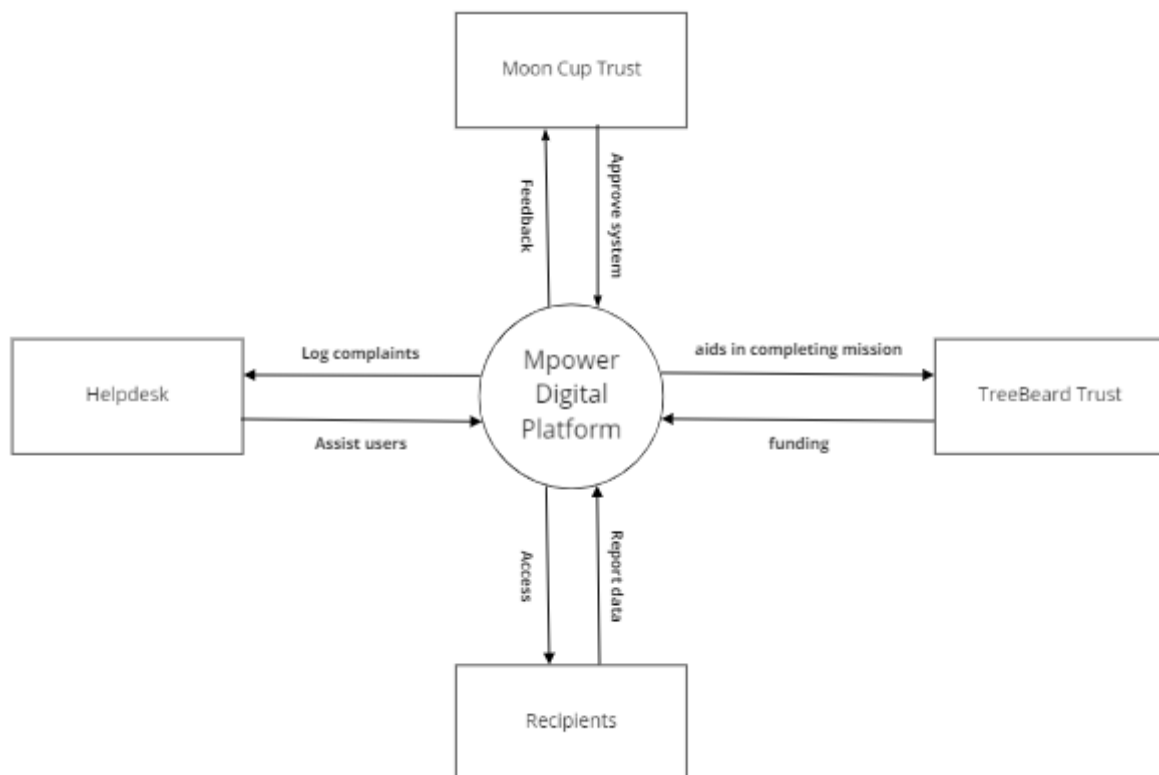
Role	Name	Organization/Position	Contact Information
Project sponsor	TreeBeard	TreeBeard	
Project client	Glenda Tutt	Executive director of MPower Menstrual Cup	0798985188

Sign-off: (Signatures of all above stakeholders)

Comments: (Comments from above stakeholders, if applicable)

Due to the non-disclosure agreement signed by the project client, we were unable to obtain information about the sponsor such as contact information. The sponsor also does not have a website or any information about it available to the public

5.2 Context Diagram



6.0 Analysis of Options and Recommendation

Option 1

Creating a commute-friendly and zero-rated web/app solution where recipients of Mpower Menstrual Cups can interact with one another, educate themselves about the use of menstrual cups while tracking their own menstrual cup experience and be able to buy and sell the product.

Pros:

The application can be made to meet all business objectives to the liking of the business, i.e., an app that does not require the use of data connection.

Cons:

The creation of a brand-new application is expensive and takes a long time to develop.

