IT 13L – IT PROFESSIONAL ELECTIVE 4
(4641)

PROPOSAL: REQUIREMENTS FOR Water Refilling Station Point-Of-Sale System

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1. EXECUTIVE SUMMARY

Our proposed project focuses on developing a point-of-sale system designed to efficiently calculate product sales and manage data. The primary objective of this project is to provide valuable assistance to small businesses operating within the beverage industry, particularly those that have yet to implement an automated management system. Additionally, this project is tailored for new water refilling station owners that currently lack an automated management system. The key features and functions of this project include the automation of essential transactions, such as a user-friendly login form for both users and administrators, comprehensive CRUD (Create, Read, Update, Delete) operations, and a secure database solution for efficient data management. Additionally, the main functions of this project are within the tab control, in which every tab page shows different contents. There are 3 tabs, which are Dashboard, Sales, and Sales Report.

- The dashboard tab shows the total amount of sales, total product sold, walk-ins, and deliveries.
- Sales tab, where you can perform CRUD like clicking the create button will show a new form where you can add a product, and then inside the new form, there are two tab pages where delivery and walk-in transactions are.
- Delivery tab, a user can add a product by clicking the image and also customer name, contact number, address, type, quantity.
- Walk-in tab is the same as the delivery tab, and after putting data, by clicking the add button, it will go back to the sales tab, which is from the main form and displays the added data through the datagridview. After that, at the bottom of the datagridview, there are 3 buttons: update, delete, and empty. Furthermore, the data from sales tab will disappear if the “empty button is clicked”.
- Sales report, where you can view the report of the sales by range (day/week/month).

Our primary objective of this project is to simplify the management of product sales for our users, reducing the risk of data loss and enhancing operational efficiency within their businesses.

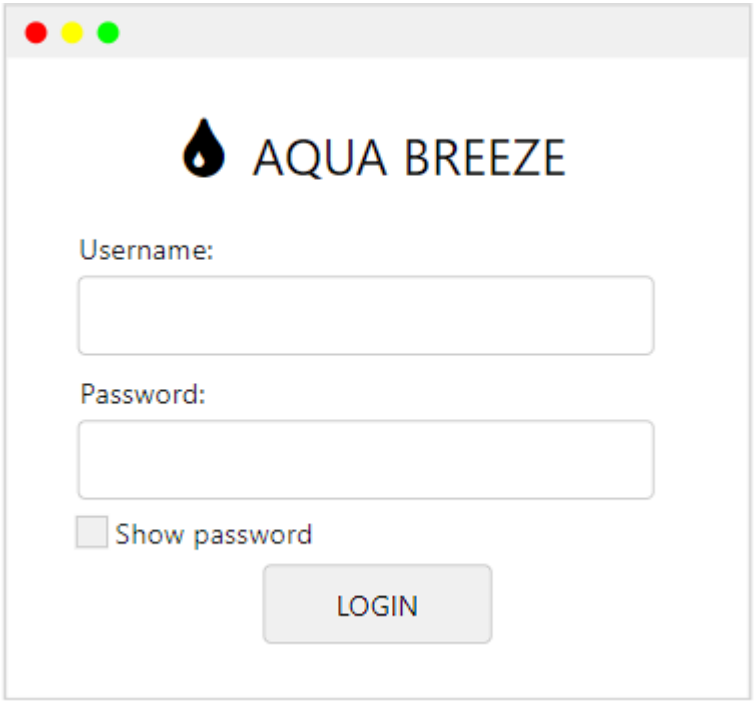
2. DEVELOPMENT TEAM

The following individuals comprise the software development team. They are responsible for the analysis and development of the Water Refilling Station Point-Of-Sale System.

Role	Tasks Assigned and Modules	Name
Team Leader/ Programmer/ System Analyst/ Database Designer	Manages and provides support to project team. Develop the User Login form and Main Solution template. Develop User and Audit Logs form design. Designer and analyzer of database. Develop prototypes. Collects data from the target industries/users.	Jumilla, Jeb C.
Project Manager/ Programmer	Manages and provides support to project team.	Potestas, Ravir A.
UI Designer/ Programmer	Designs the main template. Develop Product form design.	Torres, John E.

