



Smart FLOWER SHOP

UNDER SUPERVISION

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Out line

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01-Introduction

01- INTRODUCTION

Flowers have always held a special place in human culture, symbolizing beauty, emotions, and nature. However, taking care of flowers, identifying their types, and understanding their growth requirements can be challenging, especially for beginners. With the growing interest in gardening and the increasing demand for personalized flower arrangements, there is a need for a platform that caters to both flower enthusiasts and beginners, providing them with the necessary knowledge and tools.

01-INTRODUCTION CONT.

This project introduces an e-commerce platform specifically designed for flower lovers. The platform serves a dual purpose: it offers detailed information on various types of flowers and plants,flowers . The integration of an AI-based tool enables users to easily identify flowers by uploading images, making the platform highly interactive and user-friendly.



02- Problems Statement :

02- PROBLEM STATEMENT:

01-Difficulty in identifying flower species

Flower enthusiasts, especially beginners, struggle to identify different flower species accurately.

02- Lack of useful and diverse flower care information

Most online flower-selling platforms do not provide useful and distinctive information on how to care for flowers after purchase.

03-Need for a combined educational and e-commerce platform:

There is a gap in the market for a platform that merges educational content on flower care with the convenience of online flower and gardening product purchases.

03-Solutions



03- SOLUTION :

01-AI-powered flower identification tool :

The platform integrates an AI-based tool that allows users to upload images of flowers, enabling automatic identification. This feature helps beginners easily recognize flower species without needing prior knowledge.



02-Comprehensive flower care guides:

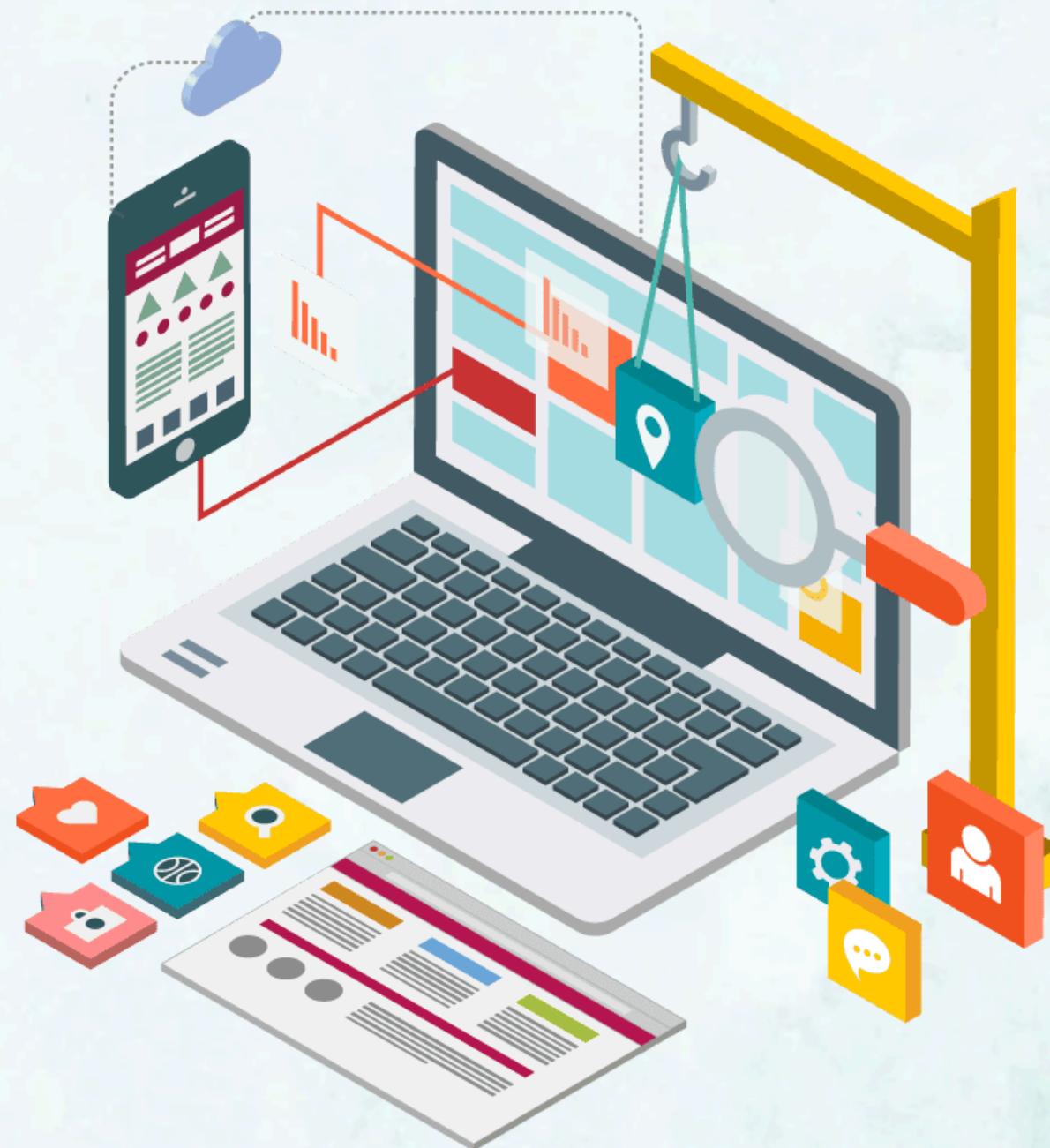
Each flower listed on the platform comes with detailed care instructions, covering aspects such as watering, soil requirements, sunlight needs, and ideal growing conditions. This ensures users know exactly how to care for their flowers post-purchase.



03-All-in-one platform for education and shopping :

By combining flower identification, care guides, and an online store, the platform serves as a comprehensive solution for both educational and shopping needs. This addresses the gap in the current market by providing users with both knowledge and products in one place.

04-RELATED WORK



RELATED WORK

Avas flowers



Limited Time Only. Free Delivery Coupon!

Sign In Cart Get In touch Avas Pin: FB5SFZ

Order & Send Premium Flowers Today. Best Prices! Satisfaction Commitment

Five Star Rated ★★★★☆ Shopper Approved See Our Ratings & Awards!

Better Flowers Lower Prices

Same Day Delivery

Valentine's Day Hot Deals Sympathy Occasion Birthday Flowers Plants Support

You are here: Home

TODAY'S SALE! Save BIG w/ *FREE DELIVERY - Use Code: FREEDEL20

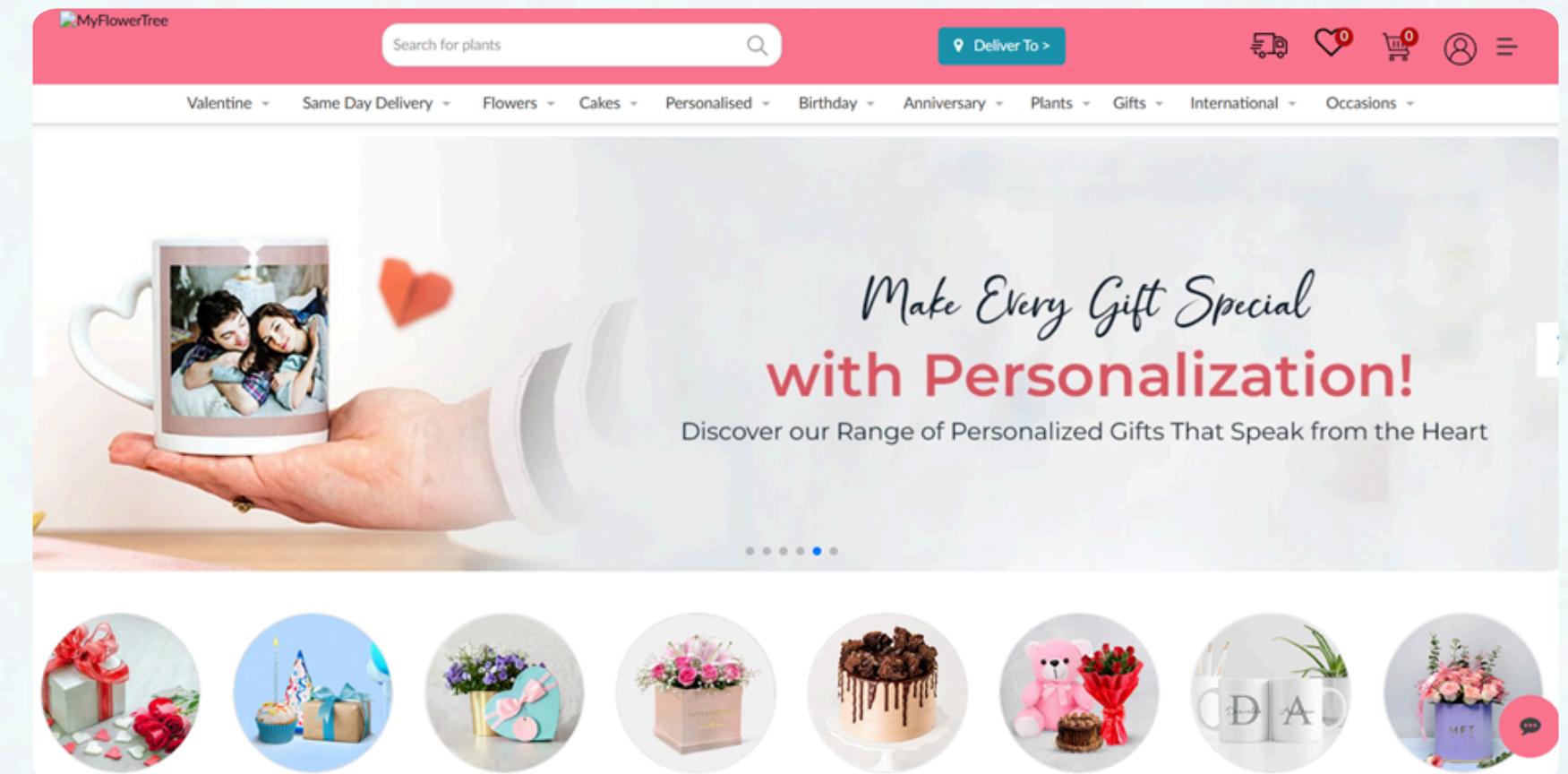
Early Valentine's Day Sale Order Early & Save Big

SHOP NOW

Shop premium flower arrangements online and order flowers for same day delivery!



My flower tree



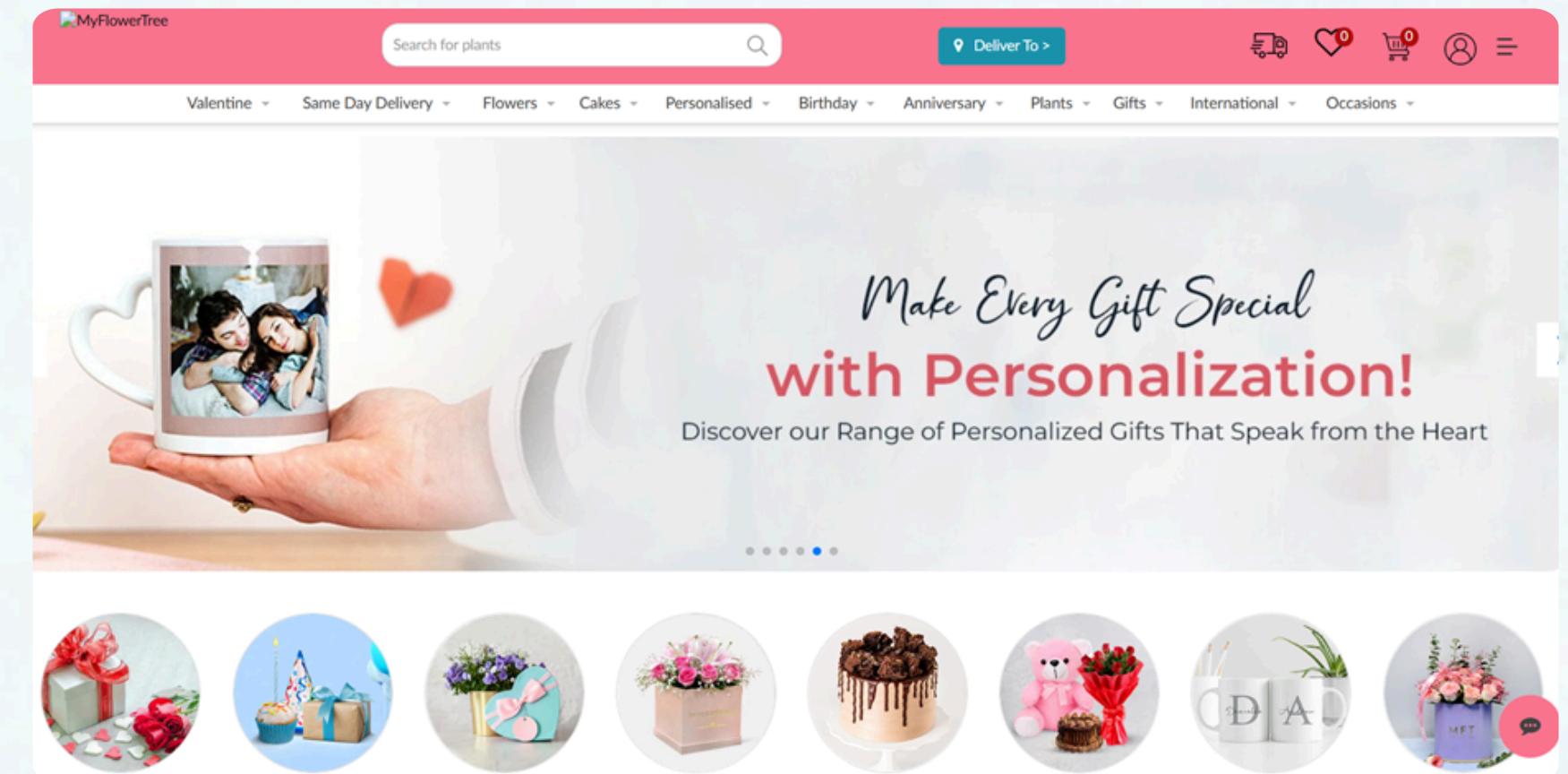
Search for plants

Deliver To >

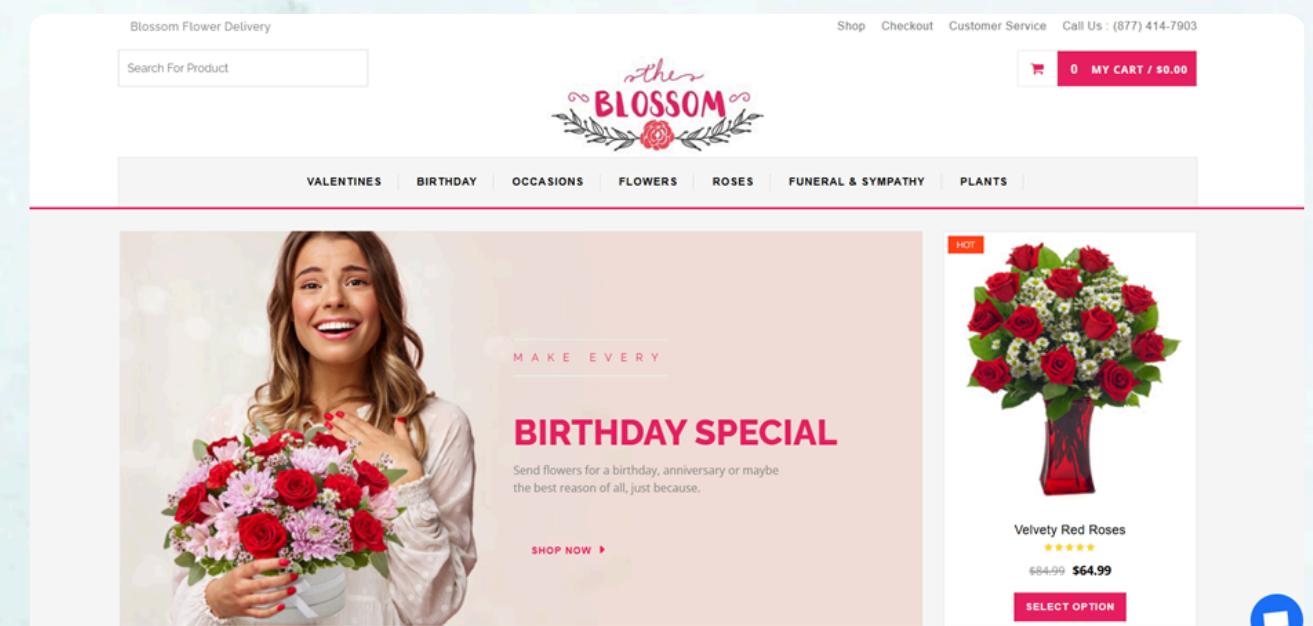
Valentine Same Day Delivery Flowers Cakes Personalised Birthday Anniversary Plants Gifts International Occasions

Make Every Gift Special with Personalization!

