



TECHNICAL REPORT

WIX1002: FUNDAMENTALS OF PROGRAMMING SEMESTER 1 SESSION 2023/2024

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REPORT CONTENT

Requirements and Explanation of the assigned project

2

Approach to solve the task

3

Description for the solution

4-14

Sample Output

15-67

Requirements and Explanation of the assigned project

Topic chosen: PriceTracker (Topic 1)

For this project, we are tasked to create a price comparison program.

The program should be able to:

- Register and log in into an account
- Design appropriate class structure to store the data from given CSV files
- Display the top five cheapest sellers for a particular item
- Display a chart showing the price trend of a particular item across the day in a month
- Allow the user to modify the account details
- Create a selection screen based on item categories
- Create a search function to allow user to search for a specific item
- Display selected item details and allow the user to modify the item details in the CLI
- Create a shopping cart to allow user to add multiple items
- Suggest the cheapest shop that contains all the items selected
- Data Storage

Approach to solve the task

1. The project is separated into a few folder:

- a. Login
 - i. Sign Up
 - ii. Login
 - iii. Forgot
- b. File Reading and Storage
- c. Item Visualization
 - i. Top Five Cheapest Sellers
 - ii. Price Trend Chart
- d. User Interface
 - i. Modify Account Details
 - ii. Selection Screen
 - iii. Search Function
- e. User Experience
 - i. CLI for Item Details
 - ii. Shopping Cart
 - iii. Shop Suggestion
- f. Data Storage
- g. Extra features

Description for the solution

Login

Sign Up

Users are required to enter their username, email, password, password confirmation and a given email verification code to sign up for a new account, with protocols taken for invalid and incorrect input. After sign up is complete, the password will be encrypted and added into the database.

Login

Users need to enter their username and password to gain a verification code to obtain access to the program. The input password will be encrypted and compared to the database. Protocols are taken for invalid and incorrect input.

Forgot

In the event that the user forgets their username and/or password, they can recover their username and obtain a new password after verifying using the registered email. The new password will be encrypted and added into the database after being generated.

File Reading and Storage

The file reading and storage functionality in the Price Tracker Java program play a crucial role in populating the system with item data. This section elaborates on how the program reads data from external files and efficiently stores it for quick retrieval.

File Reading

The system integrates file reading capabilities to fetch data provided, which are product prices, seller information, and product details.

1. The `loadData` method retrieves data from the database (`pricecatcher` table) and populates the `TableView` with the information.
2. The `action_browser` method handles the file import functionality. It uses `FileChooser` to allow the user to select a CSV file.
3. The selected file's path is then used in a SQL query to load data into the `pricecatcher` table.
4. After successful import, the `loadData` method is called to refresh the `TableView`.

File Storing

A structured and efficient storage system is implemented to manage large datasets securely and ensure optimal retrieval.

1. The `action_save` method is responsible for saving or updating price data based on user input.
2. It validates the input, checks for existing data, and performs either an update or insert operation.
3. The `action_delete` method handles the deletion of all records in the `pricecatcher` table after user confirmation.

Item Visualization

After the user has selected an item, they can choose to view the item details, the top five cheapest sellers, or the price trend of that particular item across the day in a month from the available selections on the next page.

Top Five Cheapest Sellers

If the user has selected the display top five cheapest sellers option, a structured view containing information about a premise, its price, address, and an "Add to Cart" button will be created by the program.

The top five cheapest sellers for a specific item are retrieved by executing a complex SQL query. The query involves multiple table joins, including the lookup_item, pricecatcher, and lookup_premise tables. Moreover, a subquery is used to identify the maximum date for each combination of item code and premise code, effectively finding the latest recorded prices. The main query selects relevant information such as item details, premise information, and the corresponding prices for the identified maximum dates. The result is ordered by price in ascending order, and the **LIMIT** clause is used to restrict the output to the top five cheapest sellers.

Price Trend Chart

If the user has selected the display price trend across the day in a month option, a bar chart showing the price trend across the day in a particular month will be created by the program based on the user-selected year and month.

A method called **price_trend(MouseEvent event)** that is triggered by a mouse event is created in the **ItemController** class. This method retrieves the source node of the event, and through a function call (**nextPage**), navigates to a new page (**barchar.fxml**) associated with the "Price Trend."

The **barchart** class implements the **Initializable** interface and contains several JavaFX components annotated with **@FXML** along with various event handler methods.

1. `action_submit`: This method is invoked upon an action event (`ActionEvent`) and determines the number of days in a selected month, calling the `car` method accordingly.
2. `car`: This method populates a bar chart (`barchar`) with data retrieved from the database `pricecatcher`. It initializes axes, formats data, performs SQL queries to fetch information about prices based on selected dates, and displays loading progress during the data retrieval process.
3. `changeYears`: This method allows the user to select the year as well as the month to be viewed via a choice box (`month_choose`) based on the selection of a year from another choice box (`years_choose`).
4. `Initialize`: This method sets the properties and styling of the bar chart. It sets the style for the loading indicator (`loading`) and configures labels for the X and Y axes representing 'Day' and 'Price (RM)' respectively.
5. `getItem`: This method sets the title of the bar chart based on the information retrieved from the `lookup_item` table.
6. `load`: It retrieves distinct years (`extracted_year`) from the `pricecatcher` table based on the item code. Iterates through the results and adds the distinct years to a choice box (`years_choose`). Additionally, sets the default value of the choice box to the first retrieved year.
7. `Other Methods`: Additional methods handle various user actions such as navigation (`back`), changing email, password, and username (`c_email`, `c_password`, `c_username`), user logout (`logout`), switching to the shopping cart (`switchToShoppingCart`), and initialization (`initialize`).

User Interface

Modify Account Details

Users can effortlessly update and save their personal information, including name, password, and other relevant details. If the user wants to reset their password, email verification is required for safety purposes. The interface ensures a smooth and intuitive experience for users managing their account settings.

Selection Screen

The user interface features a visually appealing and user-friendly selection screen. Users can have quick access to various functionalities, such as item search, account management, browse items by categories or import their own data. Clearly labeled buttons and interactive elements contribute to a positive user experience, ensuring that users can quickly find the information they need.

Search Function

The **Search** class in this program facilitates item searching and browsing through dynamically generated categories and sub-categories. SQL queries are used to fetch data from a database, particularly related to item groups, categories, and individual items. The `function.getData()` method is called to execute these queries and obtain result sets. Users are able to search the desired item by the name of the item, item code, or either the item category.

User Experience

CLI for Item Details

The application enhances user experience by providing a command-line interface (CLI) for viewing detailed information about items. This feature caters to users who prefer text-based interactions or those who may have accessibility preferences that benefit from CLI.

Shopping Cart

The inclusion of a shopping cart feature adds convenience for users, allowing them to easily manage the selected items before going to the shops. Users can add or remove items from their shopping cart, providing a streamlined and intuitive shopping experience. The system will automatically suggest the cheapest seller for each item, thus the user can have a clearer price comparison between each shop.

Shop Suggestion

In the shopping cart, the application incorporates a shop suggestion feature, offering users personalized recommendations based on the number of shops to be visited. By leveraging data analysis and recommendation algorithms, the system enhances user engagement and helps users to get the most convenient way to buy every item they want. In addition, the shop suggestion is added with a filter for distinct so that the user will only get the shops nearby.

Data Storage

The data storage method we used for this program is the MySQL database. We created separate databases to store user details such as username, password, email, shopping cart info, and item data. Each user's username, password, and email will be stored in a preexisting table named `user` in the database named `price_tracker`. This `price_tracker` database will be used to retrieve the user's details during the login and account modification process, the changes to username, password, and email will also be updated in the table. Moreover, the program will automatically create a new database named by the username associated with tables for `cart`, `lookup_item`, `lookup_premise`, and `pricecatcher` on MySQL database upon every successful new user's sign-up on the login page. The `cart` table is used to store the user's shopping cart info, a new row will be added to the table each time the user adds an item to its cart. They can also remove the item added to their cart and the corresponding row will be removed from the table. The users are required to import the CSV files for item details, premise details, and item prices to the program to enable the search product and add to cart function, each file imported will be inserted into its corresponding tables created under each user's database. After the CSV files have been imported successfully, the item data can be retrieved every time the user selects the "search for a product" option on the main page. The data of each item will be displayed and the user can choose to add items to their cart. Furthermore, the item details imported will be used to perform the rest of the functions of the program.

Extra features

1. Graphical User Interface (GUI)

To enhance the overall user experience and visual appeal of the price tracker program, Graphical User Interface (GUI) was implemented. The integration of a GUI not only adds a layer of interactivity but also makes the program more user-friendly and aesthetically pleasing.

2. Database

We used MySQL to store the data of the user login information, shopping cart, and item data to let them get back their selections when they reopen the application.

3. 2-Factor Authentication

Upon completing the sign-up process, users will receive a verification code via email. This code serves as a secure method to link the provided email address to their account, ensuring the authenticity and security of the registration process. Besides that, the users will also need to verify themselves each time they open the application by entering the correct verification code sent to their linked email. Most important is that users will get a verification code through email if they forget their password. After entering the correct verification code, the users can set their new password.

4. Geographical suggestions

The Mapbox API is used to obtain the discrete locations of every seller (Damansara, Petaling, etc.) using the geopoint of districts in every state. Users have the option to choose their desired locations based on state and district in the shopping cart when showing the cheapest items. There are options where each item or all items in the shopping cart can undergo this function. For each item, the user will get the stores selling the product in the district and recommendations if that is not the case based on distance. For checking all items, the items will be parsed through the

database in search of the most convenient route for users to get their items, with priority given as this: shop>distance>district.

5. Fuzzy Search

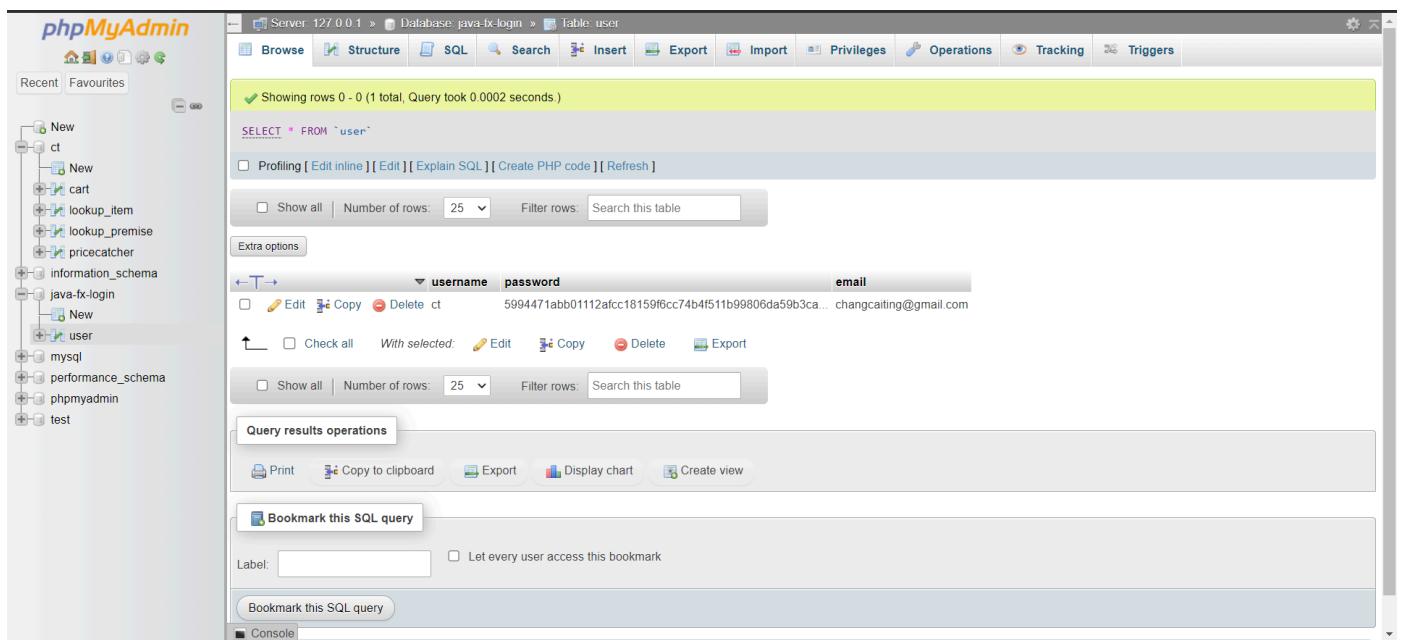
We implement a fuzzy search on a database for items based on a given name, dynamically creating graphical representations for the matched items, and adjusting the layout accordingly. In this Fuzzy Search function where users don't need to enter the exact item name while searching, 65% of matching would be enough for users to search for the items.

- The `fuzzySearchFromDB` function is called with parameters such as the JDBC URL, username, password, search query (`name`), and a `check` variable.
- The function returns a list of integers (`matchedResults`) representing the item codes that match the fuzzy search criteria.
- If there are matched results, the code enters a loop to process and display the matching items.
 - For each matched result, a SQL query is executed to retrieve details of the item from the database (`lookup_item` table).
 - The retrieved item details are used to create a graphical representation of the item using the `create_item` function.
 - The created item is added to a `Pane`, and the `Pane` is added to a parent container (`panelParent`).
 - The loop continues until all matched results are processed.
 - If no matching items are found, the fuzzy search threshold (`check_g`) is decreased, and the search is retried with a lower threshold.

6. Password hashing

The implementation of a robust password hashing mechanism. In particular, we utilize the SHA-256 hashing algorithm to enhance the confidentiality and integrity of user passwords stored within our system. The system employs the SHA-256 (Secure Hash Algorithm 256-bit) cryptographic hash function. The MessageDigest class in Java is utilized to create an instance for SHA-256. This class allows us to perform one-way hashing, ensuring that the original password cannot be deduced from the stored hash. During the password hashing process, when a user creates or updates their password, the system applies the SHA-256 algorithm to convert the password into a fixed-size hash. This process results in a unique and irreversible representation of the user's password. The hashed password is further processed to provide a clear and consistent representation. Each byte of the hash is converted into a two-digit hexadecimal value. This step ensures uniformity and ease of storage.

Prove of usage of password hashing:

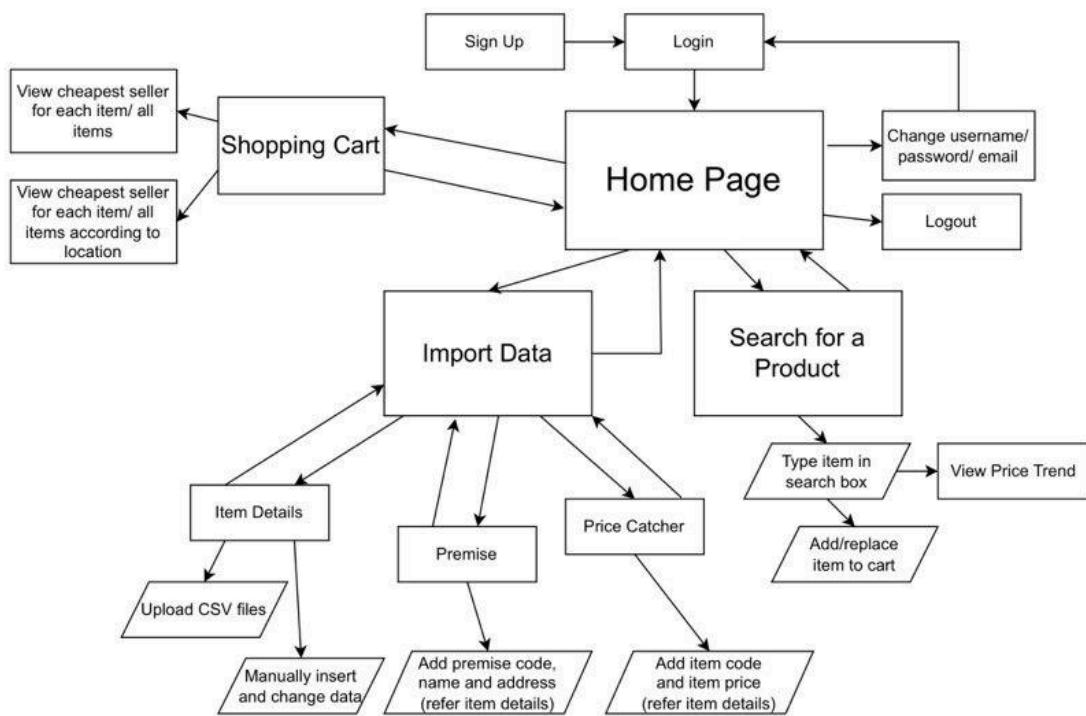


The screenshot shows the phpMyAdmin interface for a MySQL database named 'java-fx-login'. The left sidebar lists various databases and tables, including 'user'. The main panel displays the contents of the 'user' table. The table has columns: 'username', 'password', and 'email'. A single row is shown with the following data:

username	password	email
ct	5994471abb01112afcc18159f6cc74b4f151b99806da59b3ca...	changcaiting@gmail.com

The 'password' column contains a long string of characters, which is the hashed representation of the user's password. The 'password' column is defined as a binary type in the database schema.

Flowchart



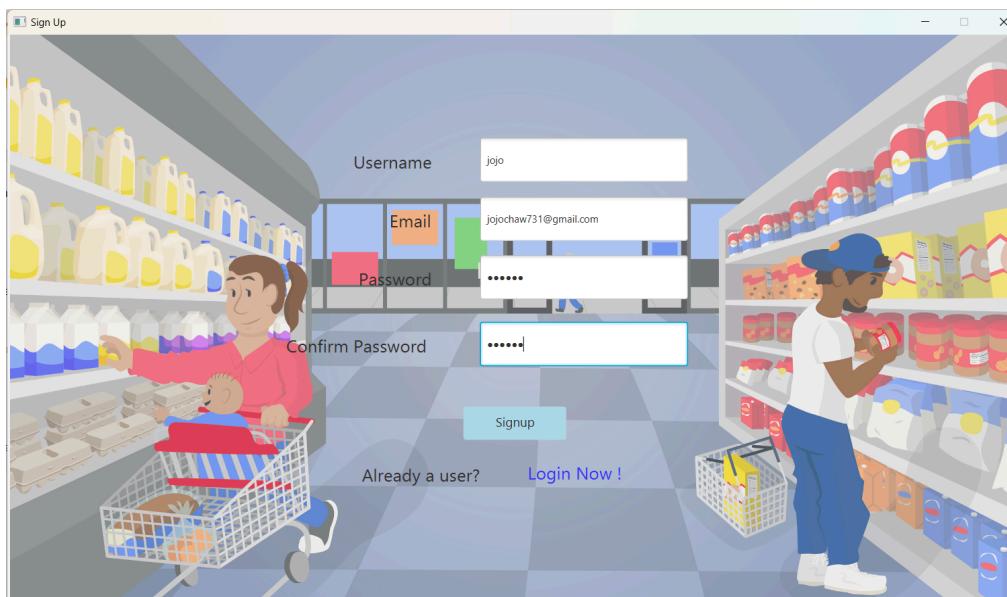
Sample Output

1. Sign up for a new account

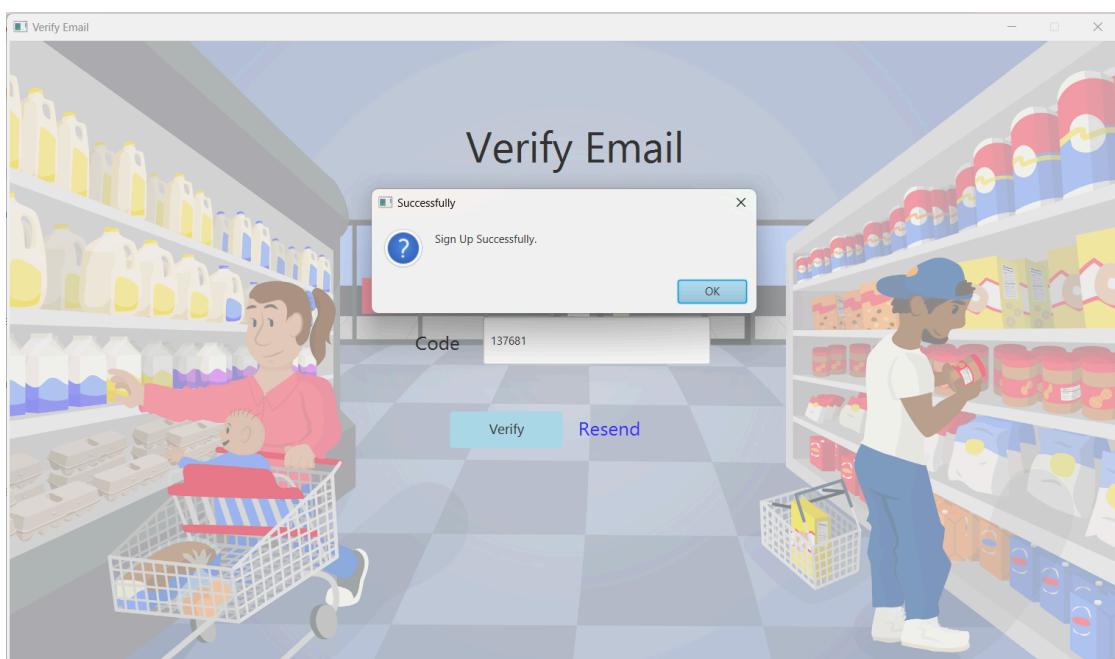
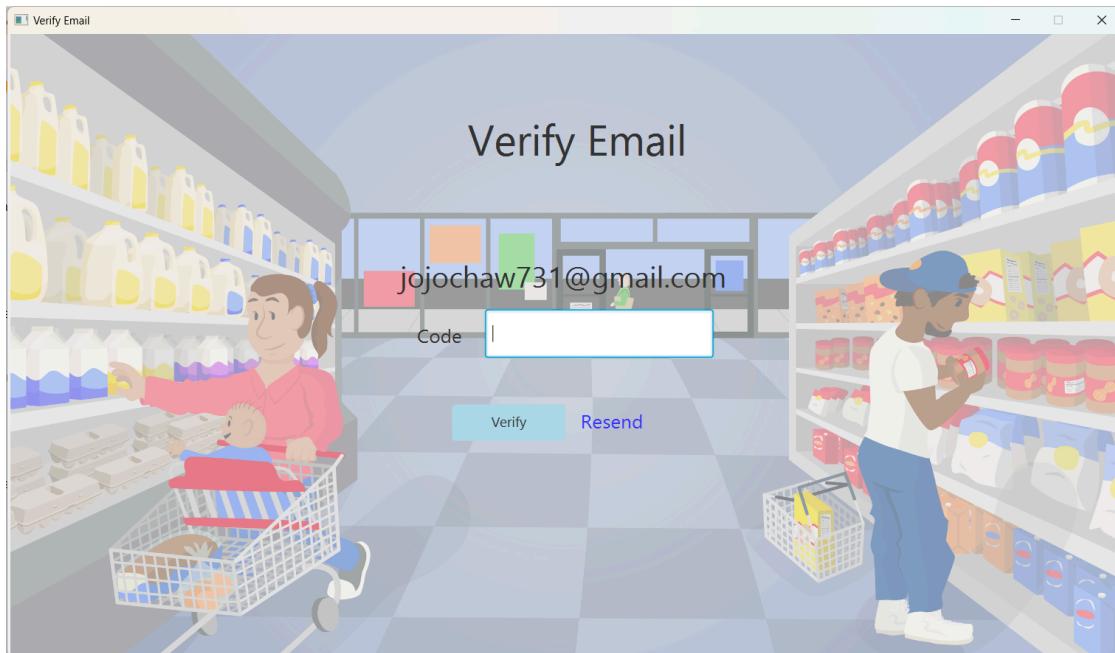
Step 1: Click on the **Sign Up now!** button and users will be automatically directed to the signup page to register for a new account



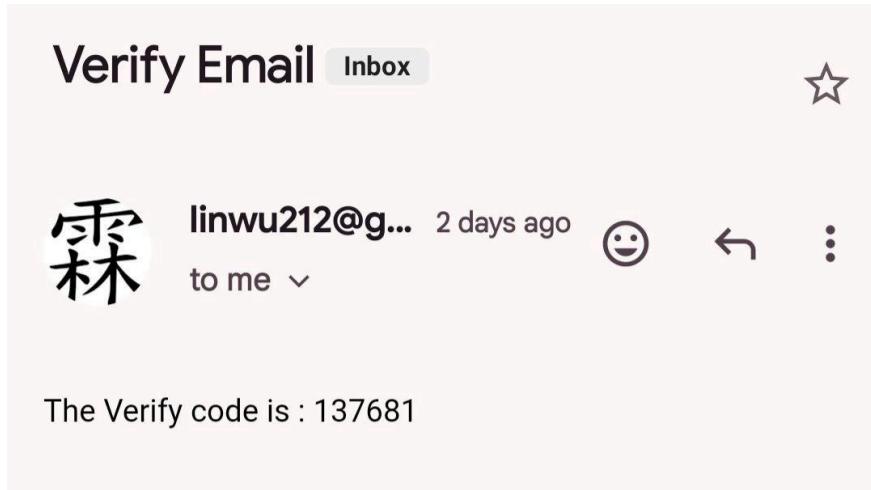
Step 2: Enter the username, a valid email, and a password with no specific requirements. Later, confirm the password to match the password entered previously. Lastly, click on the **Signup** button to complete the signup process.



Step 3: Users will next be automatically directed to the verify email page, users must enter the verify code sent to their email. Three verify code attempts will be given to users to verify their registered email, otherwise, users must click on the resend button to receive a new verify code. Similarly, only three verification attempts are allowed. A “Sign Up Successfully” message will be displayed upon each successful email verification process and all the users’ details will be stored in the database.

