Order Milkshake for Pickup

Toppan Security

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Project	Order Milkshake for Pickup
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Revision History

	Revision	By	Date
0.1	First Version	E. Le Roux	2022/09/20
1.0	Revised and updated additional requirements October 2025	W de Wet	2025/10/21
1.1	Added a Mandatory functionality, and Bonus section	C Scalliet	2025/11/20

Table of Contents

1 Document General

1.1 Glossary

The table below contains a list of definitions, acronyms and abbreviations used in this document:

Acronym / Abbreviation	Definition / Description
The Client	Milky Shaky Custom Drinks
TSP	Toppan Security (Pty) Ltd

1.2 Scope and Overview

This document describes the functional requirements for an online milkshake order system that allows a patron to order a milkshake online and select a restaurant and time for pickup.

1.3 Objective of the Document

The purpose of the document is to clearly convey the functional requirements to both **The Client** and the **TSP** Development team.

2 General System Detail

2.1 Background

It has come to the attention of **The Client**, Milky Shaky Drinks, that because of the popularity of their drinks, lines in restaurants are long and it takes longer for staff to service their patrons in a timely fashion. Because of this, patrons choose to leave the restaurant as they do not want to wait a long time for their drinks.

On average, it takes ten (10) to fifteen (15) minutes to make a custom milkshake.
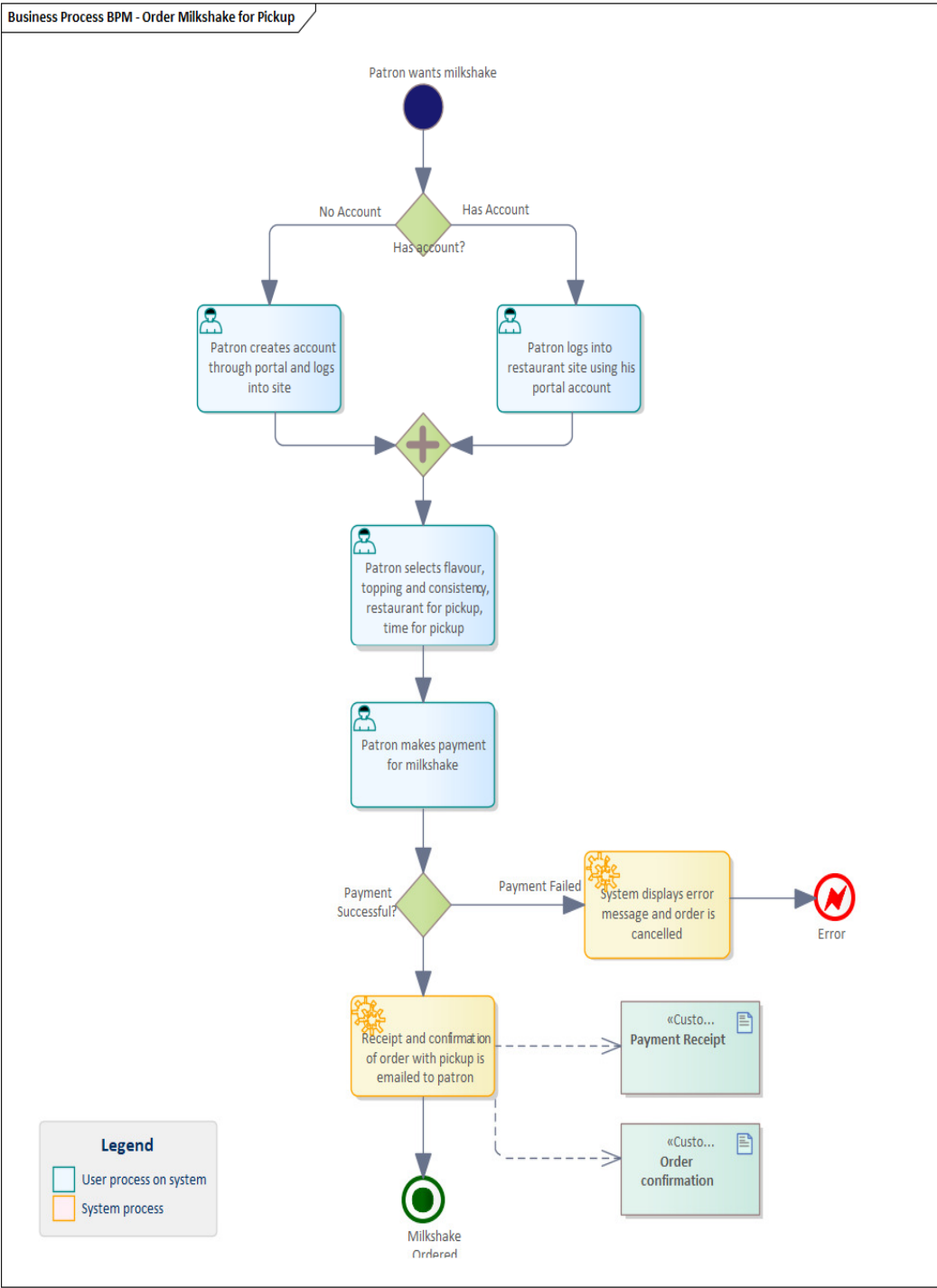
2.2 Solution