Discover our Range of Personalized Gifts That Speak from the Heart



Blossom flower



Blossom Flower Delivery

Search For Product

Shop Checkout Customer Service Call Us: (877) 414-7903

MY CART / \$0.00

other BLOSSOM

VALENTINES BIRTHDAY OCCASIONS FLOWERS ROSES FUNERAL & SYMPATHY PLANTS

MAKE EVERY BIRTHDAY SPECIAL

Send flowers for a birthday, anniversary or maybe the best reason of all, just because.

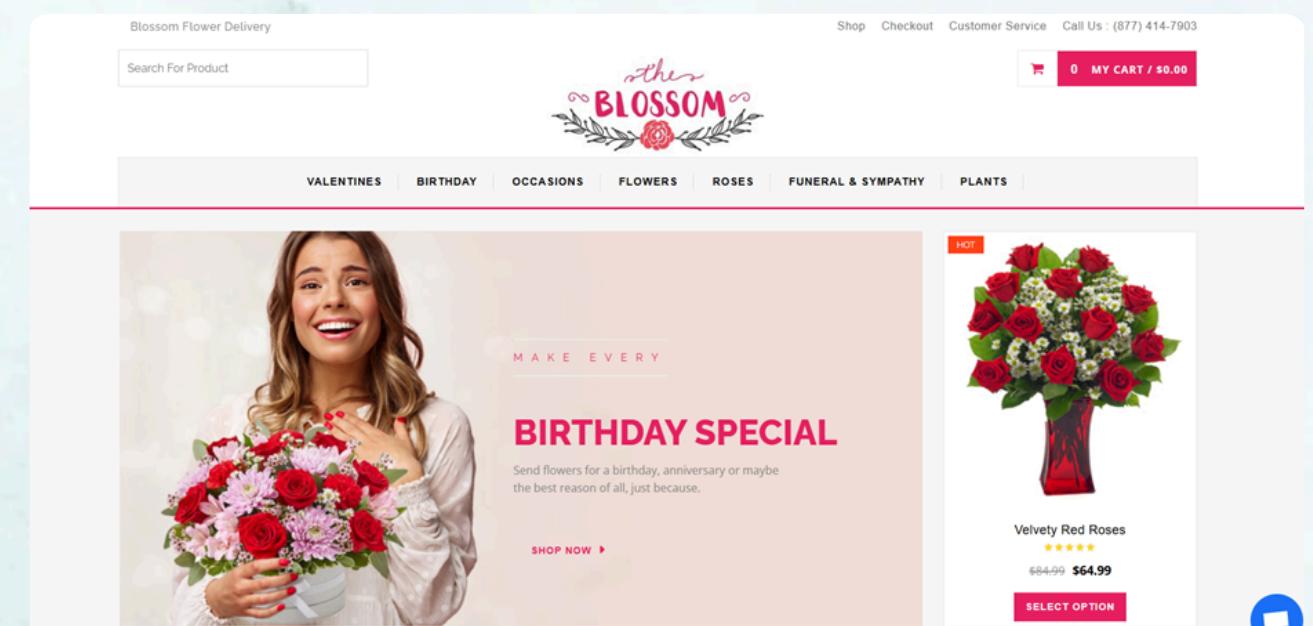
SHOP NOW

HOT

Velvety Red Roses

★★★★★ \$64.99 \$64.99

SELECT OPTION



DrawBacks :

- Lower quality images that don't fully capture details
- Limited or no guidance on flower care
- Website Usability: Users have reported challenges navigating the website, indicating that it is not user-friendly and complicates the ordering process



WHAT MAKES US UNIQUE ?



Guided Flower Care:

Each delivery includes expert care instructions to help your flowers stay fresh and vibrant longer.

AI-Powered Flower Identification :

It allows you to identify the name of a rose, whether it is a picture of it from the Internet or a picture in nature, and you upload it to the site.



High-Quality Visuals :

Our flower arrangements look just as beautiful in real life as they do online. We ensure our images are detailed and accurate, so you can shop with confidence.

05-FUNCTIONAL REQUIREMENTS :

05-FUNCTIONALITY REQUIREMENTS:

1- User Registration and Login:

Users can create an account, log in, and manage their profiles.



2- AI Flower Identification Tool :

Users can upload a picture of a flower, and the system will identify it using AI.

05-FUNCTIONALITY REQUIREMENTS :

3- Flower Information Database:

A comprehensive database of flowers that includes details on care, soil, water, and light requirements.



4- E-commerce Platform :

Users can browse and purchase flowers and bouquets, with the option to add items to a shopping cart and complete purchases

05-FUNCTIONALITY REQUIREMENTS:

5- Admin Panel :

Admins can manage products, users, and orders .



06-Non-Functional Requirements :



06-NON-FUNCTIONALITY REQUIREMENTS :

Scalability:

The platform should be designed to allow for future expansion, such as adding new features or supporting more users.

Compatibility :

The system should be compatible with major web browsers and mobile devices.

Usability :

The platform should be easy to use and navigate for users of all technical backgrounds.

07.-Goals

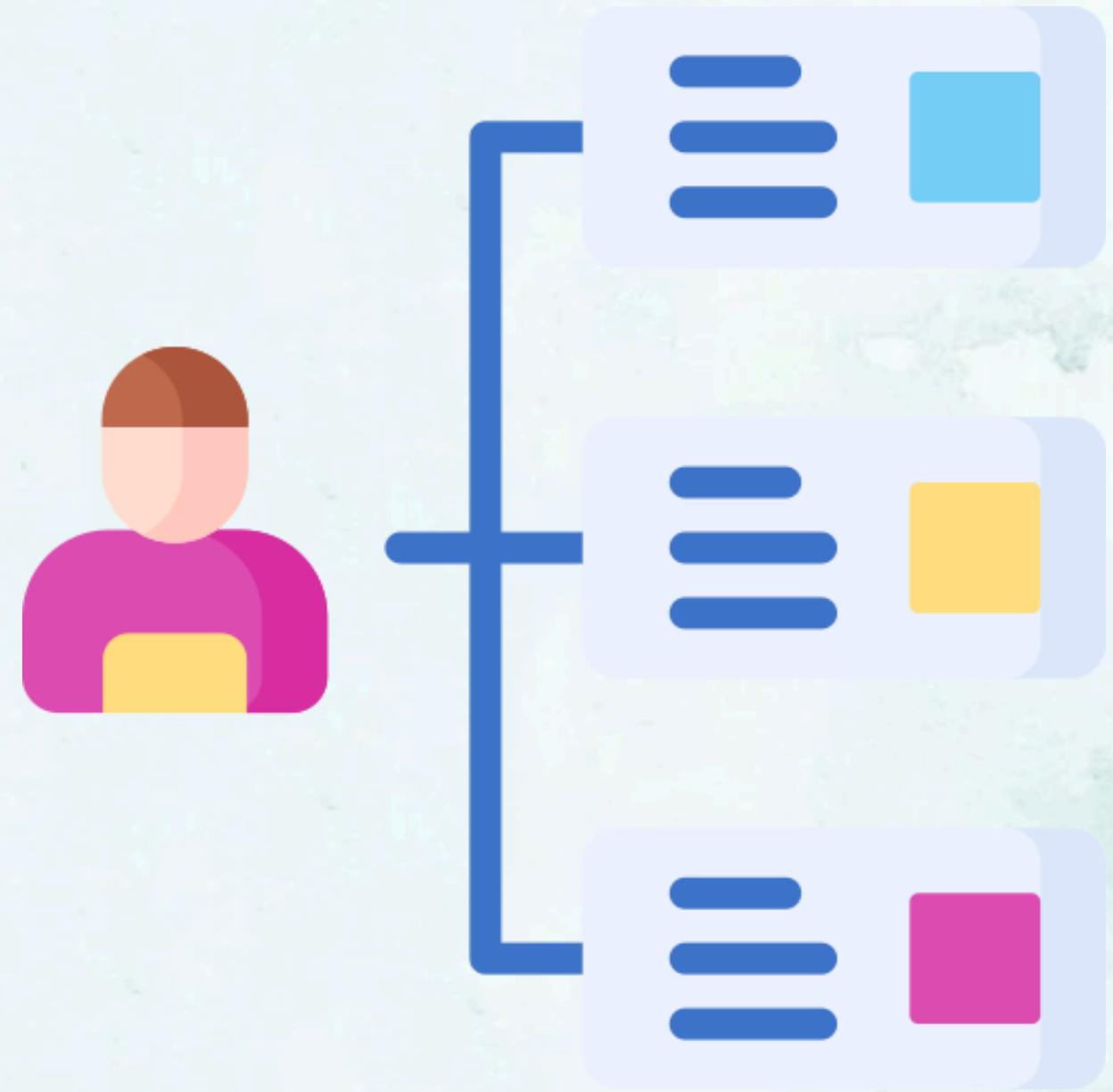
GOALS :

1- Provide an Easy-to-use Flower Identification System: Help beginners and flower enthusiasts identify flowers effortlessly.

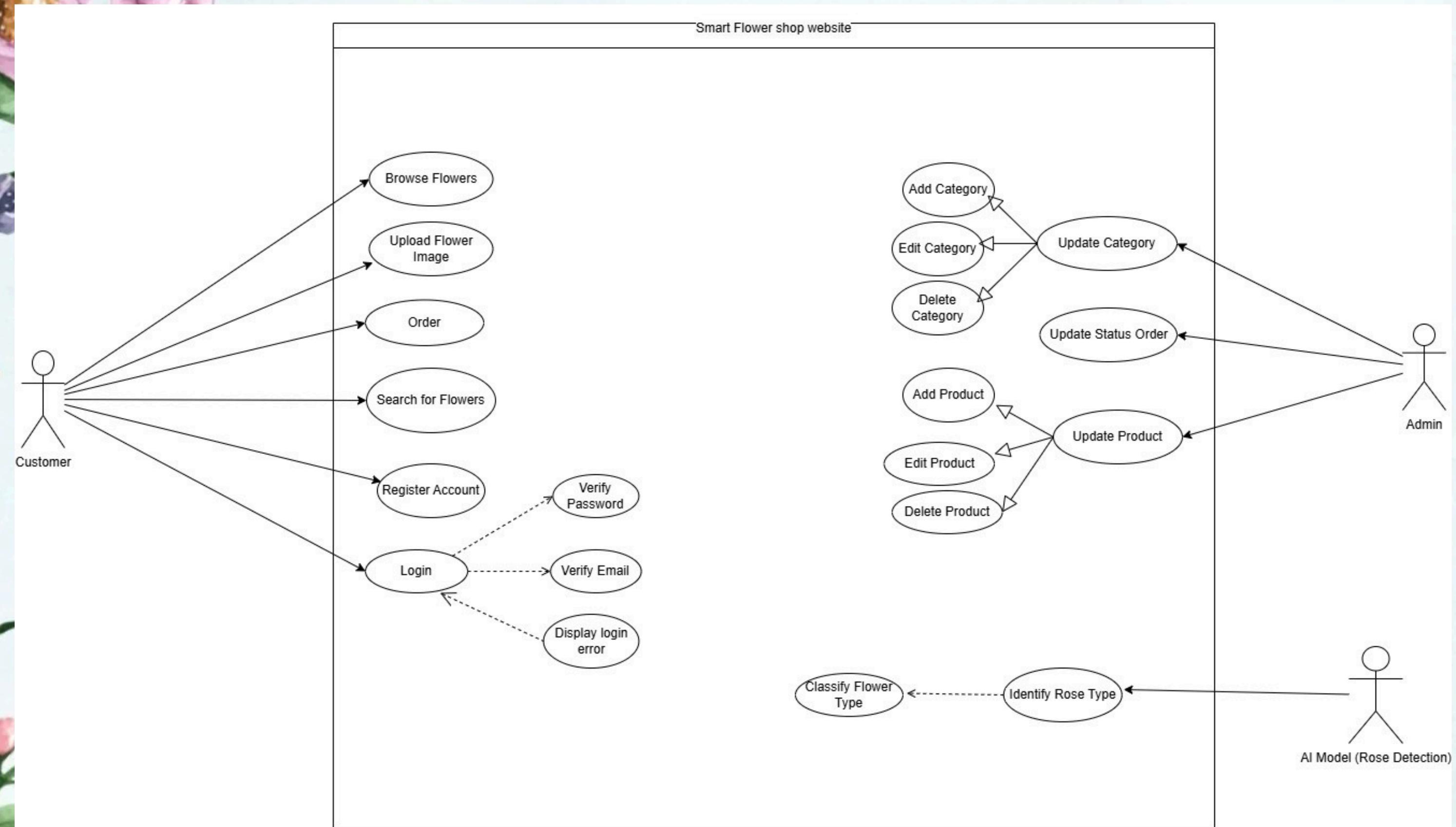
2-Create a Reliable Source for Flower Care: Provide useful information about flowers and essential flower care tips



08-Diagrammes (UseCase)



