Development of Menu and Order Management System for Cafe Aroma Senja

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CEP CCIT

FAKULTAS TEKNIK UNIVERSITAS INDONESIA

PROJECT ON

Development of Menu and Order Management System for Cafe Aroma Senja

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Development of Menu and Order Management System for Cafe Aroma Senja

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Date of Submission: September 26th, 2025

CERTIFICATE

This is to certify that this report titled “Development of Menu and Order Management System for Cafe Aroma Senja” embodies the original work done by Muhammad Fakhri Amir, and Zahwa Aprilia in partial fulfillment of their course requirement at NIIT.

Coordinator:

Mr. Tri Agus Riyadi, S.Kom, M.Kom & Mr. Ivan Firdaus, S.T

ACKNOWLEDGEMENT

We would like to express my sincere gratitude to everyone who contributed to the successful completion of this project on "Development of Menu and Order Management System for Cafe Aroma Senja". Their guidance and encouragement were invaluable to the successful completion of this project.

We also acknowledge the ongoing support and enlightening criticism from my coworkers and superiors, which significantly improved the caliber of this project. Their collaboration and comprehension gave me the will to conquer obstacles during the development process.

Lastly, my family's patience and constant support are greatly appreciated. It would not have been able to complete this project without their support. To everyone who helped along the way, I sincerely thank you.

BACKGROUND

Cafe Aroma Senja wants its patrons to have a relaxing and effective dining experience. It struggles to manually handle orders and manage menu items, though,
like many conventional cafés, which can result in inefficiencies and mistakes when handling orders. A digital solution is required to address these problems and expedite order processing and menu management.

The goal of the "Development of Menu and Order Management System for Cafe Aroma Senja" project is to provide an integrated system that makes it simple for cafe employees to compile sales reports, take and monitor client orders, and update menus. This solution will increase overall management efficiency, decrease mistakes, and speed up service, which will eventually boost customer happiness and corporate success.

Cafe Aroma Senja may update its processes and give employees and patrons a more streamlined, dependable experience by putting this technology into place.

SYSTEM ANALYSIS

To create a digital system that streamlines the management of menu items and customer orders, improving efficiency, accuracy, and customer satisfaction at Cafe Aroma Senja.

Key Stakeholders:

1. Admin
2. Customers
3. Reporting

Functional Requirements

Menu Management:

1. Add, edit, or remove menu items
2. Categorize items (e.g.,Main Dish, Side Dish,Drink)
3. Update item prices
4. Display current menu to customers

Order Management:

1. Take and record customer orders digitally
2. Link orders to specific tables or customers

User Roles and Access:

1. Admin access for managers to manage menu
2. User-friendly interface for quick training and use
3. Real-time updates between Admin and Reporting
4. Secure access control based on user roles

System Components

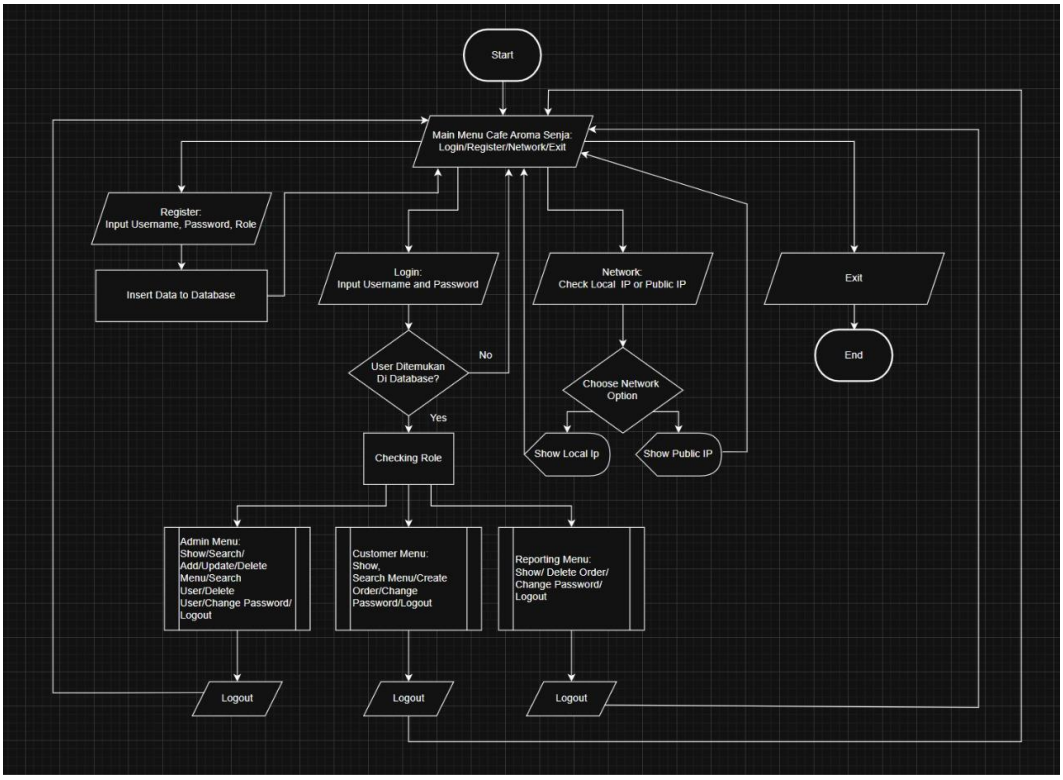
- User Interface: Tablet or computer-based for order input and menu display
- Database: Store menu items, orders, and user information
- Backend Logic: Handle business rules like order processing and status updates