As a solution, **The Client** requires a funky and modern website where any patron can access the website, create an account and order the drink/s that he requires.

The website must make provision for the patron to make payment before the order is confirmed.

3 Ordering Process

It is proposed that the process for ordering drinks online, works as follows:

3.1 Process Description

The patron accesses **The Client**'s website and either selects the option to create a new account or logs into the system using his current account.

When creating a new account, the user must capture some basic information such as his mobile number, first name and email address.

When logged in, the patron can place an order for milkshake/s of his choice, indicate the restaurant where he wants to pick up his order as well as a suitable time to collect the order.

The patron must be allowed to make payment for the order and, if the payment is successful, the system must generate a payment receipt and confirmation of order which are both emailed to the registered email address of the patron.

3.2 Database

The design shall have a database, where all details are stored and or updated. You can select any brand/flavour (no pun intended).

3.3 Auditing

The design shall have a full audit of any transactions, and a report to display as such, making use of some clever user-operable filters.
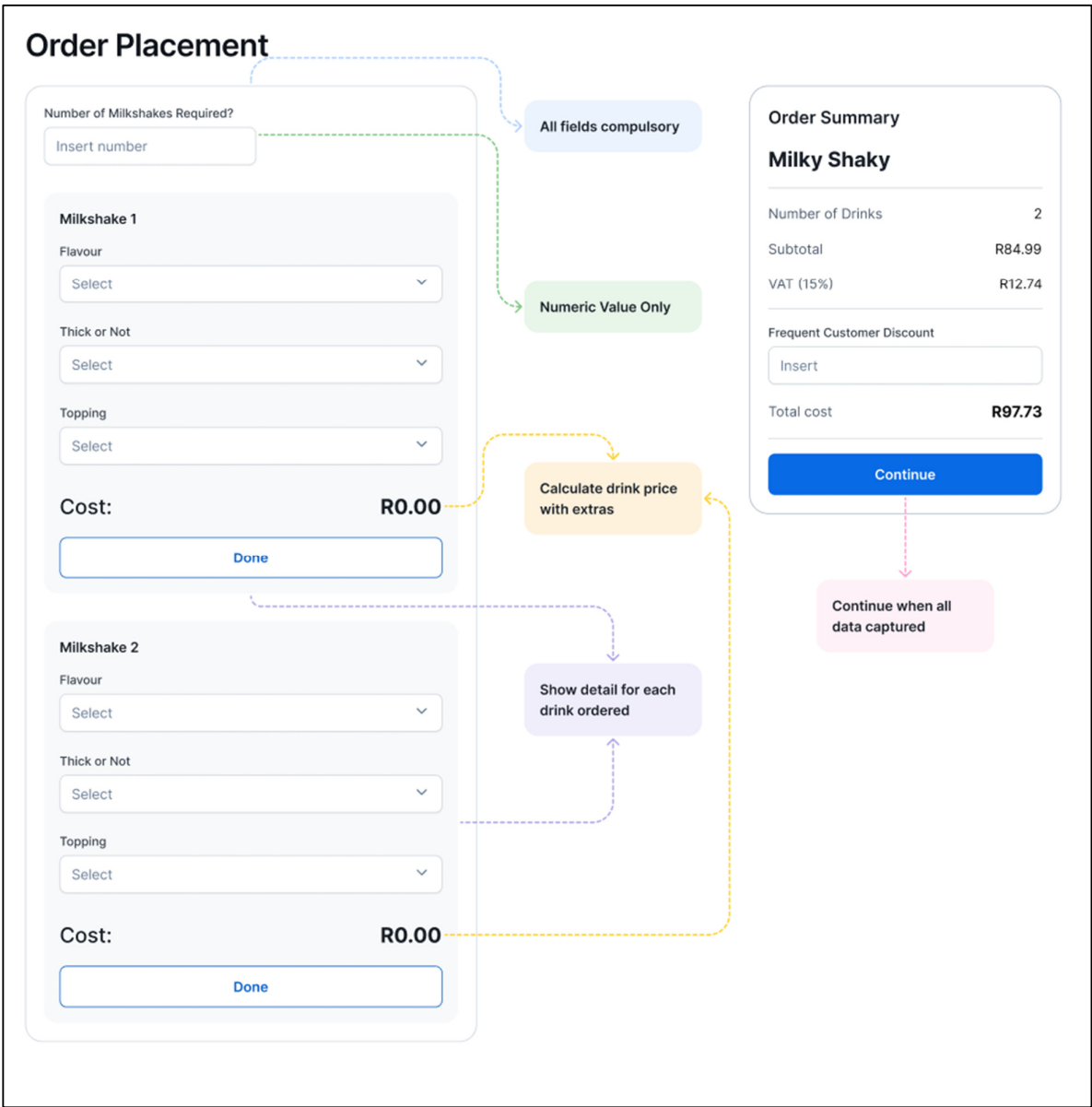
3.4 Screens

The system must implement the following screens,

- **Below screens are examples and for reference, please implement your own look and feel**:

3.4.1 Order

Example of what order screen must look as follows

3.4.2 Log in / Sign up

Example of what the Log in / Sign up screen must look as follows:

3.4.3 Lookup Management

Examples of the Lookup management screens

Milkshake Selections

Milkshake Flavours   [+ Add New]

Name	Type	Value	Last Updated	Actions
Vanilla	Flavour	-	12/08/2025 16:40	Delete Edit
Strawberry	Flavour	-	12/08/2025 16:40	Delete Edit
Chocolate	Flavour	-	12/08/2025 16:40	Delete Edit
Coffee	Flavour	-	12/08/2025 16:40	Delete Edit
Banana	Flavour	-	12/08/2025 16:40	Delete Edit
Oreo	Flavour	-	12/08/2025 16:40	Delete Edit

Milkshake Toppings   [+ Add New]

Name	Type	Value	Last Updated	Actions
Frozen Strawberries	Topping	-	12/08/2025 16:40	Delete Edit
Freeze-dried banana	Topping	-	12/08/2025 16:40	Delete Edit
Oreo Crumbs	Topping	-	12/08/2025 16:40	Delete Edit
Bar one syrup	Topping	-	12/08/2025 16:40	Delete Edit
Coffee powder with choc	Topping	-	12/08/2025 16:40	Delete Edit
Chocolate vermicelli	Topping	-	12/08/2025 16:40	Delete Edit