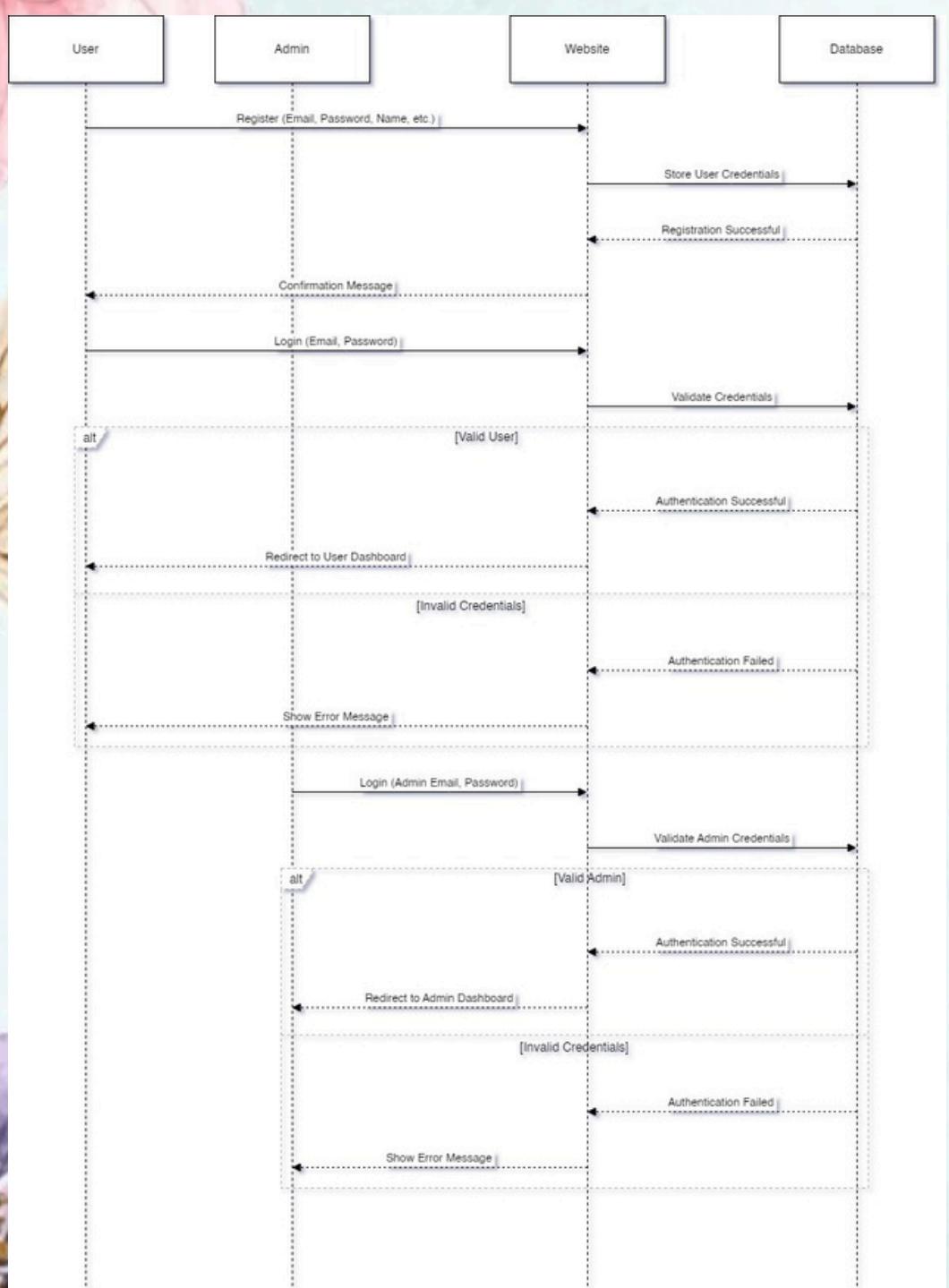
-USECASE



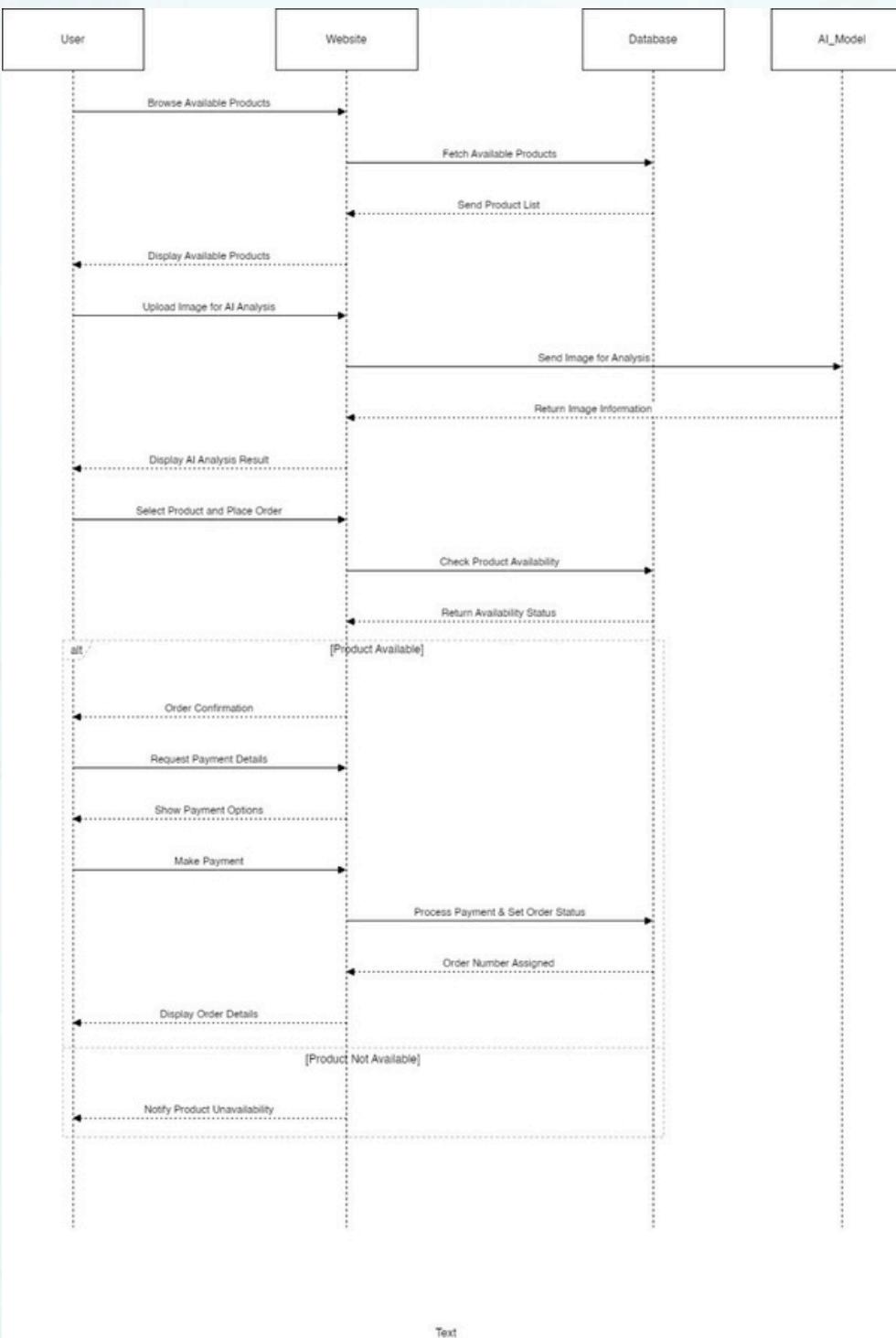
08-DIAGRAMMES (SEQUENCE)



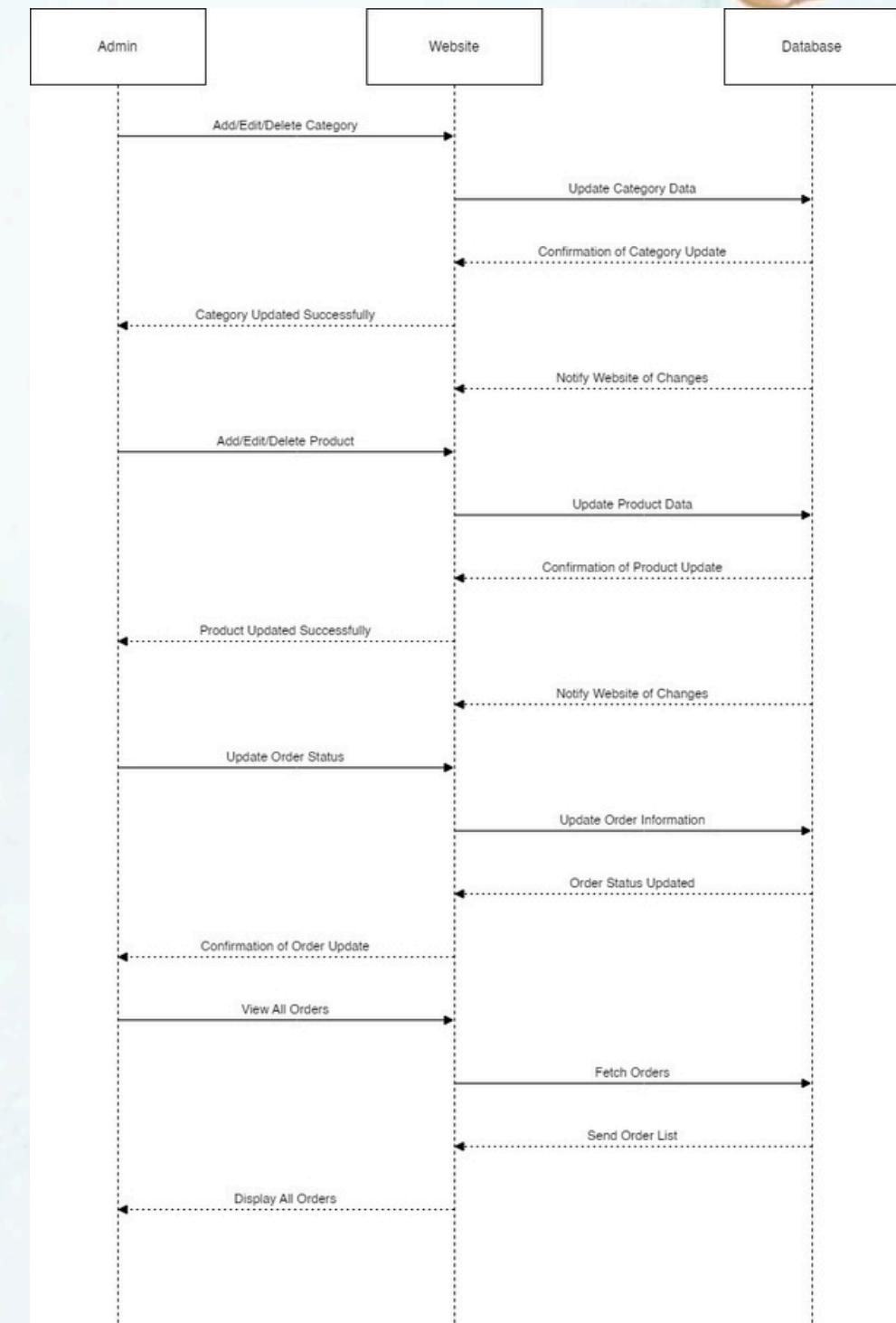
Login



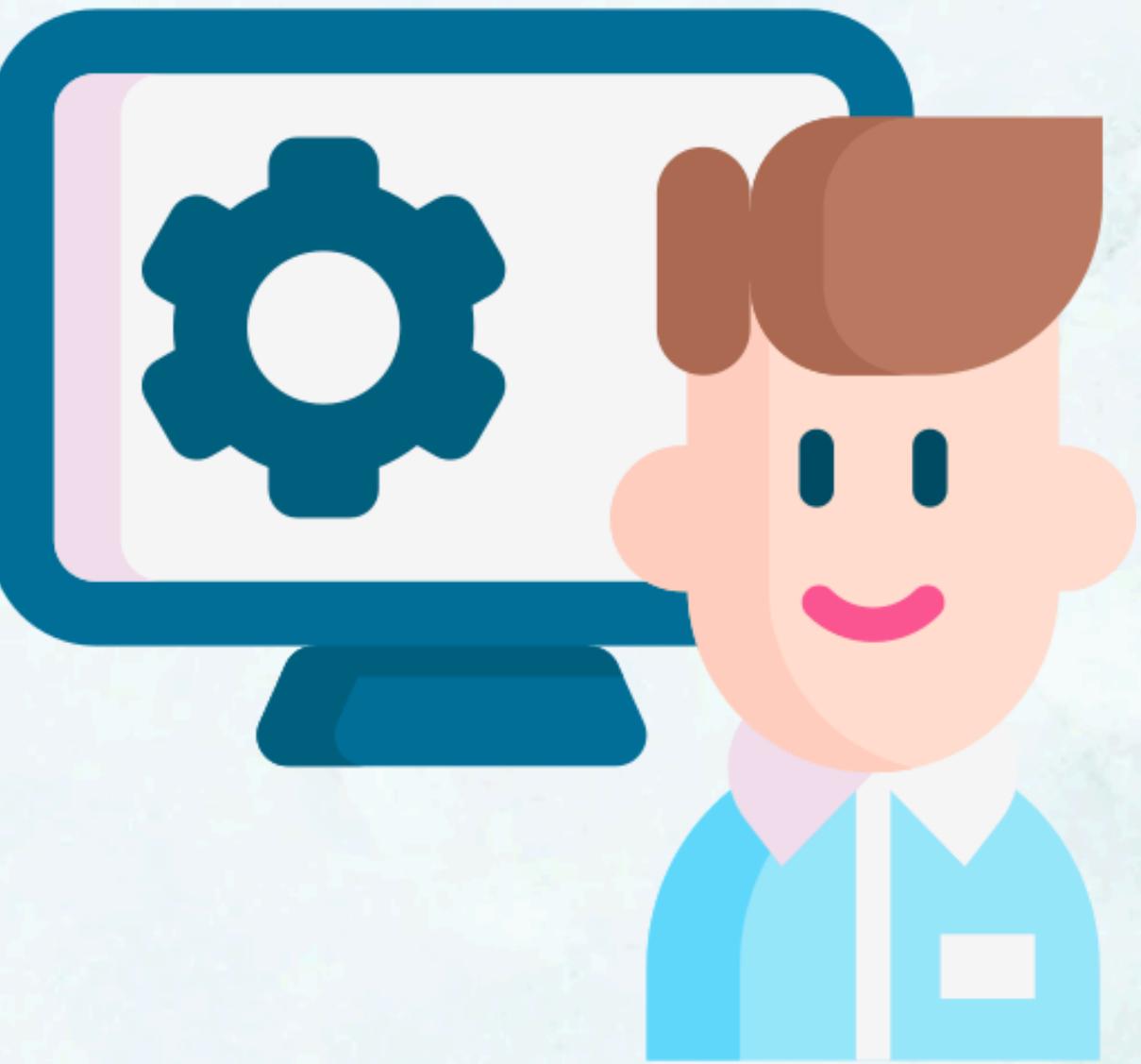
User Role



Admin Role



09.- System-User



Regular Users:

Description:

Individuals who are interested in flowers and gardening, including both beginners and experienced flower enthusiasts.



Goals:

- Identify different types of flowers using the AI tool.
- Access detailed care guides for various flowers .
- Purchase flowers through the e-commerce platform.

09- SYSTEM-USER



10- (Front-End)



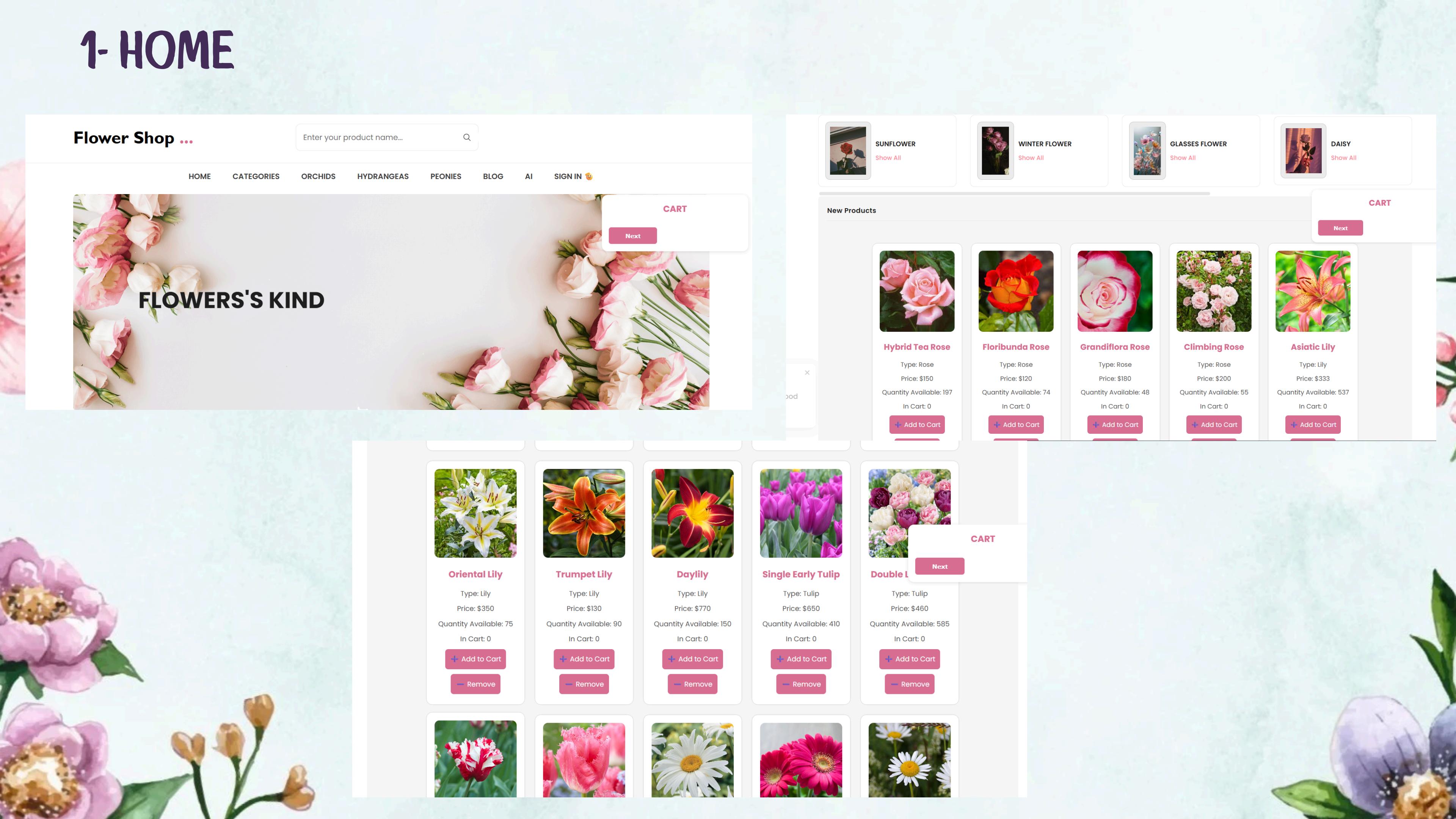
1- HOME

Flower Shop ...