Option 2

Collaborate with an existing menstrual tracking application, such as Flo, that has New Moon Trust's required app functionalities such as a forum for users to connect with one another. The existing app would thus be in support of the PBO's and allow the selling of Mpower Menstrual Cups.

Pros:

It is less expensive and less risky to integrate into an existing and successful platform that is already widely used.

Cons:

Existing menstrual tracking apps require data connection in order to be used. The apps also require monthly/yearly subscriptions for full use.

Option 3

Use WhatsApp or Facebook to perform all required functionalities as New Moon Trust is already using this platform to connect with their recipients. The New Moon Trust business account would be able to facilitate quick tracking questionnaires, facilitate group chats, and enable the buying and selling of Mpower Menstrual Cups as well as share content from women health experts.

Pros:

It is relatively cheap to use a verified WhatsApp business feature. Current Mpower Menstrual Cup recipients are already connecting on this platform.

Cons:

Not customizable to meet all business objectives and possible needed app aesthetics, and overall user experience.

7.0 Preliminary Project Requirements

The main features of the solution for the tracking of recipients of menstrual cups project include the following:

1. Track and collect data on women and girl's menstrual cup experience with the use of a questionnaire
2. Provide a platform where recipients of menstrual cups can interact with stakeholders, enabling them to give feedback and have access to key links.
3. Allow recipients to connect with one another by creating group chats with the recipients' numbers'. These group chats will create a sense of unity amongst the girls. It will also be a safe space for them to discuss various issues, such as menstruation.
4. Allow the buying and selling of Mpower Menstrual Cups.
5. Educate recipients about menstrual cups as well as women's health.

8.0 Final selected solution

Cost analysis:

A cost analysis of our final solution has been implemented.

To determine the cost of our solution, we first had to consider all the various systems needed/required for the solution to work, and associate costs to them.

Access Systems	Cost
WhatsApp Business API	Free (under conditions)
Facebook Manager	Free
CPaaS such as Twilio, MessageBird, and 360DIALOG	Variable rate: First 250 000 msg = \$0.0085 (p/msg) First 750 000 msg = \$0.0083 (p/msg)
Google Developer Console: Google Sheets API	Free

The WhatsApp business API does charge fixed costs to customers. However, it is only available for download from designated WhatsApp API partners such as Twilio. Twilio then charges you a fee usually of around \$0.0135 (R0.21) per message, which is broken down into a WhatsApp fee of \$0.013 (R0.2) and a message fee of \$0.005 (R0.078) per message. However, shown in the table above, Twilio offers bundles for cheaper prices, such as your first 250 000 messages (per month) will be charged \$0.0085 (R0.13) per message as opposed to \$0.0135 (R0.21) per message.

The following calculations made concerns the overall cost of the sending messages to 20 000 individuals. The only assumptions we are making here is:

- 1) Exchange rate is \$1 = R15.68 (throughout implementation)
- 2) All individuals have WhatsApp
- 3) 8-question survey

Considering these variables:

Total messages sent: 160 000 (20 000 x 8)

20 000 individuals, each sent an 8-question survey, not accounting for the reply for the individual which is free.

Exchange rate per message: \$0.0085 = R0.13 (0.0085 x 15.68)

Total cost for 160 000 messages: R20 800 (160 000 x R0.13)

Considering all the other systems are free, the only tangible cost incurred would be associated with messaging which would come to an approximate total of R20 800. This fits perfectly within the budget that we were allocated by our sponsor of R30 000 and leaves them with a leeway of R9 200 which can be used to add additional options and for other expenses such as setting up the systems. For instance, they would be able to add a “more information” option, a “purchase” option, and a “FAQs” option. The purchase option will be used by potential customers. If these options are chosen, they

would be charged the standard rate of R0.13 for the first month and R0.21 thereafter, per message. Even with these added options the total cost will be within the budget. If every girl makes use of the more information option it will cost R2600 in the first month, which leaves R6600, which is ample to cover the cost of adding the “FAQs” and “purchase” options as well as other expenses.

