# Inventory Management System

Student: Yasaman Afshar Ghasemloo 970028964

Professor: Mrs Somaye Sayari

Islamic Azad University Of Tehran Central Branch

# Project Overview

- The **Inventory Management System** is a web-based application built using **Python and Django**. It provides a structured platform for managing inventory, tracking orders, and analyzing product sales. The system differentiates between two user roles: **Admin** and **Staff**, each with distinct permissions and functionalities.

**Technologies used in project:**

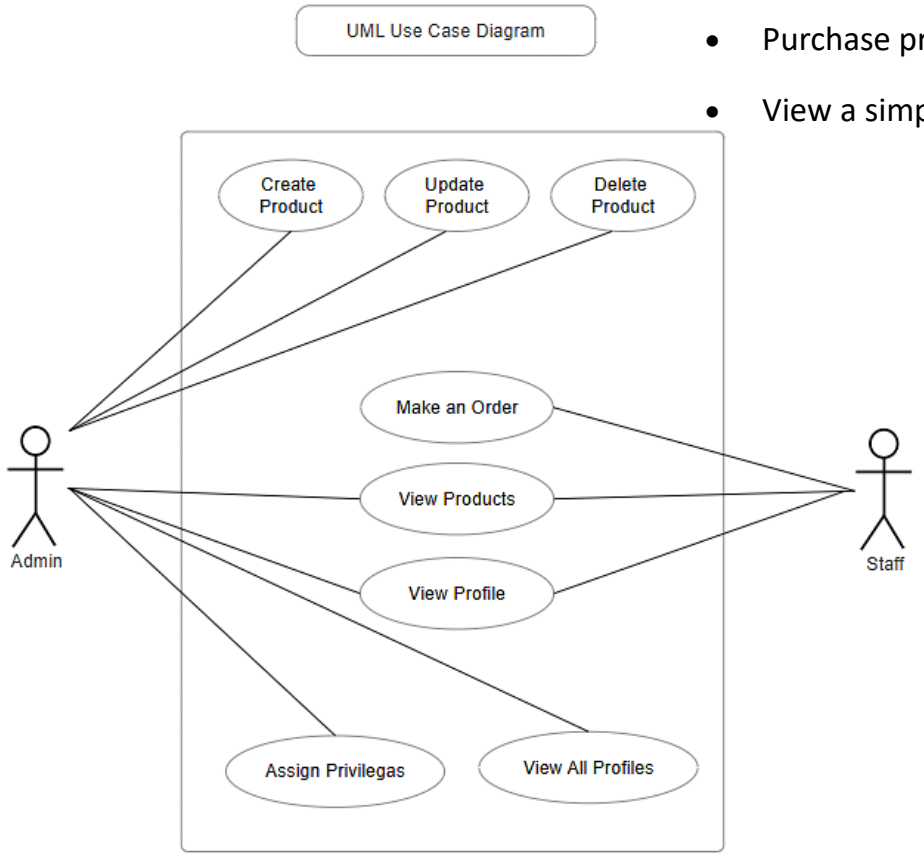
- **Backend:** Python, Django
- **Frontend:** HTML, CSS
- **Database:** MySQL (using Django ORM)

# User Roles and Functionalities

**1. Admin**

Admins have full access to the system and can perform the following tasks:

- View, edit, and delete products.
- View staff profiles.
- View and manage orders.
- Access summary charts for:
    - Products per quantity.
    - Products per order.
    - Least sold products.
    - Most sold products.




**2. Staff**

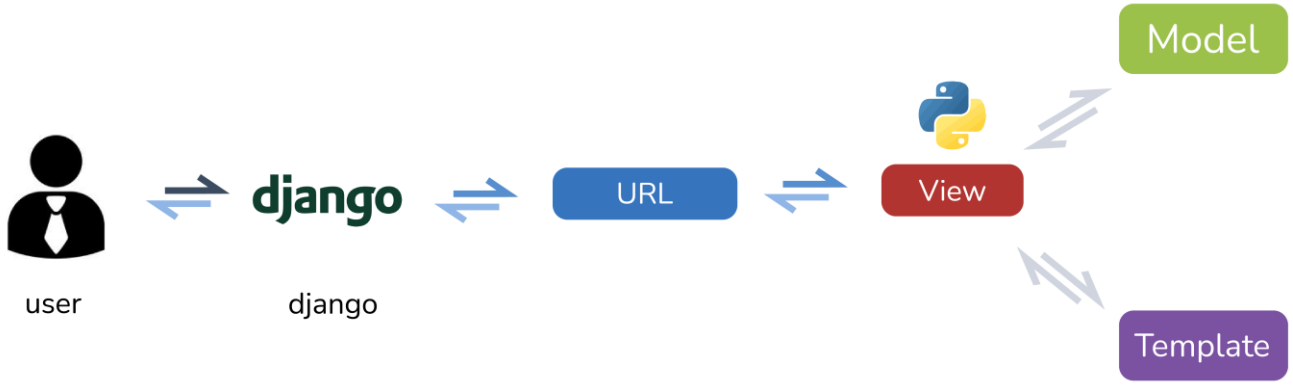
Staff members have restricted access and can only:

- Purchase products.
- View a simplified dashboard with relevant functionalities.