Enter your product name... 

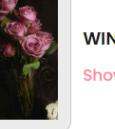
HOME CATEGORIES ORCHIDS HYDRANGEAS PEONIES BLOG AI SIGN IN 

FLOWERS'S KIND

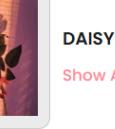


CART  **Next**

SUNFLOWER  **Show All**

WINTER FLOWER  **Show All**

GLASSES FLOWER  **Show All**

DAISY  **Show All**

New Products

Hybrid Tea Rose  **Floribunda Rose**  **Grandiflora Rose**  **Climbing Rose**  **Asiatic Lily** 

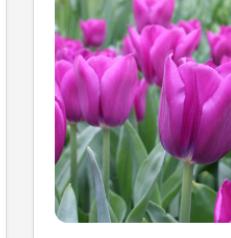
Type: Rose Price: \$150 Quantity Available: 197 In Cart: 0 **Add to Cart**

Type: Rose Price: \$120 Quantity Available: 74 In Cart: 0 **Add to Cart**

Type: Rose Price: \$180 Quantity Available: 48 In Cart: 0 **Add to Cart**

Type: Rose Price: \$200 Quantity Available: 55 In Cart: 0 **Add to Cart**

Type: Lily Price: \$333 Quantity Available: 537 In Cart: 0 **Add to Cart**

Oriental Lily  **Trumpet Lily**  **Daylily**  **Single Early Tulip**  **Double L** 

Type: Lily Price: \$350 Quantity Available: 75 In Cart: 0 **Add to Cart** **Remove**

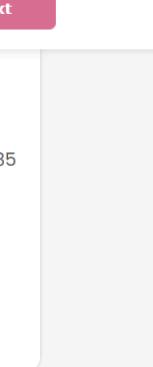
Type: Lily Price: \$130 Quantity Available: 90 In Cart: 0 **Add to Cart** **Remove**

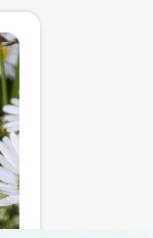
Type: Lily Price: \$770 Quantity Available: 150 In Cart: 0 **Add to Cart** **Remove**

Type: Tulip Price: \$650 Quantity Available: 410 In Cart: 0 **Add to Cart** **Remove**

Type: Tulip Price: \$460 Quantity Available: 585 In Cart: 0 **Add to Cart** **Remove**

CART  **Next**

Double L  **Single Early Tulip**  **Daylily**  **Trumpet Lily**  **Oriental Lily** 

Double L  **Single Early Tulip**  **Daylily**  **Trumpet Lily**  **Oriental Lily** 

Your Cart

Daylily
Quantity: 1
Price: \$770.00

Single Early Tulip
Quantity: 1
Price: \$650.00

Total: \$1420.00

Checkout

← Back to Home

Your Cart

Daylily
Quantity: 1
Price: \$770.00

Single Early Tulip
Quantity: 1
Price: \$650.00

Enter your location

Done

Checkout

Your Cart

Daylily
Quantity: 1
Price: \$770.00

Single E
Quantity: 1
Price: \$650



Order Confirmed!

Order #32 has been created.

OK

Your Cart

Your cart is empty.

Total: \$0.00

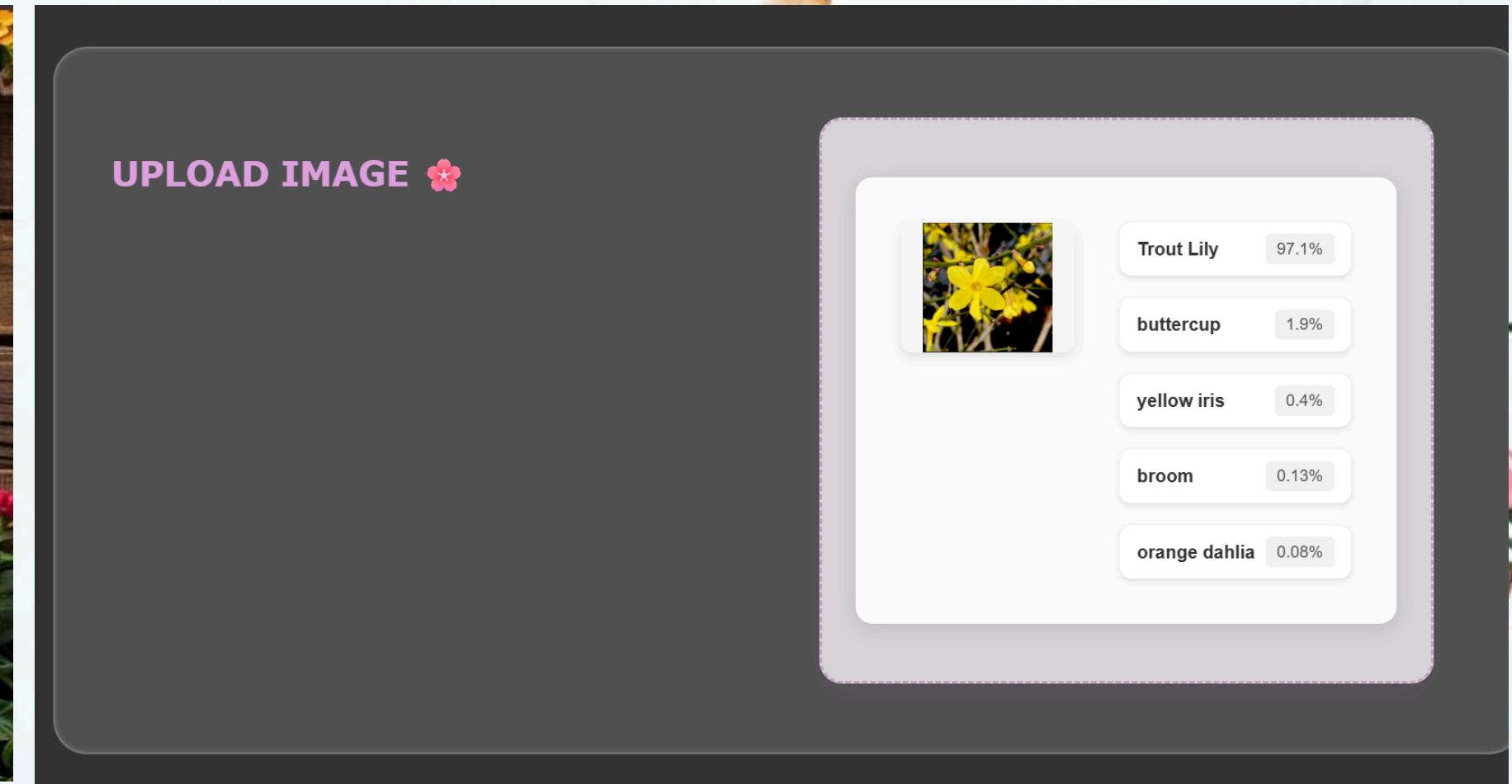


Order Cancelled

Order canceled successfully.

OK

2- AI PAGE :



About Us

WHO WE ARE?

"AI can analyze a flower by identifying its species, color, shape, and size. It can also detect features like the texture of the petals and leaves, the arrangement of the petals, and the overall structure. The AI uses these details to classify the flower into its correct category, such as a rose, tulip, or lily. It can also provide information about the flower's origin, ideal growing conditions, and even its symbolism or uses in different cultures."

An illustration of a green field with a tractor and a person. Overlaid is a network of icons representing various agricultural and technological concepts like irrigation, soil analysis, and data processing.

3- CARE PAGE

Forms of Sunflowers

These sunflowers add beauty to gardens and landscapes while providing essential benefits to the ecosystem.

Giant Sunflower

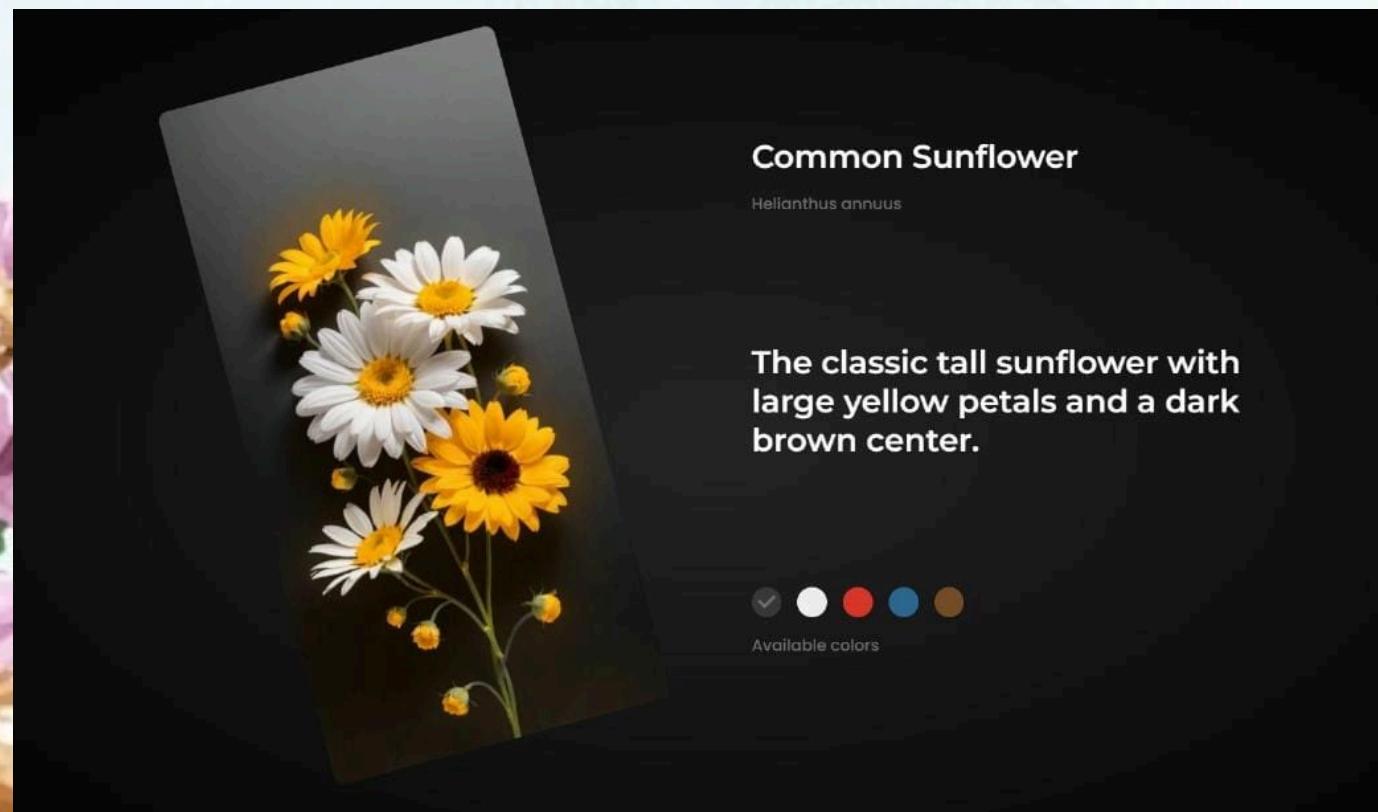


Iceberg Floribunda SunFlower



Autumn Beauty Sunflower







Care: Water consistently but allow the soil to dry slightly between waterings. Prune lightly to encourage new blooms

Sunlight: Needs at least 6 hours of full sun daily

Soil: Thrives in well-drained, loamy soil

Season: Blooms in flushes from spring to fall



Care: Water deeply once or twice a week. Stake tall stems for support

Sunlight: Requires full sun (at least 6–8 hours daily)

Soil: Prefers well-drained, nutrient-rich soil

Season: Blooms in mid to late summer



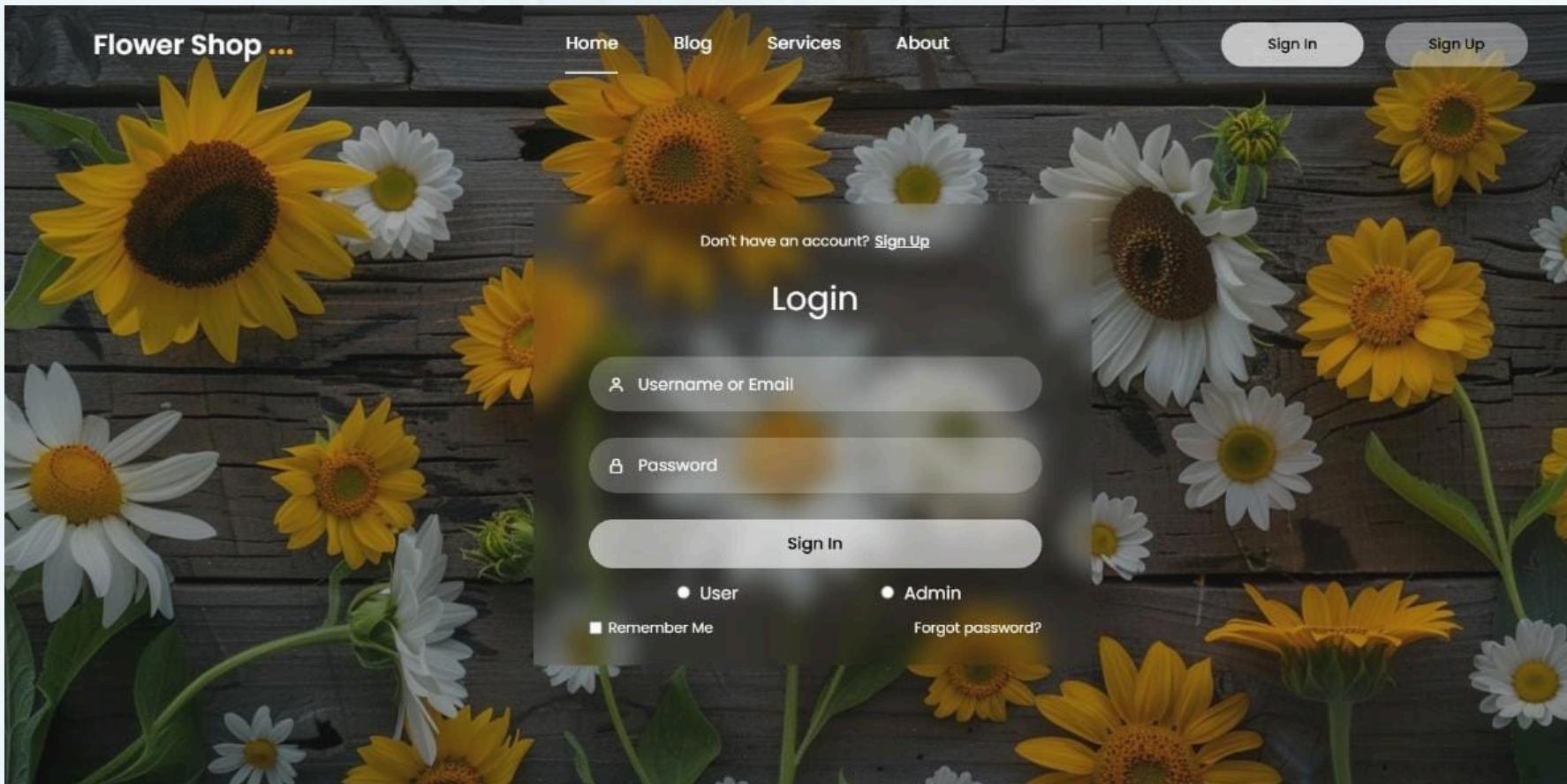
Care: Keep soil moist during early growth, then water weekly. Deadhead to extend bloom