Cost related to the distribution of MPower’s menstrual cups:

MPower is pledging to distribute both light and standard flow cups to each individual (i.e., 20 000) bringing it to a total of 40 000 Mcups. These cups must be manufactured using a mould. Unfortunately, their pre-existing mould has been destroyed, meaning that they must create a new mould. The estimated cost related to the mould amounts to R500 000. Upon which they will be able to start manufacturing. The cost per girl is expected to be around R183, which is inclusive of the two cups and the two bags that they will be packaged in. This in total would amount to R3 660 000 (R183 x 20 000) just for the cup handout and an additional R500 000 for the mould which comes to a total of R4 160 000 (R3 660 000 + R500 000).

Final selected solution:

For the final solution, it has been decided to go for the automated WhatsApp survey solution. This solution was preferred by the sponsors due to the simplicity of the platform, its low cost, as well as its reach amongst the individuals of the survey.

For this solution to be implemented, various systems will have to be acquired. By making use of readily available commercial solutions, we can achieve our objectives in the most efficient way possible. The systems required involve:

- WhatsApp Business API
- Facebook Manager
- CPaaS such as Twilio
- Google developer console: Google Sheets API

The bulk of the cost associated with these systems will revolve around setting them up. Once set up, the automated process can begin.

The WhatsApp business API is an essential system of the solution and can only be acquired through designated WhatsApp partners such as Twilio who will charge you variable rates depending on the number of messages sent. Most of the integration and automation will occur on this end as the WhatsApp API enables for seamless integration with various software packages.

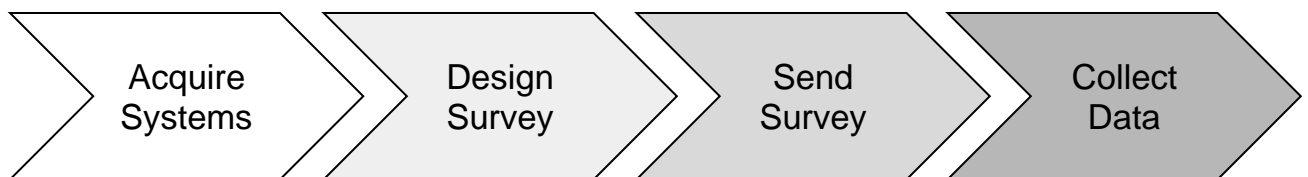
Facebook manager needs to be set up in order to have access to WhatsApp for business. This is because Meta formerly known as Facebook owns both platforms and thus in order to benefit from its data collection software, one must set a Facebook manager account.

Twilio, MessageBird, and 360DIALOG are all examples of Communications Platform as a Service (CPaaS). These companies offer cloud services and are designated WhatsApp partners. The main purpose of these services for our solution will involve their integration of mass messaging services to the individuals surveyed. These companies let you integrate your surveys/questions and let you set up your answers using logic paths/branches and enable you to collect and reach thousands of individuals instantly. Answers can be set up however you like it and involves feedback loops when incorrect inputs get entered for a specific WhatsApp question.