Config Values

Configurations   [+ Add New]

Name	Type	Value	Last Updated	Actions
Maximum Drinks	Config	10	12/08/2025 16:40	Delete Edit
VAT	Confi	15%	12/08/2025 16:40	Delete Edit

Add New

Name

[Insert]

Type

[Select   ⌄]

Value

[Insert]

[Cancel]   [Save]

3.4.4 Reports Screens

Examples of the Report screens

TOPPAN
TOPPAN FACETECH
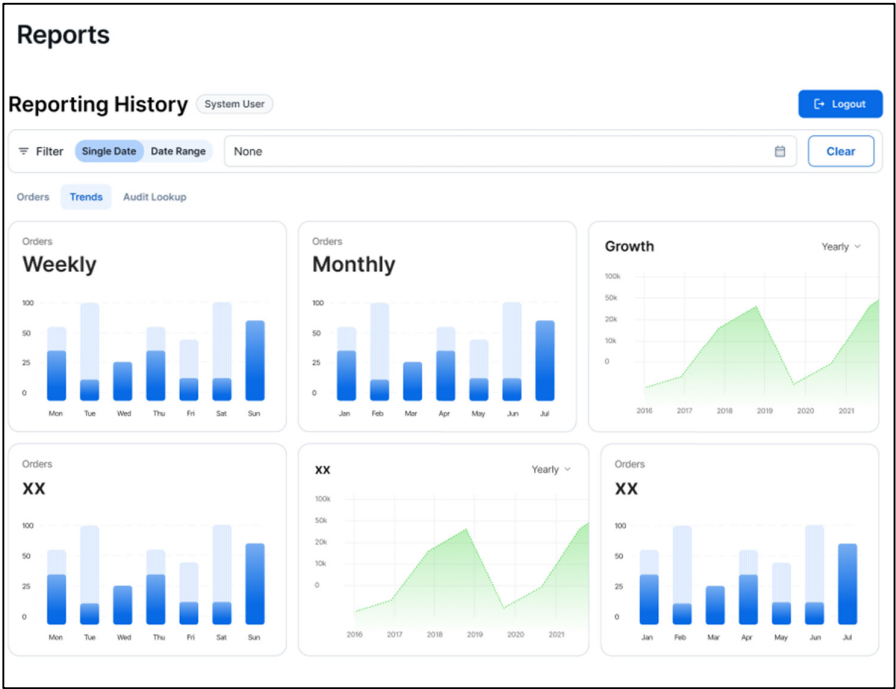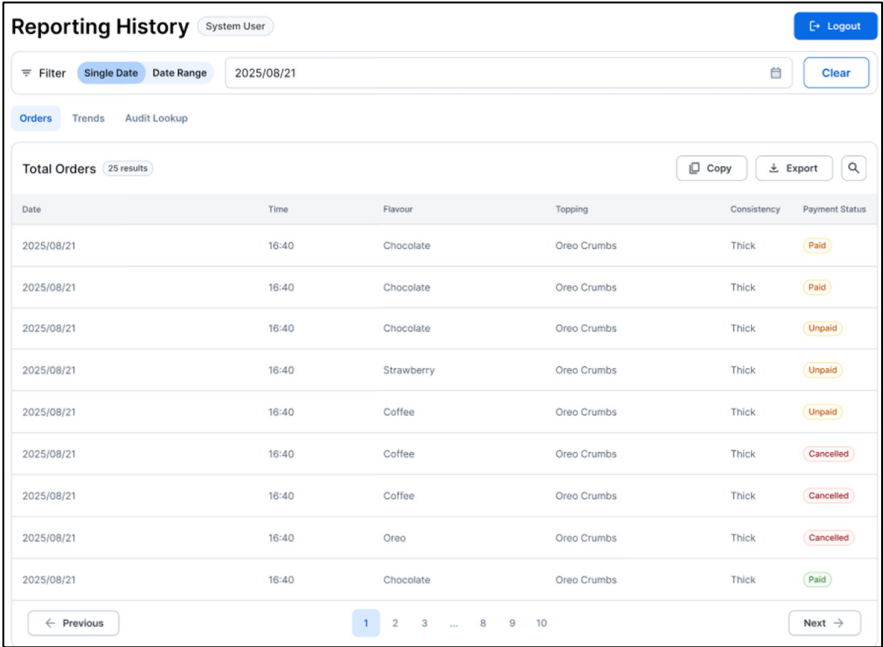
Field	Description
Number of drinks required	Compulsory Text field The user may enter only numeric values The number must have a numeric value of at least one (1) and a maximum of ten (10). The maximum number of drinks must be a configuration setting that can be changed when required.
Flavour	Compulsory Drop-down list Display the following values: • Strawberry • Vanilla • Chocolate • Coffee • Banana • Oreo • Bar one
Thick or not	Compulsory Drop-down list Display the following values: • Double thick • Thick • Milky • Icy
Topping	Compulsory Drop-down list Display the following values: • Frozen Strawberries • Freeze-dried banana • Oreo crumbs • Bar one syrup • Coffee powder with chocolate • Chocolate vermicelli
Price for a Drink	Read only Text field The system must calculate the price of the drink with the selected topping and consistency.
Frequent Customer Discount	Read only Text field Display the discount that the patron is eligible for. If no discount, then display zero (0)
Total amount for the order	Read only Text field Calculate the total amount for the order with VAT included.
Done	Button Available when the user has entered all details for the drink in the container.