3. PROTOTYPES

3.1. Form_Login

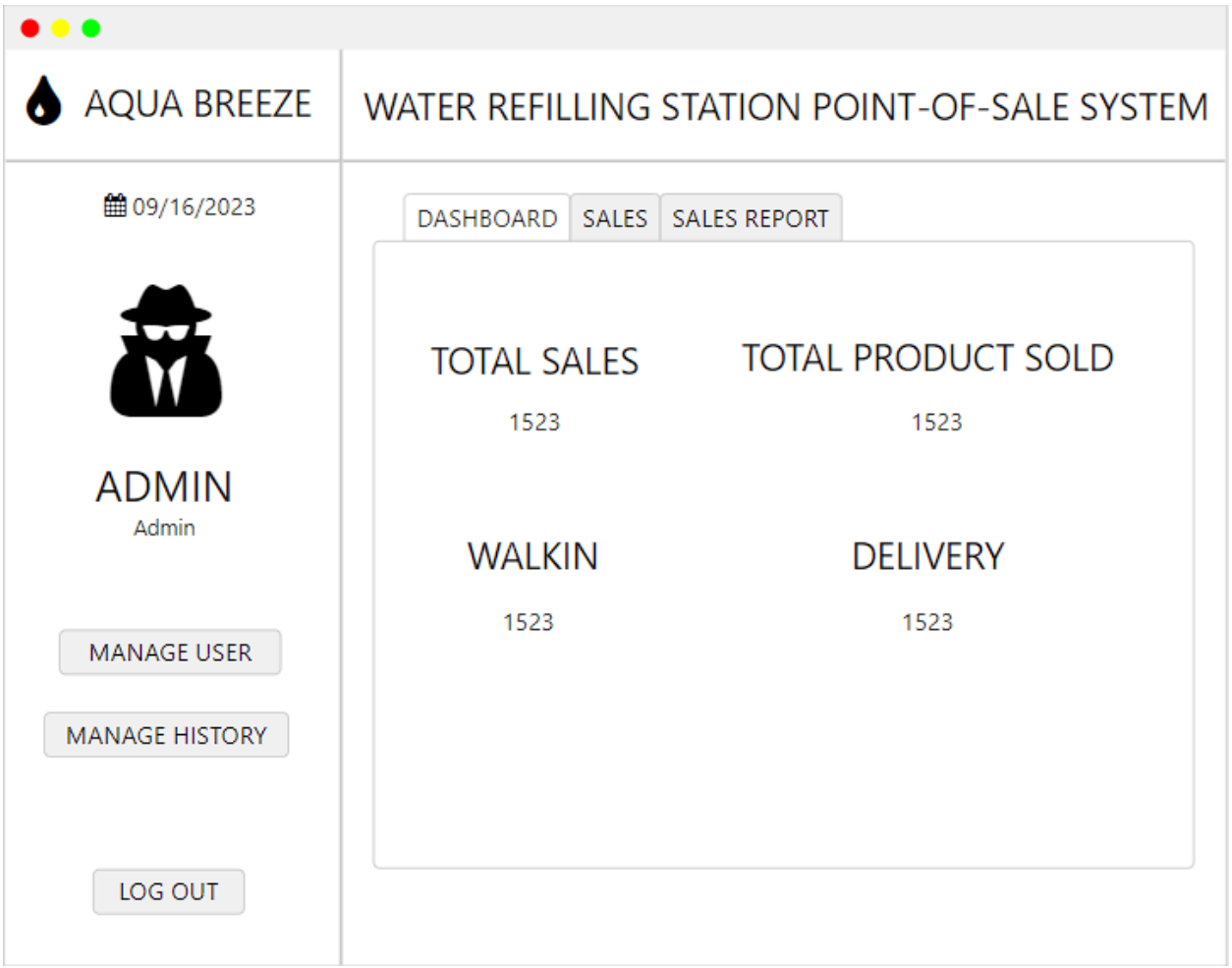


Below are the specifications of the Form_Login:

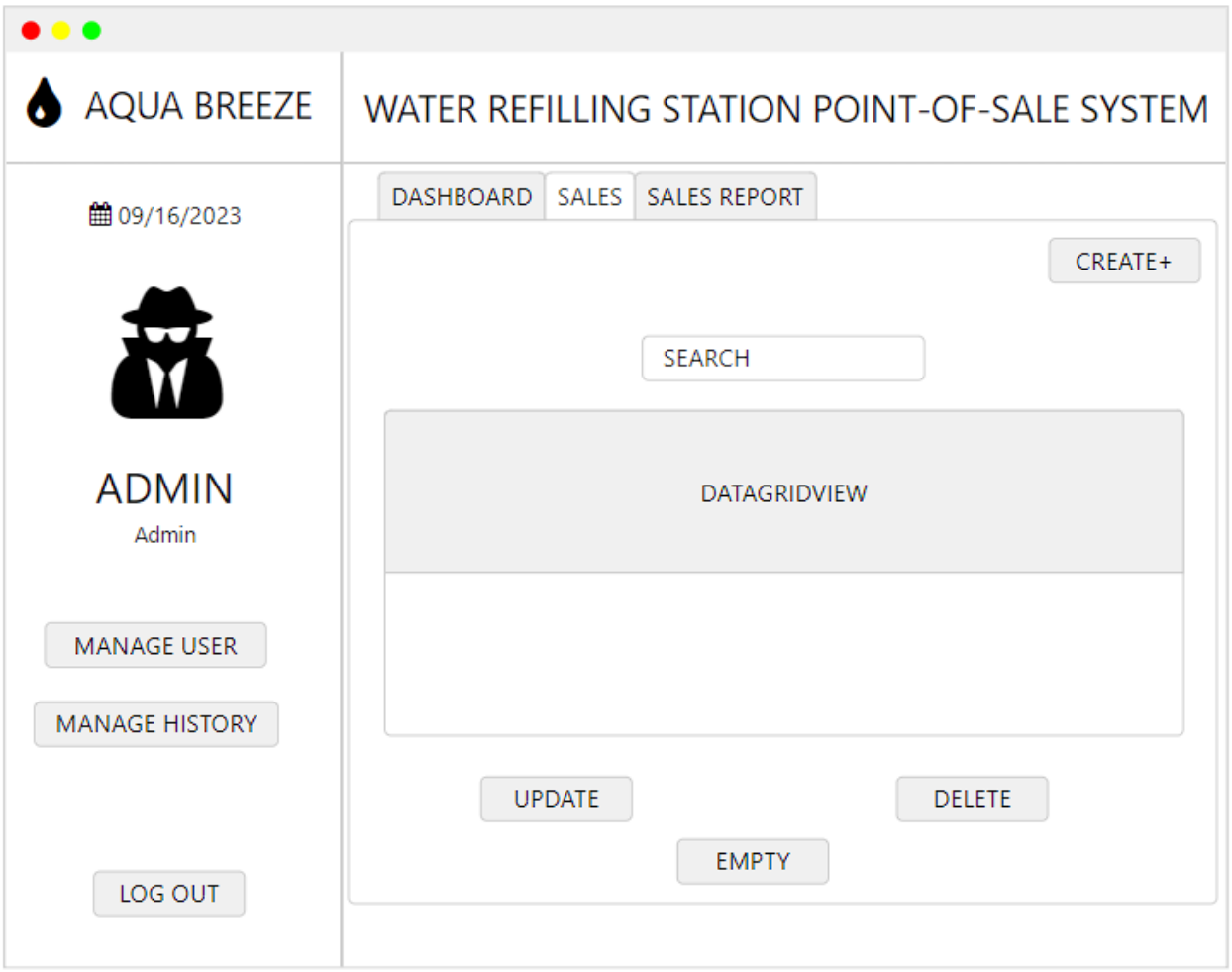
1. There are two types of users – an admin and owner user.