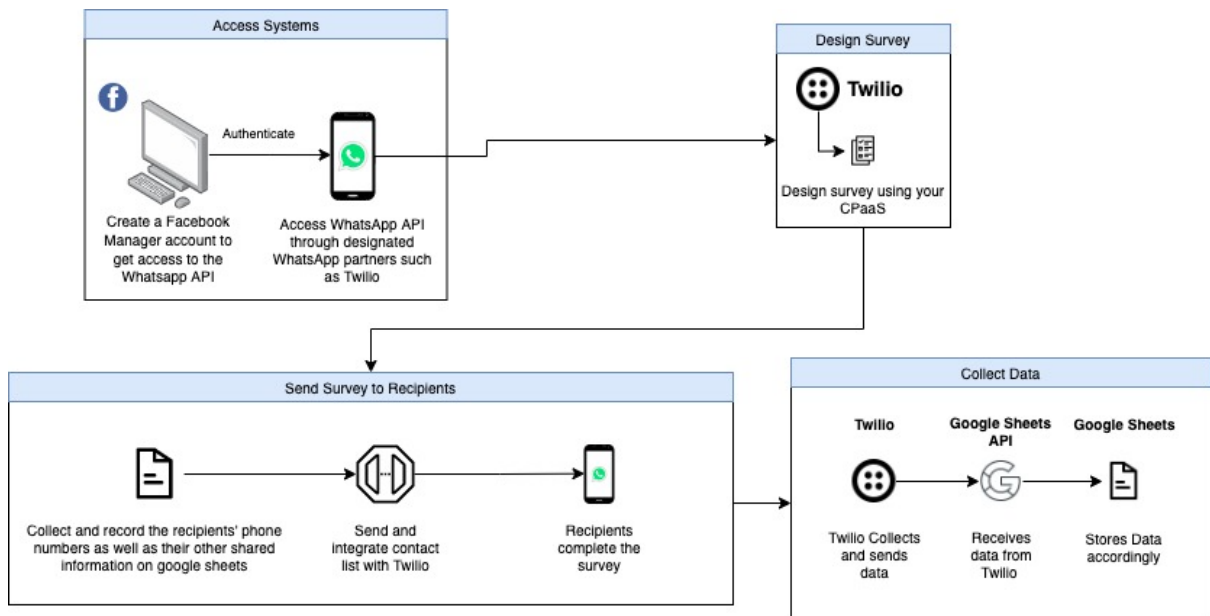
Lastly, Google sheets API will be used to collect and gather data on individuals. This is an extremely powerful tool that is free of charge (unless needing the pro version). The API will be integrated with the WhatsApp API so that the platforms can communicate and transfer information seamlessly between one another. This task can be quite intensive as it requires recording all the individual's information manually onto the system. However, once primary information is entered, one can enjoy the automation that the platform has to offer, as well as its malleability. Almost everything will be done and controlled from google sheets. From sending messages/surveys to adding questions to collecting data (which will be automated).

Overview of the process required:

High level overview of the process of implementation of the automated WhatsApp surveys.

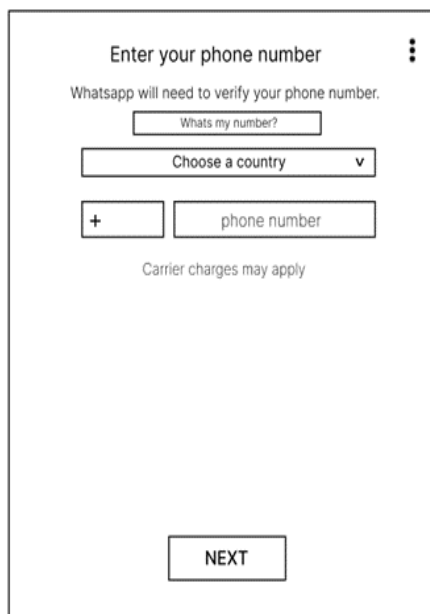
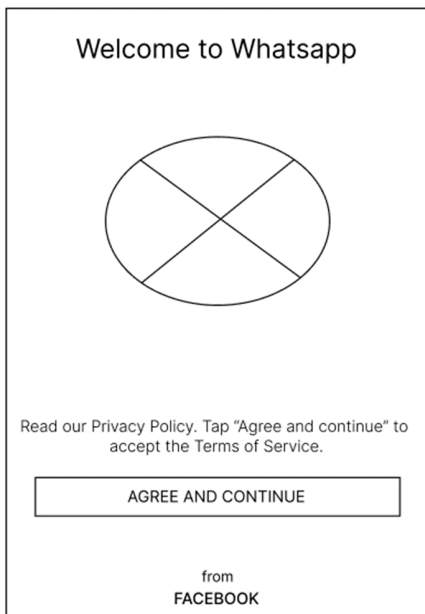


Note: More visual and thorough infographic explanation can be found below.



User manual:

Users will need to have WhatsApp to make use of the proposed solution. Users that do not have the app will have to download it and then follow the user manual to log in or sign up.