Benefits

- Faster order processing and reduced errors
- Easy menu updates without printed materials

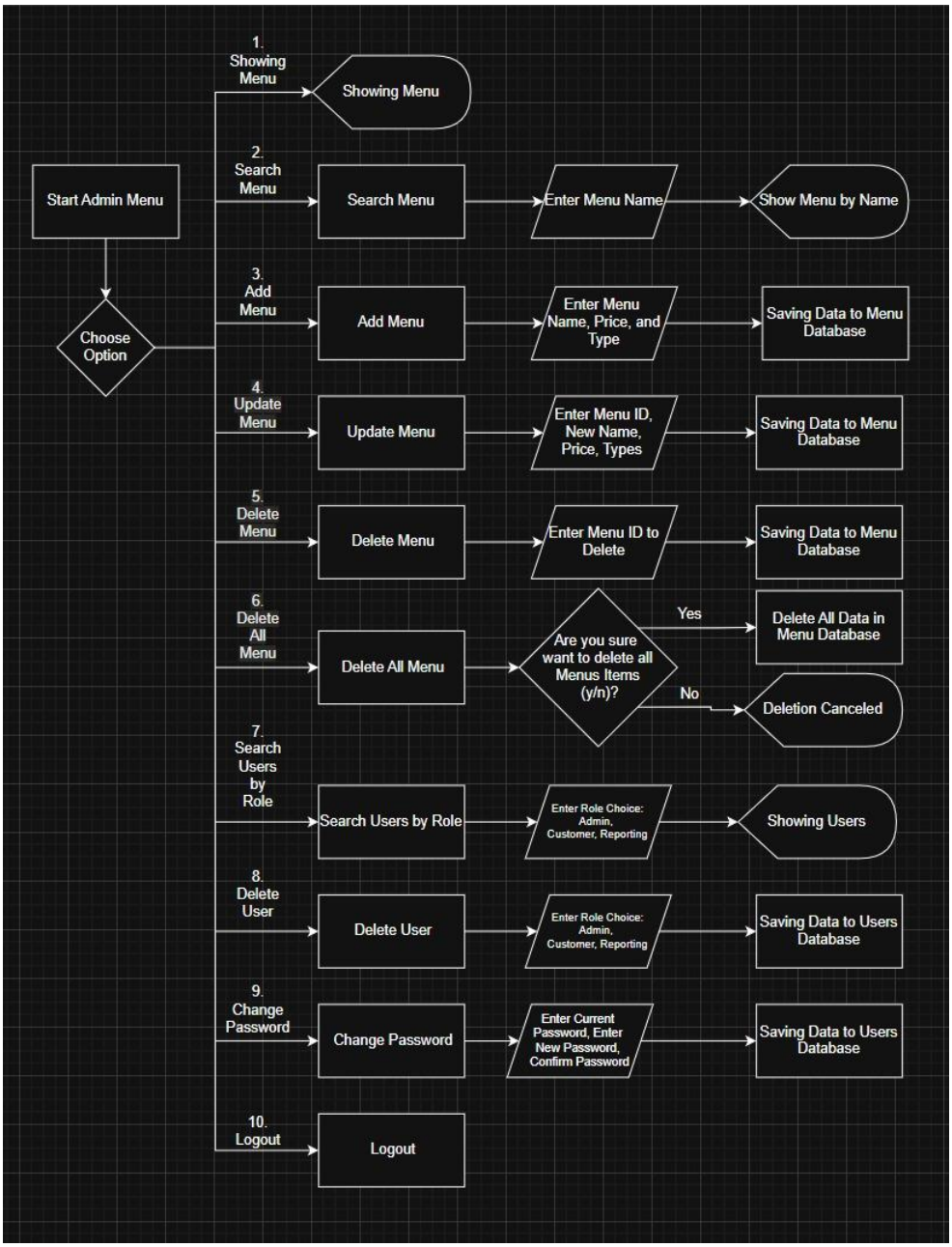
FLOWCHART

1. Flowchart Sistem



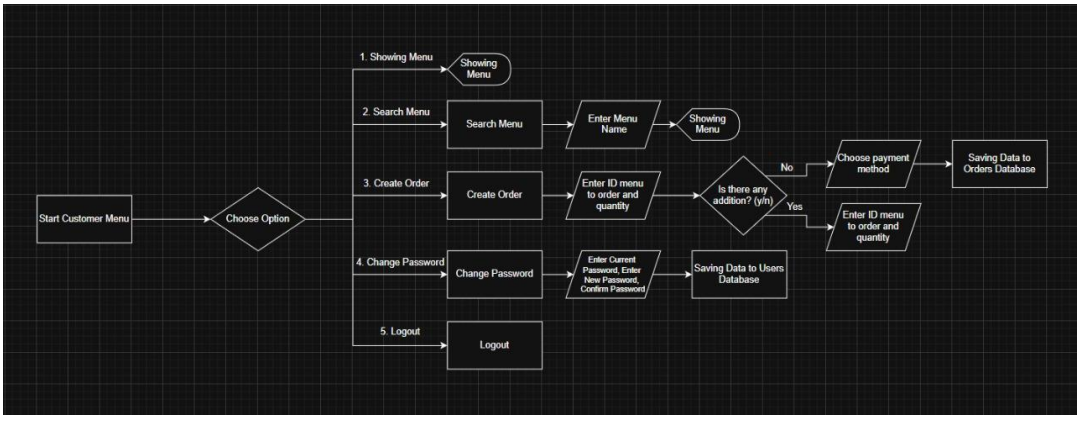
FLOWCHART

2. Flowchart Sub Menu Admin

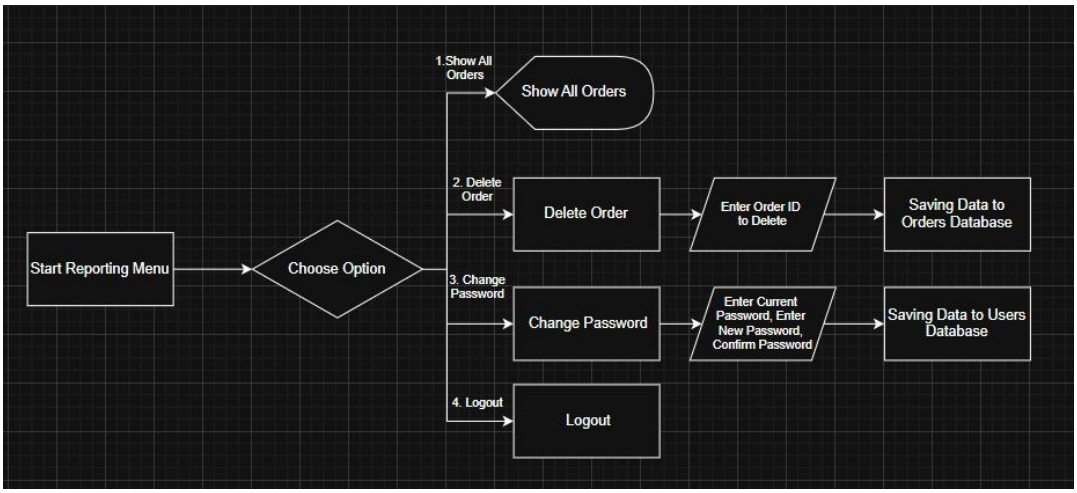


FLOWCHART

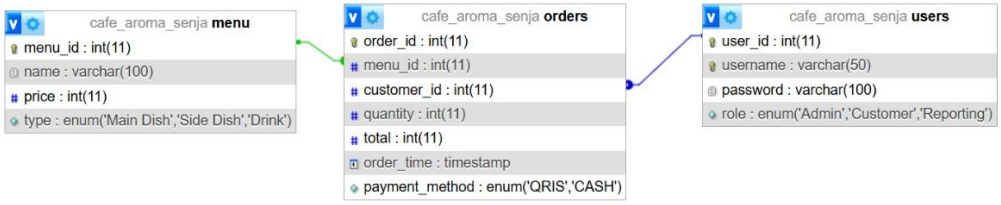
3. Flowchart Sub Customer Menu



4. Flowchart Sub Reporting Menu



Entity Relationship Diagram (ERD)



The database structure for the café system "cafe_aroma_senja" is displayed in the entity relationship diagram, or ERD. There are three primary tables in it:

1. users: Contains columns for username, password, role (Admin, Customer, Reporting), and user_id (primary key).
2. orders: Contains quantity, total, and order_time;
   order_id is the primary key;
   menu_id and customer_id are foreign keys.
3. menu: Contains menu items with the primary key menu_id,
   along with the kind (Main Dish, Side Dish, Drink), name, and price.

Connections:

1. uses customer_id to link orders to users in order to identify the customer.
2. orders specifies the requested item by linking to the menu using menu_id.

DATABASE