3.2. Form_Main

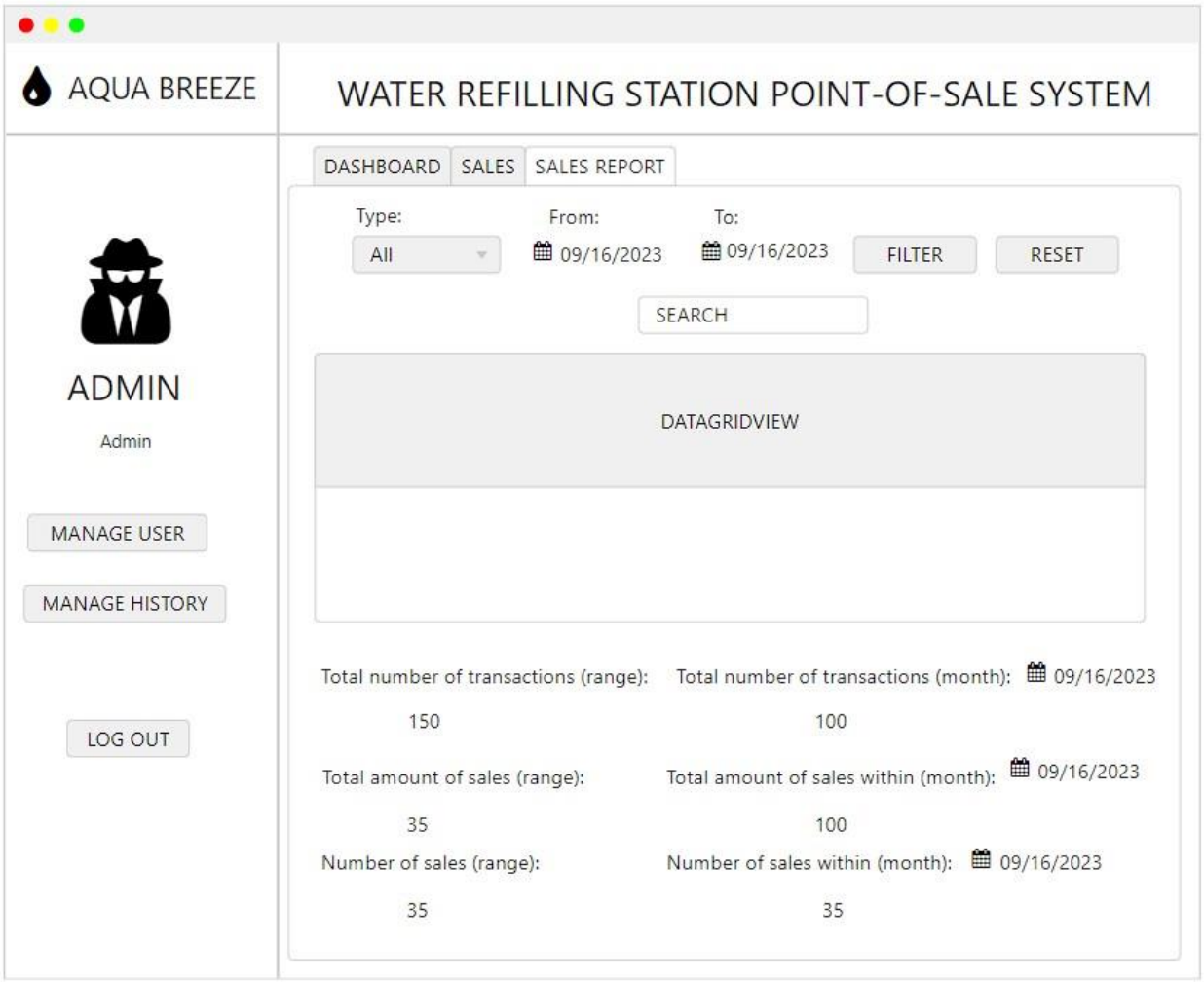
3.2.1. DASHBOARD



3.2.2. SALES


AQUA BREEZE
WATER REFILLING STATION POINT-OF-SALE SYSTEM
09/16/2023
DASHBOARD
SALES
SALES REPORT
CREATE+
SEARCH
DATAGRIDVIEW
ADMIN
Admin
MANAGE USER
MANAGE HISTORY
UPDATE
DELETE
EMPTY
LOG OUT

