System Guidelines

There are two main folders provided under **<System>**:
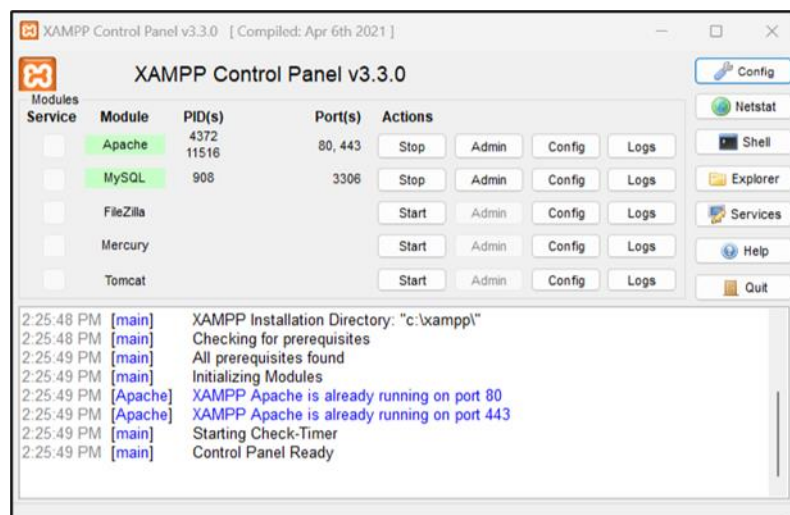
1. CNN Model Development
2. System Development

Folder	File
CNN Model Development	- cnn-version4.ipny (model training jupyter notebook source file) - waste_classification_model_version15.keras (trained CNN model)
System Development	- waste folder (full system source code, including integration part)

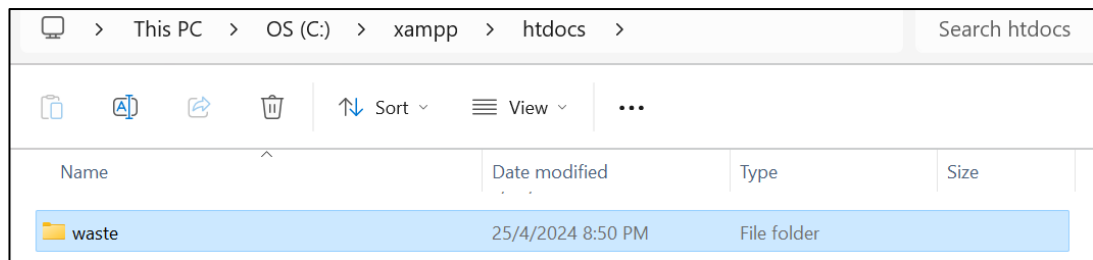In addition, there is a SQL file called **wastev5.**

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To access Waste Wisdom on your local machine, follow these steps:

1. Download the Program Code and Files:

   • Obtain the program code and files for Waste Wisdom and save them to a folder on your local machine.

2. Download **VS Code**.

3. Start the Local Web Server:

   • Install a local web server such as **XAMPP** on your machine.

   • Start the local web server application (**Start Apache** and **MySQL** as shown above).

4. Copy Program Code and Files to Web Server Directory:

• Navigate to the directory where your local web server is installed (e.g., C:/xampp/htdocs).

• Copy the program code and files for Waste Wisdom into this directory.

5. Start the **Flask Server**:

• Ensure you have **Python** installed on your machine.

```
(wasteProj_env) C:\Users\Jia Yi Chan>cd C:\xampp\htdocs\waste

(wasteProj_env) C:\xampp\htdocs\waste>python app.py
```

• Open a terminal or command prompt and navigate to the directory where the program code and files are saved (In this case should be **cd C:\xampp\htdocs\waste**). This is the pathway where the **app** file is stored.

• Next, **run the Flask server** by executing the command: **python app.py** (app is the file where the trained CNN model is loaded).

```
* Serving Flask app 'app'
* Debug mode: on
```

```
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
```

```
* Debugger is active!
* Debugger PIN: 122-684-400
```

• Once it is activated, it will show something as shown above.

6. Import the **SQL File** (**wasteV5.sql**) to the database:

•   Open   phpMyAdmin   on   your   local   machine   by   typing **localhost/phpMyAdmin/.**

• Create a new database.

• Once the new database is created, you need to update the database name in your codebase. This involves searching for all occurrences of the old database name (in this case "wasteV5") and replacing them with the new database name (e.g., you created a new database name called "wasteV6"). Ensure that you change the database name wherever it is referenced in the code.

• Click the "**Import**" tab and choose the SQL file (in this case should be wasteV4) given by the developer.

• Click "**Go**" to import the SQL file into the phpMyAdmin database

7. Access Waste Wisdom in Web Browser:

• Open your preferred web browser (e.g. Chrome).

```php
<?php
$host = "localhost";
$username = "root";
$password = "";
$database = "wasteV4";

// Create a database connection
$connection = mysqli_connect($host, $username, $password, $database);

// Check the connection
if (!$connection) {
    die("Connection failed: " . mysqli_connect_error());
}
?>
```

• Before accessing, make sure that your database connection **(db_connection.php)** is working, as mentioned just now, you have to change the database name in the code as well. Take note, cross-check the code to make sure that all database names are changed to the correct one, some php files such as **homepage.php** and **result.php** also consist of the database name.

• Once everything is done, in the address bar, type: **localhost/waste** (replace waste with the directory name where you copied the program files) and press Enter.

To learn more about how to use the system, kindly refer to **Final Year Project Report Appendix F (Item F.4) for the detailed user manual. Thank you!**

If you have any questions, please do not hesitate to reach out to the developer at:

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