The orders table in the Cafe Aroma Senja database connects three databases. Although users and menus are not directly connected, each user has the ability to place multiple orders. In a similar vein, numerous patrons may place repeated orders for the same menu item. This configuration eliminates redundant information and facilitates order management, menu updates, and sales report generation.

1. TABEL ORDERS

	order_id	menu_id	customer_id	quantity	total	order_time	payment_method
Ubah Salin Hapus	1	1	2	1	22000	2025-09-23 22:27:56	QRIS
Ubah Salin Hapus	2	4	2	1	28000	2025-09-23 22:27:56	QRIS
Ubah Salin Hapus	3	10	2	1	18000	2025-09-23 22:27:56	QRIS
Ubah Salin Hapus	4	1	2	2	44000	2025-09-24 08:41:09	QRIS
Ubah Salin Hapus	5	4	2	1	28000	2025-09-24 08:41:09	QRIS
Ubah Salin Hapus	6	1	2	1	22000	2025-09-24 08:50:57	QRIS
Ubah Salin Hapus	7	4	2	1	28000	2025-09-24 08:50:57	QRIS

2. TABEL MENU

	menu_id	name	price	type
Ubah Salin Hapus	1	Matcha Latte	22000	Drink
Ubah Salin Hapus	2	Americano	20000	Drink
Ubah Salin Hapus	3	Caramel Macchiato	25000	Drink
Ubah Salin Hapus	4	Nasi Goreng	28000	Main Dish
Ubah Salin Hapus	5	Mie Ayam	25000	Main Dish
Ubah Salin Hapus	6	Sphagetti Carbonara	32000	Main Dish