Sunlight: Needs full sunlight throughout the day

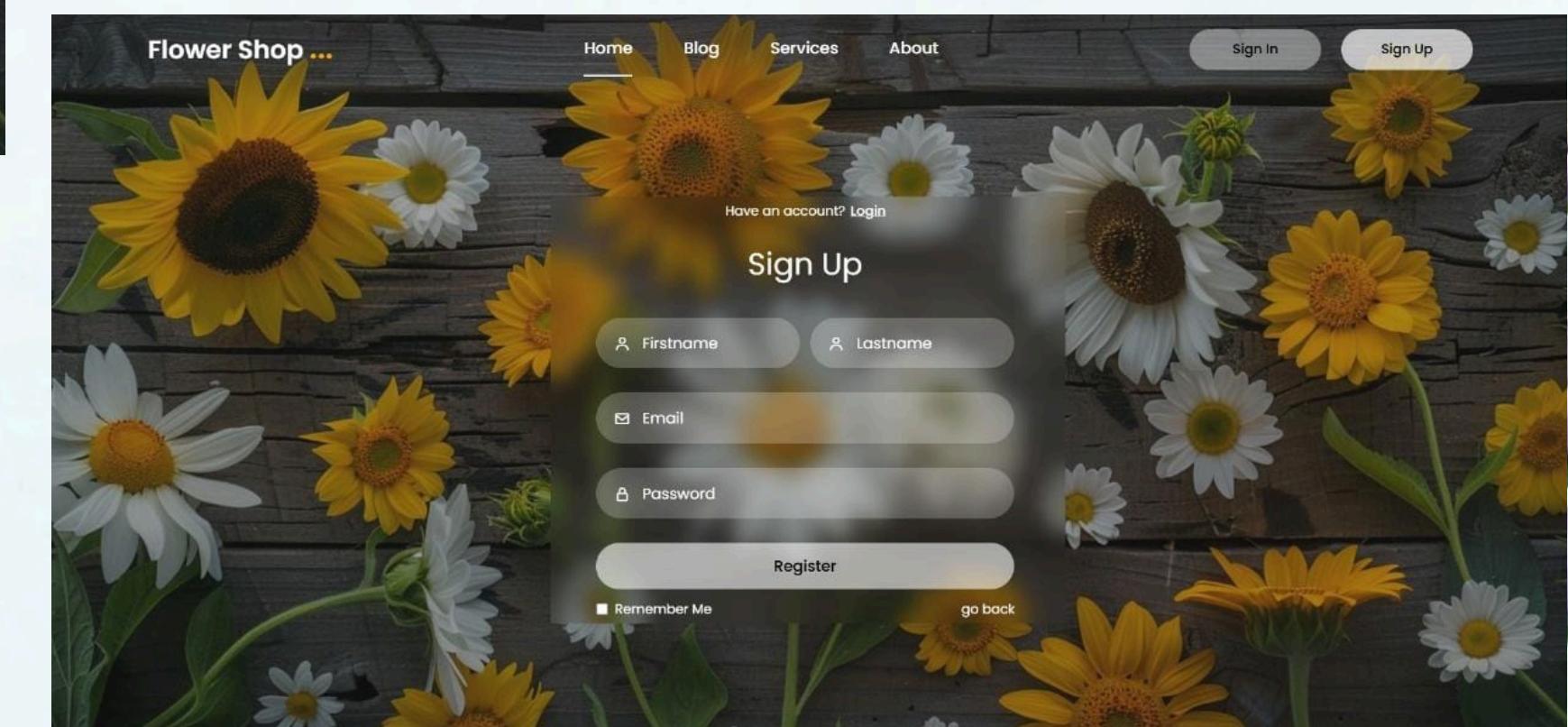
Soil: Grows best in well-draining, loamy soil

Season: Blooms from mid-summer to fall

4- SIGN IN & SIGN UP PAGE



The login page for the Flower Shop website. The background features a rustic wooden texture with a cluster of sunflowers and white daisies. At the top, there's a navigation bar with links for Home, Blog, Services, About, Sign In (highlighted in blue), and Sign Up. A modal window titled "Login" is centered, containing fields for "Username or Email" and "Password", a "Sign In" button, and radio buttons for "User" and "Admin". There's also a "Forgot password?" link and a "Remember Me" checkbox.



The sign up page for the Flower Shop website. The background is the same rustic wooden texture with flowers. At the top, there's a navigation bar with links for Home, Blog, Services, About, Sign In, and Sign Up (highlighted in blue). A modal window titled "Sign Up" is centered, containing fields for "Firstname" and "Lastname", "Email", "Password", a "Register" button, and a "Remember Me" checkbox. There's also a "go back" link at the bottom right of the modal.

5-DashBord

AdminSite

Dashboard

MAIN

- categories >
- products >
- order >
- Register New Admin

[Back to home](#)

Categories Section

- Get All Categories**
- Add Category**
- Delete Category**
- Update Category**

products Section

127.0.0.1:5502/admin-site-master/admin.html#



AdminSite

Dashboard

MAIN

- categories >
- products >
- order >
- Register New Admin

[Back to home](#)

products Section

- Search Product by ID**
- Add New Product**
- Delete Product**
- Update Product**

role Section

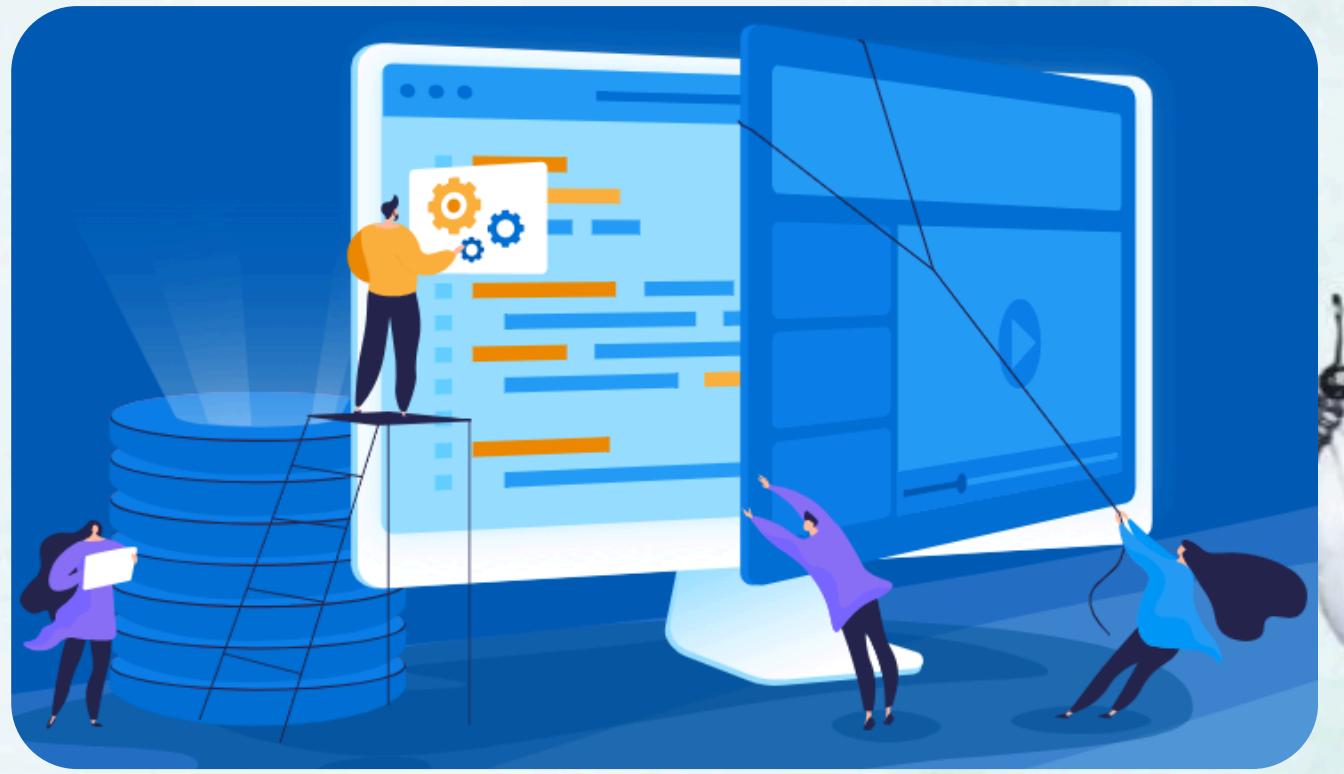
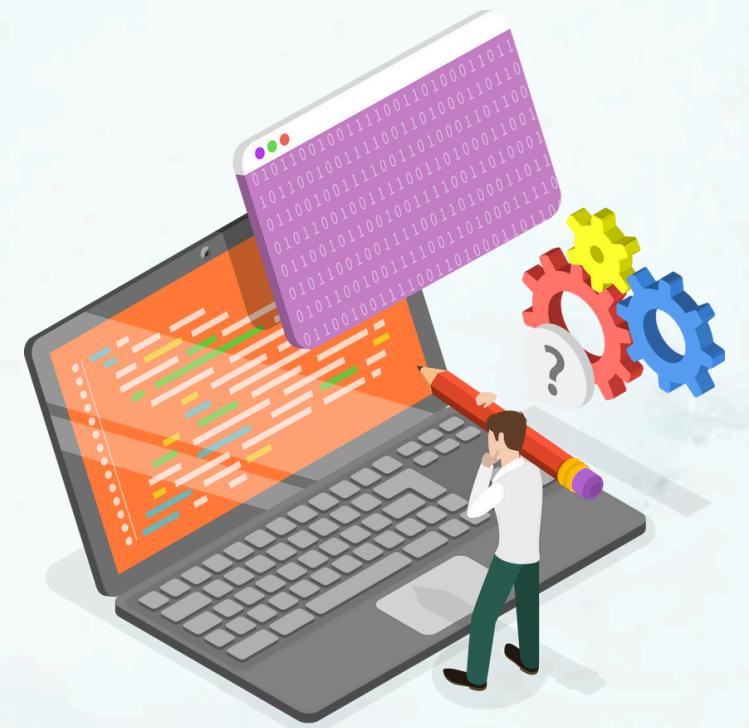
Role Name

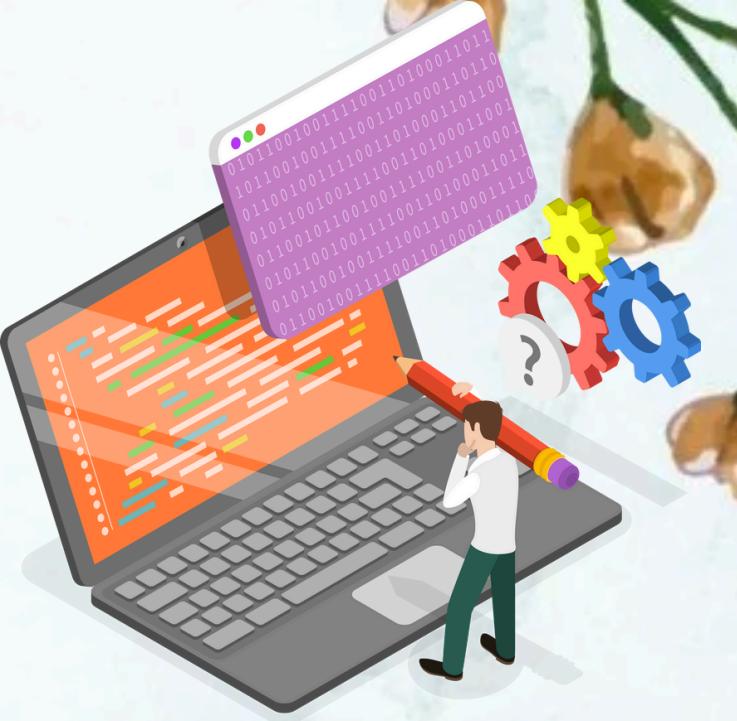
order Section

- Get Order By ID**
- Update Order Status**

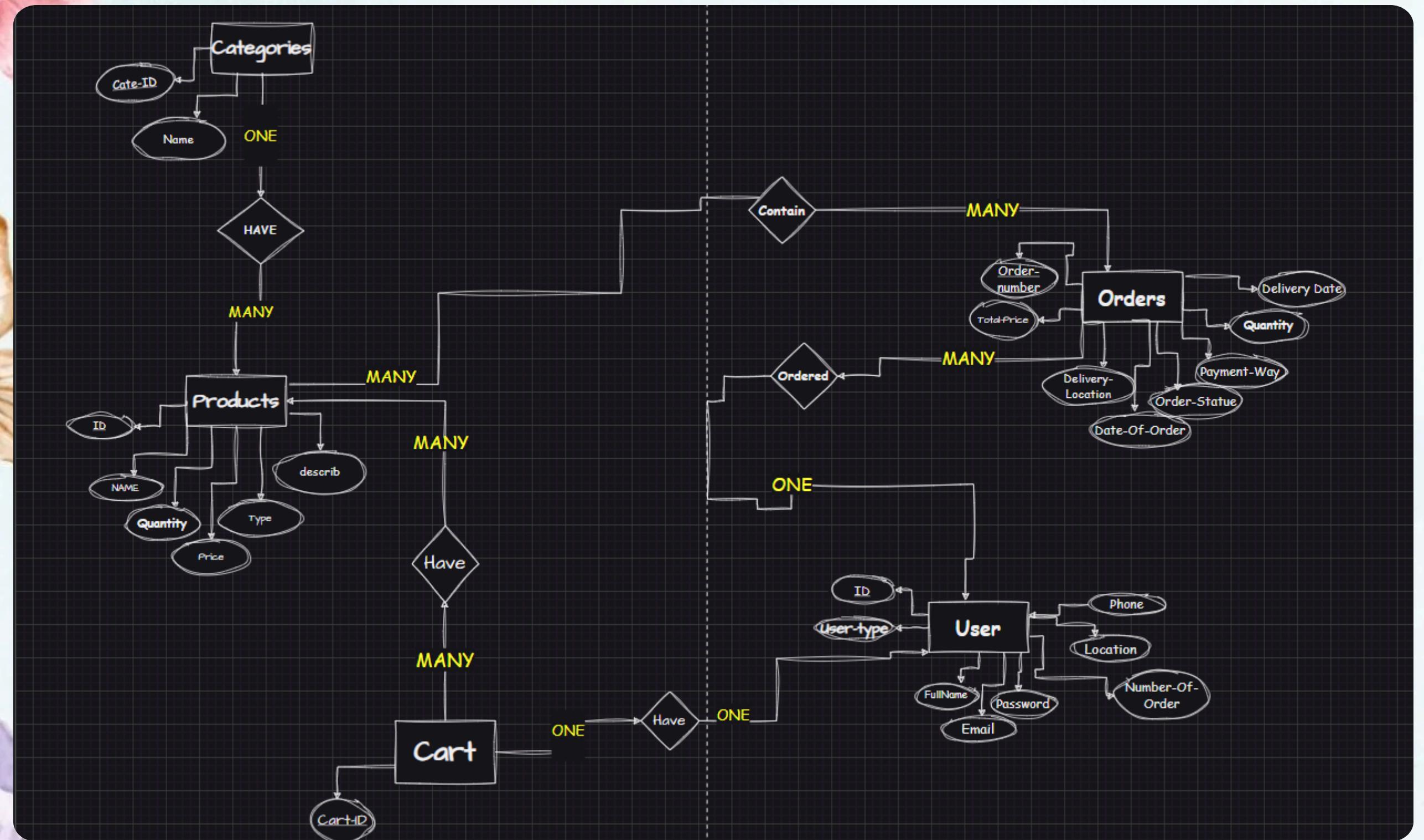
127.0.0.1:5502/admin-site-master/admin.html#

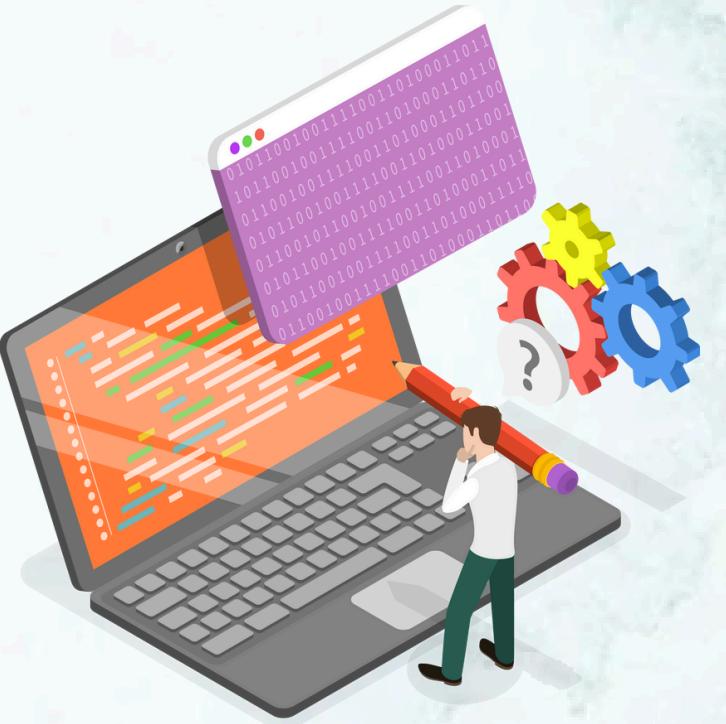
11- (BACK-END)