The system must display a "DRINK DETAIL" container for every drink ordered. I.e. if the patron ordered five (5) drinks, five (5) containers must be displayed – one each to capture the detail of the drink.

The system must make provision for the fees to be calculated:

- Per flavour of milkshake
- Per topping
- Per consistency
- VAT of 15%

3.4.5 Frequent Customer Discount

Configuration setting must be put in place where a frequent customer may get discount on his order.

- Minimum number of orders before first tier of discount
- Minimum number of drinks per order to be included for discount consideration
- Minimum number of orders and drinks per order for second tier of discount
- Minimum number of orders and drinks per order for third tier of discount
- Maximum amount of discount that a patron can receive

3.4.6 Lookup Management

The Lookups and "fixed values" being used, should have a means to manage/edit them:

- Lookups, i.e. flavours, toppings, etc.
- Min and Max number of drinks, currently 1 (one) and 10 (ten) respectively
- VAT percentage, currently 15%
- Etc.

(Remember auditing)

Having these values as management-configurable is essential. *Hint*: changing these must NOT change/update any concluded/completed/open transactions, **only NEW**.

3.4.7 Reports

At least the following shall be available:

- Patron can check the history of orders
- System user can check:
  - Orders per selected period
  - Customer order volumes per day of the week (trend analysis)
  - Lookup Management details, i.e. who changed what to what (3.4.3 above)
- Etc.

4 Mandatory Requirements

The following requirements are **mandatory** in your application.

- Making use of a/any **Database**
- Having **Configurable Fees**
- Lookup Table Manager, aka **Lookup-manager**
- Having full **Auditing** on any field changes and transactions
- **Confirmation Email** sending of orders and payments
- Use of a **Payment Gateway**.
- Two+ **User Profiles** with two logins (Manager, Client-1, etc.)
- Final **Receipt** by Email
- User/Patron **Report(s)**
- Management **Report(s)**

This should however not limit your creativity, and any additional can/should be added.

5 Bonus exercise

5.1 Background

The website solution is a basic check of your understanding and application of development principles. Although Web solutions have their place in our various solutions, a large portion of development will be on Applications (and back-end).

5.2 Application/App

Replicate the functionality of the website into a standalone App (Android/iOS). This would ultimately need to work with the Back-end (server/style) solution, which is used/managed by Management.