Ubah Salin Hapus	7	French Fries	18000	Side Dish
Ubah Salin Hapus	8	Churros Chocolate	20000	Side Dish
Ubah Salin Hapus	9	Vegetable Tempura	12000	Side Dish
Ubah Salin Hapus	10	Shrimp Tempura	18000	Side Dish

DATABASE

3. TABEL USERS

		user_id	username	password	role
☐	Ubah Salin Hapus	1	Fakhri	123	Admin
☐	Ubah Salin Hapus	2	Andi	123	Customer
☐	Ubah Salin Hapus	3	Rendy	12345	Reporting
☐	Ubah Salin Hapus	4	Zahwa	888	Customer

PROGRAM OUTPUT

1. User Authentication and Authorization

With the validation of usernames and passwords, the system facilitates user authentication. Following a successful login, each user will be taken to the menu according to their role.

```
=== Cafe Aroma Senja ===
1. Login
2. Register
3. Network
4. Exit
Choose option: 1
Username: Fakhri
Password:
Login successful! Welcome, Fakhri (Admin)
```

The report shows that the login procedure was accomplished successfully. A user with the username Fakhri was sent to the admin menu after successfully signing in as an administrator. The administrator has power over menus and users, the customer can only place orders, and the reporting department can only see and remove orders since the system divides access based on duties.