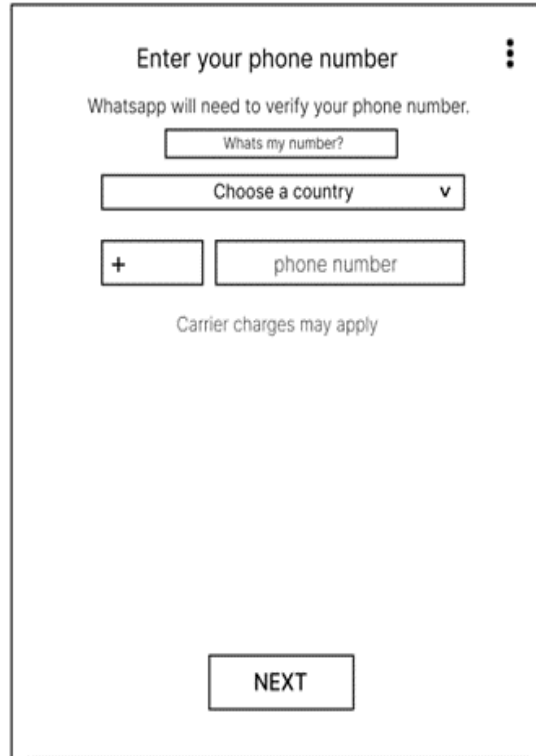
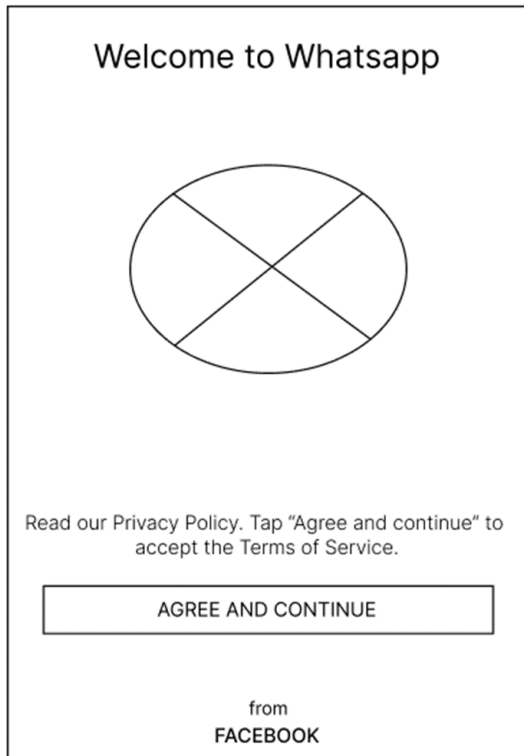


Once the user has downloaded the app, they will open it and be greeted with this screen (left). They will click on 'Agree and Continue' then proceed to register and verify their number. The full step-by-step can be found on Appendix 1.

Appendix

Appendix 1: First Time User Manual for WhatsApp

Once the user has downloaded the app, they will open it and be greeted with the first screen and must then follow the prompts on the following screens.