3.2.3 SALES REPORT

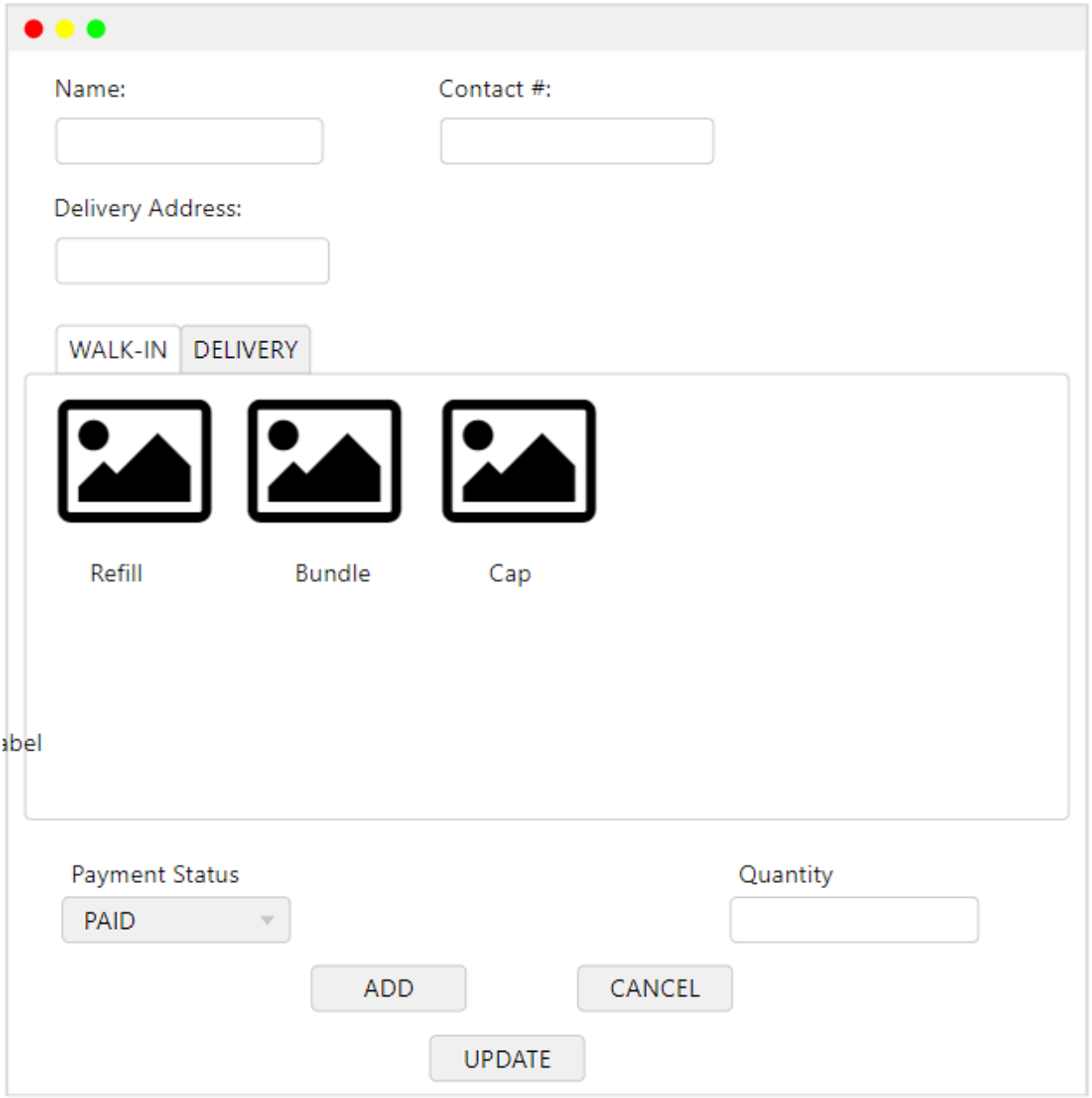


Below are the specifications of the Form_Main:

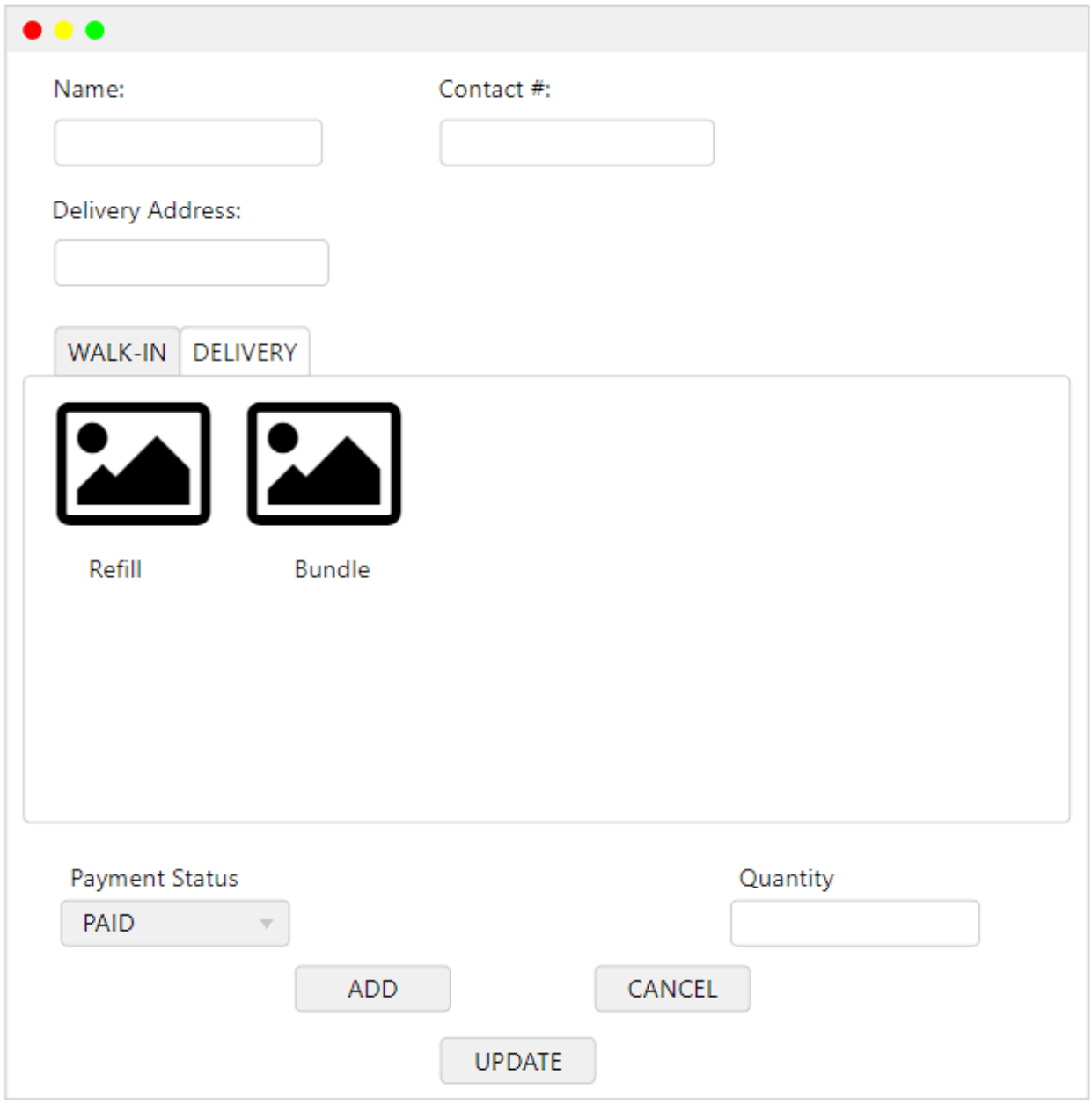
1. Admin can access POS, users' info and manage the sales history, where the admin can undo deleted/mistake transactions.
2. Owner user can only access the POS.
3. Generate report of overall total in dashboard.
4. Generate report of sales by type, date range, and/or month in sales report tab.