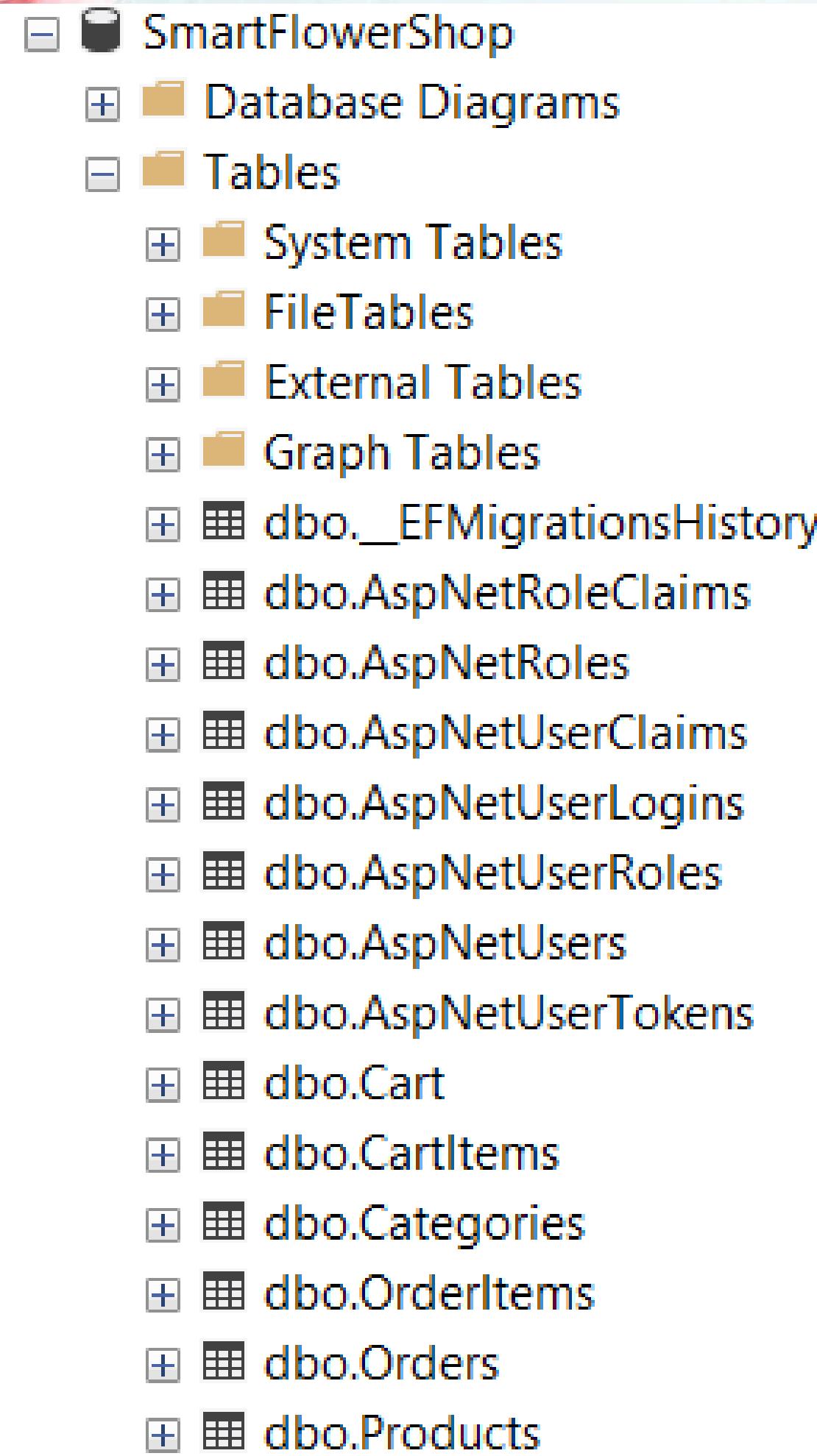
ERD





Schema





Implementation DataBase



Smart-Flower-Shop 1.0 OAS3

http://localhost:5035/swagger/v1/swagger.json

Account

POST /api/Account/UserRegister

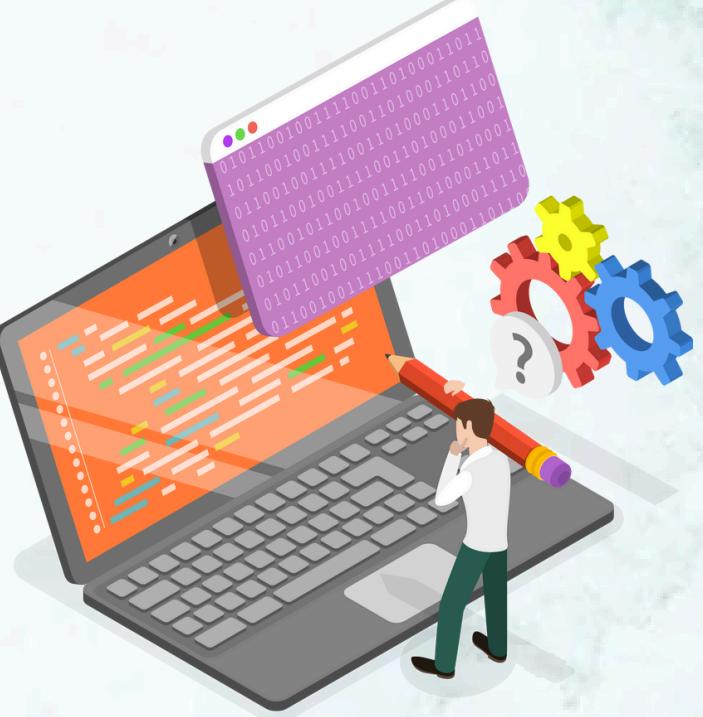
POST /api/Account/AdminRegister

POST /api/Account/AdminLogin

POST /api/Account/UserLogin

GET /api/Account/GetUsersCount

APIS-EndPoint



Cart

POST /api/cart/AddProduct/{id}

GET /api/cart/GetCart

DELETE /api/cart/RemoveProduct/{id}

Category

GET /api/Category/GetAllCategories

POST /api/Category/AddCategory

PUT /api/Category/UpdateCategory/{id}

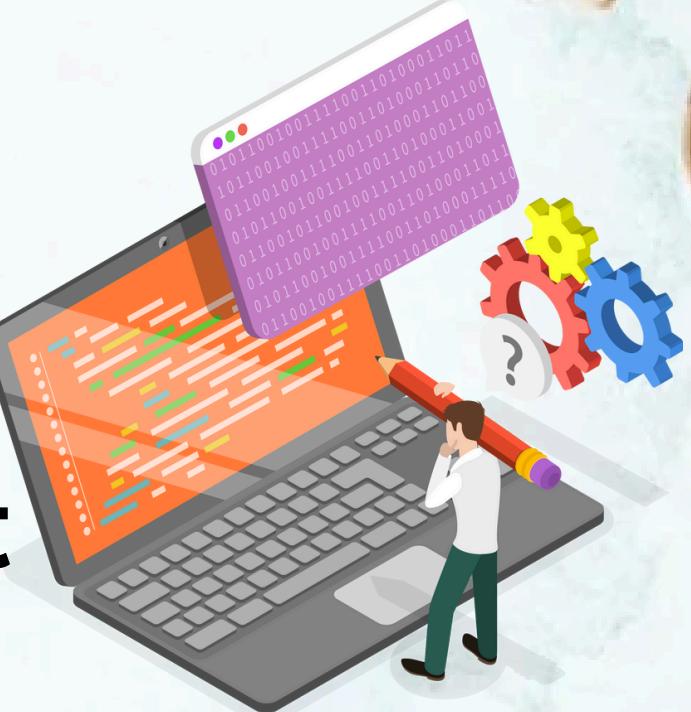
DELETE /api/Category/DeleteCategory/{id}

Order

- POST** /api/Order/AddOrder
- GET** /api/Order GetAllOrders
- GET** /api/Order/GetOrdersCount
- GET** /api/Order/GetPendingOrdersCount
- GET** /api/Order/GetDeliveredOrdersCount
- GET** /api/Order/GetOrderById/{id}

- PUT** /api/Order/CancelOrder/{id}
- PUT** /api/Order/UpdateOrderStatus/{OrderId}

Cont.APIS-EndPoint



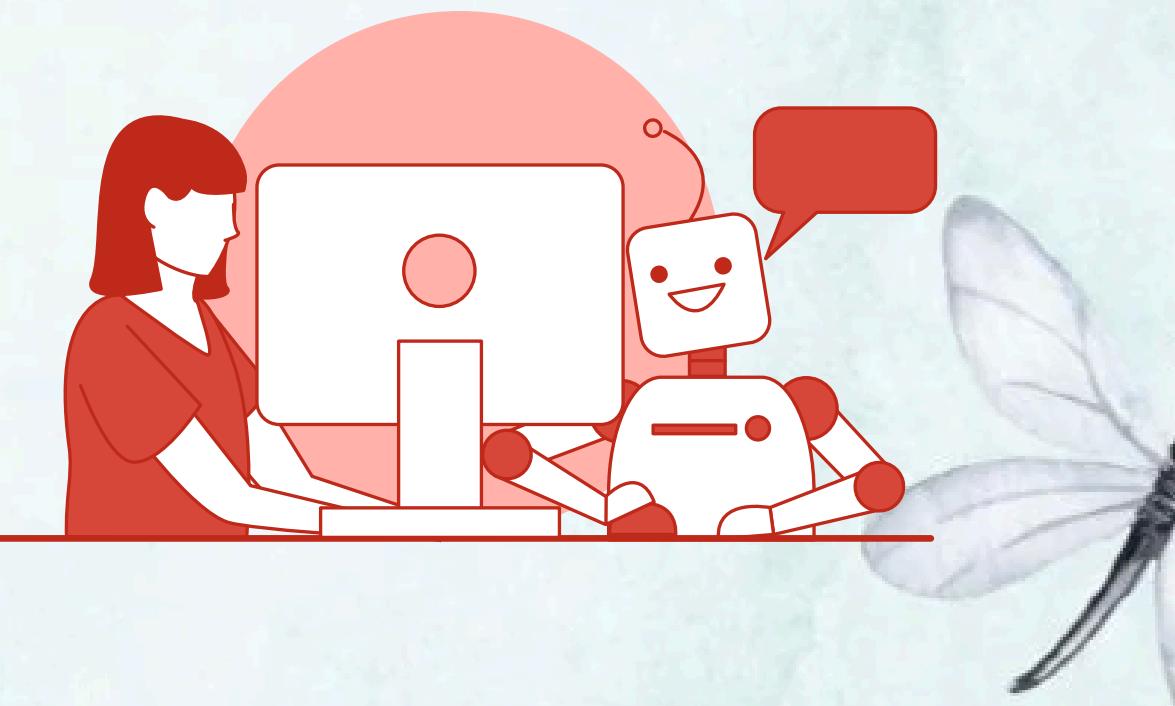
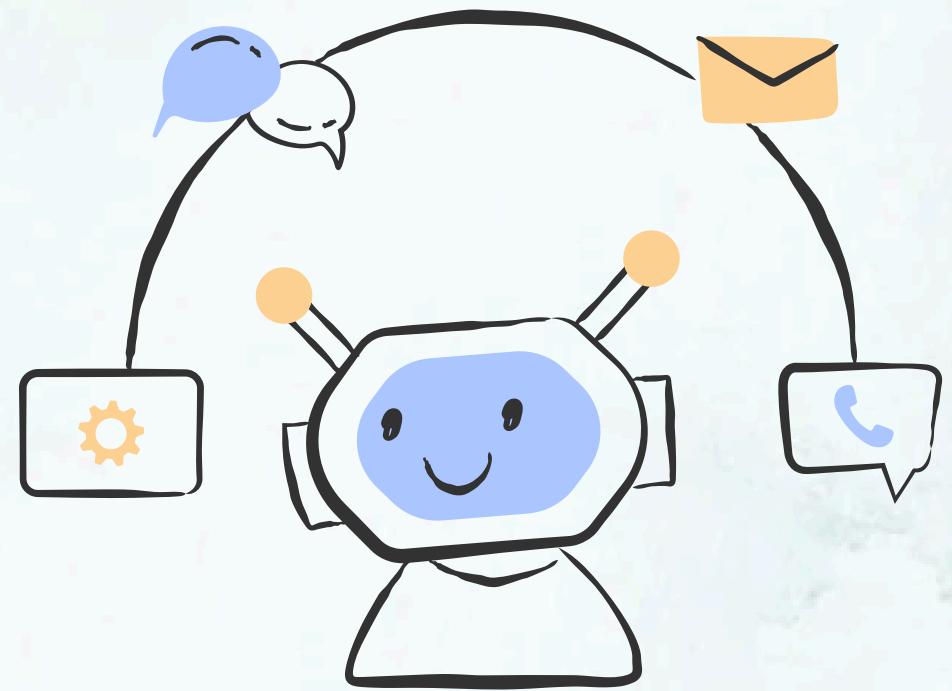
Products

- GET** /api/Products/GetHomeFlowers
- GET** /api/Products/{id}
- PUT** /api/Products/{id}
- DELETE** /api/Products/{id}
- POST** /api/Products/AddNewProduct
- GET** /api/Products/SearchByName
- GET** /api/Products/CareProductsByType

Role

- POST** /api/Role/create-role

12- (AI)



DATASET OVERVIEW

- **Total Classes:** 100
- **Training Data:** 11,861 images (75%)
- **Validation Data:** 2,349 images (15%)
- **Testing Data:** 1,670 images (10%)

IMAGE PREPROCESSING

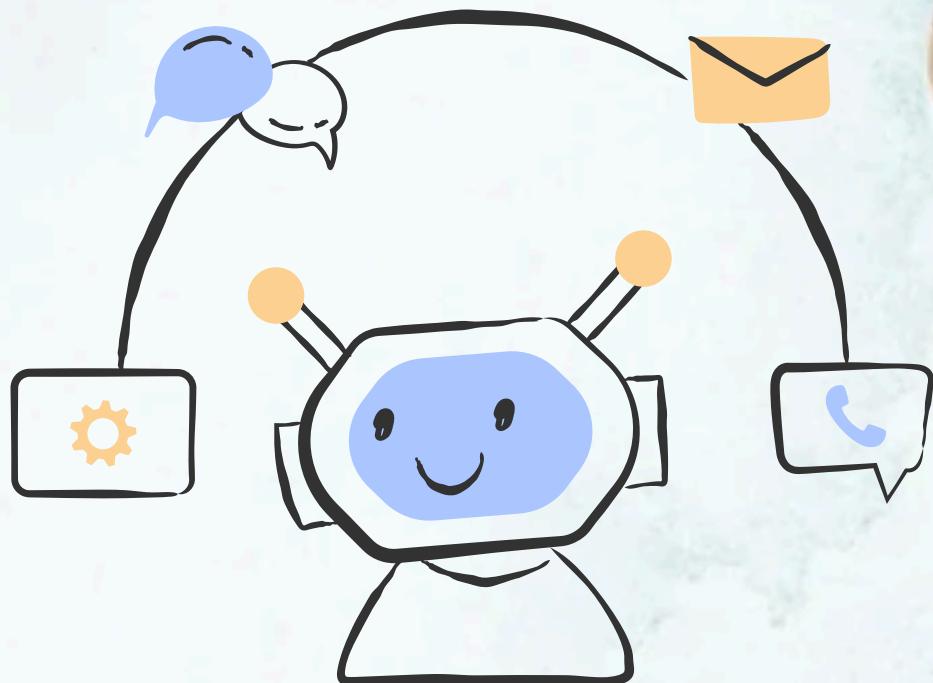
Resizing: Images are resized to 256×256 .