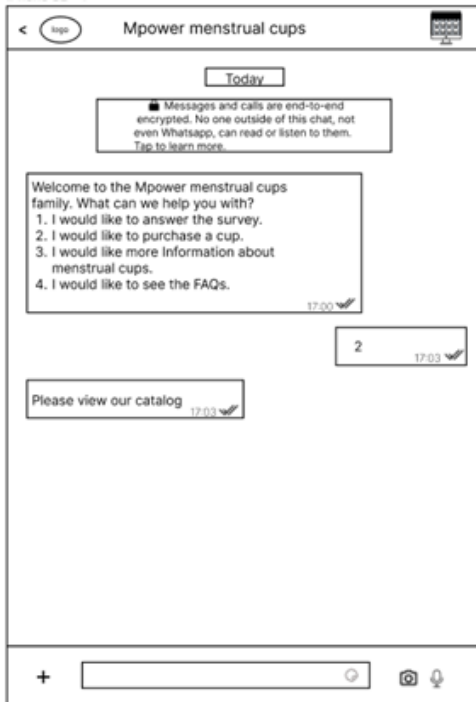


Please provide your name and an optional profile photo

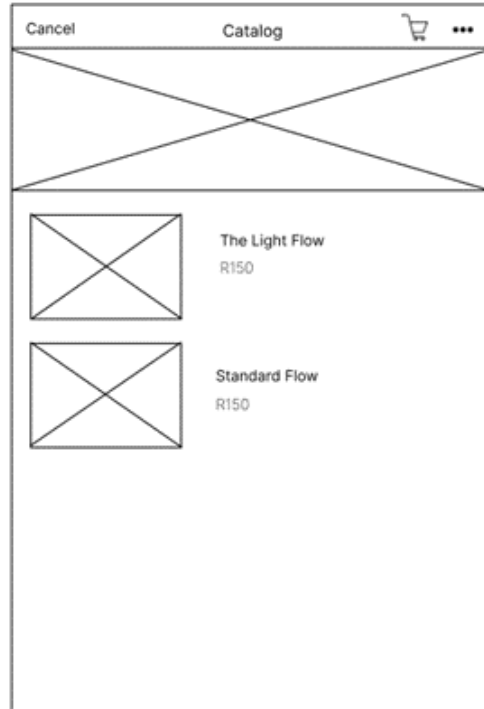


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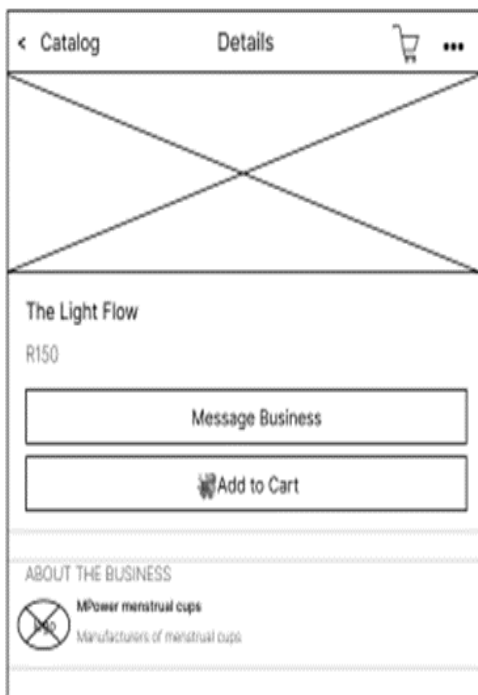
Appendix 2: A step-by-step for purchasing on WhatsApp



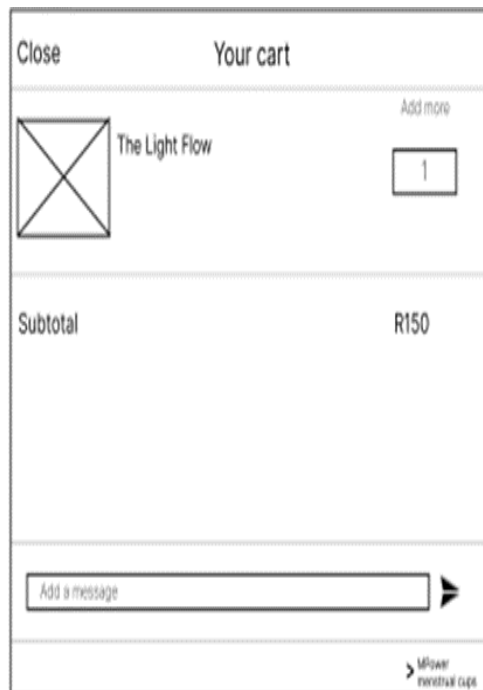
Step 1: If a user is unsure of how to begin their purchase, they can ask the bot then proceed to click on the Catalogue.



Step 2: The user will select a cup.



Step 3: The user will add product to cart.



Step 4: The user will then click on the delivery icon and the order information will be forwarded to the business via the main chat.