2. Menu Management

The administrator can display, add, update, and remove menu items using the menu administration tool. An example output from the system-displayed menu list is shown below:

```
==============================================
ID    | Name                | Price      | Type
----------------------------------------------
1     | Matcha Latte        | Rp22000    | Drink
2     | Americano           | Rp20000    | Drink
3     | Caramel Macchiato   | Rp25000    | Drink
4     | Nasi Goreng         | Rp28000    | Main Dish
5     | Mie Ayam            | Rp25000    | Main Dish
6     | Sphagetti Carbonara | Rp32000    | Main Dish
7     | French Fries        | Rp18000    | Side Dish
8     | Churros Chocolate   | Rp20000    | Side Dish
9     | Vegetable Tempura   | Rp12000    | Side Dish
10    | Shrimp Tempura      | Rp18000    | Side Dish
==============================================
```

The list of menu items that Cafe Aroma Senja offers is displayed in the output above. For ease of reading, the menu data is presented in a table format. The Admin menu allows the administrator to add, edit, or remove menu items.

PROGRAM OUTPUT

3. Search Menu

The system has a keyword-based menu search function. When a user searches for a menu using the term "Matcha," the following is an example of what is returned:

```
Enter menu name keyword: Matcha

================================================
ID    | Name                | Price      | Type
------------------------------------------------
1     | Matcha Latte        | Rp22000    | Drink
================================================
```

The output above displays the menu's search results for the term "Matcha." To make it simpler for users to locate the products they want, the system filters and shows menus that include the term.

4. Create Order

After choosing their preferred menu and amount, customers can make an order. The system will note the payment method and compute the total amount due.

```
10    | Shrimp Tempura      | Rp18000     | Side Dish
================================================
Enter the ID of the menu to order: 1
Quantity: 1
Is there any other addition? (y/n): n

Choose Payment Method:
1. QRIS
2. CASH
Enter choice: 1

--- Order Summary ---
- Matcha Latte x1 = Rp22000
Total Payment: Rp22000
Payment Method: QRIS
Order has been added successfully!
```

An overview of the order that was successfully produced is displayed in the output above. The system automatically computed the Rp22000 total payment when the consumer selected a single Matcha Latte. The QRIS payment mechanism was used to record the order.

PROGRAM OUTPUT

5. Show All Orders

Reporting is able to view every order that has been placed thanks to this capability. This is an illustration of the order list's output:

```
==========================================================================
Order ID   | Customer       | Menu              | Qty   | Total      | Time                | Payment
--------------------------------------------------------------------------
9          | Andi           | Matcha Latte      | 1     | Rp22000    | 2025-09-25 09:02:31 | QRIS
6          | Andi           | Matcha Latte      | 1     | Rp22000    | 2025-09-24 08:50:57 | QRIS
7          | Andi           | Nasi Goreng       | 1     | Rp28000    | 2025-09-24 08:50:57 | QRIS
4          | Andi           | Matcha Latte      | 2     | Rp44000    | 2025-09-24 08:41:09 | QRIS
5          | Andi           | Nasi Goreng       | 1     | Rp28000    | 2025-09-24 08:41:09 | QRIS
1          | Andi           | Matcha Latte      | 1     | Rp22000    | 2025-09-23 22:27:56 | QRIS
2          | Andi           | Nasi Goreng       | 1     | Rp28000    | 2025-09-23 22:27:56 | QRIS
3          | Andi           | Shrimp Tempura    | 1     | Rp18000    | 2025-09-23 22:27:56 | QRIS
==========================================================================
```

The output displays the history of orders placed by clients. The order ID, client name, menu item ordered, quantity, total payment, order time, and payment method are all included in the order data. Sales may be tracked and reported with the use of this function.