Normalization: Pixel values are scaled to the range $[0, 1]$.

Data Augmentation :

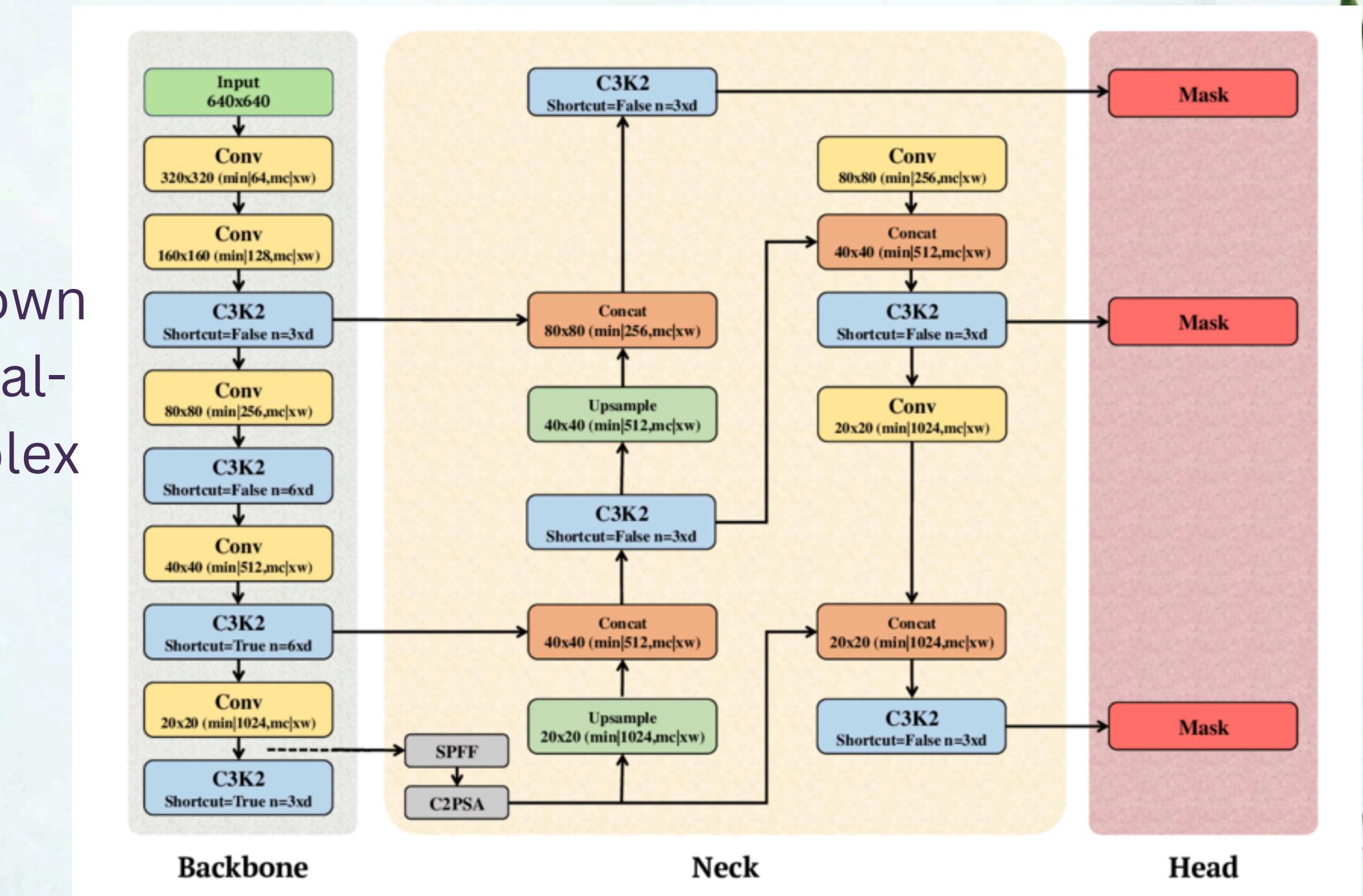
- Horizontal Flip
- Shifting
- Brightness Adjustment
- Zooming

Note that after data augmentation, the total number of training images processed over 50 epochs is 593,050.



MODEL ARCHITECTURE:

- **Model Used:** YOLOv11x, a cutting-edge, extra-large object detection model known for its high accuracy and real-time performance on complex visual tasks.
- **parameters:** 56.9 million



ACCURACY OF YOLOV11:

Validation Accuracy

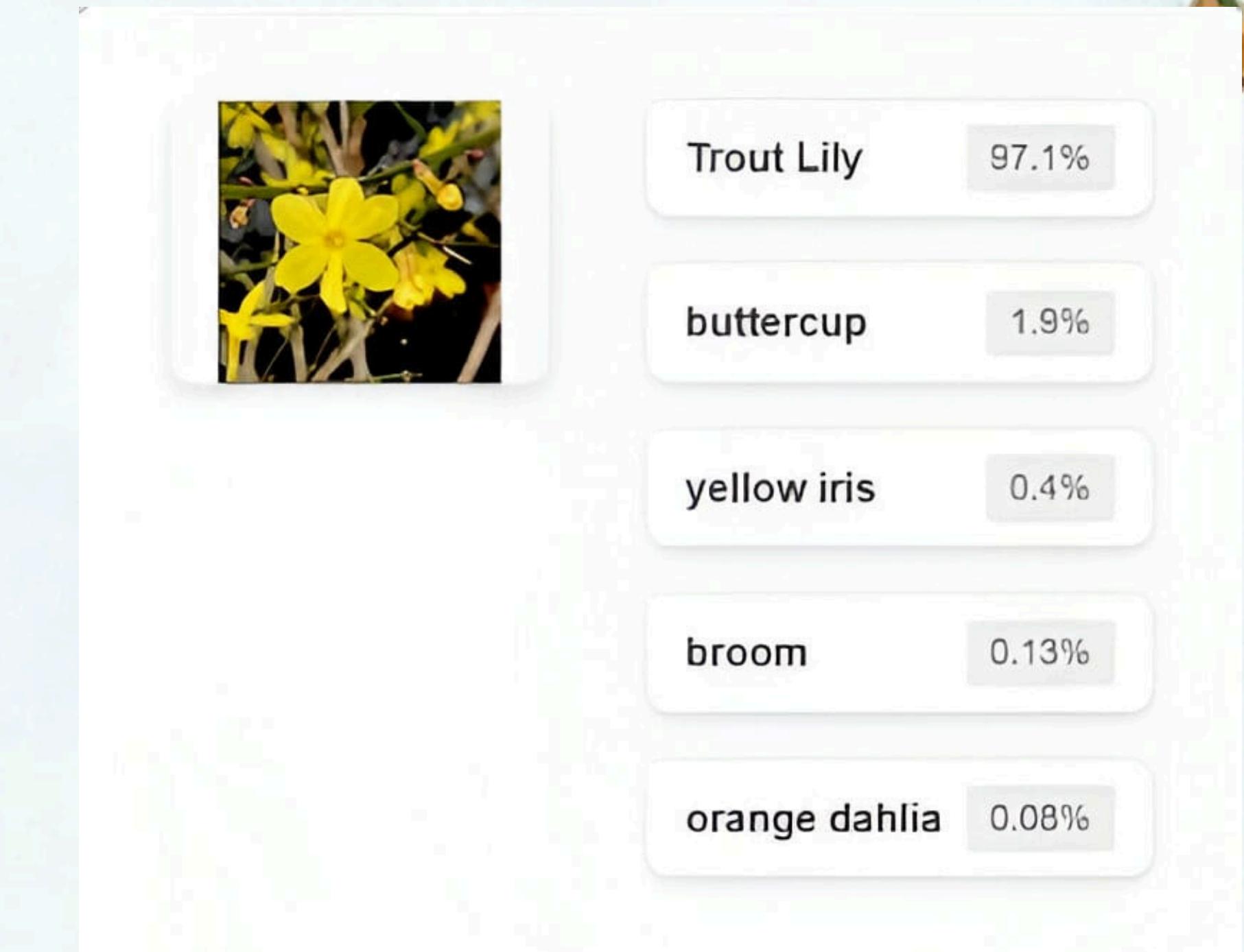
Top-1 Accuracy: 98.7%

Top-5 Accuracy: 99.9%

Testing Accuracy

Top-1 Accuracy: 98.3%

Top-5 Accuracy: 99.8%



MODEL COMPARISON:

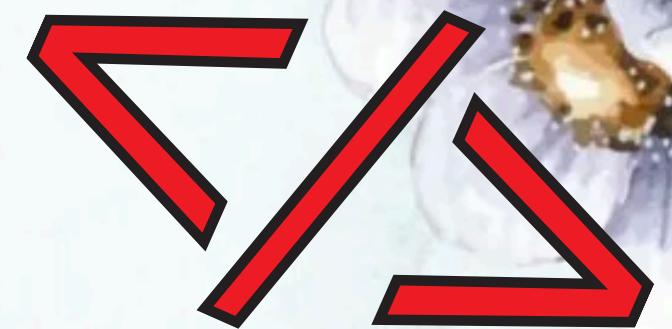
| Model | Image Resolution | Epochs | Validation Accuracy | Testing Accuracy |
|----------------|------------------|--------|---------------------|------------------|
| VGG16 | 299x299 | 60 | 84% | 83% |
| EfficientNetB2 | 224x224 | 50 | 87% | 87% |
| InceptionV3 | 512x512 | 80 | 93% | 91.4% |
| YOLOv11n | 256x256 | 50 | 98% | 97% |
| YOLOv11x | 256x256 | 50 | 99% | 98% |

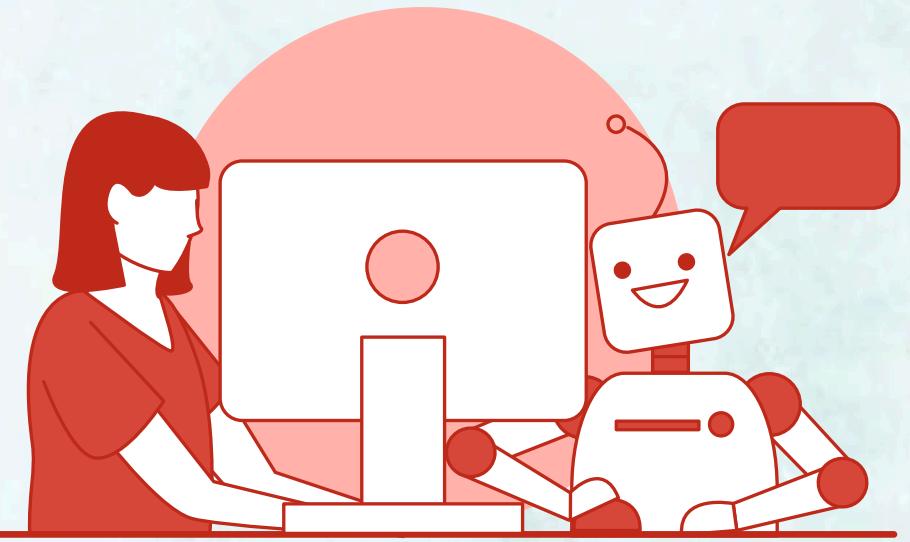
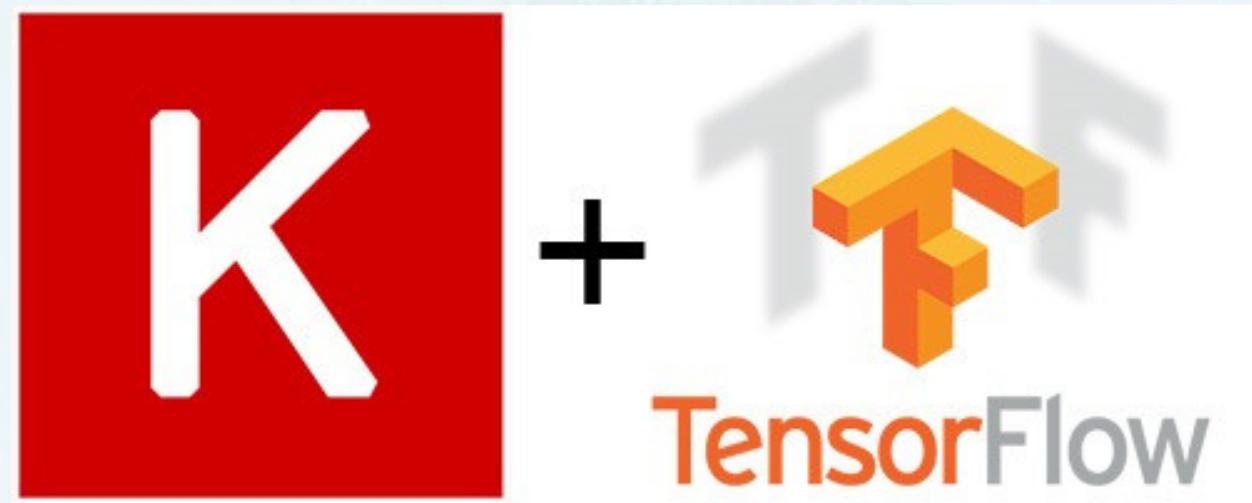
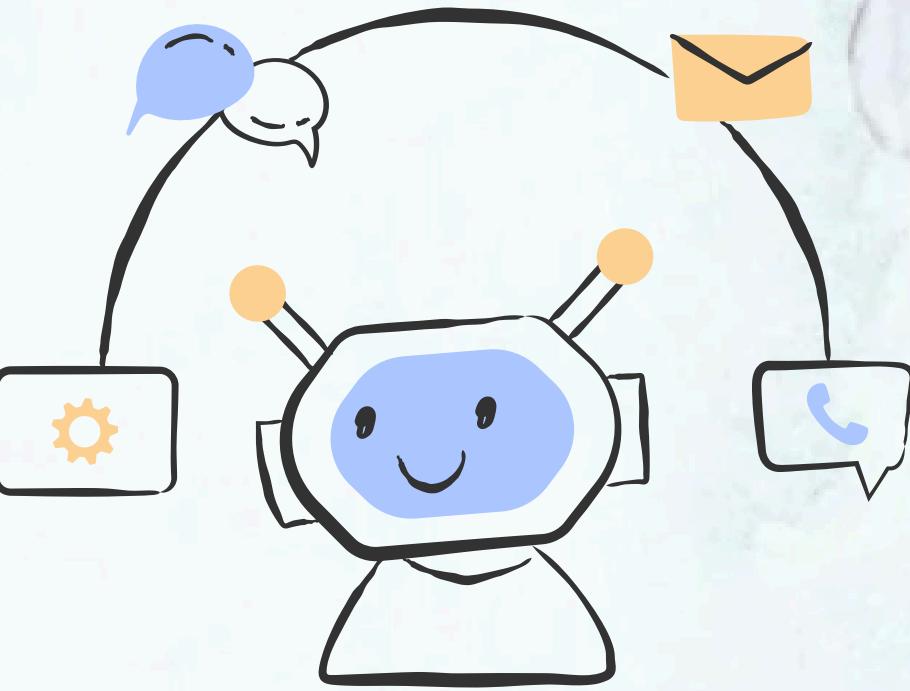
YOLOv11n is ideal for mobile apps due to its lightweight design, enabling fast, real-time inference with minimal resources.