3.3. Form_CRUD

3.3.1. WALKIN



3.3.2. DELIVERY

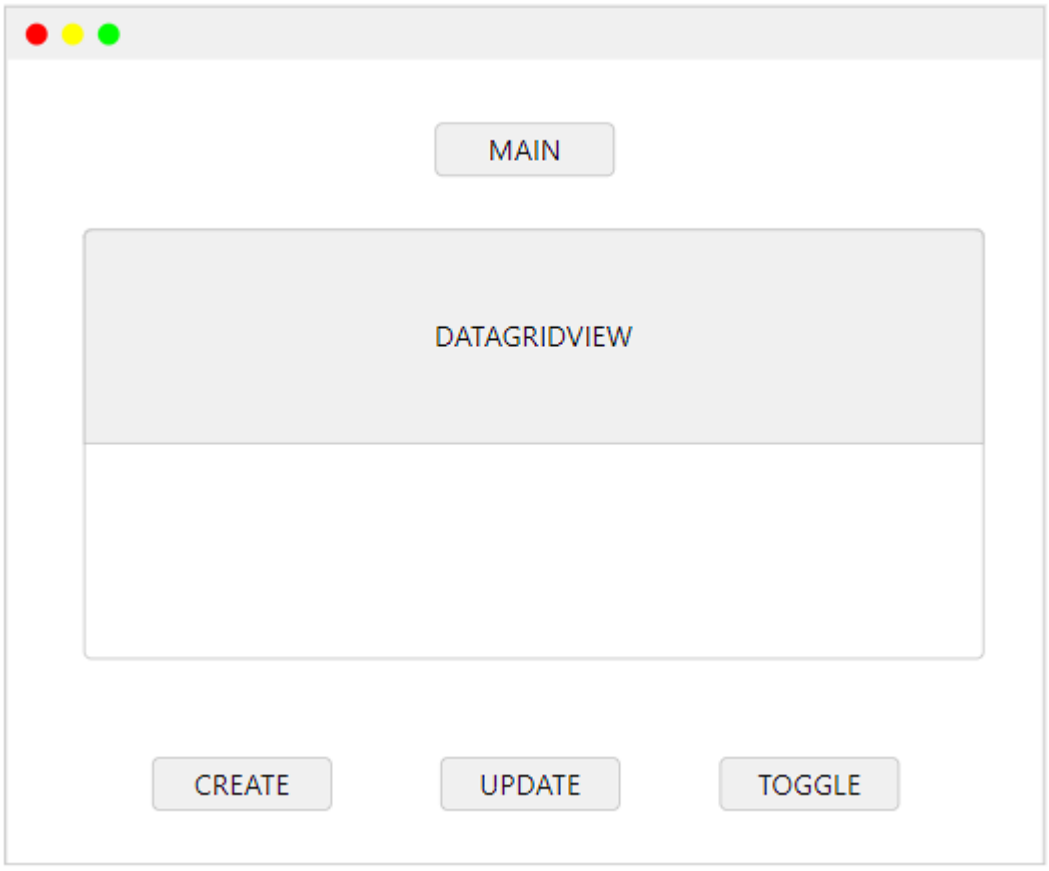


Below are the specifications of the Form_CRUD:

1. Adds product manually. Only admin or owner user can perform this task.

2. Allows user to add product by clicking the picture and clicking the type of the service whether if it is walk-in or delivery.
3. Allows user to edit transactions.
4. Allows to delete product if there are no link transaction to it.
5. Allows user to change the payment status by updating.

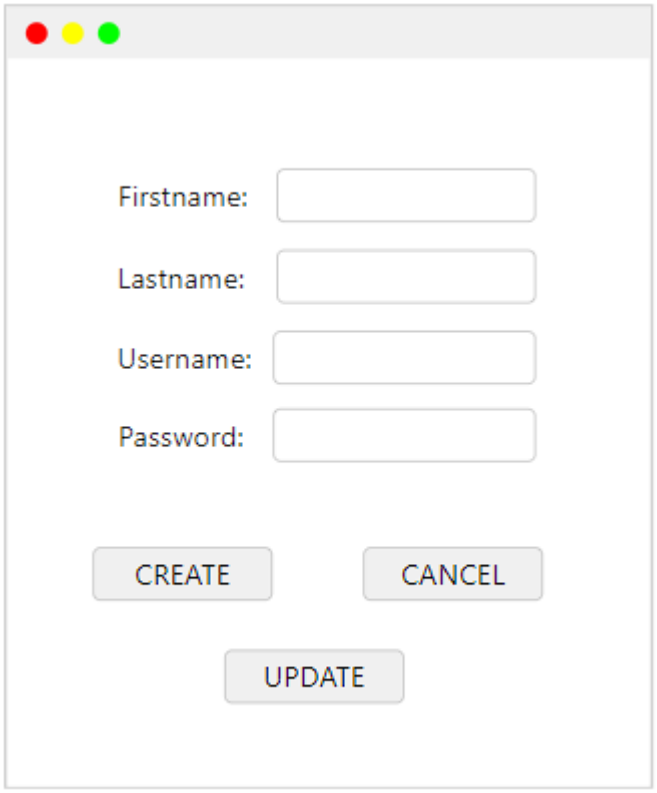
3.4. Form_Manage_User



Below are the specifications of Form_Manage_User:

1. Admin can make changes to created accounts by making them active and inactive by clicking the toggle button.

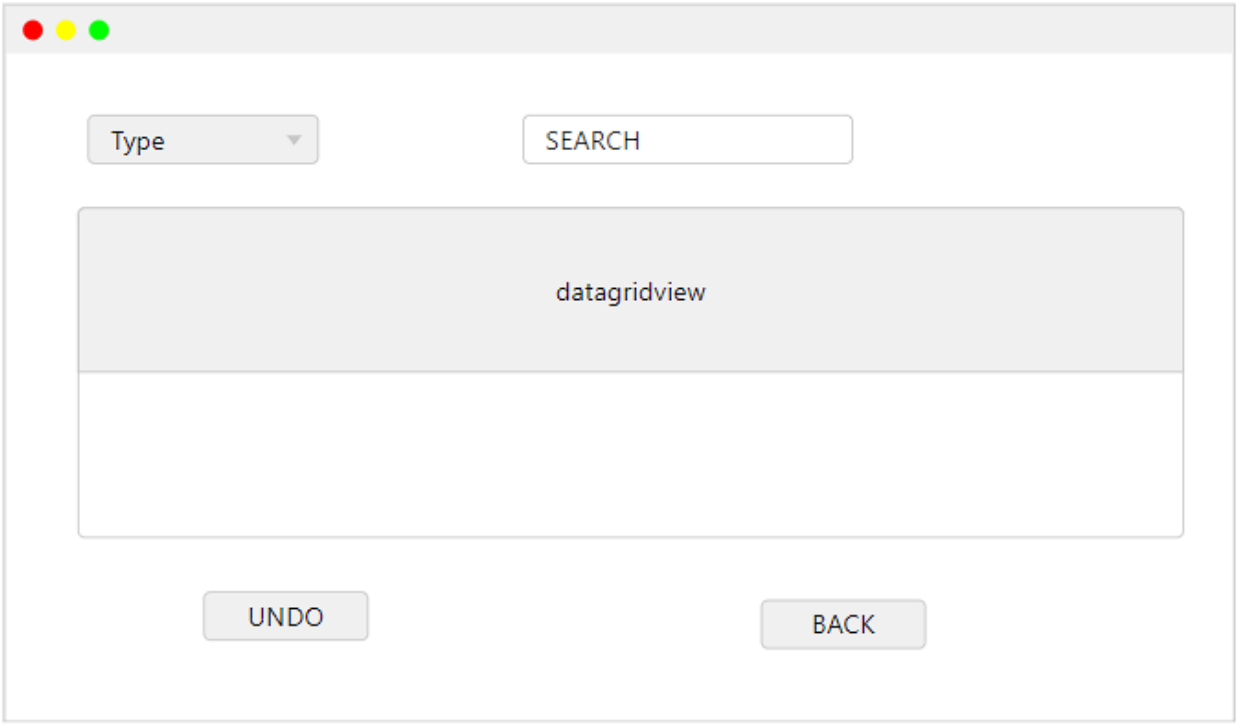
3.5. Form_CRUD_User



Below are the specifications of Form_CRUD_User:

1. Admin can create users and update users' info.

3.6. Form_Sales_History



Below are the specifications of Form_Sales_History:

1. Admin can only have this function.
2. Admin can undo the user's mistakes, like if the user accidentally clicked the empty button in sales, which only clears the entire data in the datagridview, not deletes it.
3. Admin can not only undo mistakes but can also undo deleted records.
4. Admin can search specific data by type (All, WalkIn, and Delivery).

3.7. Mod_DBConnection
3.8. Mod_Login
3.9. Mod_Dashboard
3.10. Mod_Sales
3.11. Mod_Report
3.12. Mod_User
3.13. Mod_History

4. DATABASE DESIGN

This section presents the data dictionary (table structure) design of the water refilling station point-of-sale system.

Table name: **user_tbl**

Fieldname	Data Type	Is Unique?	Is Auto Inc?	Is PK?	Is FK?	Ref Table	Comments
user_id	Integer		Yes	Yes			
firstname	Text						
lastname	Text						
username	Text	Yes					Username cannot be changed. Username is unique.
password	Text						Password is encrypted using *.
status	Integer						1 = active and 0 = inactive.
usertype_id	Integer				Yes		1 = Admin and 2 = Owner.

Table name: **usertype_tbl**

Fieldname	Data Type	Is Unique?	Is Auto Inc?	Is PK?	Is FK?	Ref Table	Comments
usertype_id	Integer		Yes	Yes			

usertype	Text						Admin and Owner

Table name: **customer_tbl**

Fieldname	Data Type	Is Unique?	Is Auto Inc?	Is PK?	Is FK?	Ref Table	Comments
customer_id	Integer		Yes	Yes			
Name	Text						
contact_number	Numeric						
customer_address	Text						
user_id	Integer				Yes	user_tbl	

Table name: **product_tbl**

Fieldname	Data Type	Is Unique?	Is Auto Inc?	Is PK?	Is FK?	Ref Table	Comments
product_id	Integer		Yes	Yes			
Product_name	Text						
price	Numeric						
quantity	Text						
amount	Integer				Yes	user_tbl	

date	Text						Sql date() format.
visibility							1 = sales, 2 = report, and 0 = remove.
customer_id	Integer				Yes	Customer_tbl	
ProductType_id	Integer				Yes	productType_tbl	1 = WalkIn and 2 = Delivery
productStatus_id	Integer				Yes	productStatus_tbl	1 = Paid and 2 = Unpaid

Table name: **ProductType_tbl**

Fieldname	Data Type	Is Unique?	Is Auto Inc?	Is PK?	Is FK?	Ref Table	Comments
productType_id	Integer		Yes	Yes			
type	Text						WALKIN OR DELIVERY

Table name: **ProductStatus_tbl**

Fieldname	Data Type	Is Unique?	Is Auto Inc?	Is PK?	Is FK?	Ref Table	Comments
productStatus_id	Integer		Yes	Yes			
status	Text						PAID OR UNPAID

5. ERD

This section presents the overall ERD design of the water refilling station point-of-sale system.