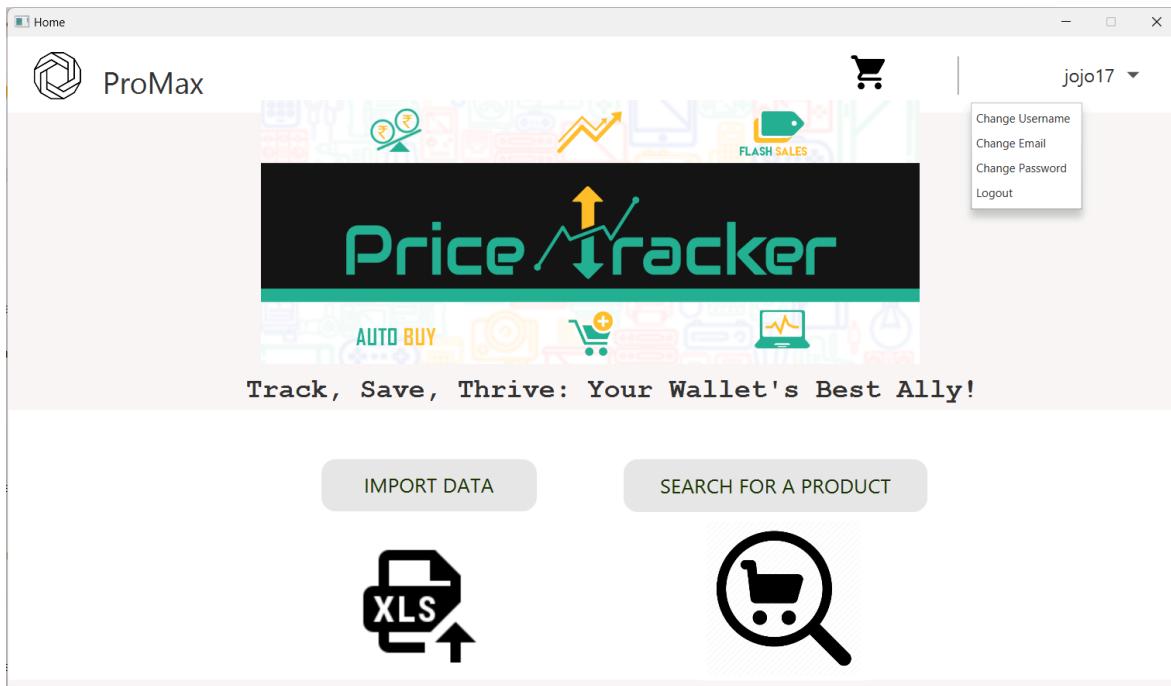


1.1 Sample email sent to users

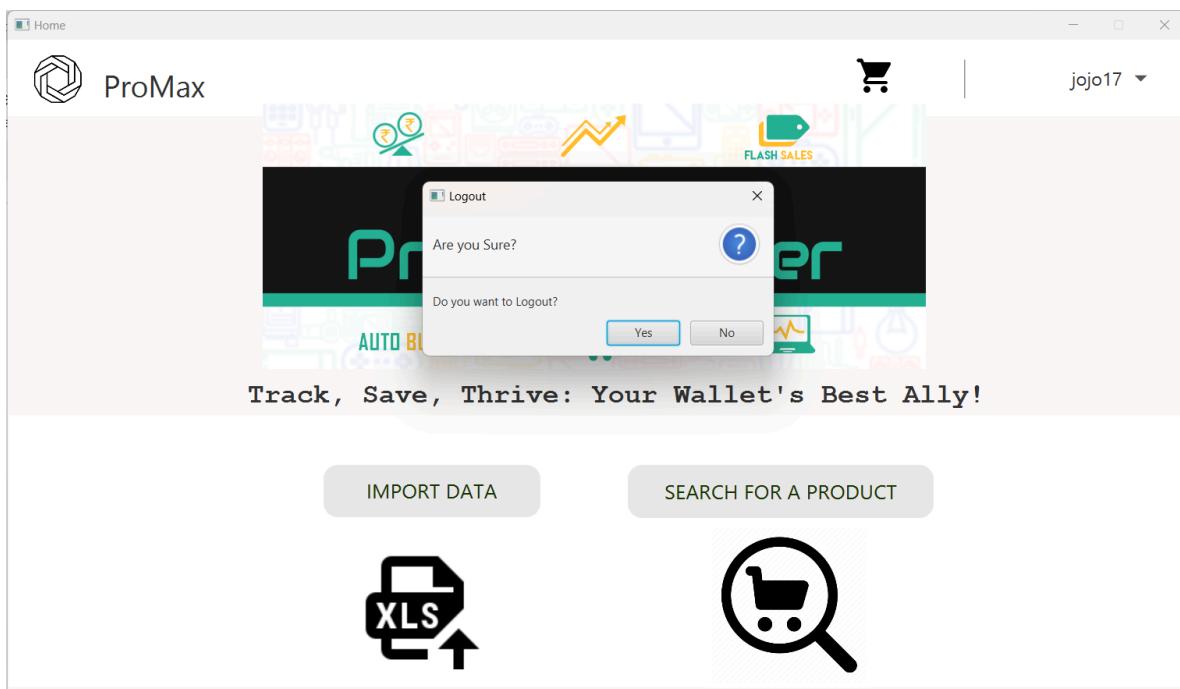


2. Change user details (username, email, and password)

Click on the username button to view account settings, a dropdown list for changing username, email, password, and logout options.

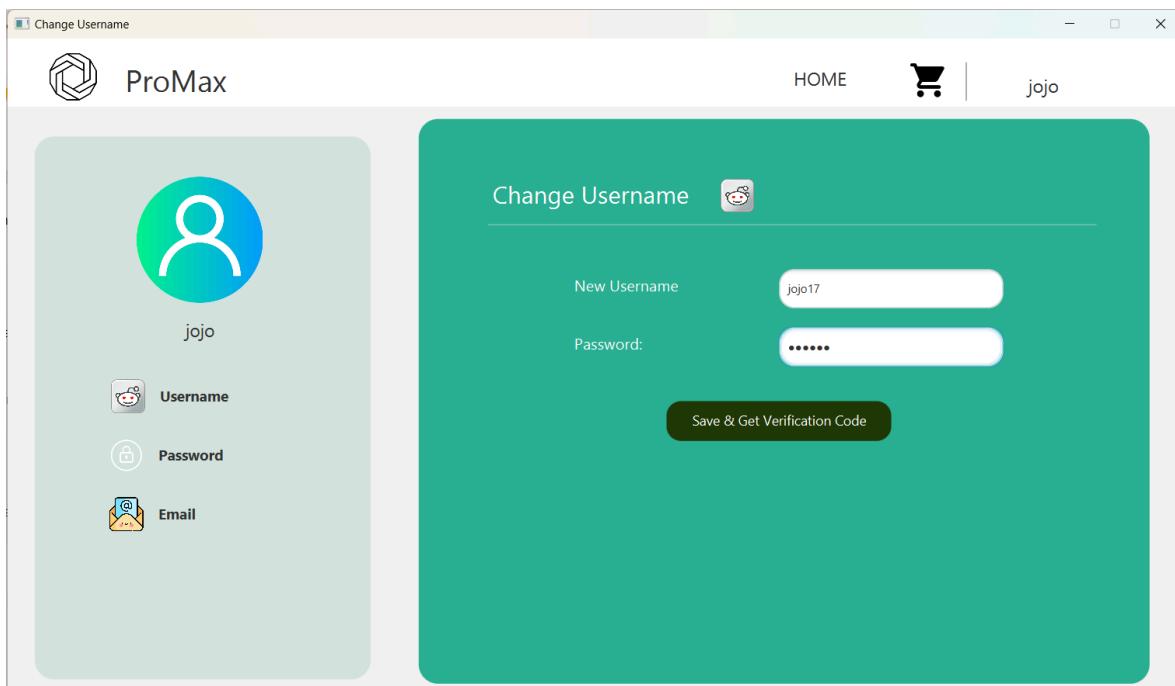
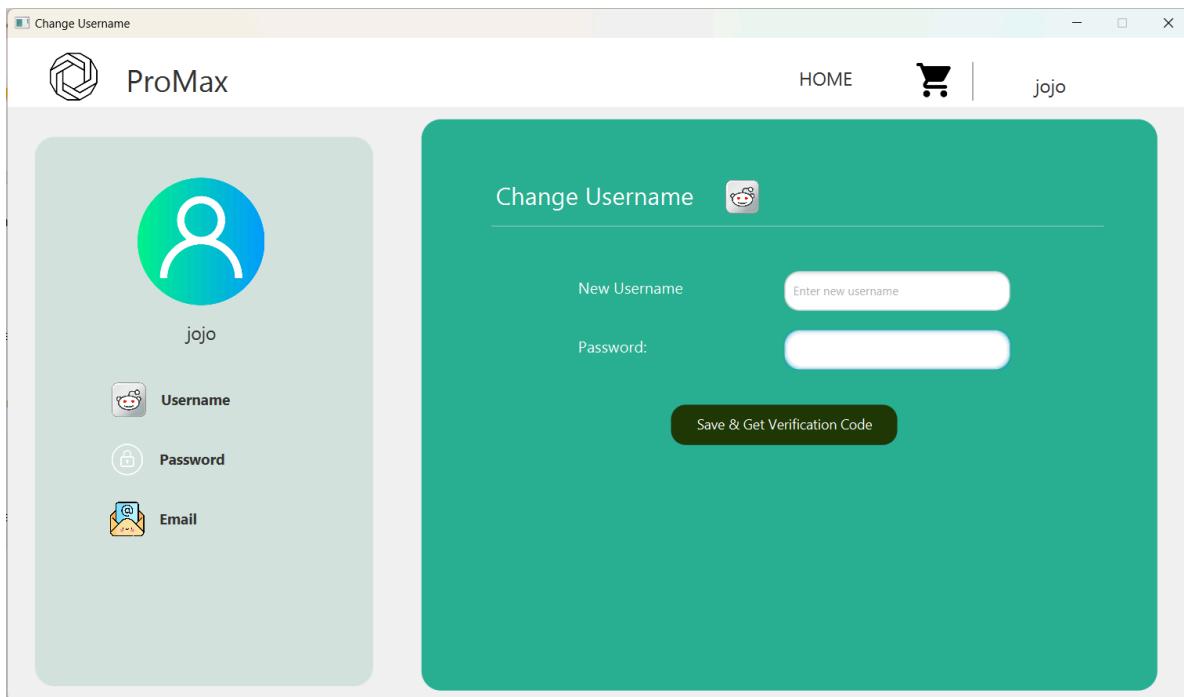


Users can end the program by clicking on the Logout option and then clicking Yes

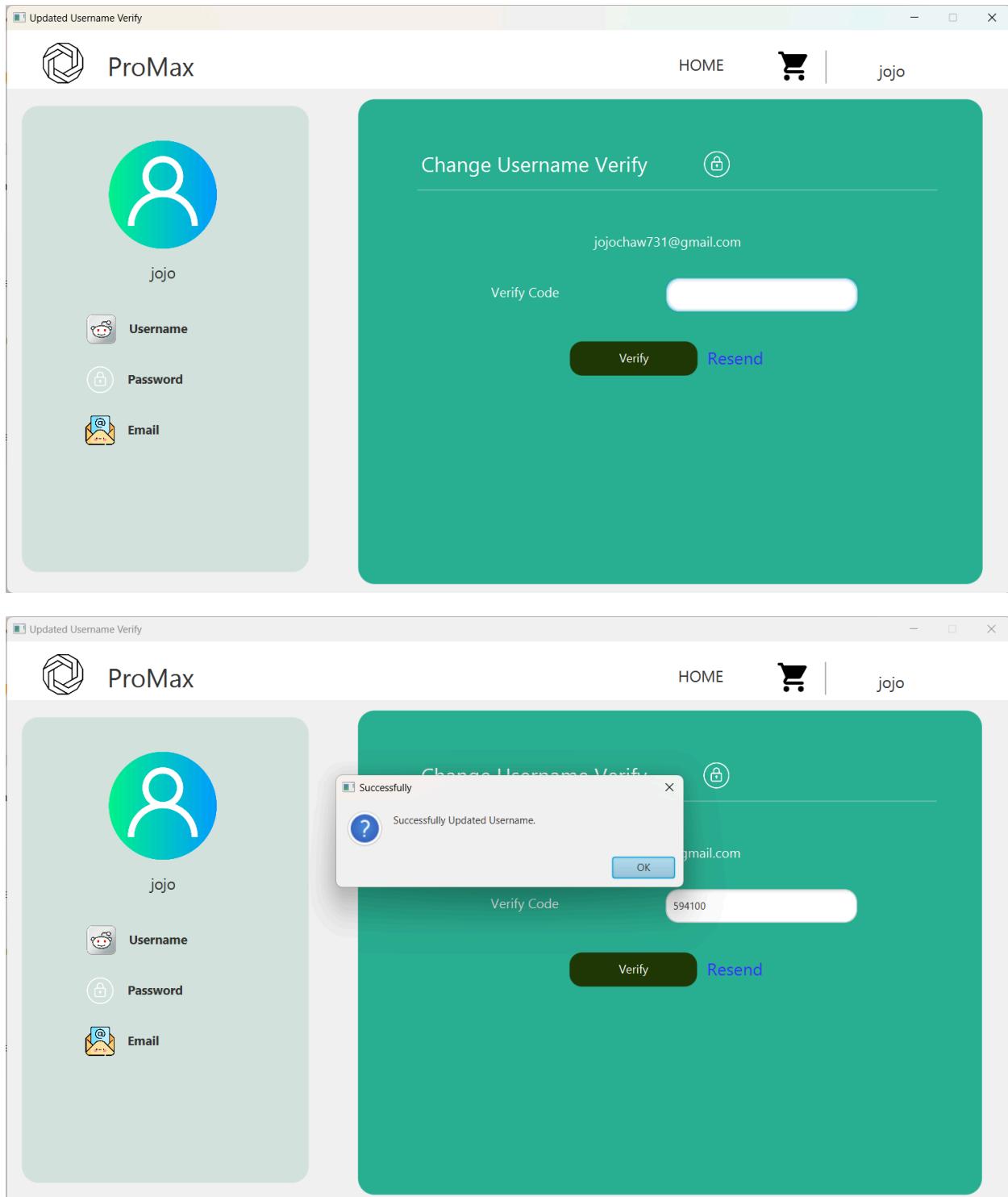


2.1 Change username

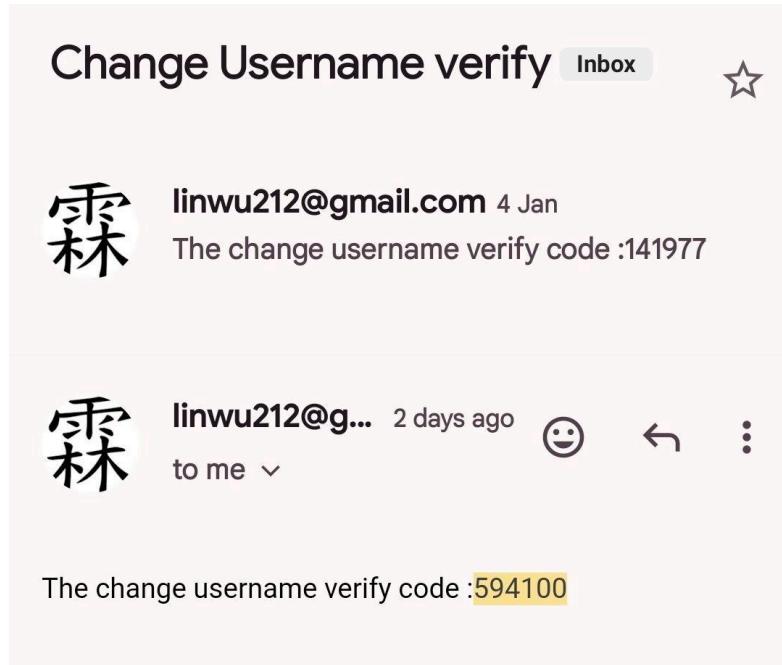
Step 1: Enter a new username and current password, then click on the Save & Get Verification Code button and wait for the verification code to be sent to the registered email.



Step 2: Enter the verify code. If the code matches, a message displaying “Successfully Updated Username” will pop up to indicate that the username is updated successfully.

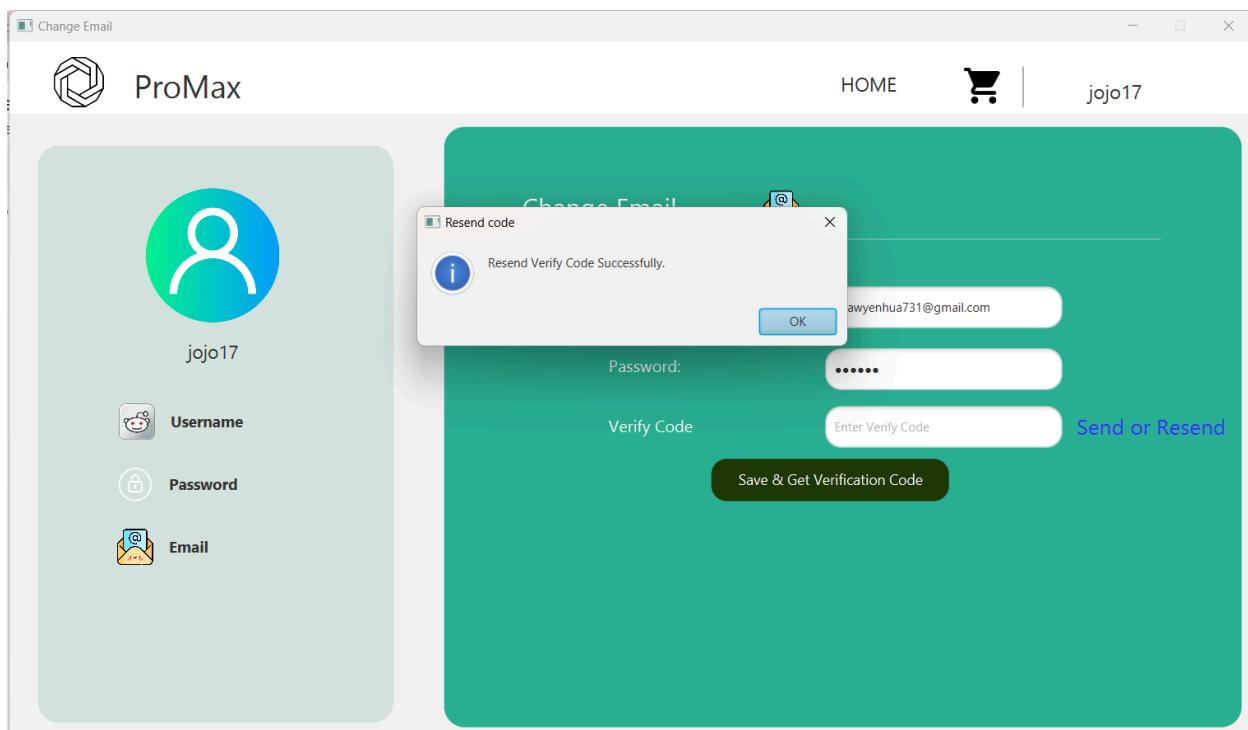
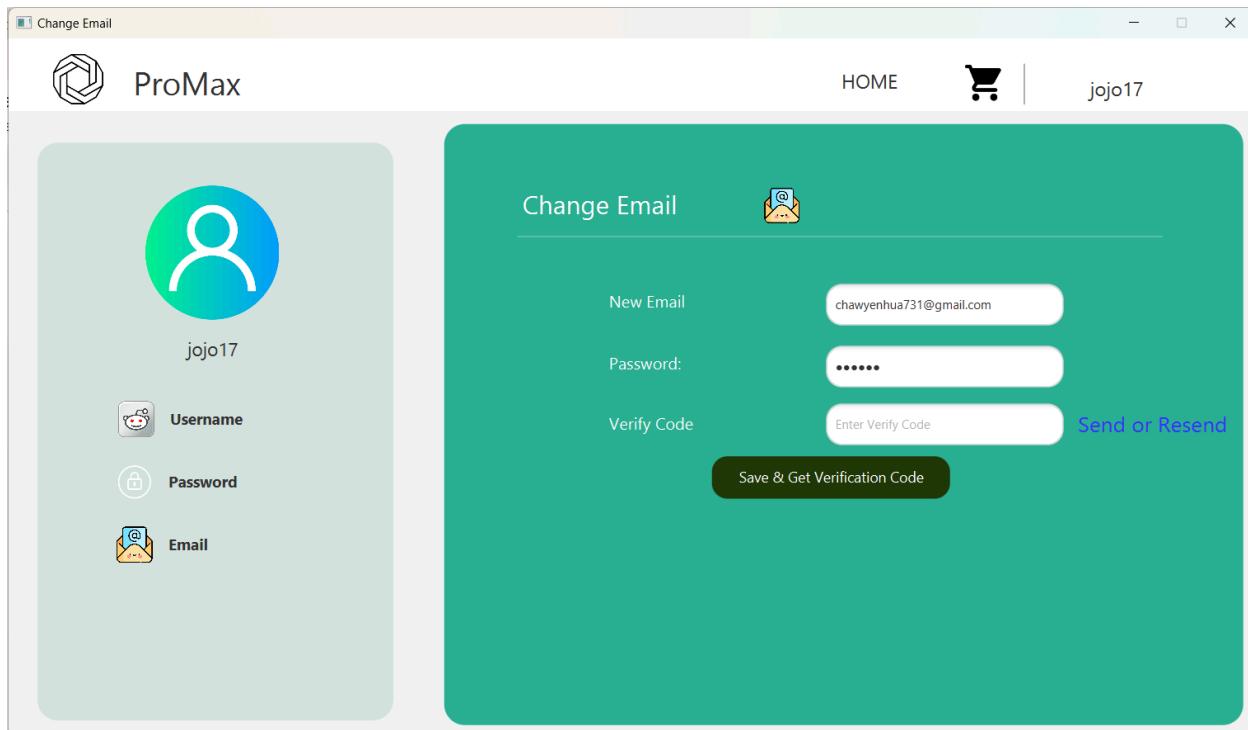