13-Technology

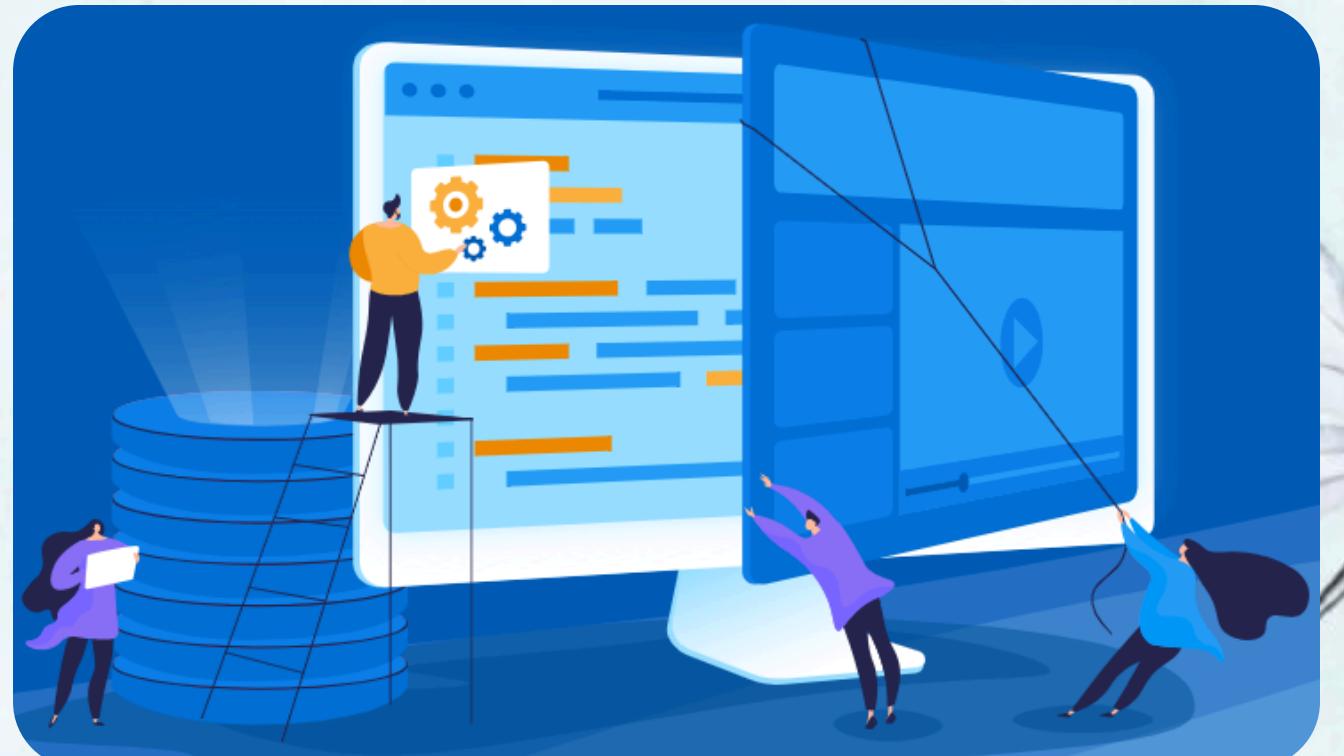
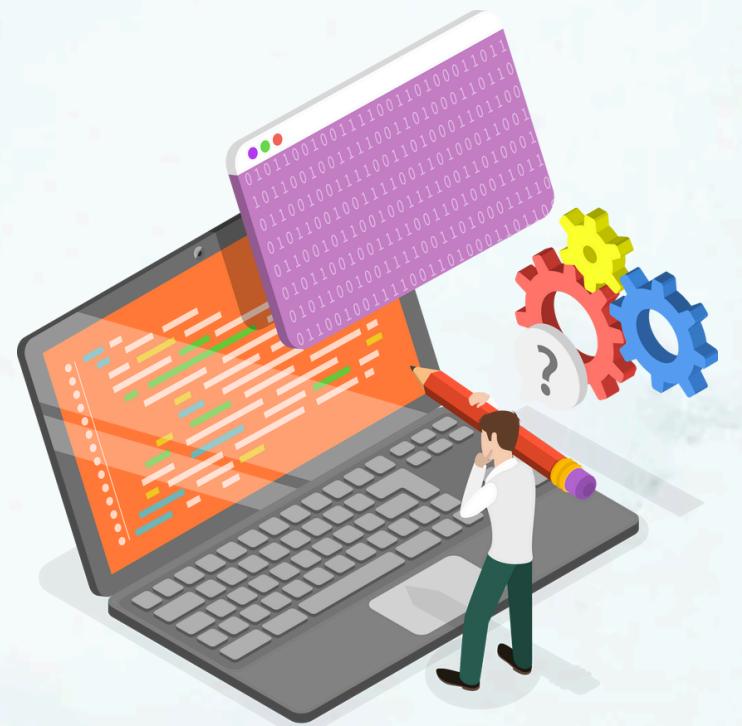
</>







14- COMPLETED TASKS



14- Tasks

🚀 Frontend Development

- ➤ complete Tasks:
- Admin Dashboard Page
- Shopping Page

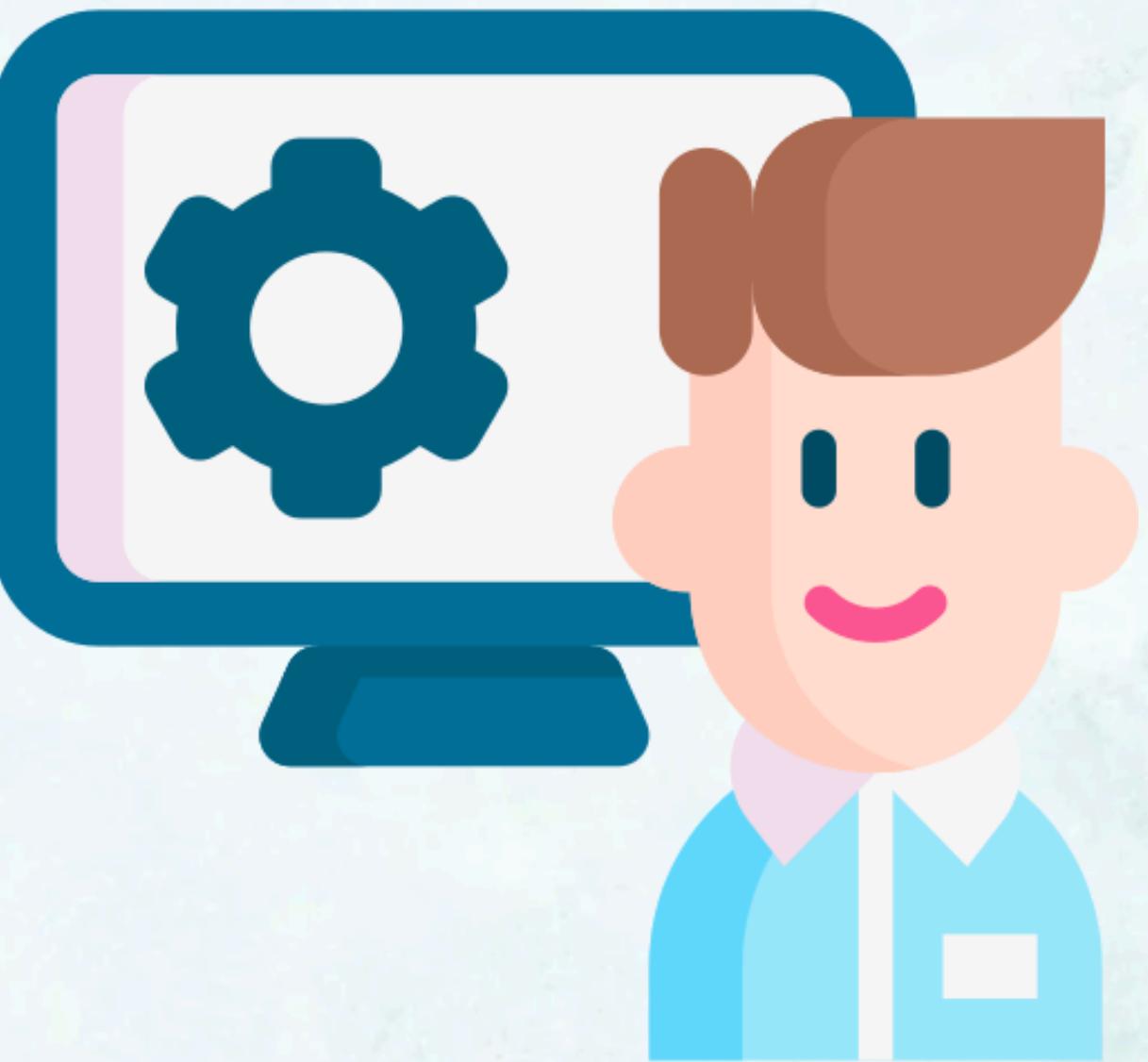
🔧 Backend Development

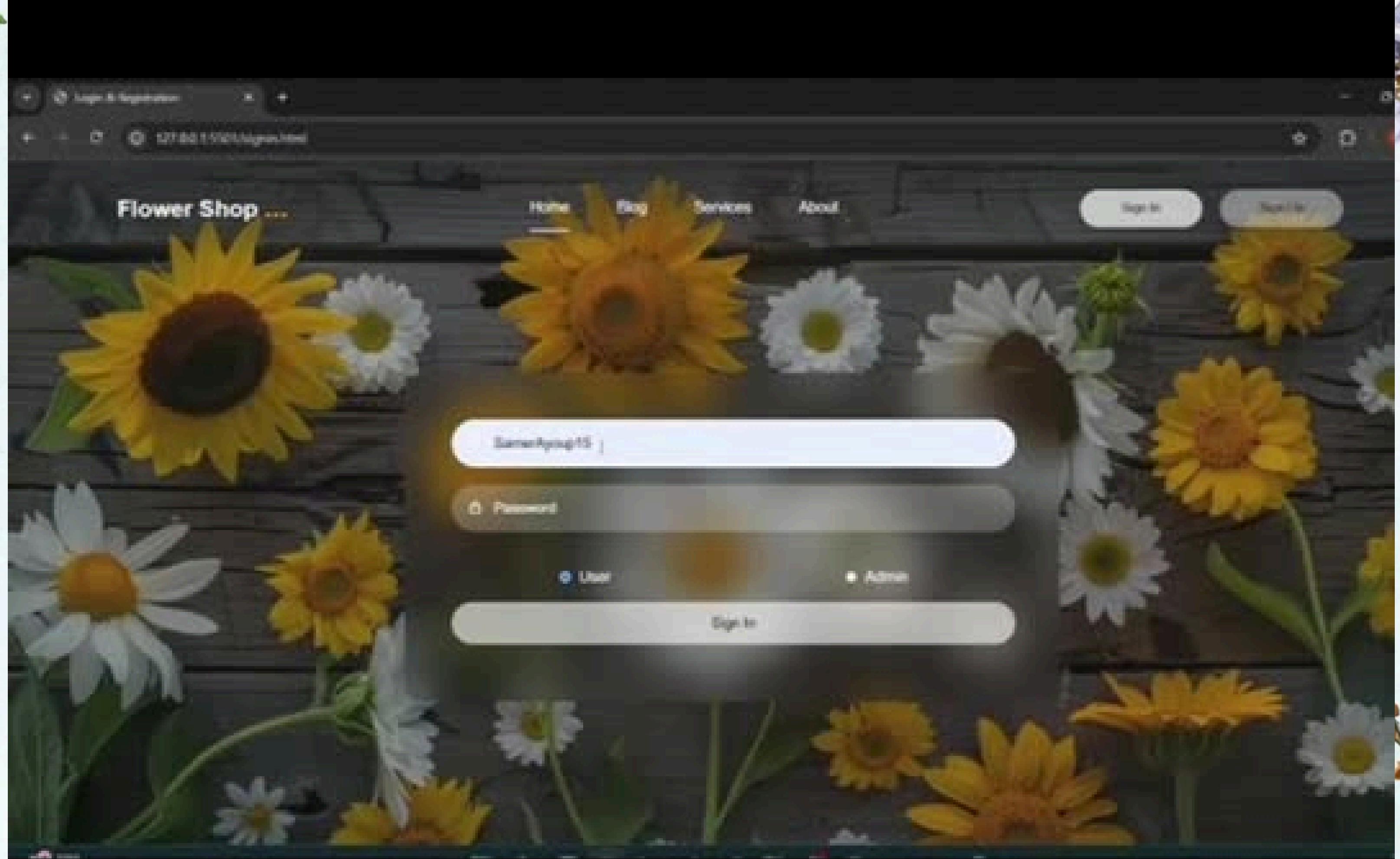
- ➤ complete Tasks :
- . implementation

🤖 AI Integration

- ➤ Model Improvements:
- Enhancing Accuracy of Flower Classification
- Optimizing Response Time for Faster Predictions

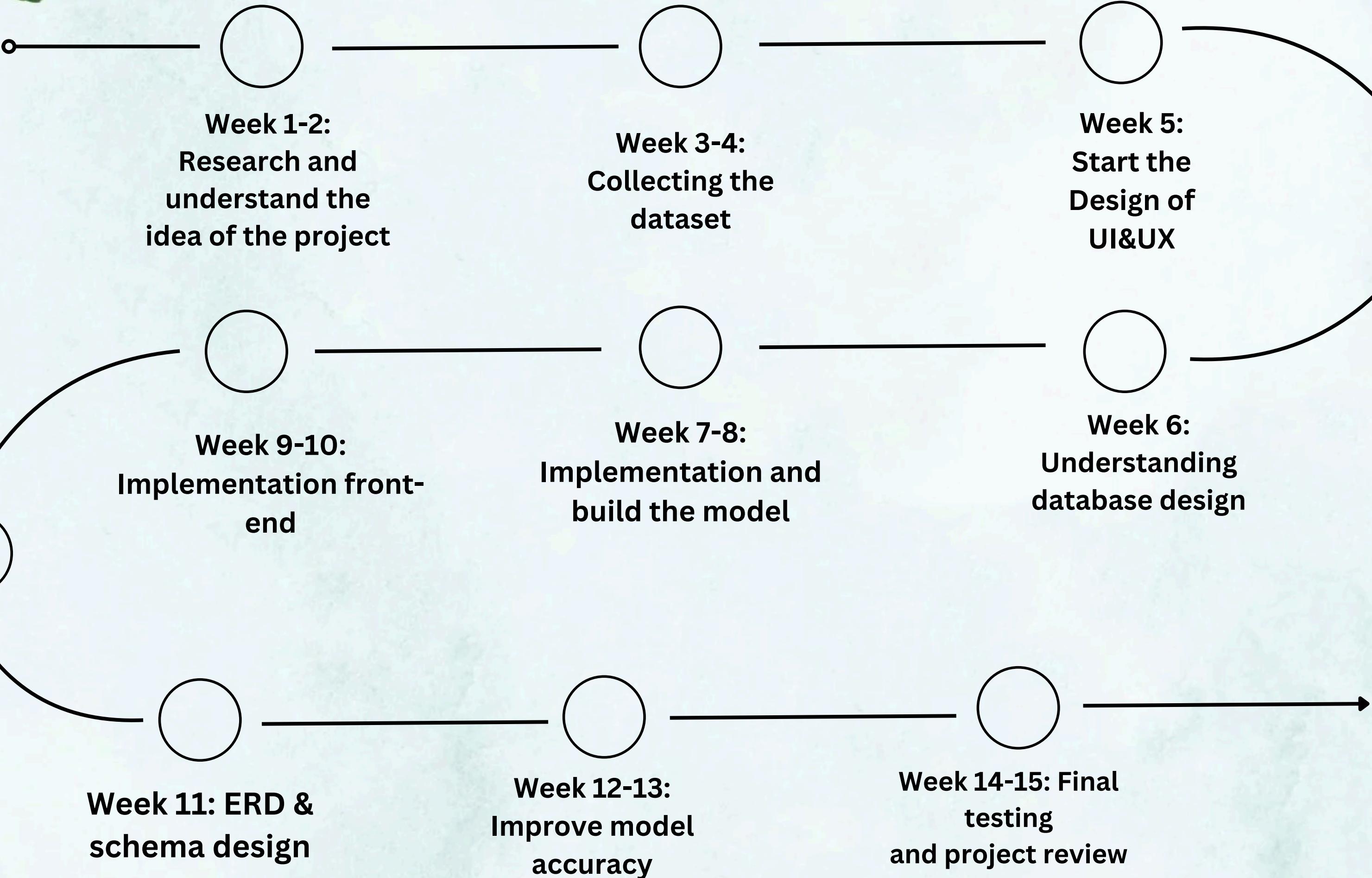
15- Demo





16-Time Plan





17- Future Work



16. Future Work

To expand the accessibility and functionality of the platform, the following enhancements are proposed:

Mobile Application Development

Currently, the platform is available as a web application. In the future, a dedicated mobile application can be developed to offer a more convenient and accessible experience for users on the go. This would also allow for better integration with device features such as camera access for flower recognition.

Plant Disease Diagnosis via Image Analysis

An advanced AI-based feature can be introduced to allow users to upload images of unhealthy plants. The system would analyze the image to detect common plant diseases and provide tailored care instructions or treatment suggestions accordingly.