6. Users Management

Admins have the ability to manage users, which includes showing, finding, and removing user accounts. An illustration of user search results based on roles is shown here:

```
Search users by role:
1. Admin
2. Customer
3. Reporting
Enter role choice: 2

--- Customer Users ---
ID    | Username
--------------------
2     | Andi
4     | Zahwa
```

A list of users with the Customer role is displayed in the output above. To make account administration easier, the administrator can look for users by role.

PROGRAM OUTPUT

7. Change Password

All users are able to modify their passwords using the system. An example output from the password changing procedure is shown here:

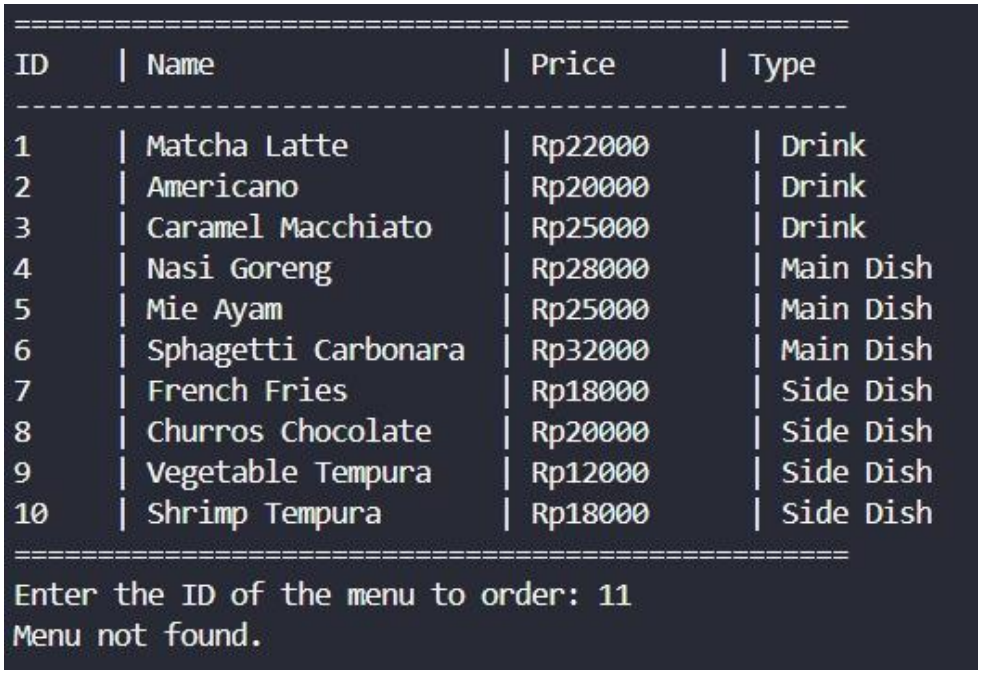
```
Login successful! Welcome, Rendy (Reporting)

--- Reporting Menu ---
1. Show All Orders
2. Delete Order
3. Change Password
4. Logout
Choose option: 3
Enter current password:
Enter new password:
Confirm new password:
Password changed successfully.
```

The result above demonstrates that the password changing procedure was successful. The user is asked to enter both their new and old passwords and to validate the new one. Maintaining the security of the user's account depends on this functionality.

PROGRAM OUTPUT

8. Error Handling

The system is made to manage input mistakes and give the user unambiguous feedback. When a user inputs an incorrect menu ID, the following is an example of what happens:



The result above illustrates the error message that appears when a user inputs a menu ID that doesn't exist. To assist the user in rectifying the mistake, the system offers unambiguous feedback.

REQUIREMENT

Hardware :

1. Lenovo Legion 5
2. Thinkpad X1 Yoga

Operating System :

1. Windows 11

Software :

1. Vscode
2. Google Chrome
3. Draw io
4. Xampp

PROJECT FILE DETAILS

No	File Name	Remarks
1	Project 1 –Group 6	Microsoft Words contain research paper about the project
2	Configuring Secure and Remote Access	File contains Xampp, Draw io, Vscode, Flowchart, ERD, Database.
3	Group 6 Project 1.pptx	Presention file