2.1.1 Sample email sent to users

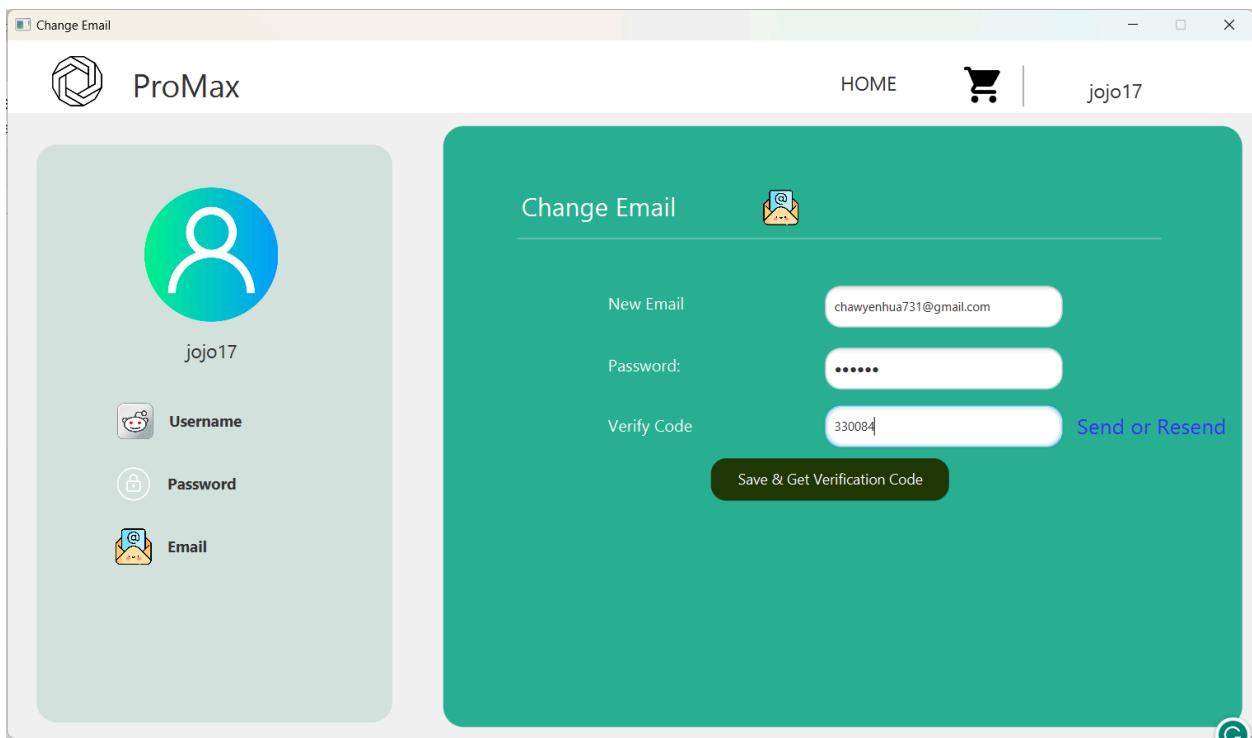


2.2 Change Email

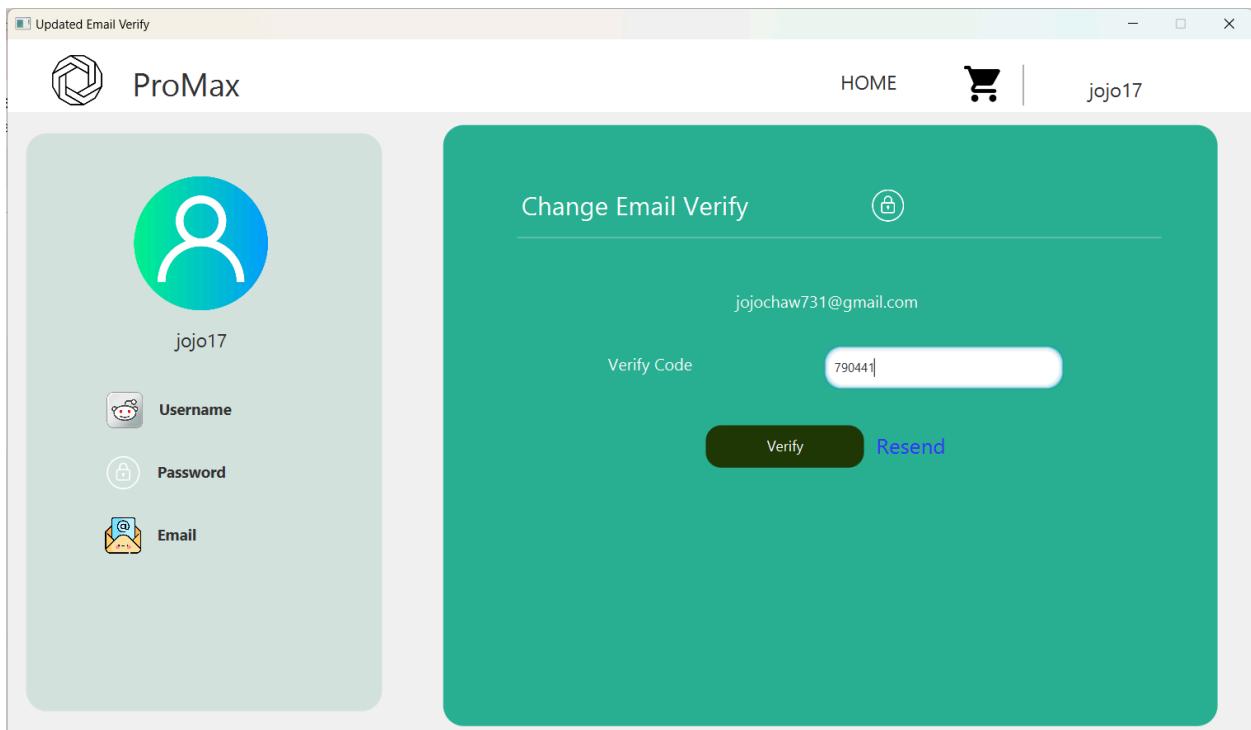
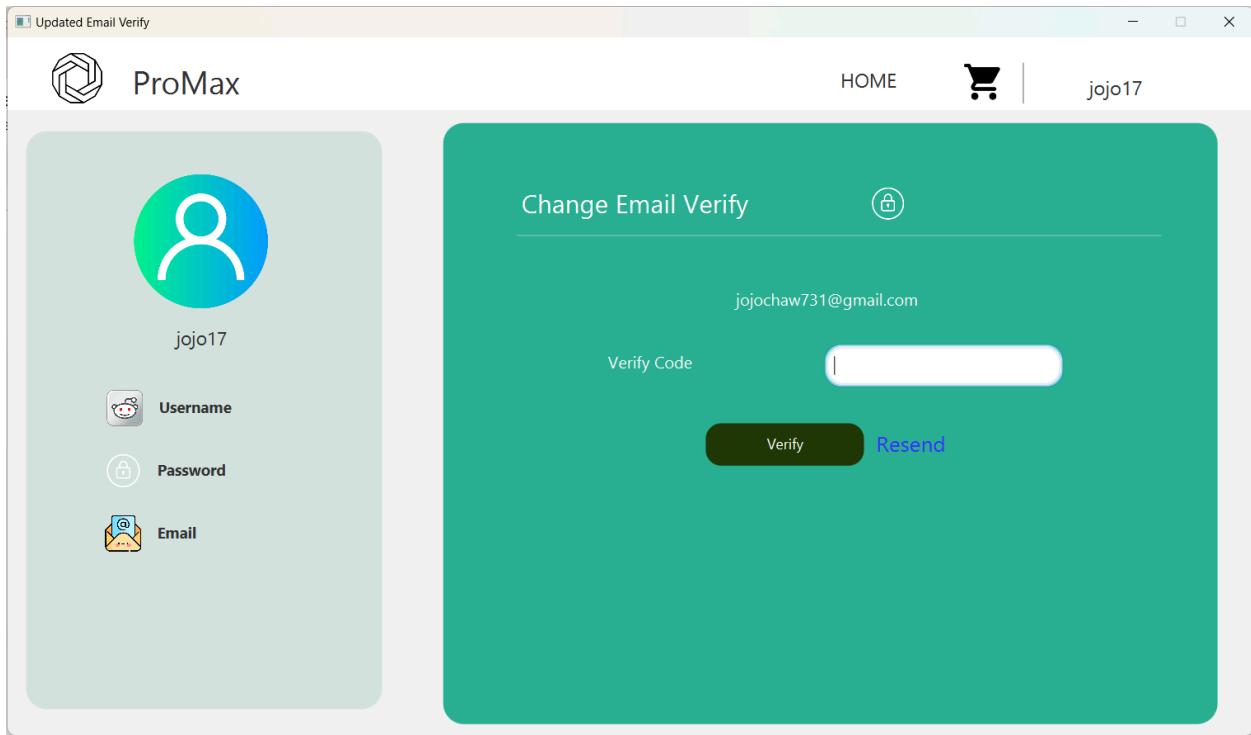
Step 1: Enter the new email and current password. Then, click on the **Send or Resend** button to get the verification code from the new email.

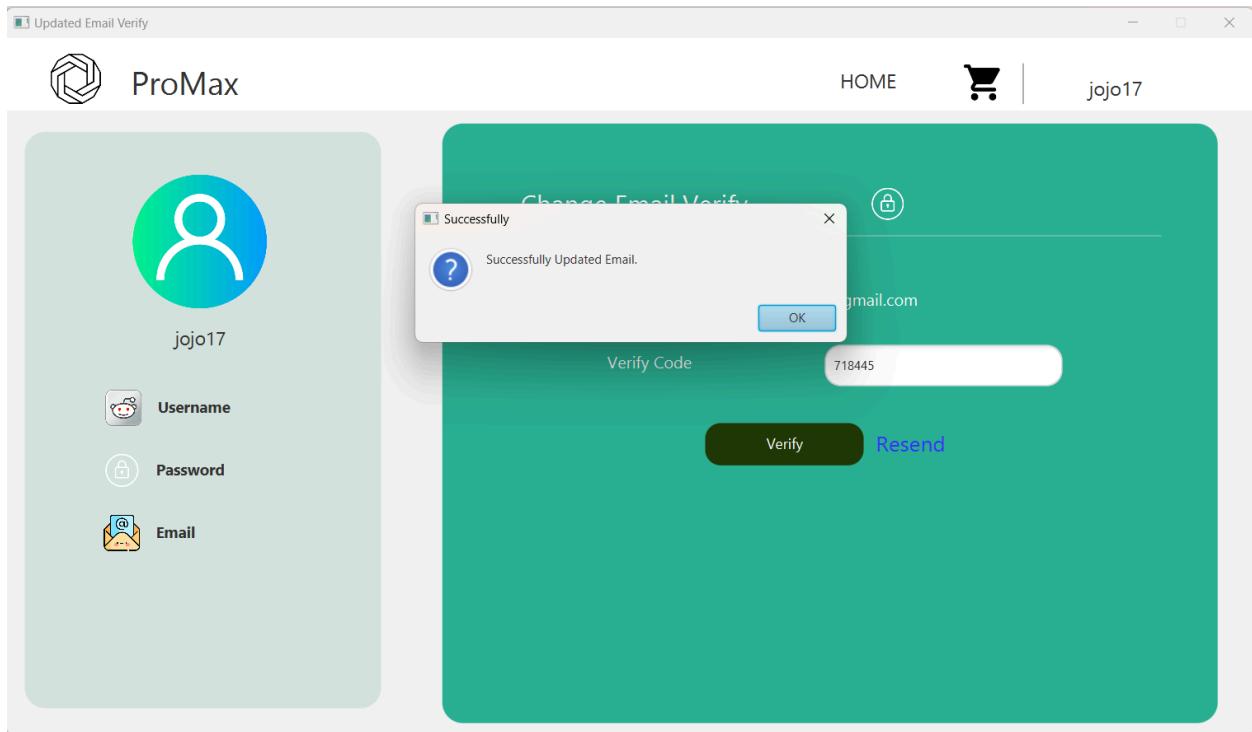


Step 2: Enter the verification code and click on the Save & Get Verification Code button to get the verification code from the current email.



Step 3: Enter the verification code. A “Successfully Updated Email” message will pop up indicating that the email is updated successfully.



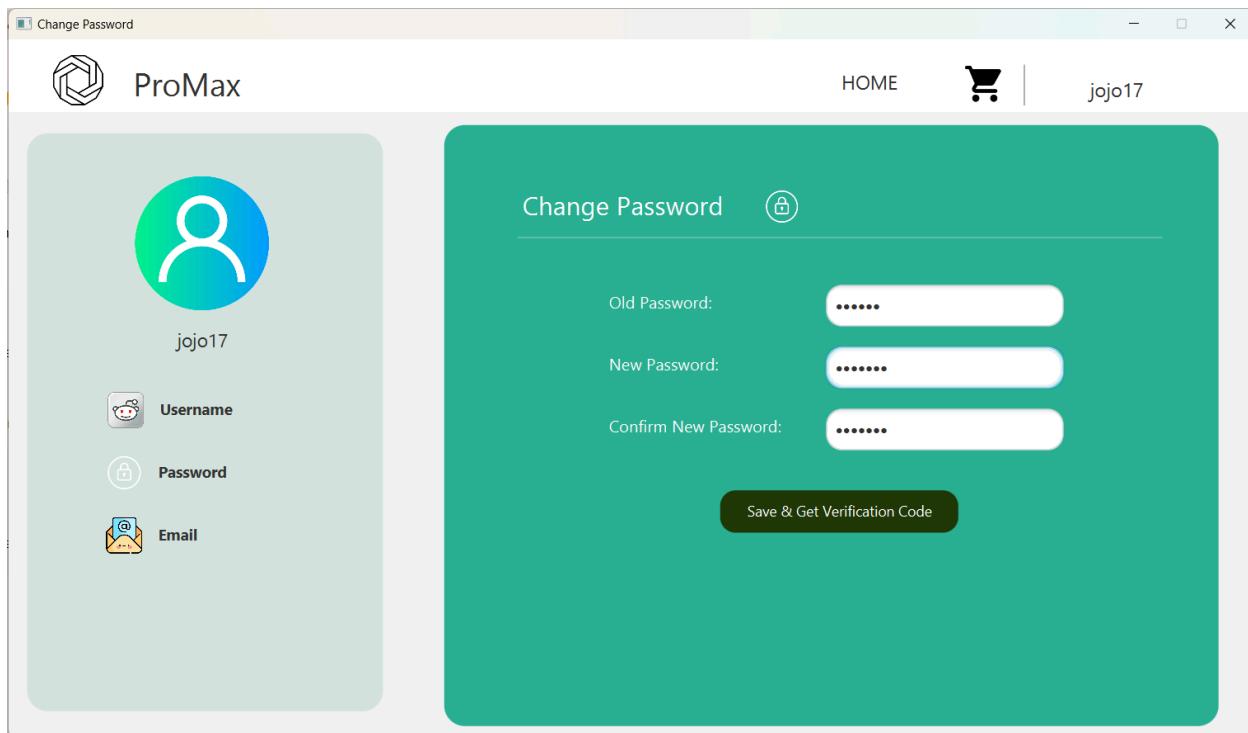


2.2.1 Sample email sent to users

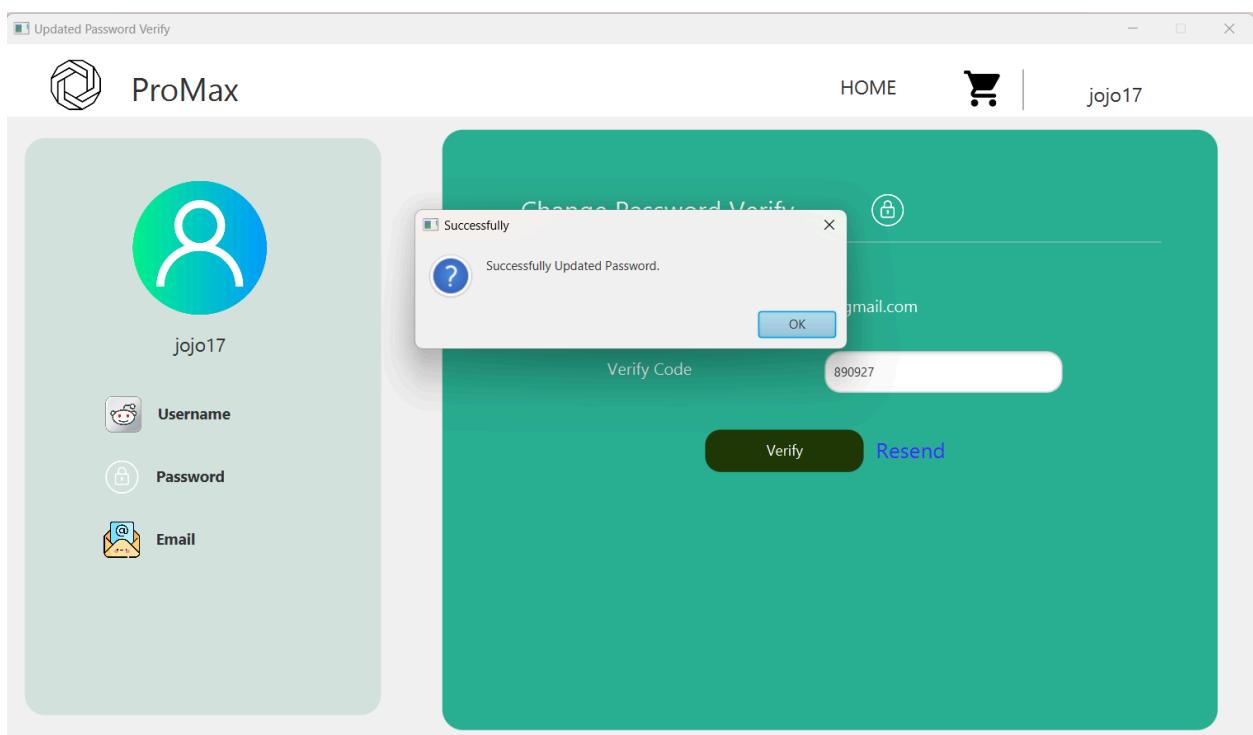
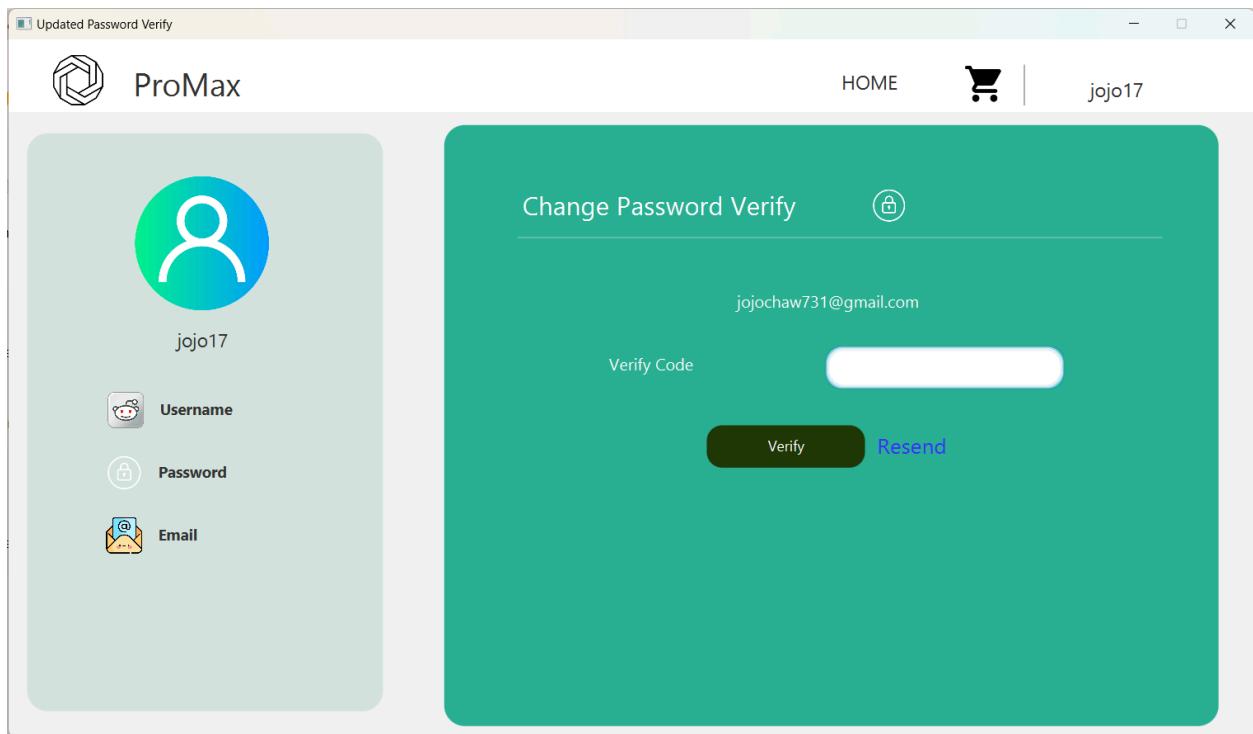
Two side-by-side screenshots of emails in an inbox. Both emails are titled "Change password verify" and are from the address "linwu212@gmail....".
The left email was sent at 17:27 and contains the text: "The change password verify code :330084".
The right email was sent at 17:30 and contains the text: "The change password verify code :718445".

2.2 Change password

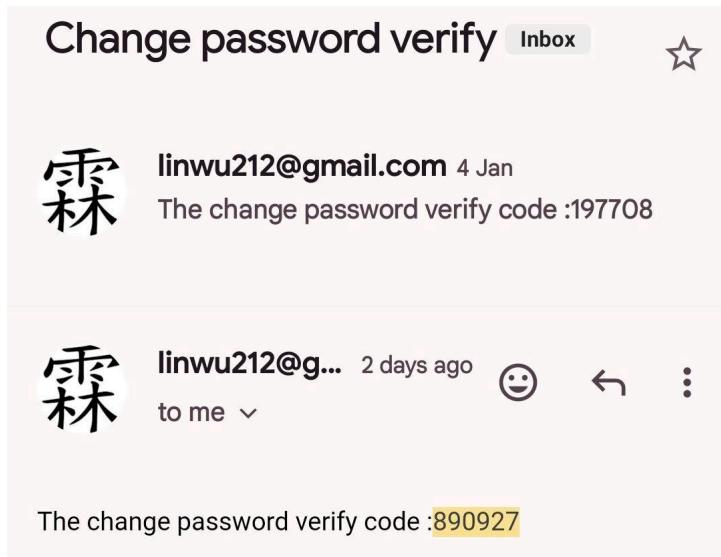
Step 1: Enter the current password, and new password and confirm the new password, then click on the Save & Get Verification Code button and wait for the verification code to be sent to the registered email.



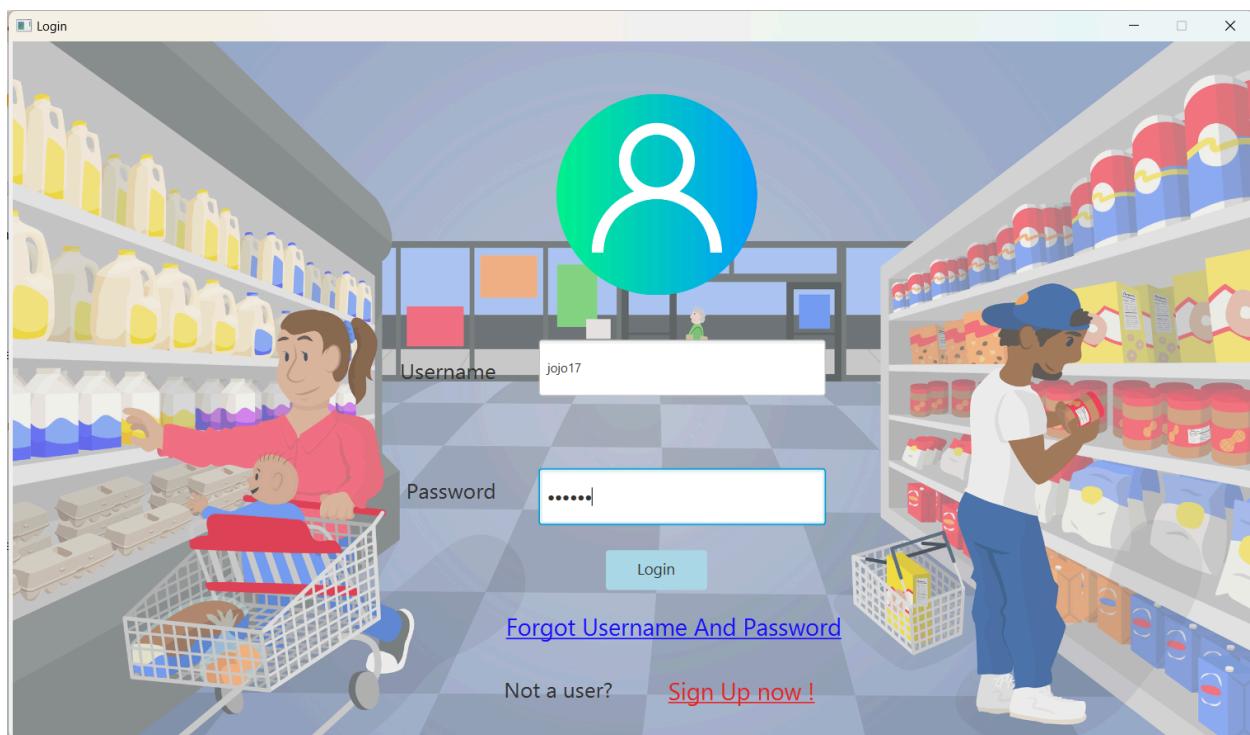
Step 2: This step is the same as step 2 of the change username process.



2.2.1 Sample email sent to users

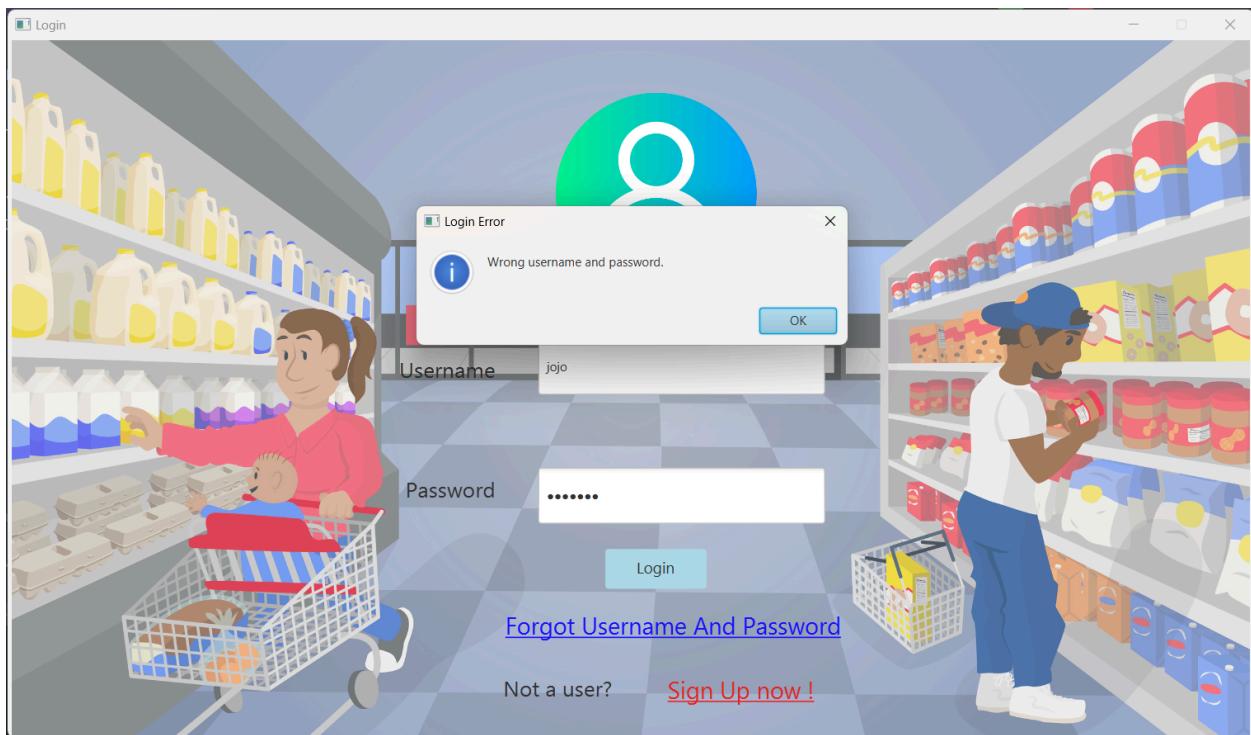


Finally, users will automatically be directed to the login page upon every successful change of username, email, and password attempt to log in to their account so that the users' details can be updated in the database.

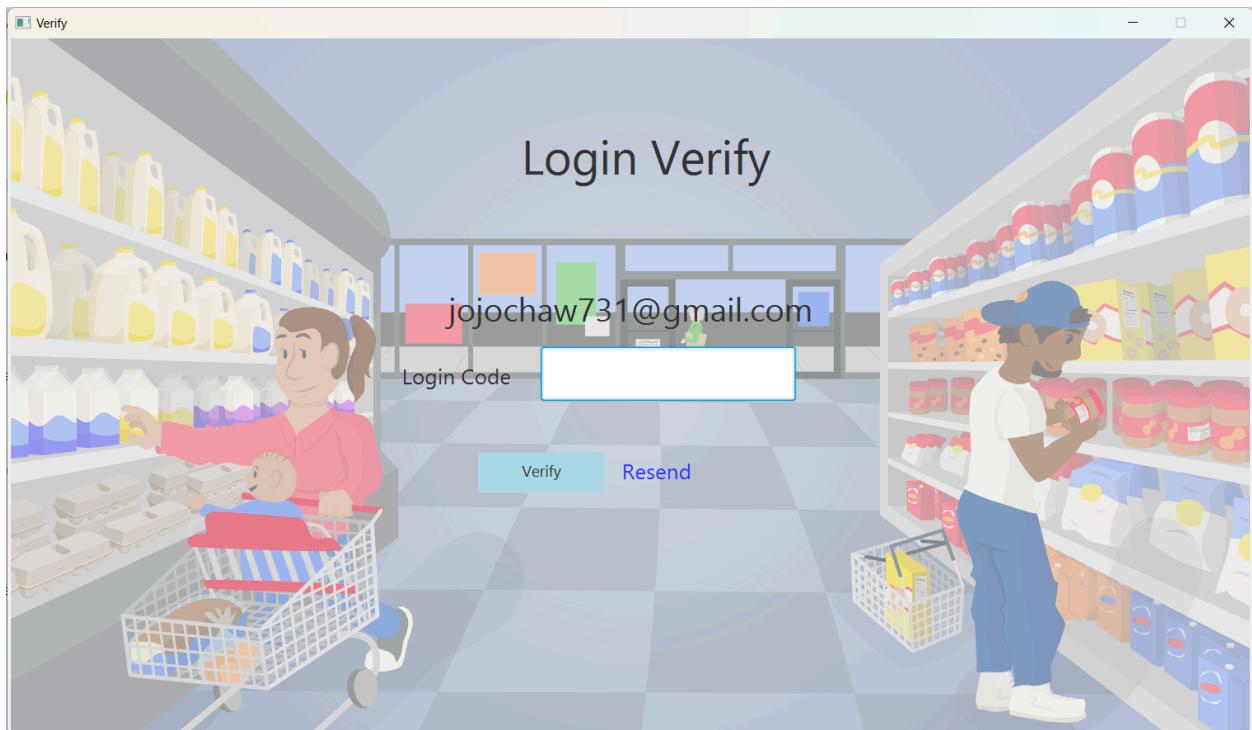
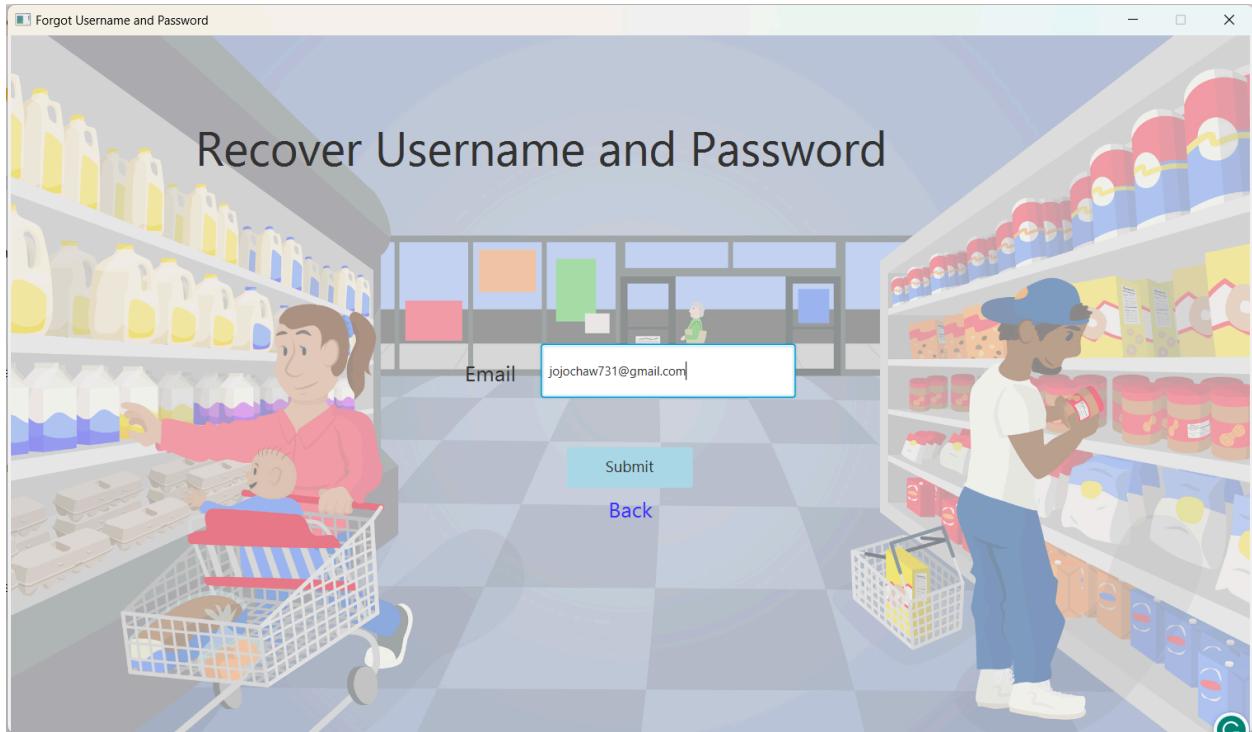


3. Forgot username and password

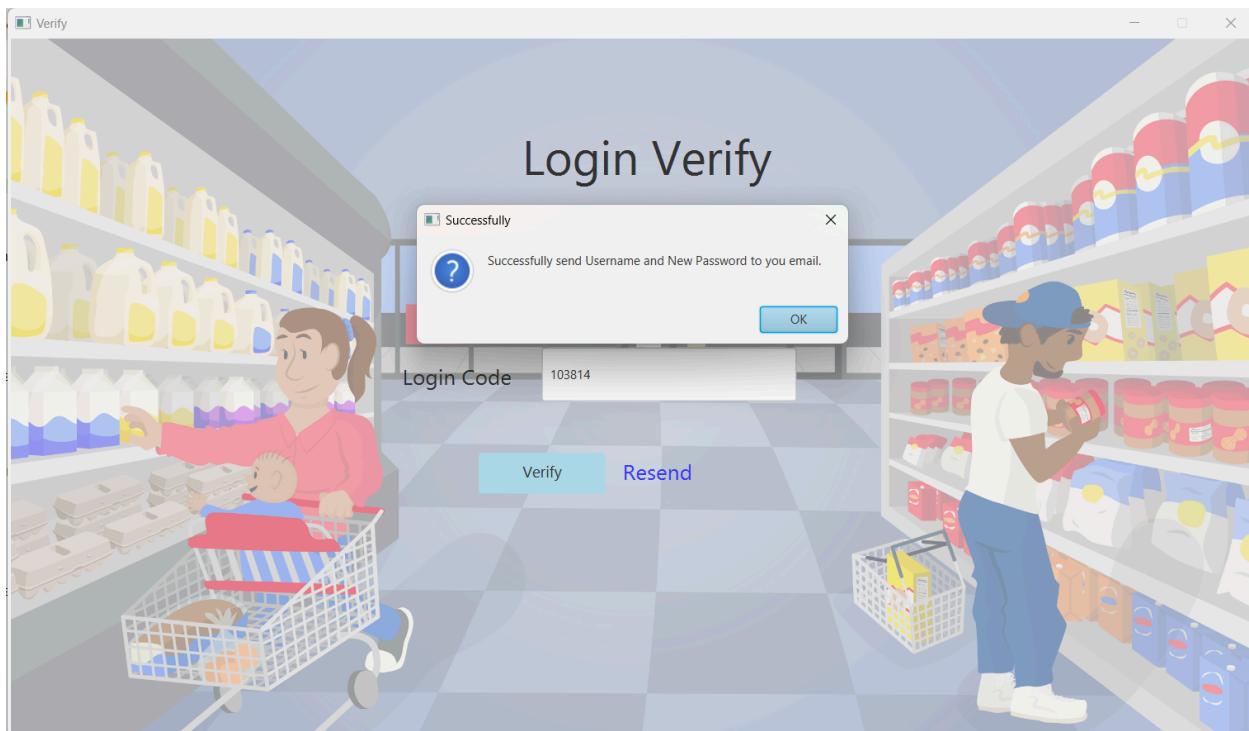
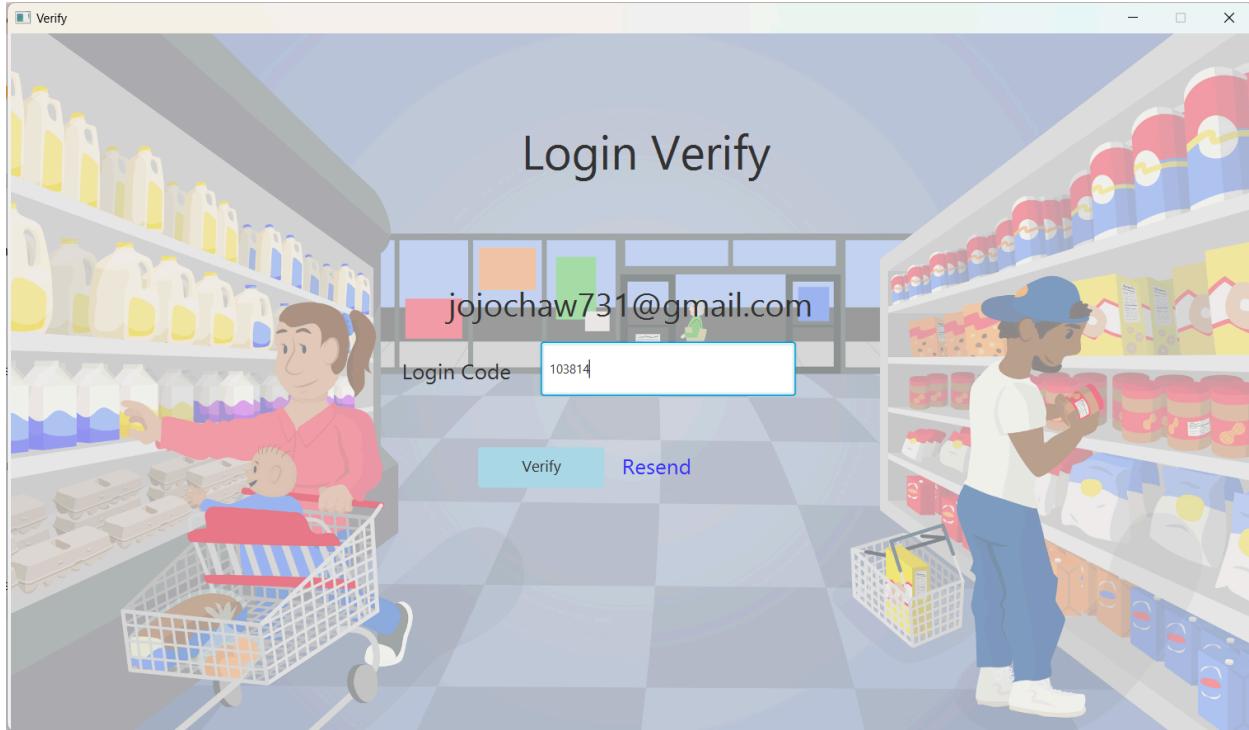
Don't worry if you have forgotten your login details because we have an algorithm to help users recover their accounts! Click on the **Forgot Username And Password** button to start the account recovery process.



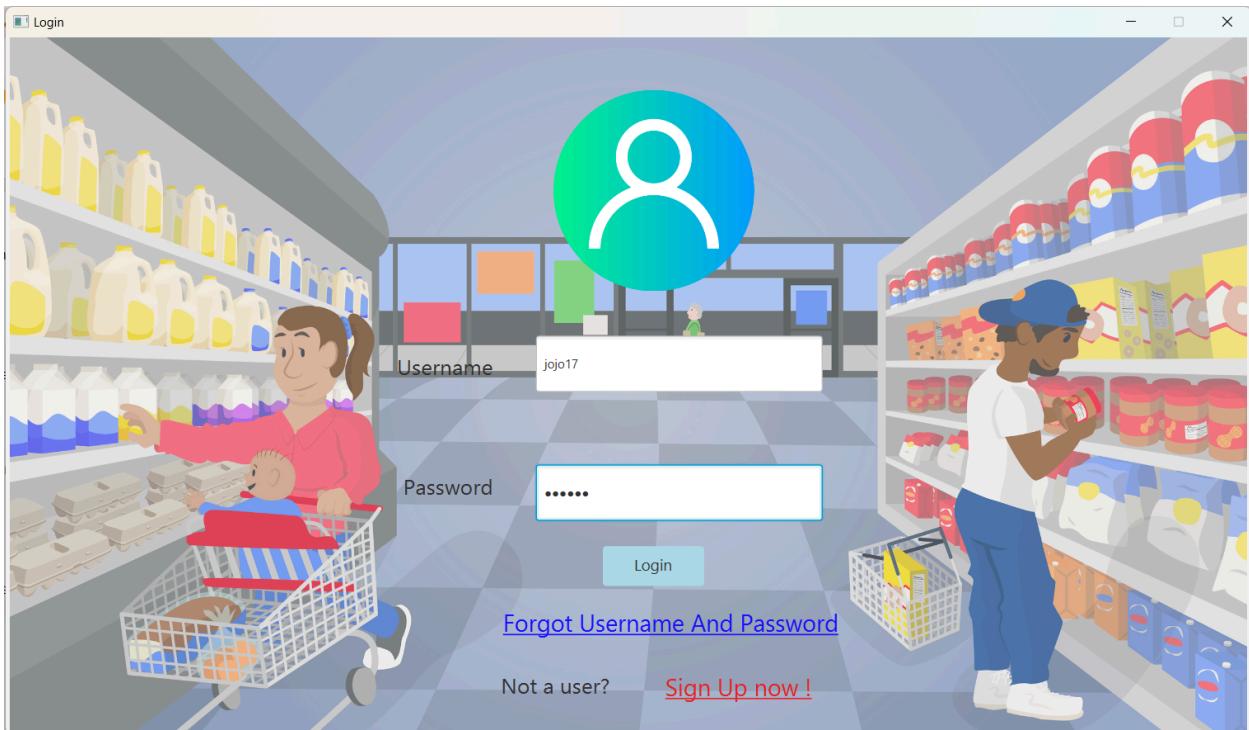
Step 1: Enter the current email linked to the account then click Submit button and wait for the verification code to be sent to the email.



Step 2: Enter the verification code. A message displaying “Successfully send Username and New Password to your email” will pop up and check the email to view the username and new password.



Step 3: Enter the username and new password to login to the account



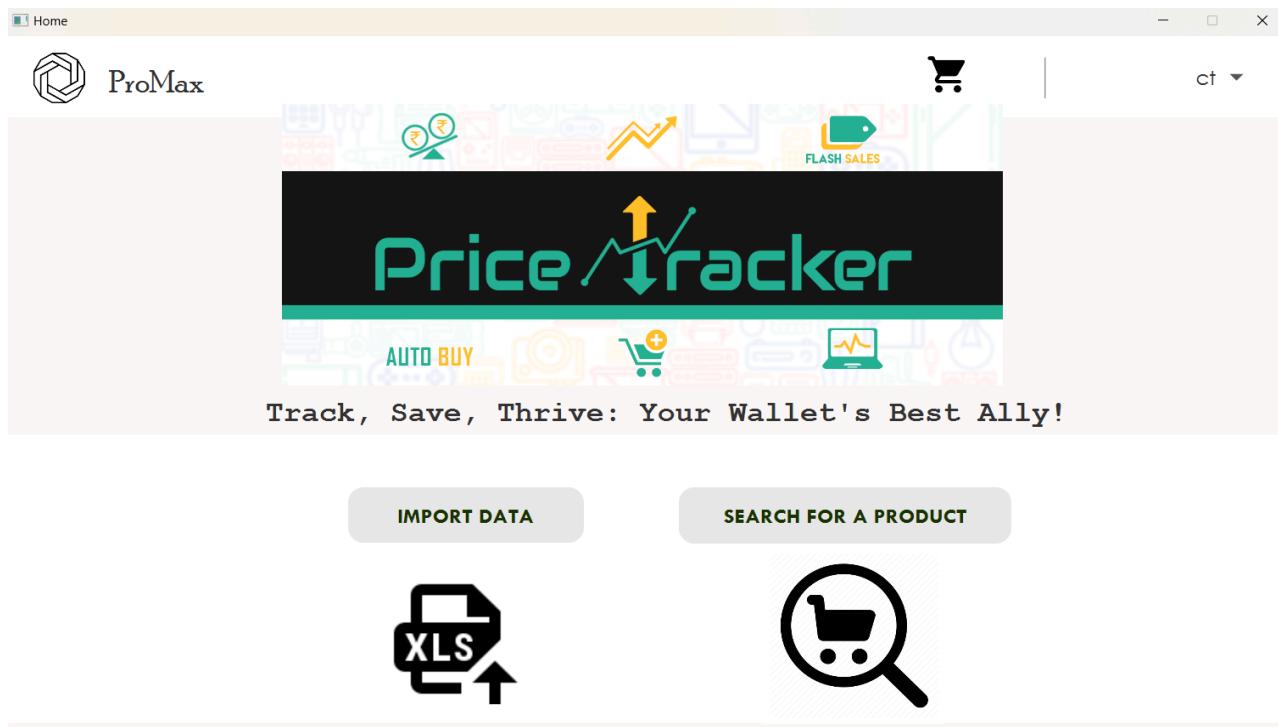
3.1 Sample email sent to users

The image shows two sample emails side-by-side:

Email 1: Recovery Username and Password!
linwu212@gmail.... 16:50
to me
Verify Code : 103814

Email 2: Username and Password!
linwu212@gmail.... 16:51
to me
Username : jojo17
Password : bqqlxy

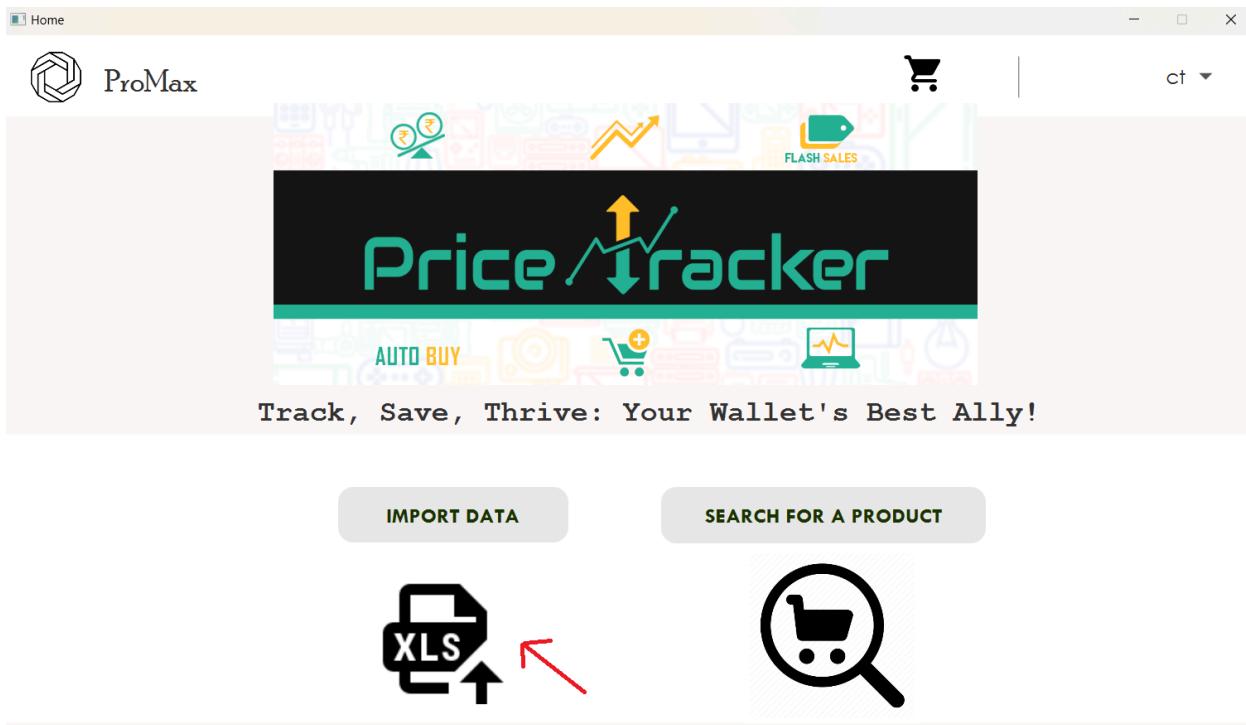
4. Log into the Home Page



Users can choose whether they want to import data, search for a product, view the shopping cart, and view account settings on the home page.

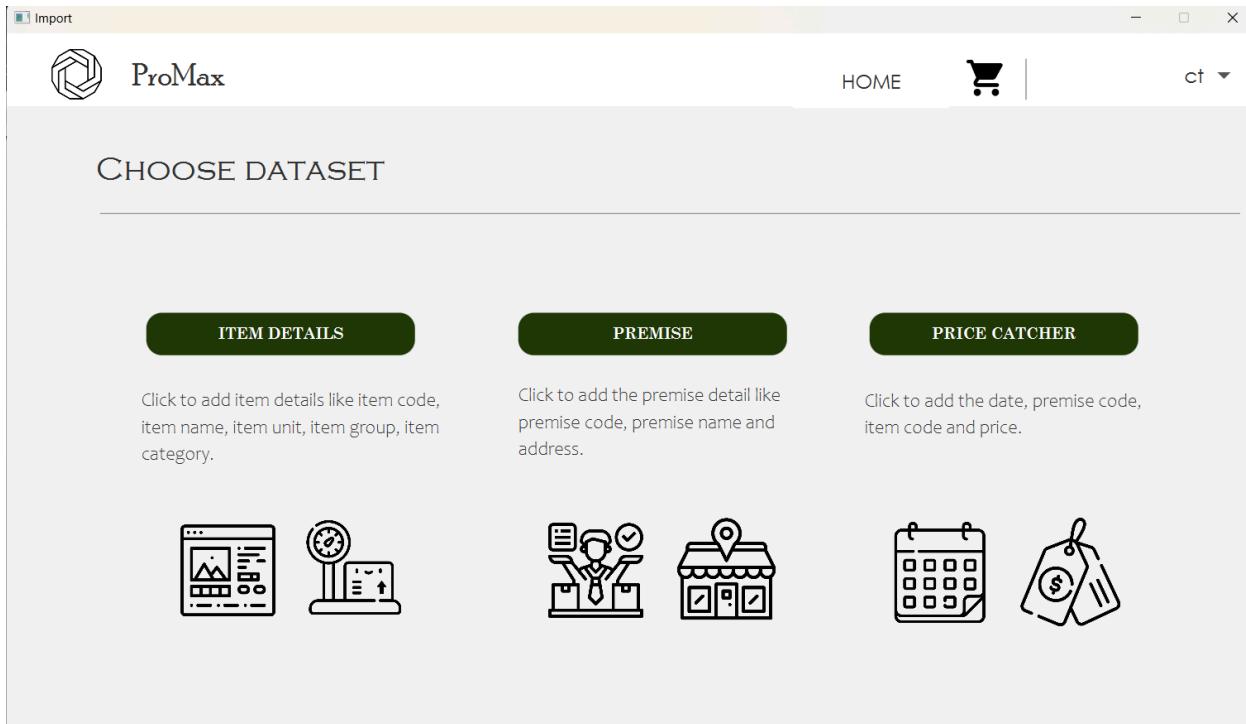
4.1 Import data (item details, premise, and price catcher)

Step 1: Click on import data



Step 2: Choose a dataset

Users can choose which dataset they wish to import by clicking on it



Import Item

ProMax

HOME ct ▾

INSERT DATA

Item

Item Code:	<input type="text" value="Enter item code"/>
Item Name:	<input type="text" value="Enter item name"/>
Item Unit:	<input type="text" value="Enter item unit"/>
Item Group:	<input type="text" value="Enter item Group"/>
Item Category:	<input type="text" value="Enter item Category"/>

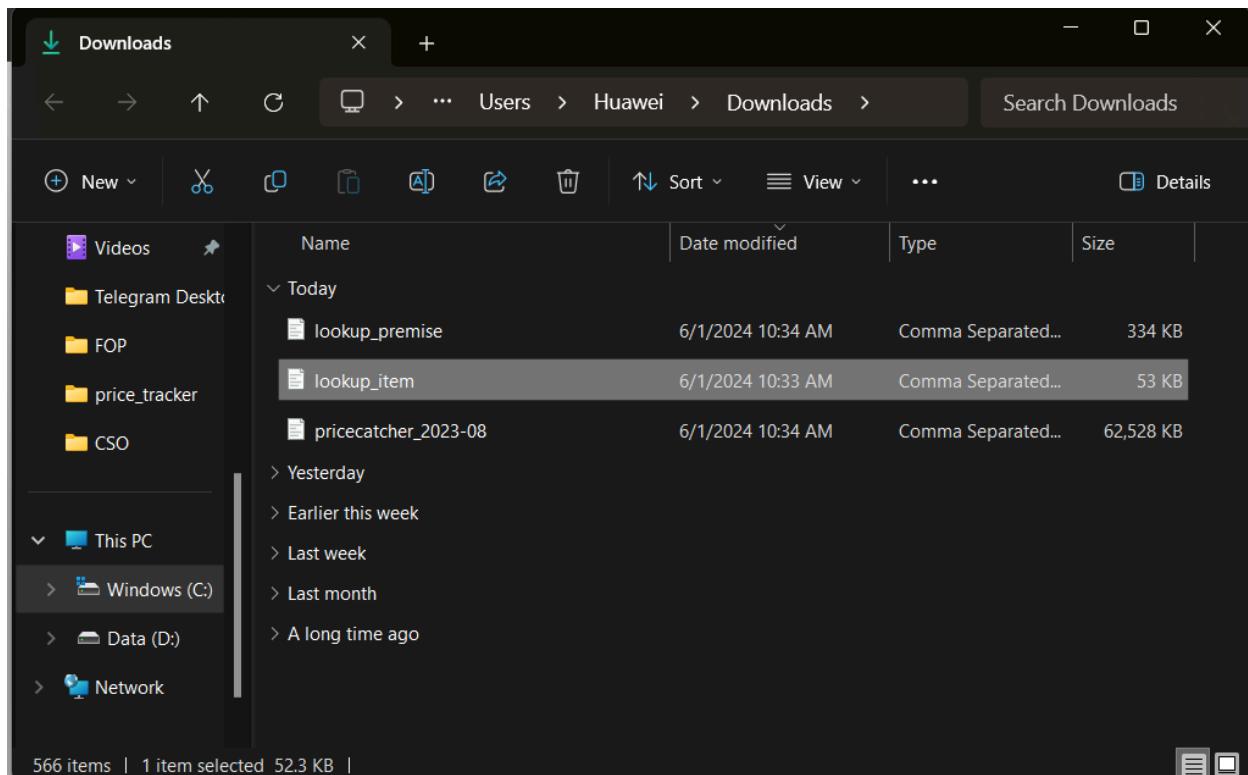
Preview Data

Item Code	Item Name	Item Unit	Item Group	Item Category
No content in table				

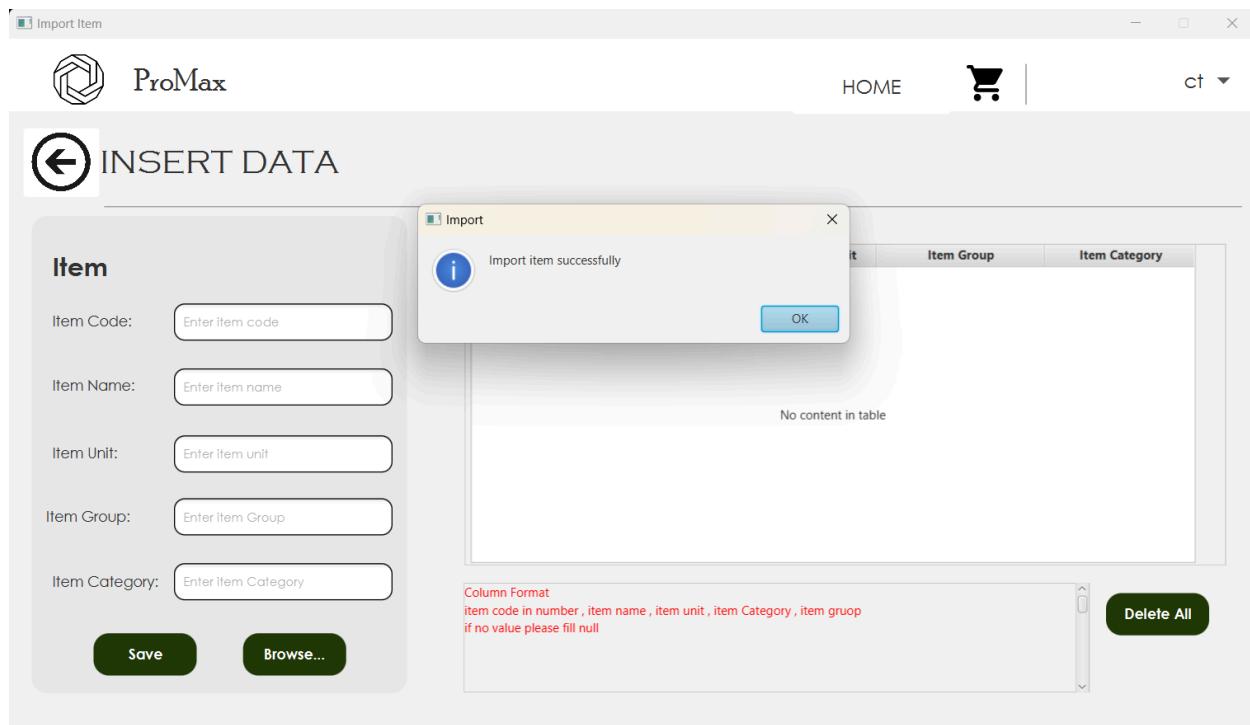
Column Format
item code in number , item name , item unit , item Category , item group
if no value please fill null

Buttons: Save, Browse..., Delete All

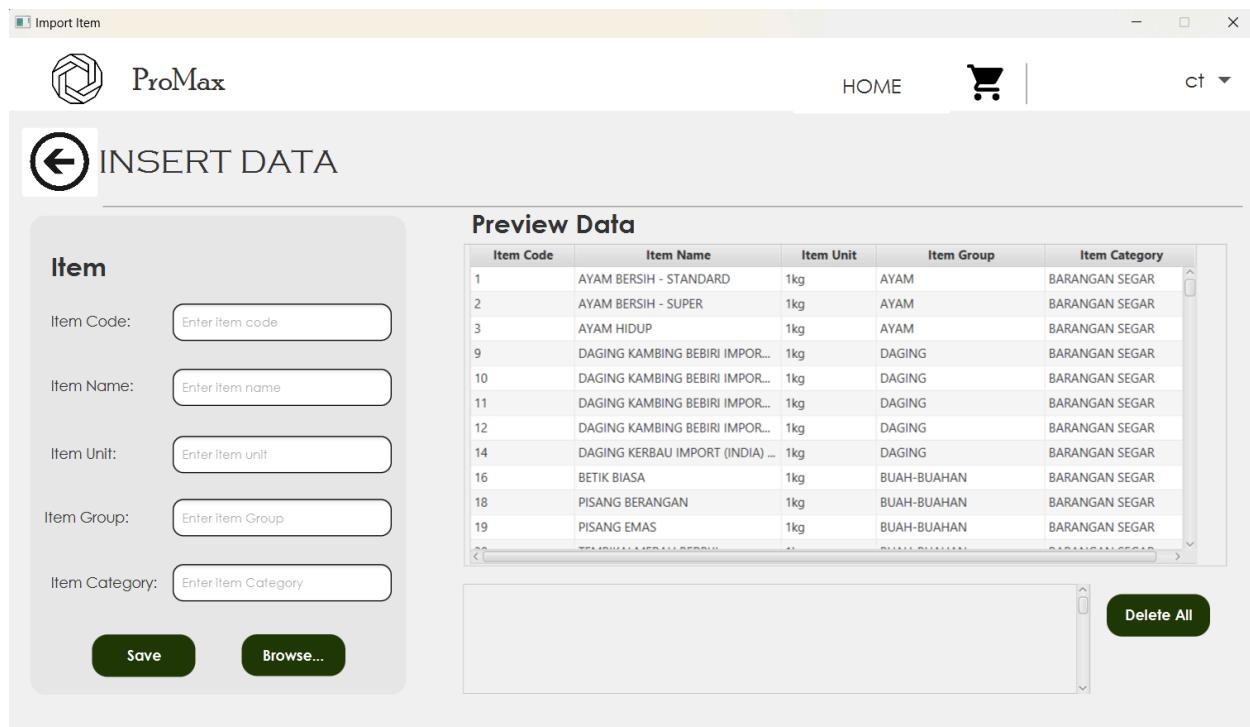
Firstly, users can import `item details` by uploading the file (`lookup_item`) from their computer. The system only accepts files in CSV format.



If the file imported is in the correct column format, a message displaying “Import item successfully” will pop out, indicating that data is successfully imported to the system.



Now, the page will be displaying all the data like this:



Step 4: Let the user manually insert the data for the `item details`, instead of hardcoded the file given (`lookup_item`)

- Users can enter the item code, item name, item unit, item group, and item category for the items they wish to add and click save.

The screenshot shows a Windows application window titled "Import Item". The main title bar has a "Import Item" icon, a close button, and a minimize button. Below the title bar, the ProMax logo is displayed next to the word "ProMax". To the right of the logo are links for "HOME" and a shopping cart icon. Further right is a dropdown menu labeled "ct ▾".

The main content area is titled "INSERT DATA". On the left, there is a form with the following fields:

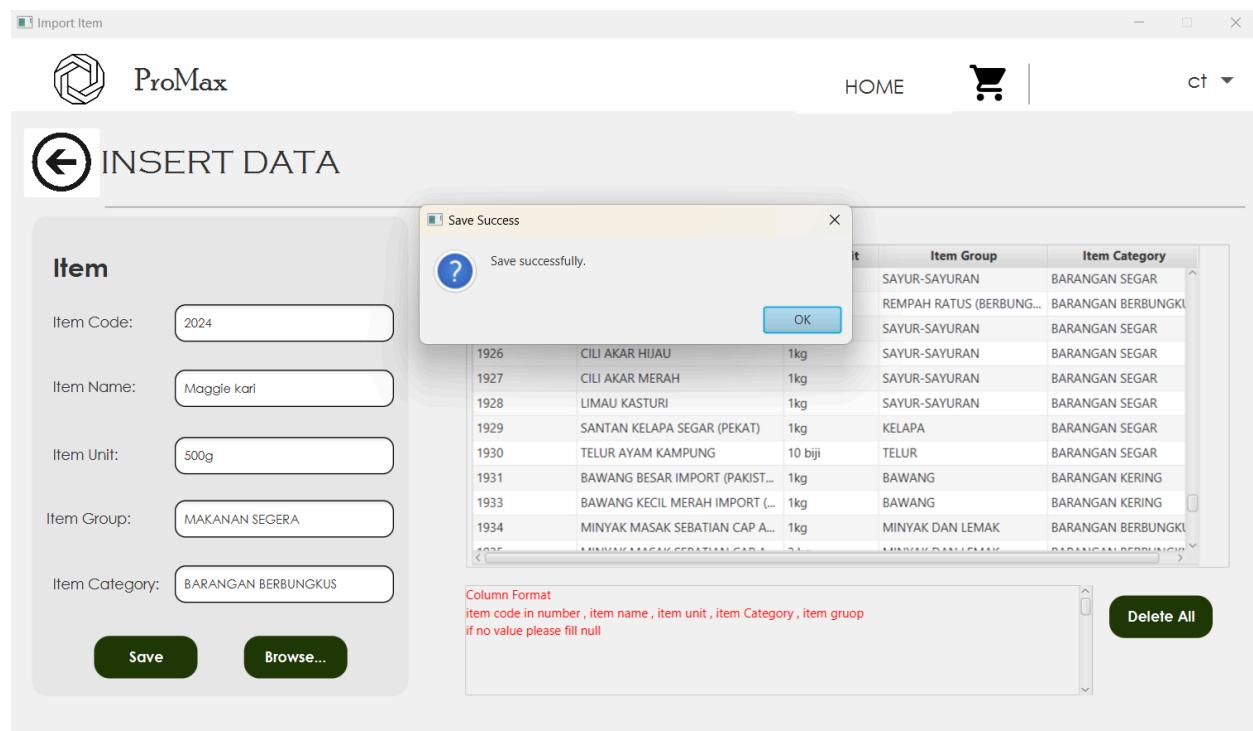
- Item**
- Item Code:
- Item Name:
- Item Unit:
- Item Group:
- Item Category:

Below the form are two buttons: "Save" and "Browse...".

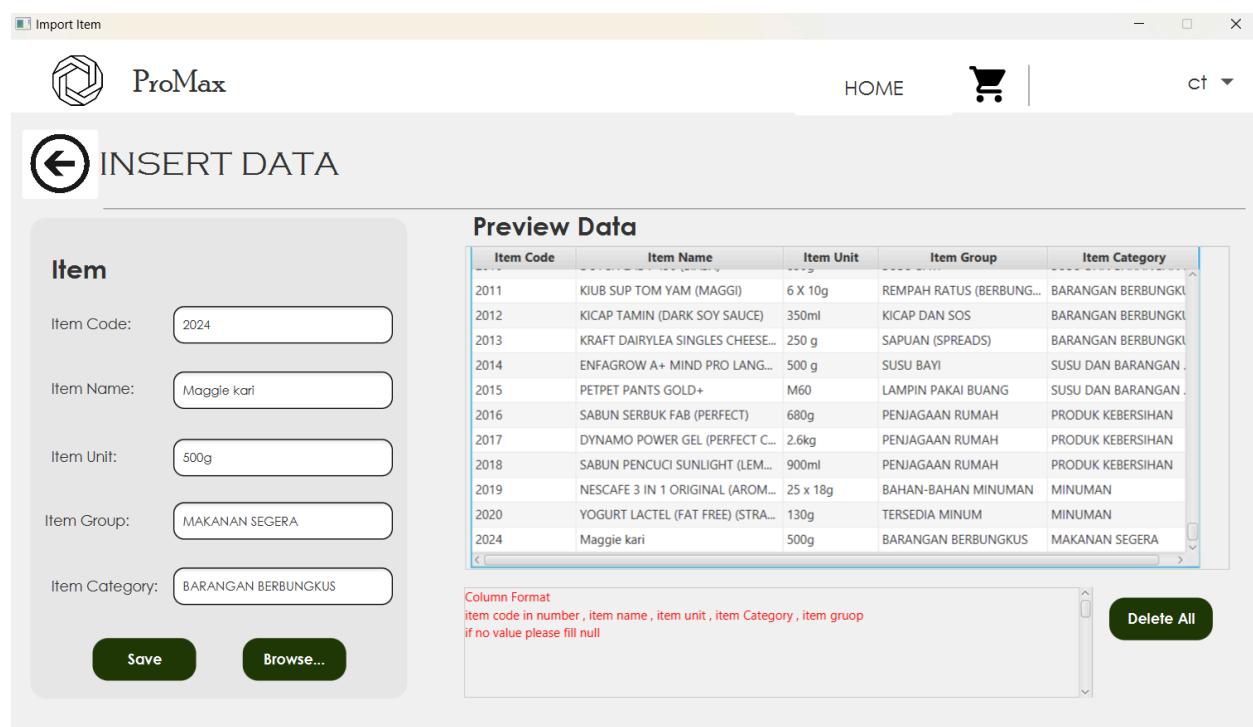
On the right, there is a section titled "Preview Data" containing a table with the following columns: Item Code, Item Name, Item Unit, Item Group, and Item Category. The table displays a list of items, such as TERUNG BULAT, SERBUK KUNYIT ALAGAPPAS, CILI API/PADI MERAH, etc., categorized under BARANGAN SEGAR, BARANGAN BERBUNGKU, etc.

A tooltip message "Column Format item code in number , item name , item unit , item Category , item group if no value please fill null" is shown near the preview table, along with a "Delete All" button.

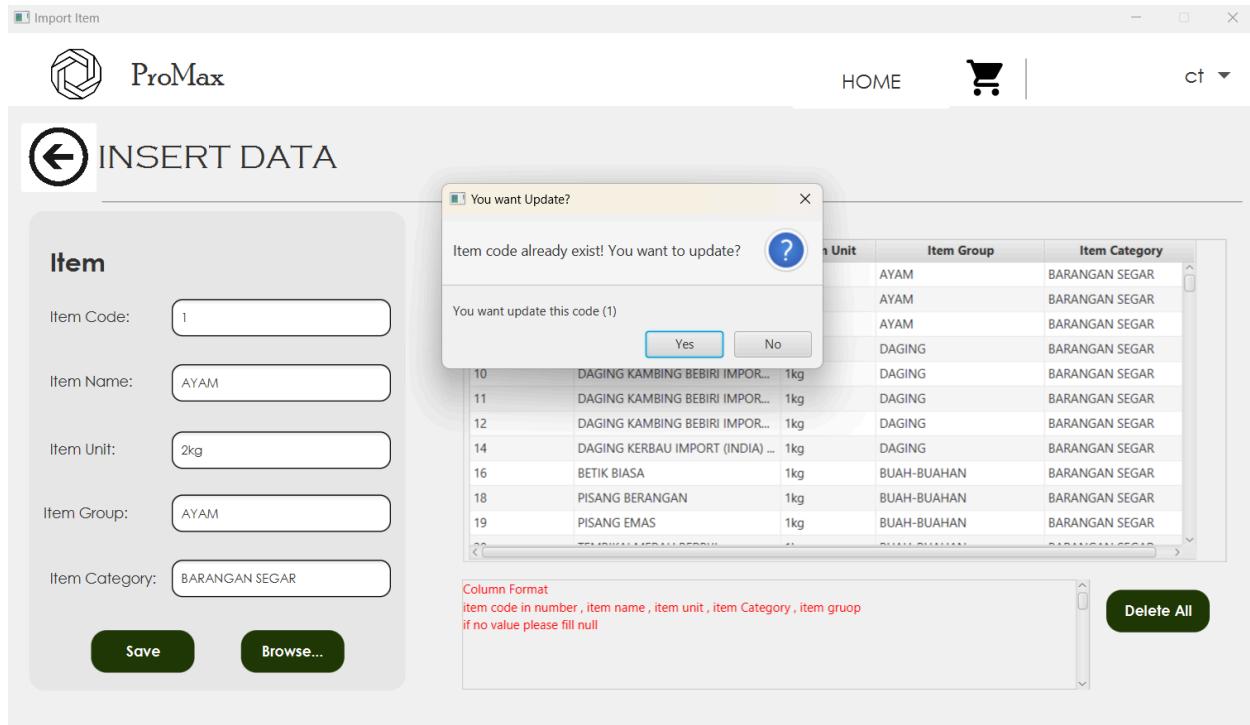
If users enter the item code that does not exist in the existing data set then, a message displaying “ Save successfully” will pop out, indicating that the data is being saved successfully.



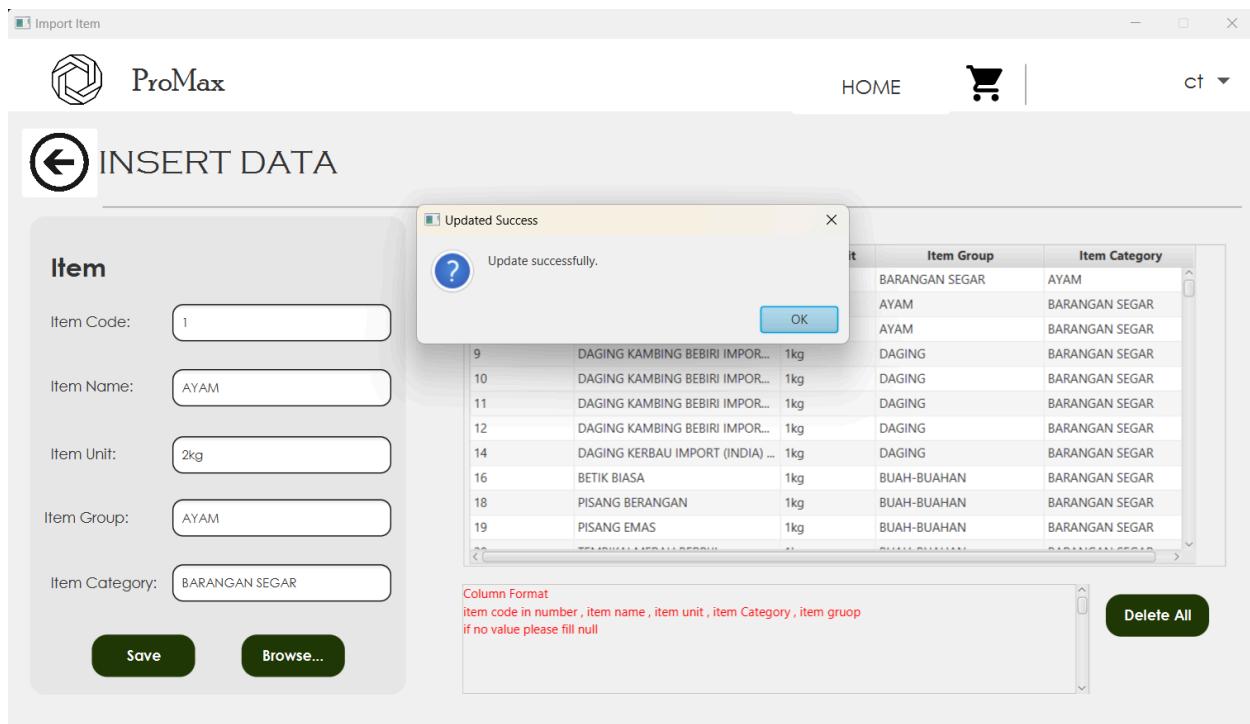
- Users can scroll down and see the updated dataset



If the users want to update the item details for the item that already exists in the dataset, they can enter the item code for that particular item and start to update the item details. A message displaying “Item code already exists! You want to update?” will pop out, to let the users confirm their action before updating the existing data.



If users click “Yes”, a message displaying “Update successfully” will pop out, indicating the data is being updated.



The updated data:

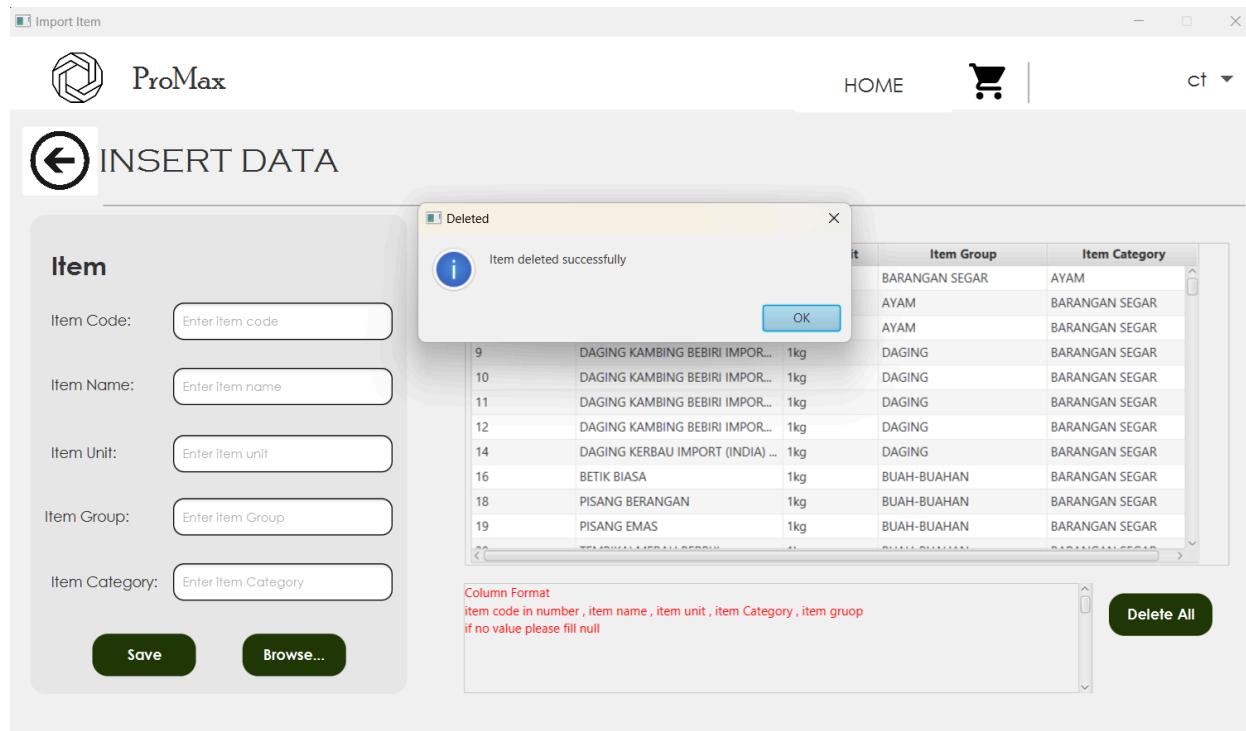
The screenshot shows the ProMax software interface with the title bar "Import Item". The main header features the ProMax logo and navigation links for "HOME" and "ct". Below the header, a large button labeled "INSERT DATA" with a left arrow icon is visible. To the left, there is a form titled "Item" with fields for "Item Code" (1), "Item Name" (AYAM), "Item Unit" (2kg), "Item Group" (AYAM), and "Item Category" (BARANGAN SEGAR). Below the form are two buttons: "Save" and "Browse...". To the right of the form is a "Preview Data" section containing a table with 19 rows of item information. At the bottom right of the preview area is a "Delete All" button.

Item Code	Item Name	Item Unit	Item Group	Item Category
1	AYAM	2kg	BARANGAN SEGAR	AYAM
2	AYAM BERSIH - SUPER	1kg	AYAM	BARANGAN SEGAR
3	AYAM HIDUP	1kg	AYAM	BARANGAN SEGAR
9	DAGING KAMBING BEBIRI IMPOR...	1kg	DAGING	BARANGAN SEGAR
10	DAGING KAMBING BEBIRI IMPOR...	1kg	DAGING	BARANGAN SEGAR
11	DAGING KAMBING BEBIRI IMPOR...	1kg	DAGING	BARANGAN SEGAR
12	DAGING KAMBING BEBIRI IMPOR...	1kg	DAGING	BARANGAN SEGAR
14	DAGING KERBAU IMPORT (INDIA) ...	1kg	DAGING	BARANGAN SEGAR
16	BETIK BIASA	1kg	BUAH-BUAHAN	BARANGAN SEGAR
18	PISANG BERANGAN	1kg	BUAH-BUAHAN	BARANGAN SEGAR
19	PISANG EMAS	1kg	BUAH-BUAHAN	BARANGAN SEGAR

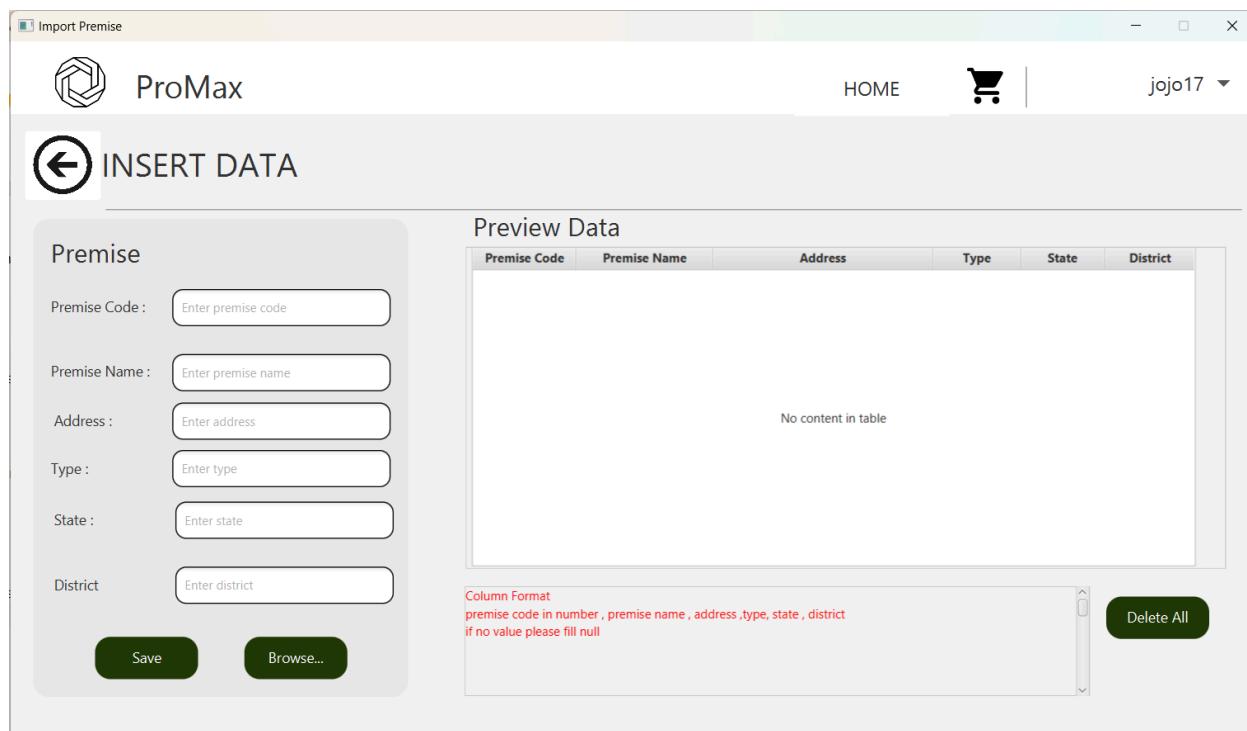
- If users want to delete the item, can click on “Delete All”.

This screenshot shows the same ProMax interface as above, but with a modal dialog box titled "Delete all?" overlaid. The dialog contains the message "Delete all item." and a question "Do you want delete all?". It has "Yes" and "No" buttons. In the background, the "Item" form and the "Preview Data" table are visible. The "Delete All" button in the preview area is also present.

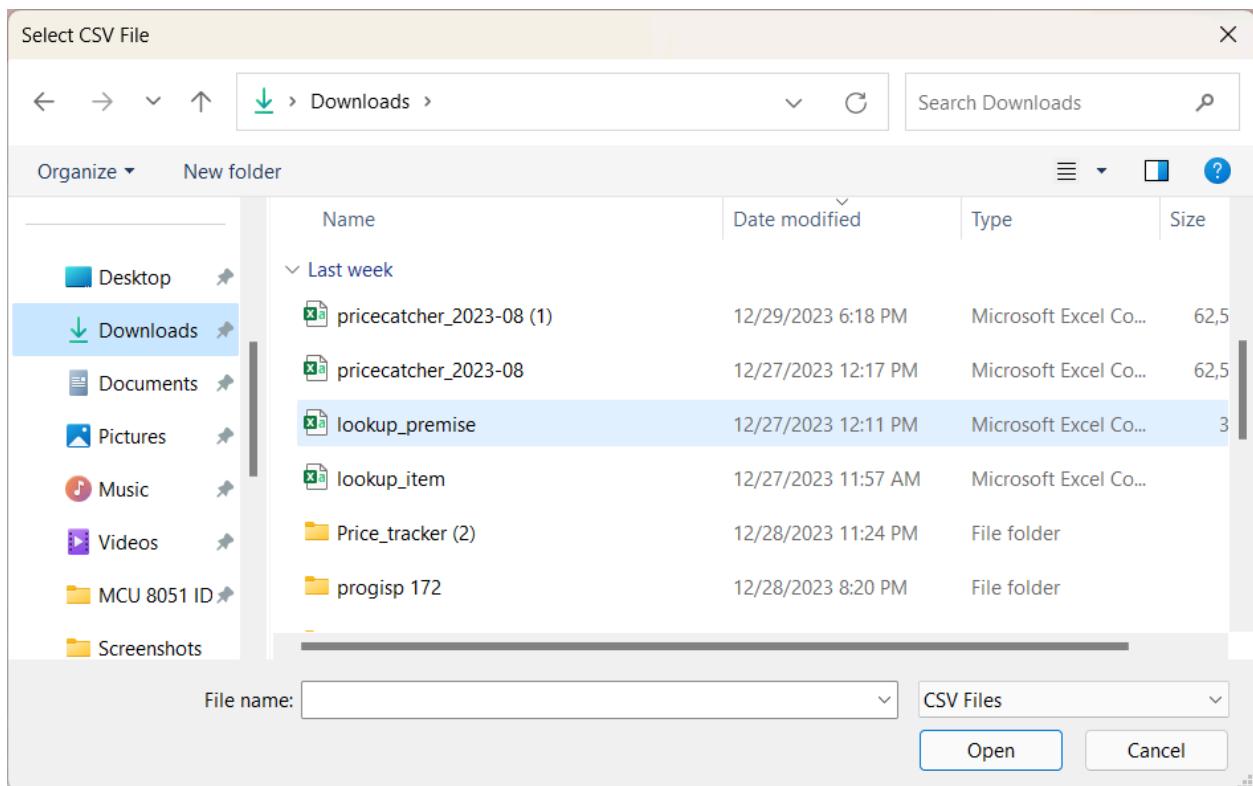
- A message displaying “Item deleted successfully”, indicating that the whole data in the `item details` dataset is being deleted.



Step 5: Import `premise`



Similar to step 3, users can import `premise` by uploading the file (`lookup_premise`) from their computer. The system only accepts files in CSV format.



Import Premise

ProMax

HOME | **cart** | **jojo17**

INSERT DATA

Premise

Premise Code :

Premise Name :

Address :

Type :

State :

District :

Save **Browse...**

Import

Import premise successfully

OK

No content in table

Column Format
premise code in number , premise name , address ,type, state , district
if no value please fill null

Delete All

Original dataset:

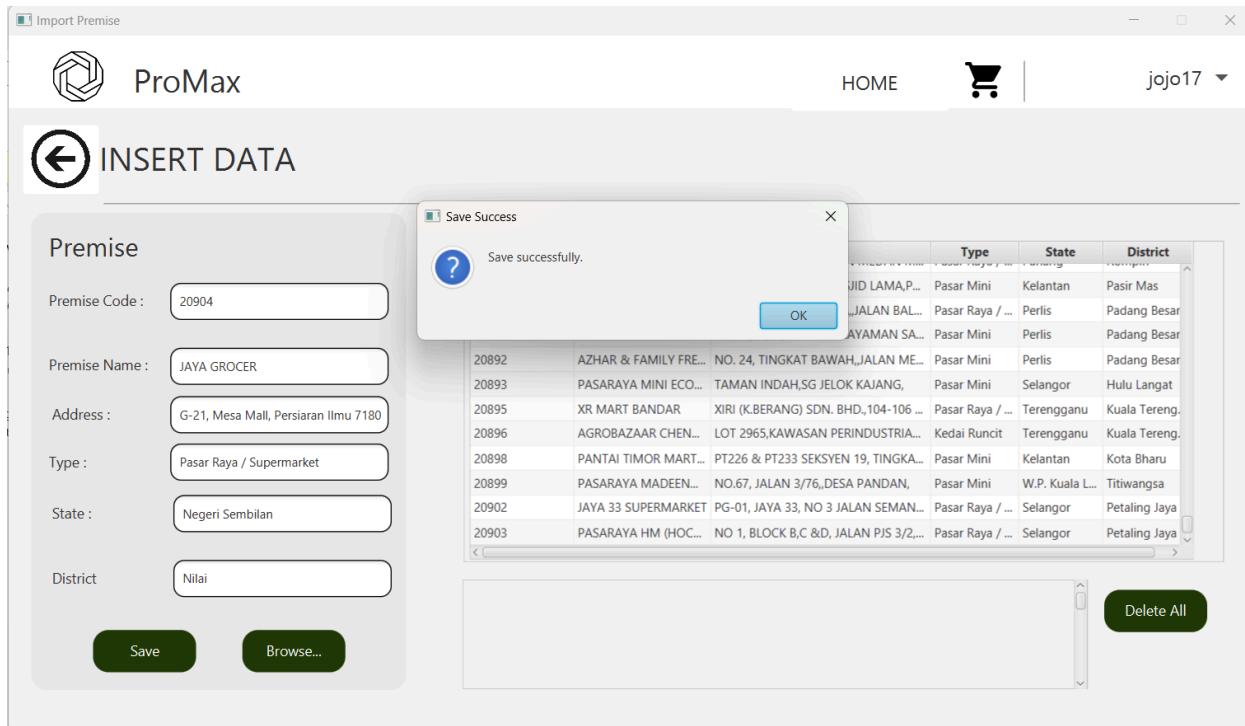
Premise

Premise Code	Premise Name	Address	Type	State	District
2	PASAR BESAR IPOH	JALAN LAKSAMANA,TAMAN JUBILEE...	Pasar Basah	Perak	Kinta
3	JUSCO AYER KEROH	LOT 4991,MUKIM BUKIT BARU,75450...	Pasar Raya / ...	Melaka	Melaka Teng...
6	KEDAI RUNCIT TAFAZ...	NO.5, JALAN P9B/1,PRESINT 9,62250 ...	Kedai Runcit	W.P. Putrajaya	Wp Putrajaya
7	KEDAI RUNCIT SYAZ...	NO.5, JALAN P9E/1,PRESINT 9,62250 ...	Kedai Runcit	W.P. Putrajaya	Wp Putrajaya
8	PASAR MINI D'MART...	BLOK A 100/U01,JALAN P8/D,PRESIN...	Pasar Mini	W.P. Putrajaya	Wp Putrajaya
15	PASAR MINI KARIM	NO, 7A,KAWASAN PASAR UTAN AJI...	Kedai Runcit	Perlis	Kangar
16	PASARAYA K-CERIA (...)	NO 3, 5, 7 & 9,JALAN KANGAR - ALO...	Pasar Raya / ...	Perlis	Kangar
115	TAMPIN SHOPPING C...	NO 111JALAN BESAR,73000 TAMPIN...	Pasar Raya / ...	Negeri Sem...	Tampin
136	THE STORE (PUDU P...	UG & 1st FLOOR, PUDU PLAZAJAL...	Pasar Raya / ...	W.P. Kuala L...	Cheras
141	HUDA GROCER	LUCRATIVE BASE SDN. BHD.,NO.12-1...	Pasar Raya / ...	Negeri Sem...	Seremban
149	RESTORAN SAPPHIRE...	PT 4686,TAMAN SEMARAK,71800 NI...	Restoran Ind...	Negeri Sem...	Seremban

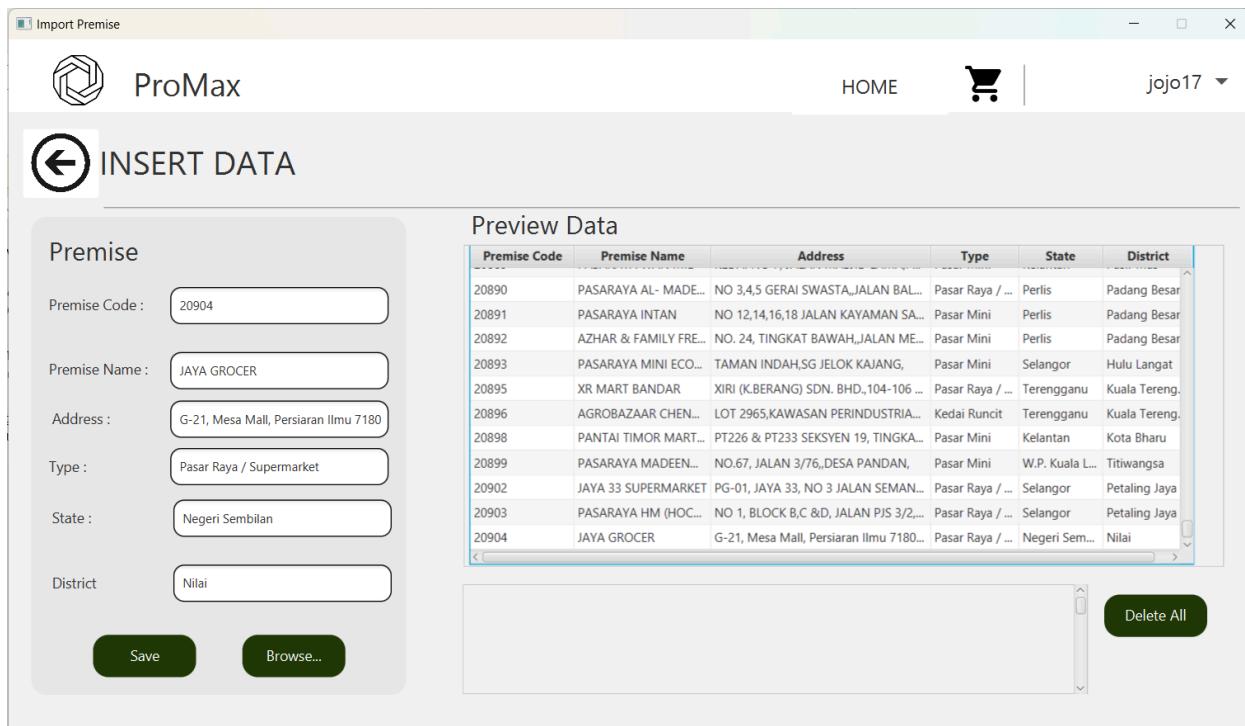
Step 6: This step of inserting data into the premise dataset is similar to the steps in step 4. Below is one example of manually inserting data following the column format of the premise dataset:

Premise

Premise Code	Premise Name	Address	Type	State	District
20888	PASARAYA WAN MIE	KEDAI NO 7, JALAN MASJID LAMA,P...	Pasar Mini	Kelantan	Pasir Mas
20889	PASARAYA AL- MADE...	NO 3,4,5 GERAI SWASTA,JALAN BAL...	Pasar Raya / ...	Perlis	Padang Besar
20890	PASARAYA INTAN	NO 12,14,16,18 JALAN KAYAMAN SA...	Pasar Mini	Perlis	Padang Besar
20891	AZHAR & FAMILY FRE...	NO. 24, TINGKAT BAWAH,JALAN ME...	Pasar Mini	Perlis	Padang Besar
20892	PASARAYA MINI ECO...	TAMAN INDAH,SG JELOK KAJANG,	Pasar Mini	Selangor	Hulu Langat
20893	XR MART BANDAR	XIR (K.BERANG) SDN. BHD.,104-106 ...	Pasar Raya / ...	Terengganu	Kuala Tereng...
20895	AGROBAZAAR CHEN...	LOT 2965,KAWASAN PERINDUSTRIA...	Kedai Runcit	Terengganu	Kuala Tereng...
20896	PANTAI TIMOR MART...	PT226 & PT233 SEKSYEN 19, TINGKA...	Pasar Mini	Kelantan	Kota Bharu
20898	PASARAYA MADEEN...	NO.67, JALAN 3/76,DESA PANDAN,	Pasar Mini	W.P. Kuala L...	Titiwangsa
20899	JAYA 33 SUPERMARKET	PG-01, JAYA 33, NO 3 JALAN SEMAN...	Pasar Raya / ...	Selangor	Petaling Jaya
20902	PASARAYA HM (HOC...	NO 1, BLOCK B,C &D, JALAN PJS 3/2...	Pasar Raya / ...	Selangor	Petaling Jaya
20903					



Updated dataset:



Step 7: Import `price catcher`

The screenshot shows the ProMax software interface with the title bar "Import Price Catcher". The main header includes the ProMax logo, a navigation menu with "HOME" and a shopping cart icon, and a user dropdown "jojo17". Below the header, a large button labeled "INSERT DATA" with a left arrow icon is visible. The central area is divided into two sections: "Price Catcher" on the left and "Preview Data" on the right.

Price Catcher:

- ID :
- Date :
- Premise Code :
- Item Code :
- Price :

Preview Data:

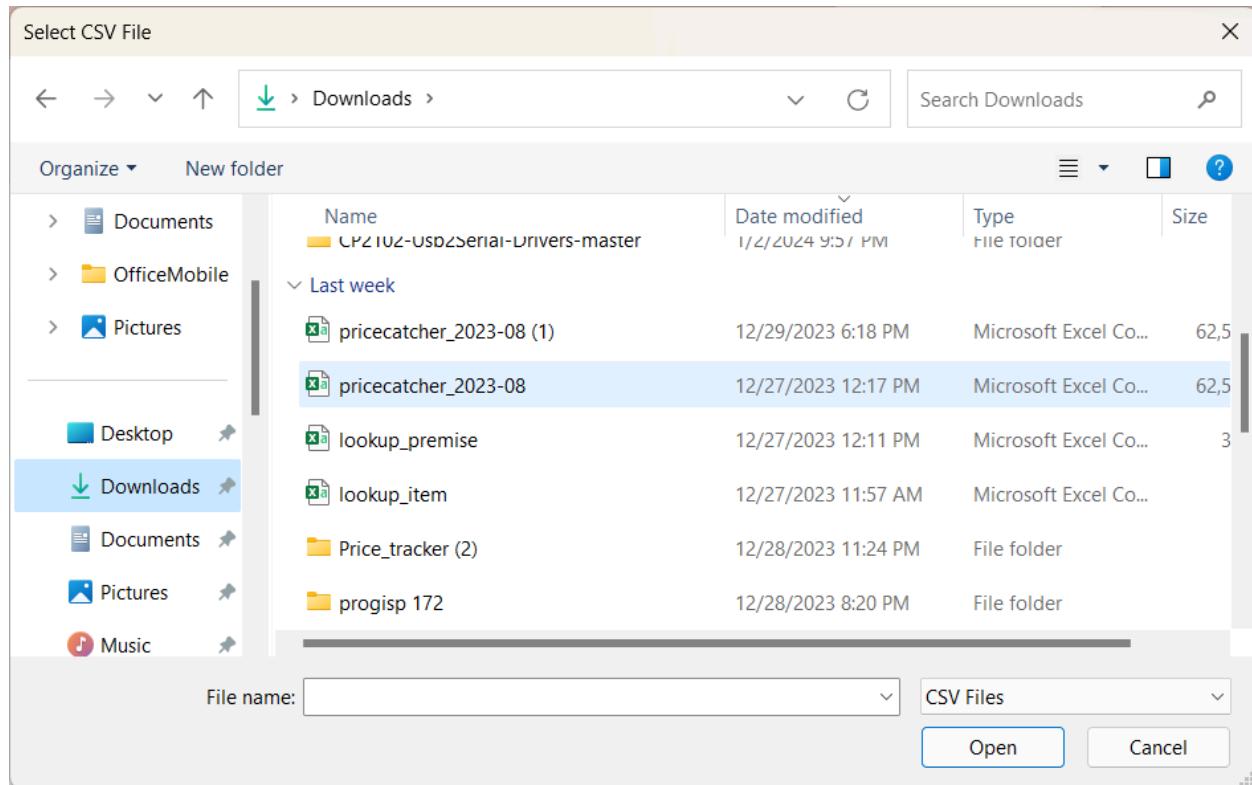
ID	Date	Premise Code	Item code	Price
No content in table				

Column Format:
ID in number, date (Year-Month-day), premise code in number , item code in number, price in number
if no value please fill null

Buttons:

- Save
- Browse...
- Delete All

Similar to step 3 and step 5, users can import 'price catcher' by uploading the file (pricecatcher_2023-08) from their computer. The system only accepts files in CSV format.



Original dataset:

Price Catcher

ID	Date	Premise Code	Item code	Price
1	2023-08-01	2	1	9.4
2	2023-08-01	2	9	36.0
3	2023-08-01	2	16	5.5
4	2023-08-01	2	18	5.5
5	2023-08-01	2	20	5.0
6	2023-08-01	2	21	2.5
7	2023-08-01	2	22	8.0
8	2023-08-01	2	24	6.0
9	2023-08-01	2	25	3.8
10	2023-08-01	2	27	20.0
11	2023-08-01	2	31	1.2

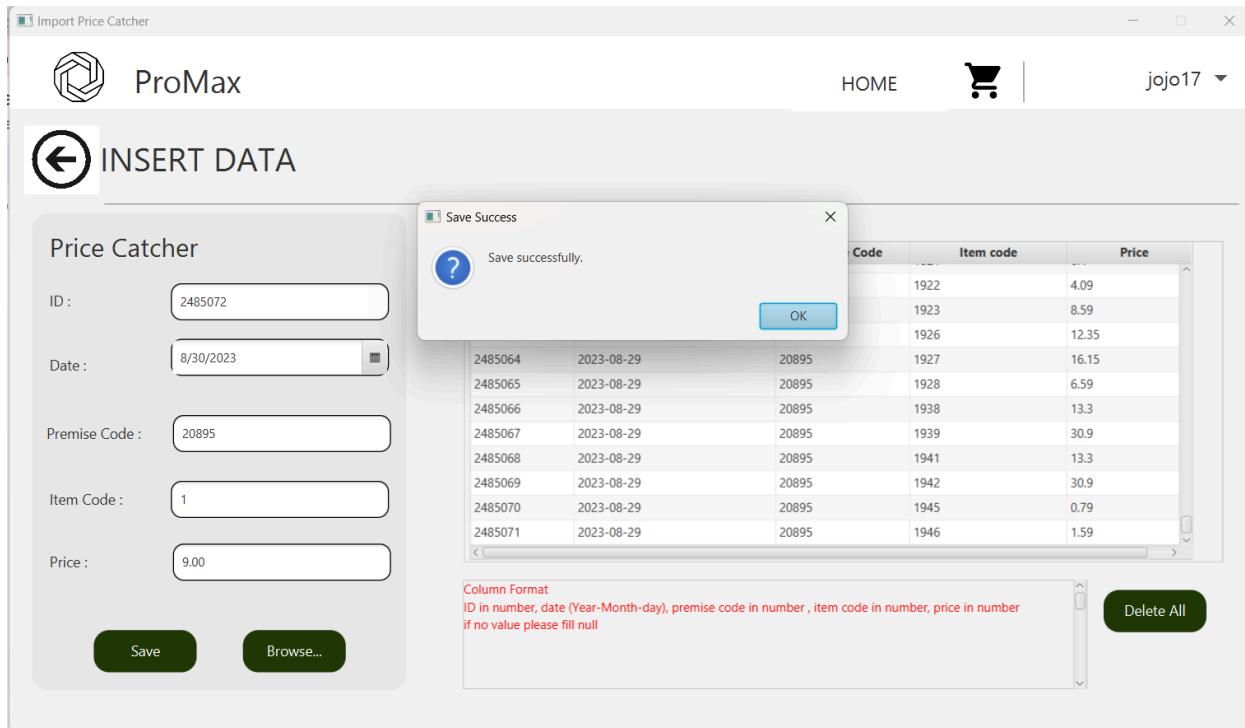
Column Format
ID in number, date (Year-Month-day), premise code in number , item code in number, price in number
if no value please fill null

Step 8: This step of inserting data into the price catcher dataset is similar to the steps in steps 4 and 6. Below is one example of manually inserting data following the column format of the price catcher dataset:

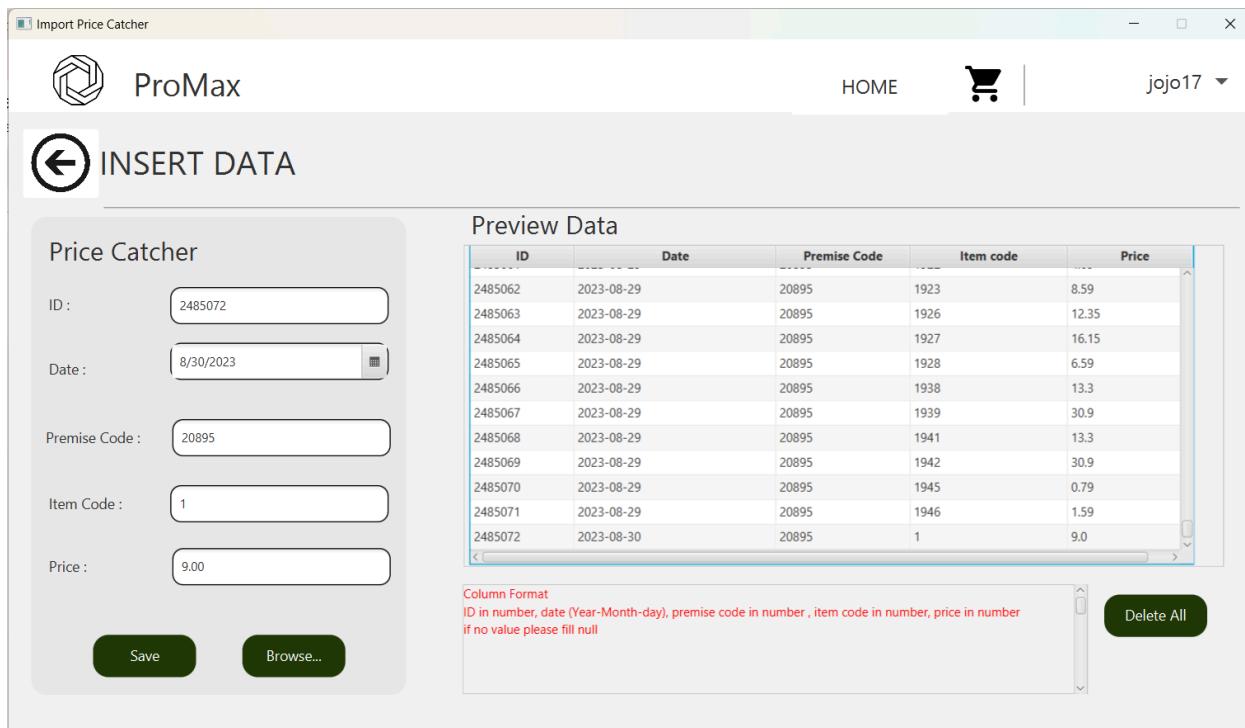
Price Catcher

ID	Date	Premise Code	Item code	Price
2485061	2023-08-29	20895	1922	4.09
2485062	2023-08-29	20895	1923	8.59
2485063	2023-08-29	20895	1926	12.35
2485064	2023-08-29	20895	1927	16.15
2485065	2023-08-29	20895	1928	6.59
2485066	2023-08-29	20895	1938	13.3
2485067	2023-08-29	20895	1939	30.9
2485068	2023-08-29	20895	1941	13.3
2485069	2023-08-29	20895	1942	30.9
2485070	2023-08-29	20895	1945	0.79
2485071	2023-08-29	20895	1946	1.59

Column Format
ID in number, date (Year-Month-day), premise code in number , item code in number, price in number
if no value please fill null

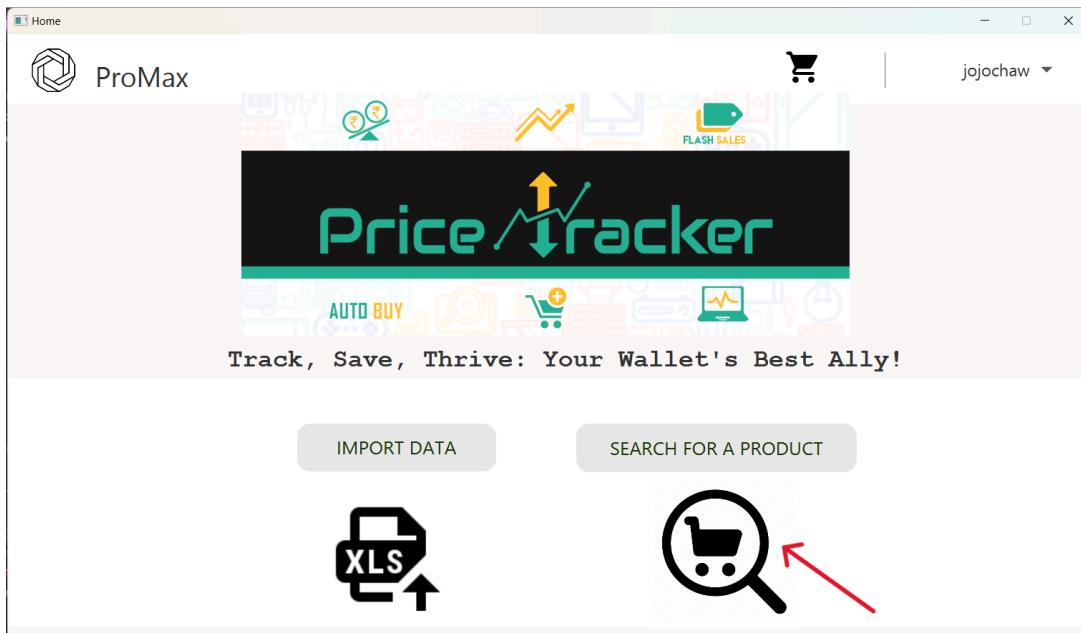


Updated dataset:



4.2 Search for a product

Step 1: At the home page, click on SEARCH FOR A PRODUCT



Step 2: The user can choose to type on the search box to search for a particular item or choose from the Category and Sub Category to search from a list of items based on their categories, both methods can narrow down the item list. The user can click on the View All button if they wish to view all of the products.

A screenshot of a Windows desktop showing a search results page for 'Search Item'. The top navigation bar includes 'HOME', a shopping cart icon, and a dropdown menu. On the left, there are two dropdown menus: 'Category' (listing 'BARANGAN SEGAR', 'BARANGAN KERING', 'BARANGAN BERBUNGKUS', 'MINUMAN', and 'PRODUK KEBERSIHAN') and 'Sub Category' (listing 'BARANGAN SEGAR' with sub-options like 'AYAM', 'DAGING', etc.). The main content area displays a grid of product cards. The first card in the top row is 'AYAM BERSIH - STANDARD' (Unit: 1kg, Category: BARANGAN SEGAR, Sub Category: AYAM). The second card is 'AYAM HIDUP' (Unit: 1kg, Category: BARANGAN SEGAR, Sub Category: AYAM). The third card is 'DAGING KAMBING BEBIRI IM...' (Unit: 1kg, Category: BARANGAN SEGAR, Sub Category: DAGING). The fourth card is 'DAGING KAMBING BEBIRI IM...' (Unit: 1kg, Category: BARANGAN SEGAR, Sub Category: DAGING). A 'View All' button is visible at the top of the grid.

Example of Fuzzy Searching:

The screenshot shows the ProMax application interface. The search bar at the top contains the text "ayam". Below the search bar, there are two main sections: "Category" and "Sub Category". The "Category" section displays four items: "AYAM BERSIH - STANDARD", "AYAM HIDUP", "TELUR AYAM GRED A (BERAT ...)", and "TELUR AYAM GRED C (BERAT ...)". The "Sub Category" section shows a list under "BARANGAN SEGAR": "AYAM", "DAGING", "BUAH-BUAHAN", "BAHAN LAUT", "IKAN DARAT", and "SAYUR-SAYURAN". The "AYAM BERSIH - STANDARD" item is highlighted. The "Sub Category" list is scrollable.

AYAM BERSIH - STANDARD	AYAM BERSIH - SUPER
Unit : 1kg	Unit : 1kg
Category : BARANGAN SEGAR	Category : BARANGAN SEGAR
Sub Category : AYAM	Sub Category : AYAM

AYAM HIDUP	TELUR AYAM GRED A (BERAT ...)
Unit : 1kg	Unit : 10 biji
Category : BARANGAN SEGAR	Category : BARANGAN SEGAR
Sub Category : AYAM	Sub Category : TELUR

TELUR AYAM GRED B (BERAT 6...	TELUR AYAM GRED C (BERAT ...
Unit : 10 biji	Unit : 10 biji

The screenshot shows the ProMax application interface. The search bar at the top contains the text "agam". Below the search bar, there are two main sections: "Category" and "Sub Category". The "Category" section displays four items: "AYAM BERSIH - STANDARD", "AYAM HIDUP", "DAGING KAMBING BEBIRI IM...", and "DAGING KAMBING BEBIRI IM...". The "Sub Category" section shows a list under "BARANGAN SEGAR": "AYAM", "DAGING", "BUAH-BUAHAN", "BAHAN LAUT", "IKAN DARAT", and "SAYUR-SAYURAN". The "AYAM BERSIH - STANDARD" item is highlighted. The "Sub Category" list is scrollable.

AYAM BERSIH - STANDARD	AYAM BERSIH - SUPER
Unit : 1kg	Unit : 1kg
Category : BARANGAN SEGAR	Category : BARANGAN SEGAR
Sub Category : AYAM	Sub Category : AYAM

AYAM HIDUP	DAGING KAMBING BEBIRI IM...
Unit : 1kg	Unit : 1kg
Category : BARANGAN SEGAR	Category : BARANGAN SEGAR
Sub Category : AYAM	Sub Category : DAGING

DAGING KAMBING BEBIRI IM...	DAGING KAMBING BEBIRI IM...
Unit : 1kg	Unit : 1kg

Step 3: Click on the item to view its details. The first column will display the details of the item from all premises that are selling it. The second column displays the top 5 cheapest sellers from the cheapest to the most expensive for users to compare and select from. Lastly, the last column allows users to view the price trend chart across the days in a month for every item

The screenshot shows a web browser window titled "Item Page". The header includes the ProMax logo, a search bar, and navigation links for "HOME" and "ct". Below the header, there's a back arrow icon and the product name "AYAM BERSIH - STANDARD (1 KG)".

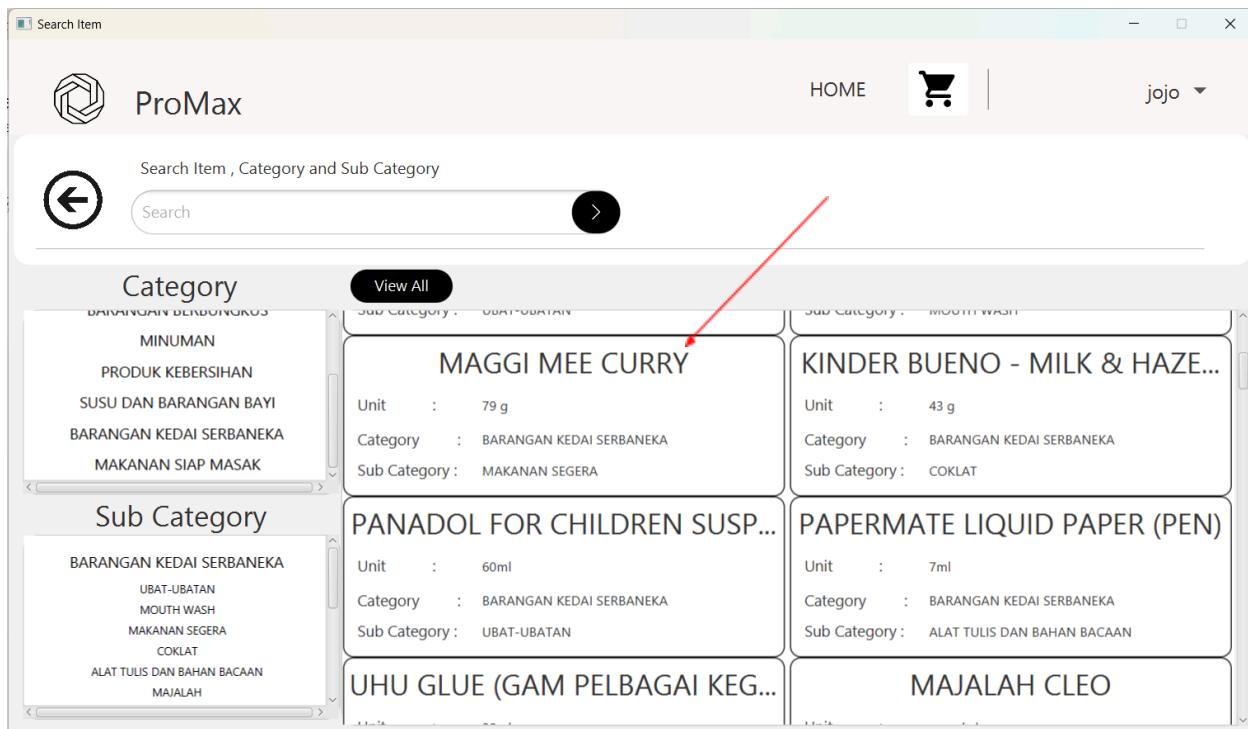
The main content area is divided into three sections:

- ITEM DETAILS**: Displays three items with their names, prices, and addresses. Each item has an "Add To Cart" button.
- TOP 5 CHEAPEST SELLER**: Displays five sellers with their names, prices, and addresses. Each seller has an "Add To Cart" button.
- PRICE TREND**: Shows a bar chart with an upward trend and a text description: "Get the average price of all sellers for a particular day."

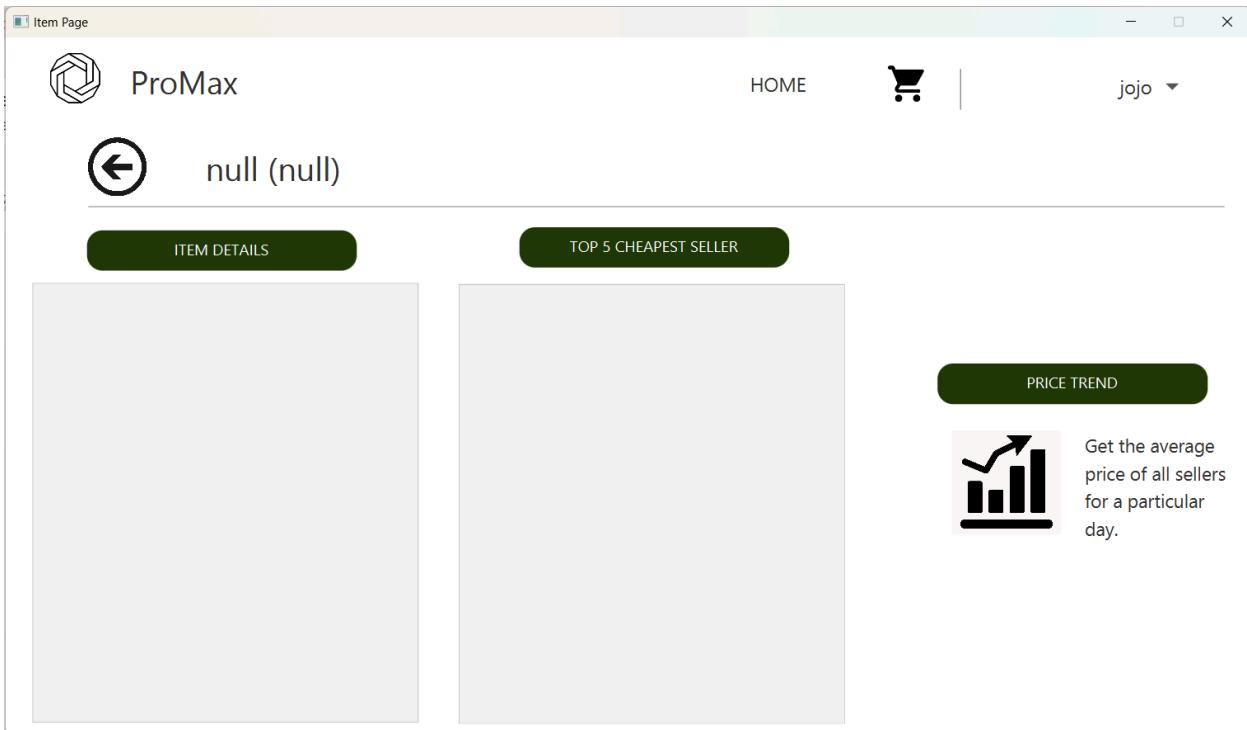
Category	Name	Price	Address
ITEM DETAILS	PASAR AWAM TAMAN UNIVERSITI	RM 9.4	LOT PTD 55821 JALAN KEBANGSAAN 19,TAMAN UNIVERSITI,81300 SKUDAI, JOHOR
	PASAR BESAR SEREMBAN, NEGERI SEMBI...	RM 8.1	PASAR BESAR SEREMBAN JALAN PASAR 70000 SEREMBAN,
	WOK ISA MINI MARKET	RM 7.7	LOT 11,KAMPUNG STONG, DABONG,
TOP 5 CHEAPEST SELLER	PASARAYA SALAMKU (PASIR PEKAN) S/B	RM 6.49	LOT 2444-2449,KG. BARU PASIR PEKAN,16250 WAKAF BHARU, KELANTAN
	SALAMKU RETAIL SDN BHD (BACHOK)	RM 6.49	LOT 1280, MUKIM TEMU RANGGAS,JAJAHAN BACHOK,
	PASARAYA LU MIOU	RM 6.88	NO.13,14, 15, LORONG MARKISA 1,TMN

* When users click to see the item details, some items do not display anything for the item details, and the top 5 cheapest sellers because the data in the CSV file provided is not complete. So, that's why we implement the `import data` function (Step4, 6, and 8 in 4.1 Import data) as mentioned previously. Users should enter the item details according to the correct item code, premise code, date, price, and ID (create a new ID for that item).

- Let's say in this case: Users want to see the details for Maggi Mee Curry (79g)



Item page shows nothing.



Now, users can first find out the **item code** for Maggie Mee Curry (79g), which is **1050** in the 'item details'.

The screenshot shows the ProMax Import Item page. At the top, there is a navigation bar with a logo, the text "ProMax", a "HOME" link, a shopping cart icon, and a user account dropdown set to "ct". Below the navigation is a breadcrumb trail with a back arrow and the text "INSERT DATA". On the left, there is a form titled "Item" with fields for "Item Code" (containing "Enter item code"), "Item Name" (containing "Enter item name"), "Item Unit" (containing "Enter item unit"), "Item Group" (containing "Enter item Group"), and "Item Category" (containing "Enter item Category"). A red arrow points from the "Item Code" field towards a preview table on the right. On the right, there is a "Preview Data" section containing a table with columns: Item Code, Item Name, Item Unit, Item Group, and Item Category. The table lists various items, with row 1050 highlighted. Below the table is a "Column Format" section with the text: "item code in number , item name , item unit , item Category , item group if no value please fill null." At the bottom right of the preview section is a "Delete All" button.

Item Code	Item Name	Item Unit	Item Group	Item Category
1019	MINYAK ANGIN CAP KAPAK	3 ml	UBAT-UBATAN	BARANGAN KEDAI SERB
1020	VICKS VAPORUB	10 g	UBAT-UBATAN	BARANGAN KEDAI SERB
1025	LISTERINE COOL MINT	250 ml	MOUTH WASH	BARANGAN KEDAI SERB
1050	MAGGI MEE CURRY	79 g	MAKANAN SEGERA	BARANGAN KEDAI SERB
1063	KINDER BUENO - MILK & HAZELN...	43 g	COKLAT	BARANGAN KEDAI SERB
1070	SOS CILI MAGGI	340 g	KICAP DAN SOS	BARANGAN BERBUNGKU
1080	SERBUK PENAIK ROYAL (TIN)	226g	ESEN DAN RAGI	BARANGAN BERBUNGKU
1081	MACKAREL CAP KING CUP (SOS T...	155 g	IKAN DALAM TIN	BARANGAN BERBUNGKU
1082	MACKAREL CAP AYAM (SOS TOM...	155 g	IKAN DALAM TIN	BARANGAN BERBUNGKU
1084	TEH BOH (SERBUK)	500 g	BAHAN-BAHAN MINUMAN	MINUMAN
1086	MINYAK JAGUNG CAP DAISY	1kg	MINYAK DAN LEMAK	BARANGAN BERBUNGKU

Then, users can enter the premise details for Maggie Mee Curry (79g). For the premise code, users can create a new premise code for that particular item to store the data.

Premise Code	Premise Name	Address	Type	State	District
2	PASAR BESAR IPOH	JALAN LAKSAMANA,TAMAN JUBILEE...	Pasar Basah	Perak	Kinta
3	JUSCO AYER KEROH	LOT 4991,MUKIM BUKIT BARU,75450...	Pasar Raya / ...	Melaka	Melaka Teng...
6	KEDAI RUNCIT TAFAZ...	NO.5, JALAN P9B/1,PRESINT 9,62250 ...	Kedai Runcit	W.P. Putrajaya	Wp Putrajaya
7	KEDAI RUNCIT SYAZ...	NO.5, JALAN P9E/1,PRESINT 9,62250 ...	Kedai Runcit	W.P. Putrajaya	Wp Putrajaya
8	PASAR MINI D'MART ...	BLOK A T00/U01,JALAN P8/D,PRESIN...	Pasar Mini	W.P. Putrajaya	Wp Putrajaya
15	PASAR MINI KARIM	NO, 7A,KAWASAN PASAR UTAN AJI...	Kedai Runcit	Perlis	Kangar
16	PASARAYA K-CERIA (...)	NO 3, 5, 7 & 9,JALAN KANGAR - ALO...	Pasar Raya / ...	Perlis	Kangar
115	TAMPIN SHOPPING C...	NO 111,JALAN BESAR,73000 TAMPIN...	Pasar Raya / ...	Negeri Sem...	Tampin
136	THE STORE (PUDU P...	UG & 1st FLOOR, PUDU PLAZA,JALA...	Pasar Raya / ...	W.P. Kuala L...	Cheras
141	HUDA GROCER	LUCRATIVE BASE SDN. BHD.NO.12-1...	Pasar Raya / ...	Negeri Sem...	Seremban
149	RESTORAN SAPPHIRE...	PT 4686,TAMAN SEMARAK,71800 NI...	Restoran Ind...	Negeri Sem...	Seremban

Then, click 'Save'.

Type	State	District
Pasar Basah	Perak	Kinta
Pasar Raya / ...	Melaka	Melaka Teng...
Kedai Runcit	W.P. Putrajaya	Wp Putrajaya
Pasar Raya / ...	Perlis	Kangar
Pasar Raya / ...	Negeri Sem...	Tampin
Pasar Raya / ...	W.P. Kuala L...	Cheras
Pasar Raya / ...	Negeri Sem...	Seremban
Restoran Ind...	Negeri Sem...	Seremban

Updated data for premise details:

Premise

Premise Code	Premise Name	Address	Type	State	District
1	PUJAAN MINI MART ...	1867-1872 JALAN KENANGA 1, TAM...	Kedai Runcit	Negeri Sem...	Tampin
2	PASAR BESAR IPOH	JALAN LAKSAMANA,TAMAN JUBILEE...	Pasar Basah	Perak	Kinta
3	JUSCO AYER KEROH	LOT 4991,MUKIM BUKIT BARU,75450...	Pasar Raya / ...	Melaka	Melaka Teng...
6	KEDAI RUNCIT TAFAZ...	NO.5, JALAN P98/1,PRESINT 9,62250 ...	Kedai Runcit	W.P. Putrajaya	Wp Putrajaya
7	KEDAI RUNCIT SYAZ ...	NO.5, JALAN P9/E/1,PRESINT 9,62250 ...	Kedai Runcit	W.P. Putrajaya	Wp Putrajaya
8	PASAR MINI D'MART ...	BLOK A TOO/U01,JALAN P8/D,PRESIN...	Pasar Mini	W.P. Putrajaya	Wp Putrajaya
15	PASAR MINI KARIM	NO, 7A,KAWASAN PASAR UTAN AJI...	Kedai Runcit	Perlis	Kangar
16	PASARAYA K-CERIA (...)	NO 3, 5, 7 & 9,JALAN KANGAR - ALO...	Pasar Raya / ...	Perlis	Kangar
115	TAMPIN SHOPPING C...	NO 111,JALAN BESAR,73000 TAMPIN...	Pasar Raya / ...	Negeri Sem...	Tampin
136	THE STORE (PUDU P...	UG & 1st FLOOR, PUDU PLAZA,JALA...	Pasar Raya / ...	W.P. Kuala L...	Cheras
141	HUDA GROCER	LUCRATIVE BASE SDN. BHD.NO.12-1...	Pasar Raya / ...	Negeri Sem...	Seremban

Column Format
premise code in number , premise name , address ,type ,state ,district
if no value please fill null

Save Browse... Delete All

Users navigate to the price catcher page, and create a new ID to enter the price, date, and premise code for Maggie Mee Curry (79g), with item code 1050.

Price Catcher

ID	Date	Premise Code	Item code	Price
12441123	2023-08-29	20895	1922	4.09
12441124	2023-08-29	20895	1923	8.59
12441125	2023-08-29	20895	1926	12.35
12441126	2023-08-29	20895	1927	16.15
12441127	2023-08-29	20895	1928	6.59
12441128	2023-08-29	20895	1938	13.3
12441129	2023-08-29	20895	1939	30.9
12441130	2023-08-29	20895	1941	13.3
12441131	2023-08-29	20895	1942	30.9
12441132	2023-08-29	20895	1945	0.79
12441133	2023-08-29	20895	1946	1.59

Column Format
ID in number, date (Year-Month-day), premise code in number , item code in number, price in number
if no value please fill null

Save Browse... Delete All

Updated data:

Price Catcher

ID : 12441134

Date : 05/01/2024

Premise Code : 1

Item Code : 1050

Price : 5.99

Preview Data

ID	Date	Premise Code	Item code	Price
12441124	2023-08-29	20895	1923	8.59
12441125	2023-08-29	20895	1926	12.35
12441126	2023-08-29	20895	1927	16.15
12441127	2023-08-29	20895	1928	6.59
12441128	2023-08-29	20895	1938	13.3
12441129	2023-08-29	20895	1939	30.9
12441130	2023-08-29	20895	1941	13.3
12441131	2023-08-29	20895	1942	30.9
12441132	2023-08-29	20895	1945	0.79
12441133	2023-08-29	20895	1946	1.59
12441134	2024-01-05	1	1050	5.99

Column Format
ID in number, date (Year-Month-day), premise code in number , item code in number, price in number
if no value please fill null

Delete All

Now, users can check the item details in 'Search For a Product' for Maggie Mee Curry (79g).

ITEM DETAILS

PASAR BESAR IPOH
Price : RM 6.9
Address : JALAN LAKSAMANA,TAMAN JUBILEE,30300 IPOH, PERAK

KEDAI RUNCIT TAFAZ MAJU PRESINT 9
Price : RM 5.49
Address : NO.5, JALAN P9B/1,PRESINT 9,62250 PUTRAJAYA

JUSCO AYER KEROH
Price : RM 5.09
Address : LOT 4991,MUKIM BUKIT BARU,75450

TOP 5 CHEAPEST SELLER

PASAR MINI D'MART PRESINT 8
Price : RM 4.69
Address : BLOK A Too/U01,JALAN P8/D,PRESINT 8, 62000 PUTRAJAYA

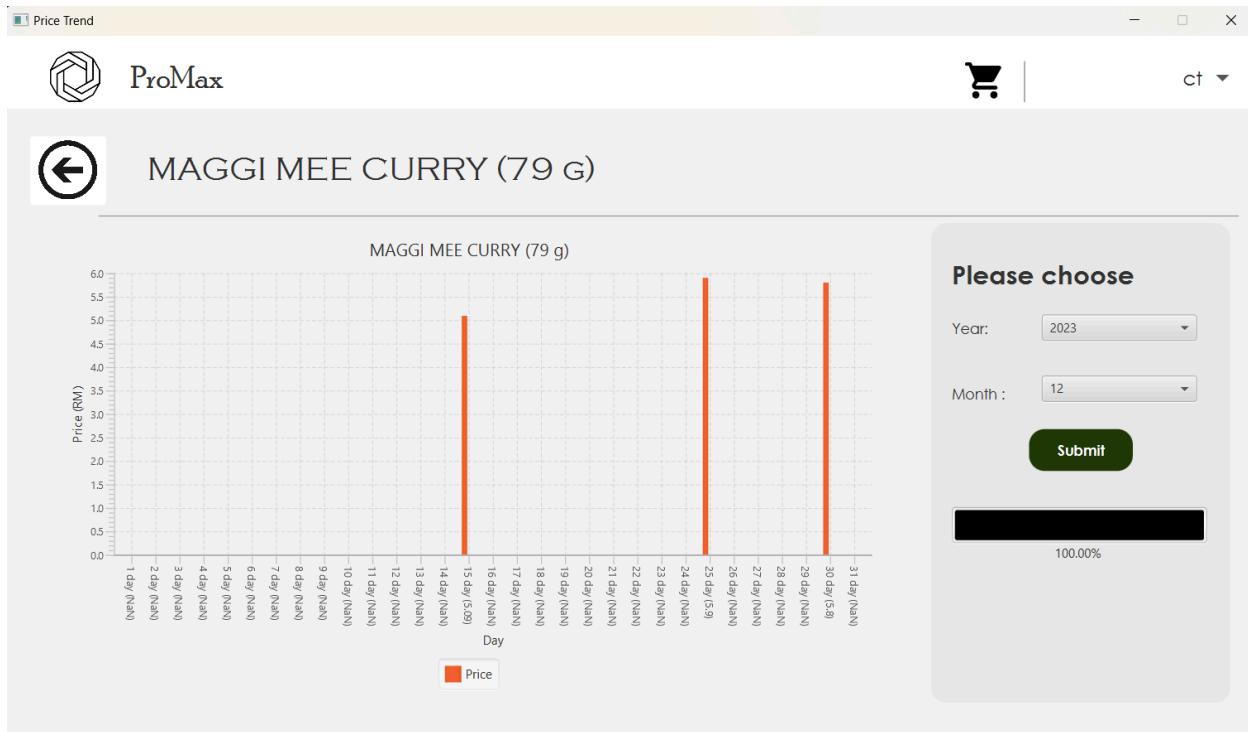
KEDAI RUNCIT SYAZ MAJU PRESINT 9
Price : RM 4.89
Address : NO.5, JALAN P9E/1,PRESINT 9,62250 PUTRAJAYA

JUSCO AYER KEROH
Price : RM 5.09
Address : LOT 4991,MUKIM BUKIT BARU,75450

PRICE TREND

Get the average price of all sellers for a particular day.

Also for the price trend:



Users can add the items to their cart by clicking on the **Add To Cart** button. A popup message displaying “Add Cart Successfully” indicates that the item has been successfully added to the cart.

The screenshot shows a window titled "Item Page". At the top, there is a logo for "ProMax" and a shopping cart icon. Below the title, there is a back arrow icon and the product name "AYAM BERSIH - STANDARD (1 KG)". On the left, there is a sidebar with "ITEM DETAILS" and a list of three sellers: PASAR AWAM TAMAN UNIVERSITI, PASAR BESAR SEREMBAN, NEGERI SEMBIHAN, and WOK ISA MINI MARKET. Each seller entry includes their name, price (e.g., RM 9.4, RM 8.1, RM 7.7), address, and an "Add To Cart" button. In the center, a modal window titled "Add Cart Successfully" with a blue question mark icon is displayed, containing the message "Add Cart Successfully" and an "OK" button. To the right, there is a "PRICE TREND" section with a bar chart icon and the text "Get the average price of all sellers for a particular day.".

Original cart:

The screenshot shows the ProMax Shopping Cart interface. At the top, there's a header with the ProMax logo, a search bar, and a user dropdown set to "jojo". Below the header is a "SHOPPING CART" section. It lists two items:

ITEMS	SELLER	PRICE
1 AYAM BERSIH - STANDARD	PASAR AWAM TAMA...	RM 9.4
2 DAGING KAMBING BEBIRI IM...	SUPER SEVEN CHERA...	RM 18.99

Total : RM 28.39

On the right side of the cart, there's a "Recommended Seller" sidebar.

Recommended Seller Setting

- View cheapest seller for Each items: [Click here](#)
- View cheapest seller for all selected items: [Click here](#)
- Additional Setting: Please click it if you need this setting
- Select the state and district closest to you
- State:
- District:

If users wish to add the same item from a different premise to the cart, a message displaying “Do you want replace it” will pop up. The item previously added to the cart will be replaced when clicking on the Yes button while clicking on the No button will not update the cart.

The screenshot shows the ProMax Item Page for "DAGING KAMBING BEBIRI IMPORT BERTULANG (MUTTON) (AUSTRALIA)". The page includes a back arrow, a "ITEM DETAILS" section, and a "PRICE TREND" section.

In the center, a modal window appears with the message: "This item already add to cart! Do you want replace it?" with "Yes" and "No" buttons.

The main content area lists several sellers for the item:

- BOULEVARD HYPERMARKET: Price RM 28.25, Address: LOT 2528, JALAN BOULEVARD UTAMA, BOULEVARD COMMERCIAL CENTRE, 98000 MIRI, SARAWAK, [Add To Cart](#)
- ECONSAVE KG MELAYU SUBANG: Price RM 29.99, Address: LOT 3761, JALAN 2D, KG BARU SUBANG, 40510 SHAH ALAM, SELANGOR, [Add To Cart](#)
- LOTUSS (TESCO SG. PETANI SELATAN): Price RM 27.89, Address: LOT 368, JALAN BAKAR ARANG, 08000, [Add To Cart](#)
- ST ROSYAM MART: Price RM 20.0, Address: LOT 3-13, GROUND FLOOR, DEWAN SRI ISKANDAR, TAMAN SETIAWANGSA, [Add To Cart](#)
- KOMPLEKS PASAR BORONG KEMUNTING: Price RM 21.0, Address: JALAN PASAR BARU 2, [Add To Cart](#)

On the right, there's a "PRICE TREND" section with a bar chart icon and the text: "Get the average price of all sellers for a particular day."

Item Page

ProMax

HOME | jojo ▾

DAGING KAMBING BEBIRI IMPORT BERTULANG (MUTTON) (AUSTRALIA)

ITEM DETAILS

BOULEVARD HYPERMARKET
Price : RM 28.25
Address : LOT 2528, JALAN BOULEVARD UTAMA, BOULEVARD COMMERCIAL CENTRE, 98000 MIRI, SARAWAK

ECONSAVE KG MELAYU SUBANG
Price : RM 29.99
Address : LOT 3761, JALAN 2D, KG BARU SUBANG, 40510 SHAH ALAM, SELANGOR

LOTUSS (TESCO SG. PETANI SELATAN)
Price : RM 27.89
Address : LOT 368, JALAN BAKAR ARANG, 08000

Replace Item Successfully

Address : LOT.10, KAWASAN INDUSTRI JAYA, JALAN CJ 3, KAWASAN PERINDUSTRIAN CHERAS JAYA, BATU 9, 43200 CHERAS, SELANGOR

ST ROSYAM MART
Price : RM 20.00
Address : LOT 3-13, GROUND FLOOR, DEWAN SRI ISKANDAR, TAMAN SETIAWANGSA, 40100 SHAH ALAM, SELANGOR

KOMPLEKS PASAR BORONG KEMUNTING
Price : RM 21.00
Address : JALAN PASAR BARU 2, 40000 SHAH ALAM, SELANGOR

PRICE TREND

Get the average price of all sellers for a particular day.

Updated cart:

Shopping Cart

ProMax

HOME | jojo ▾

SHOPPING CART

ITEMS	SELLER	PRICE
1 AYAM BERSIH - STANDARD	PASAR AWAM TAMA...	RM 9.4
2 DAGING KAMBING BEBIRI IM...	ST ROSYAM MART	RM 20.0

Total : RM 29.40

Recommended Seller

Recommended Seller Setting

View cheapest seller for Each items Click here

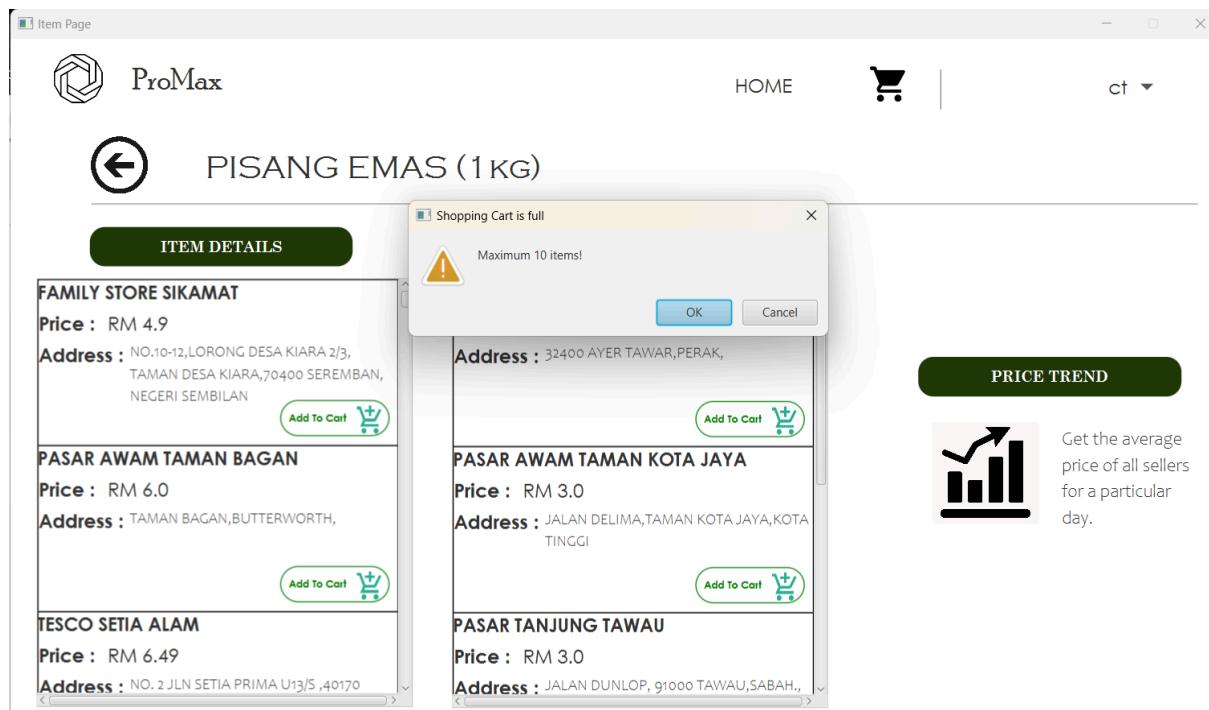
View cheapest seller for all selected items Click here

Additional Setting Please click it if you need this setting

Select the state and district closest to you

State :
District :

The shopping cart can only add up to a maximum number of 10 items. If users wish to add more items to the cart, the following popup message will be displayed.



4.2.1 View the price trend chart

Step 1: Click on PRICE TREND

Item Page

ProMax

HOME

ct ▾

AYAM BERSIH - STANDARD (1KG)

ITEM DETAILS

PASAR AWAM TAMAN UNIVERSITI
Price : RM 9.4
Address : LOT PTD 55821 JALAN KEBANGSAAN 19,TAMAN UNIVERSITI,81300 SKUDAI, JOHOR

PASAR BESAR SEREMBAN, NEGERI SEMB...
Price : RM 8.1
Address : PASAR BESAR SEREMBAN JALAN PASAR 70000 SEREMBAN,

WOK ISA MINI MARKET
Price : RM 7.7
Address : LOT 11,KAMPUNG STONG, DABONG,

TOP 5 CHEAPEST SELLER

PASARAYA SALAMKU (PASIR PEKAN) S/B
Price : RM 6.49
Address : LOT 2444-2449,KG. BARU PASIR PEKAN,16250 WAKAF BHARU, KELANTAN

SALAMKU RETAIL SDN BHD (BACHOK)
Price : RM 6.49
Address : LOT 1280, MUKIM TEMU RANGGAS,JAJAHAN BACHOK,

PASARAYA LU MIOU
Price : RM 6.88
Address : NO. 13,14, 15, LORONG MARKISA 1,TMN

PRICE TREND

Get the average price of all sellers for a particular day.

Step 2: Choose the year and month to view from the right column and click on the Submit button.

Price Trend

ProMax

ct ▾

AYAM BERSIH - STANDARD (1KG)

AYAM BERSIH - STANDARD (1kg)

Price (RM)

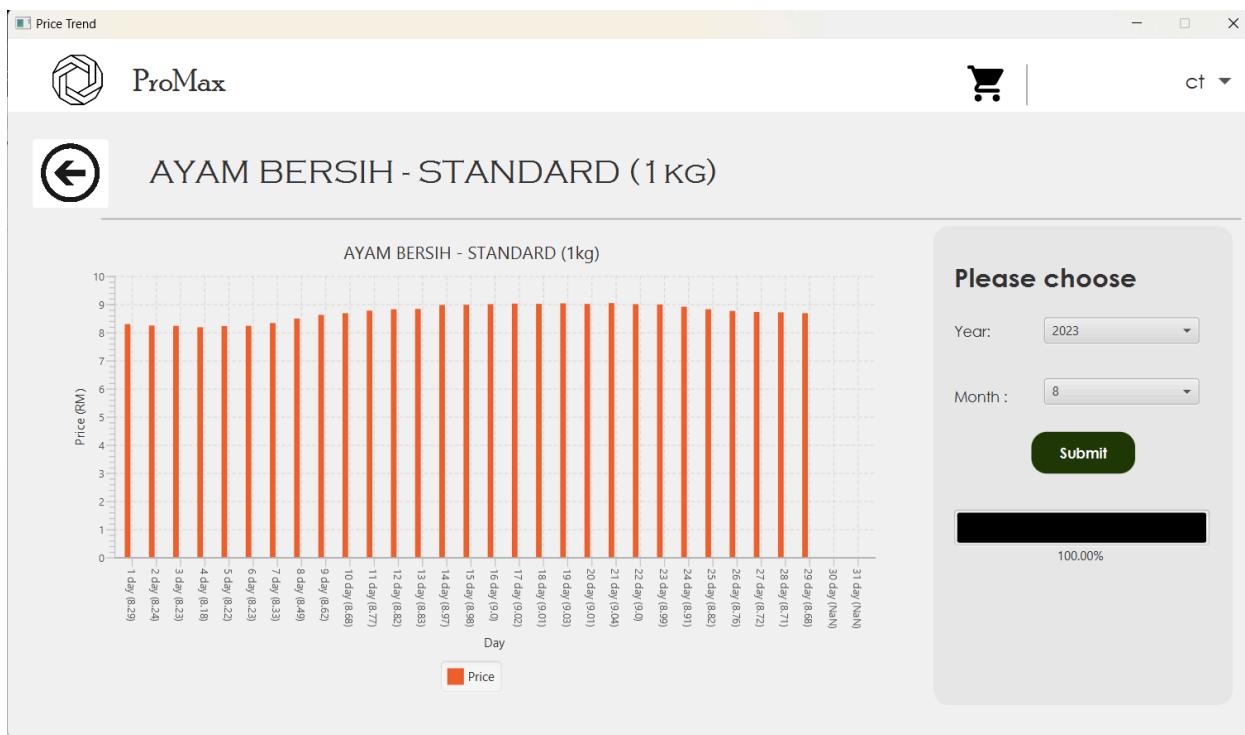
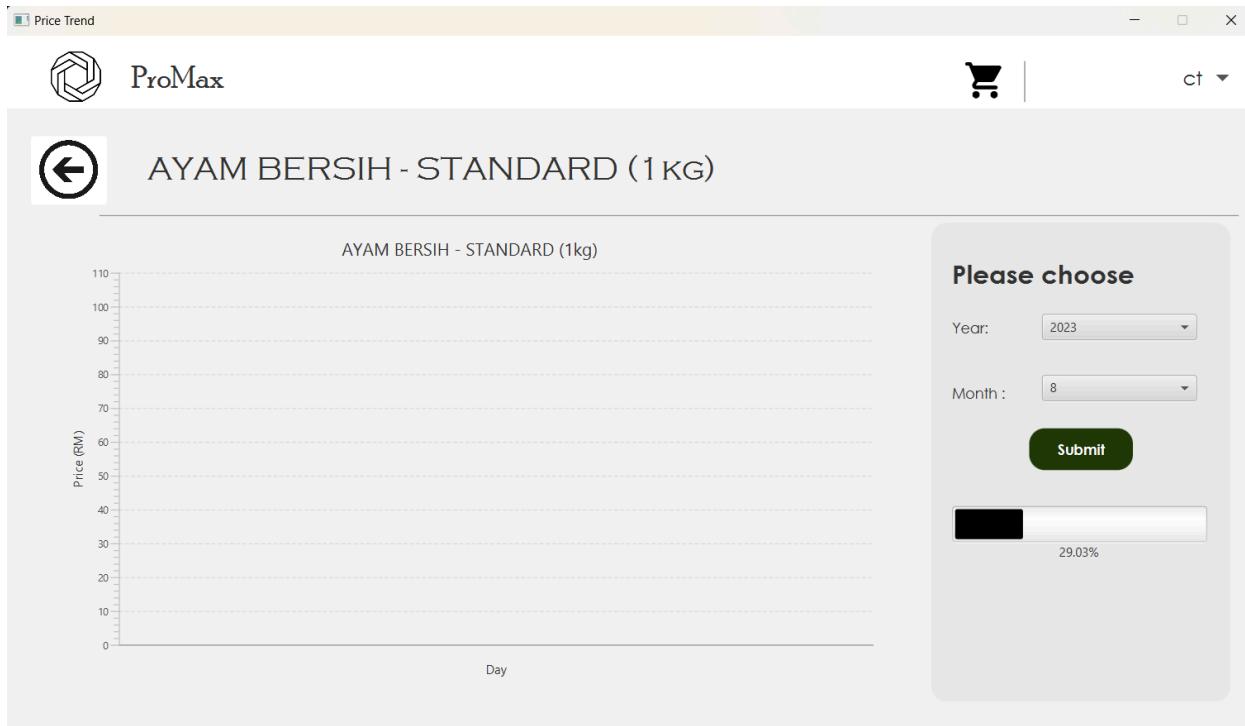
Day

Please choose

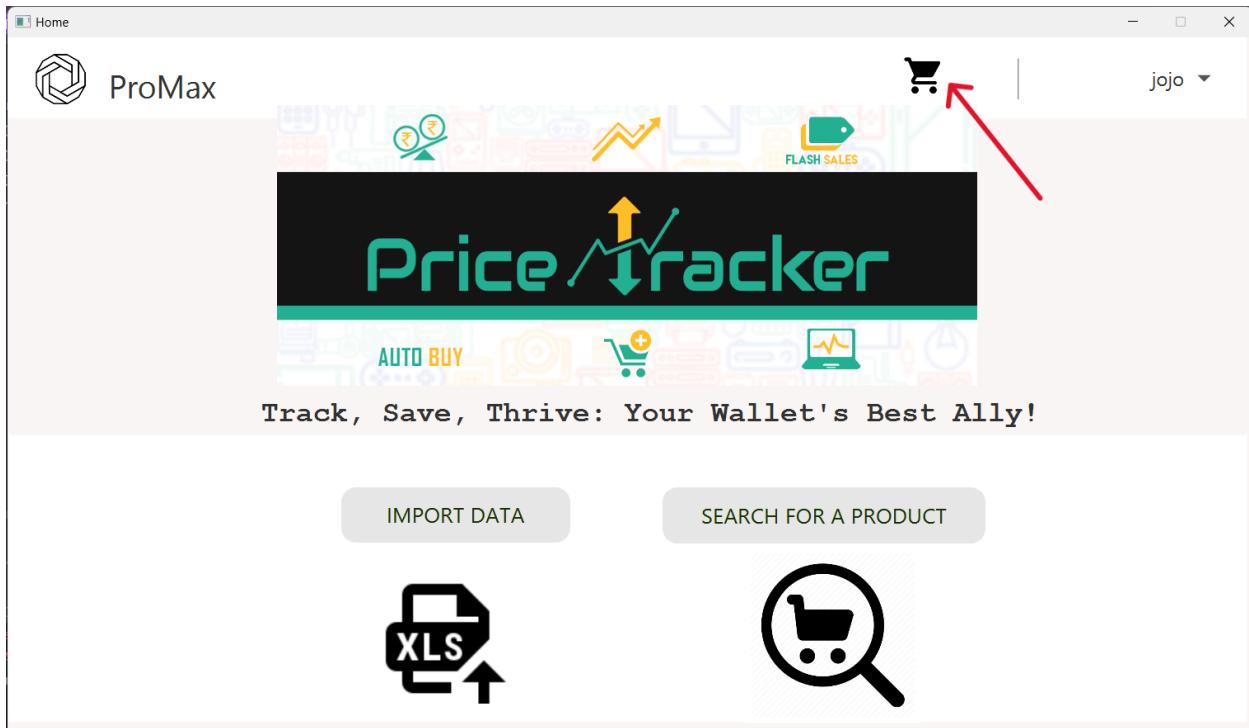
Year: 2023

Month: 8

Submit



4.3 View Shopping Cart



Users can add a maximum of 10 items to the shopping cart.

The screenshot shows the "SHOPPING CART" section of the ProMax Price Tracker application. It displays a list of 7 items with their details:

ITEMS	SELLER	PRICE	Actions
1 DAGING KAMBING BEBIRI I...	PASAR BASAH BES...	RM 27.0	Cancel
2 AYAM BERSIH - STANDARD	PASARAYA SALAMK...	RM 6.49	Cancel
3 DAGING KAMBING BEBIRI I...	SUPER SEVEN CHER...	RM 18.99	Cancel
4 TEMBIKAI MERAH TANPA BIJI	ZUA PERMAI TRADING	RM 1.5	Cancel
5 NENAS BIASA (JOSAPINE/M...	PUSAT PERNIAGAAN...	RM 1.5	Cancel
6 PISANG EMAS	PASAR AWAM AYER...	RM 3.0	Cancel
7 BERAS PULUT THAILAND (BI...	ISHAH BINTONG ENT...	RM 3.9	Cancel

Below the cart, there is a "Recommended Seller Setting" section with two buttons: "Click here" and "Click here". There is also an "Additional Setting" checkbox with the text "Please click it if you need this setting". To the right of the cart, there is a "Recommended Seller" sidebar.

Users can view the cheapest seller for each item and replace it in the cart if needed.

The screenshot shows a shopping cart page with a list of items. For each item, there is a 'RECOMMENDED SELLER' section on the right. A red arrow points from the 'View cheapest seller for Each items' link in the 'Recommended Seller Setting' section to the 'PASAR SELAYAN...' section. Another red arrow points from the 'Click here' button in the 'Additional Setting' section to the 'REPLACE SHOPPING CART' button in the same section. The 'PASAR SELAYAN...' section includes fields for 'TOTAL PRICE' (RM 26.50), 'ADDRESS' (Pasar Harian Selayang Baru, Jalan Besar), 'ITEM NAME' (DAGING KAMBING BEBIRI IMPORT BERTULAN...), and another 'REPLACE SHOPPING CART' button.

ITEMS	SELLER	PRICE
1 DAGING KAMBING BEBIRI I...	PASAR BASAH BESA...	RM 27.0
2 AYAM BERSIH - STANDARD	PASARAYA SALAMK...	RM 6.49
3 DAGING KAMBING BEBIRI I...	SUPER SEVEN CHER...	RM 18.99
4 TEMBIKAI MERAH TANPA BIJI	ZUA PERMAI TRADING	RM 1.5
5 NENAS BIASA (JOSAPINE/M...	PUTUS PERNIAGAAN...	RM 1.5
6 PISANG EMAS	PASAR AWAM AYER...	RM 3.0
7 BERAS PULUT THAILAND (Bi...	ISHAH BINTONG ENT...	RM 3.9

Users can also view the cheapest seller of all selected items and replace the item in the cart. From this, users can get the least number of sellers with the cheapest price to buy all the items needed. As an example, if there is (1) buy 9 items in shop A and 1 item in shop B with price RM200; (2) buy 8 items in shop A, 1 item in shop B and 1 item in shop C with RM150, (1) will be displayed.

The screenshot shows a shopping cart page with a list of items. A red arrow points from the 'View cheapest seller for All selected items' link in the 'Recommended Seller Setting' section to the 'HERO MARKET (SE...' section in the 'Recommended Seller' panel. The 'HERO MARKET (SE...' section includes fields for 'TOTAL PRICE' (RM 116.38), 'ADDRESS' (1-11, JALAN 3/27D, SEKSYEN 6, WANGSA MAJU, Kuala Lumpur), and a 'Click to see items sold' button. The 'PASAR SELAYAN...' section is also visible in the background.

ITEMS	SELLER	PRICE
1 DAGING KAMBING BEBIRI I...	PASAR BASAH BESA...	RM 27.0
2 AYAM BERSIH - STANDARD	PASARAYA SALAMK...	RM 6.49
3 DAGING KAMBING BEBIRI I...	SUPER SEVEN CHER...	RM 18.99
4 TEMBIKAI MERAH TANPA BIJI	ZUA PERMAI TRADING	RM 1.5
5 NENAS BIASA (JOSAPINE/M...	PUTUS PERNIAGAAN...	RM 1.5
6 PISANG EMAS	PASAR AWAM AYER...	RM 3.0
7 BERAS PULUT THAILAND (Bi...	ISHAH BINTONG ENT...	RM 3.9

Users can use additional settings to filter the seller by district. Users can either get the cheapest seller for all items or get the cheapest seller for all selected items at the selected district (or nearby).

Users viewing the cheapest seller for each item by applying filters.

The screenshot shows a shopping cart page with a list of items. To the right, there are two 'Recommended Seller' boxes. The top box is for item 7 (BERAS PULUT THAILAND) and the bottom box is for item 1 (DAGING KAMBING BEBIRI). Each box contains a 'TOTAL PRICE' (RM 3.9 for item 7, RM 2.40 for item 1), an 'ADDRESS' (Selangor, Klang for both), and an 'ITEM NAME' (COCA COLA (BOTOL) for item 7, DAGING KAMBING BEBIRI IMPORT BERTULAN... for item 1). Below the boxes are 'RECOMMENDED SELLER SETTING' buttons and dropdowns for state and district selection. Red numbers 1 and 2 are overlaid on the boxes to indicate they are for different items.

Users viewing the cheapest seller for all items by applying filters.

The screenshot shows a shopping cart page with a list of items. To the right, there are two 'Recommended Seller' boxes. The top box is for item 1 (DAGING KAMBING BEBIRI) and the bottom box is for item 7 (BERAS PULUT THAILAND). Each box contains a 'TOTAL PRICE' (RM 82.84 for item 1, RM 26.50 for item 7), an 'ADDRESS' (Selangor, Gombak for both), and an 'ITEM NAME' (PASAR HARIAN SELAYANG BARU, JALAN BESAR... for item 1, DAGING KAMBING BEBIRI IMPORT BERTULAN... for item 7). Below the boxes are 'RECOMMENDED SELLER SETTING' buttons and dropdowns for state and district selection. Red numbers 1 and 2 are overlaid on the boxes to indicate they are for different items.

Users can delete items from their cart by clicking on the Cancel button in line with the item

Original cart:

The screenshot shows the ProMax Shopping Cart interface. At the top, there's a header with the ProMax logo, a search bar, and a user dropdown set to "jojo". Below the header is a "SHOPPING CART" section containing a table of items. The table has columns for "ITEMS", "SELLER", "PRICE", and "Cancel" buttons. There are 7 items listed, each with a green circular index number (1-7) to its left. To the right of the cart table is a "Recommended Seller" sidebar. At the bottom of the cart section, there's a "Recommended Seller Setting" panel with two buttons: "View cheapest seller for Each items" and "View cheapest seller for all selected items", both with "Click here" labels. To the right of these buttons is an "Additional Setting" section with a checkbox labeled "Please click it if you need this setting" and dropdown menus for "State" and "District".

A popup message displaying “Delete Successfully” indicates that the item has been removed from the cart. Click on OK to view the updated cart.

This screenshot is similar to the previous one, showing the ProMax Shopping Cart interface. However, a modal dialog box titled "Delete Success" is overlaid on the page. The dialog contains a blue circular icon with a question mark, the text "Delete successfully", and a blue "OK" button. The background shopping cart table and sidebar are partially visible behind the dialog. The "Recommended Seller Setting" panel at the bottom is also present.

Updated cart:

The screenshot shows the ProMax Shopping Cart interface. At the top, there is a header with the ProMax logo, the word "ProMax", a "HOME" link, and a user profile "jojo". Below the header, the title "SHOPPING CART" is displayed. The main content area shows a table of items with columns for "ITEMS", "SELLER", and "PRICE". Each item row includes a "Cancel" button. The items listed are:

ITEMS	SELLER	PRICE	
1 PISANG BERANGAN	PASAR UMUM KUNAK	RM 3.5	Cancel
2 ANGGUR HIJAU BERBIJI	K&L FARMING INDUS...	RM 10.0	Cancel
3 IKAN TILAPIA HITAM (ANTAR...	ECONSAVE CASH AN...	RM 4.99	Cancel
4 KUBIS BULAT (TEMPATAN)	COLD STORAGE (KLC...	RM 5.9	Cancel
5 TOMATO	SABINDO SUPERMAR...	RM 7.0	Cancel
6 TELUR AYAM GRED B (BERAT ...	PASAR BESAR SEREM...	RM 4.1	Cancel
7 BAWANG KECIL MERAH ROSE...	Z&RS GRAND ENTERP...	RM 7.0	Cancel

To the right of the table, there is a section titled "Recommended Seller" which lists the sellers for each item. Below the table, there is a "Recommended Seller Setting" section with two buttons: "View cheapest seller for Each items" and "View cheapest seller for all selected items", each with a "Click here" button. There is also an "Additional Setting" checkbox with the text "Please click it if you need this setting". Further down, there are dropdown menus for "State" and "District".