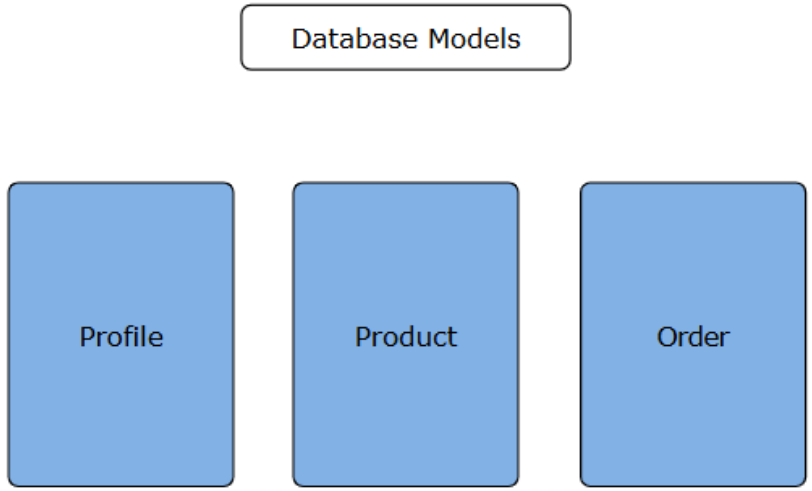
# System Architecture

The system follows Django's **MTV (Model-Template-View)** architecture:

1. **Models:** Represent the database structure and define data relationships.
2. **Templates:** HTML files that handle the front-end display.
3. **Views:** Handle business logic and process user requests.



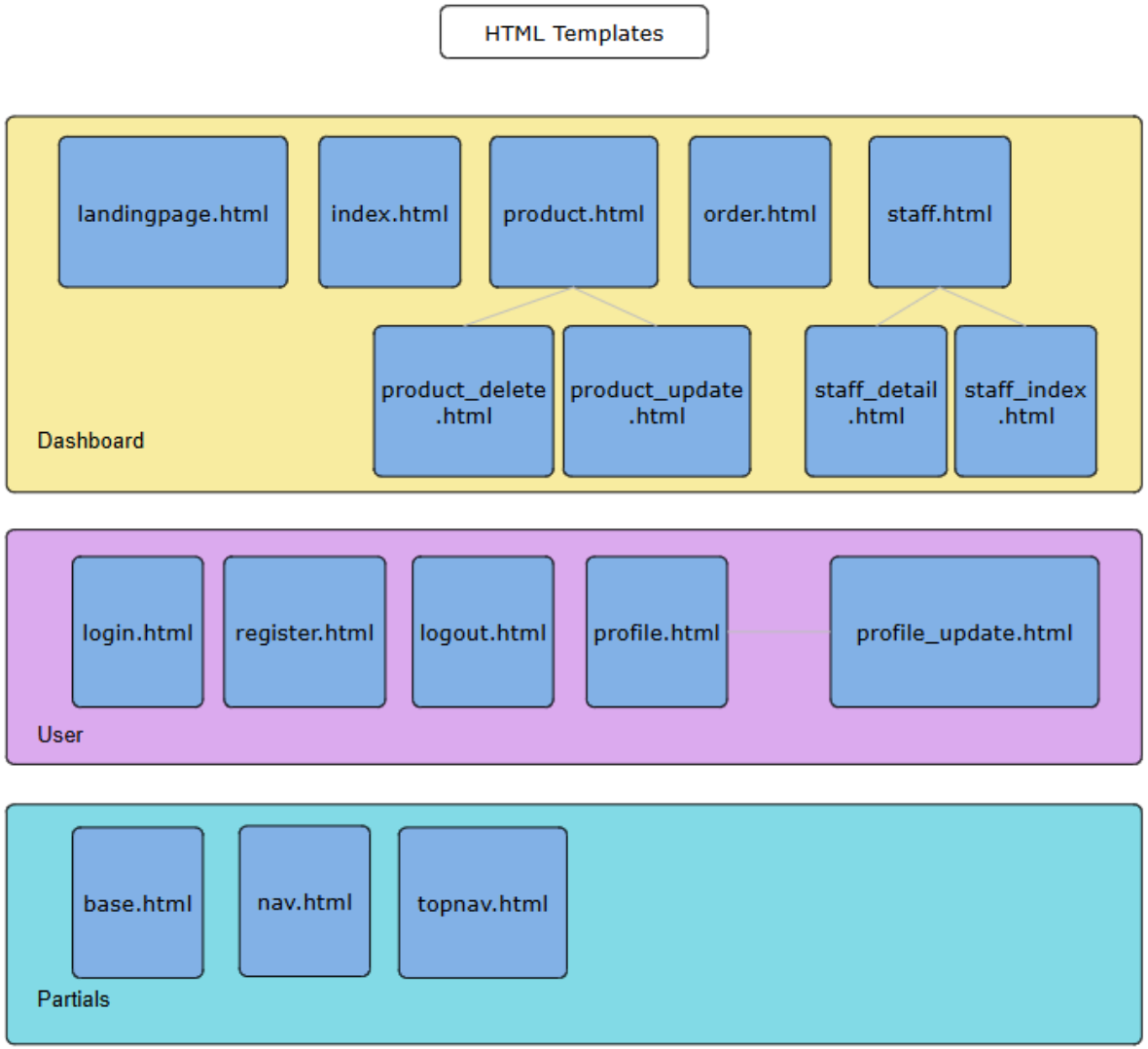
# Database Models

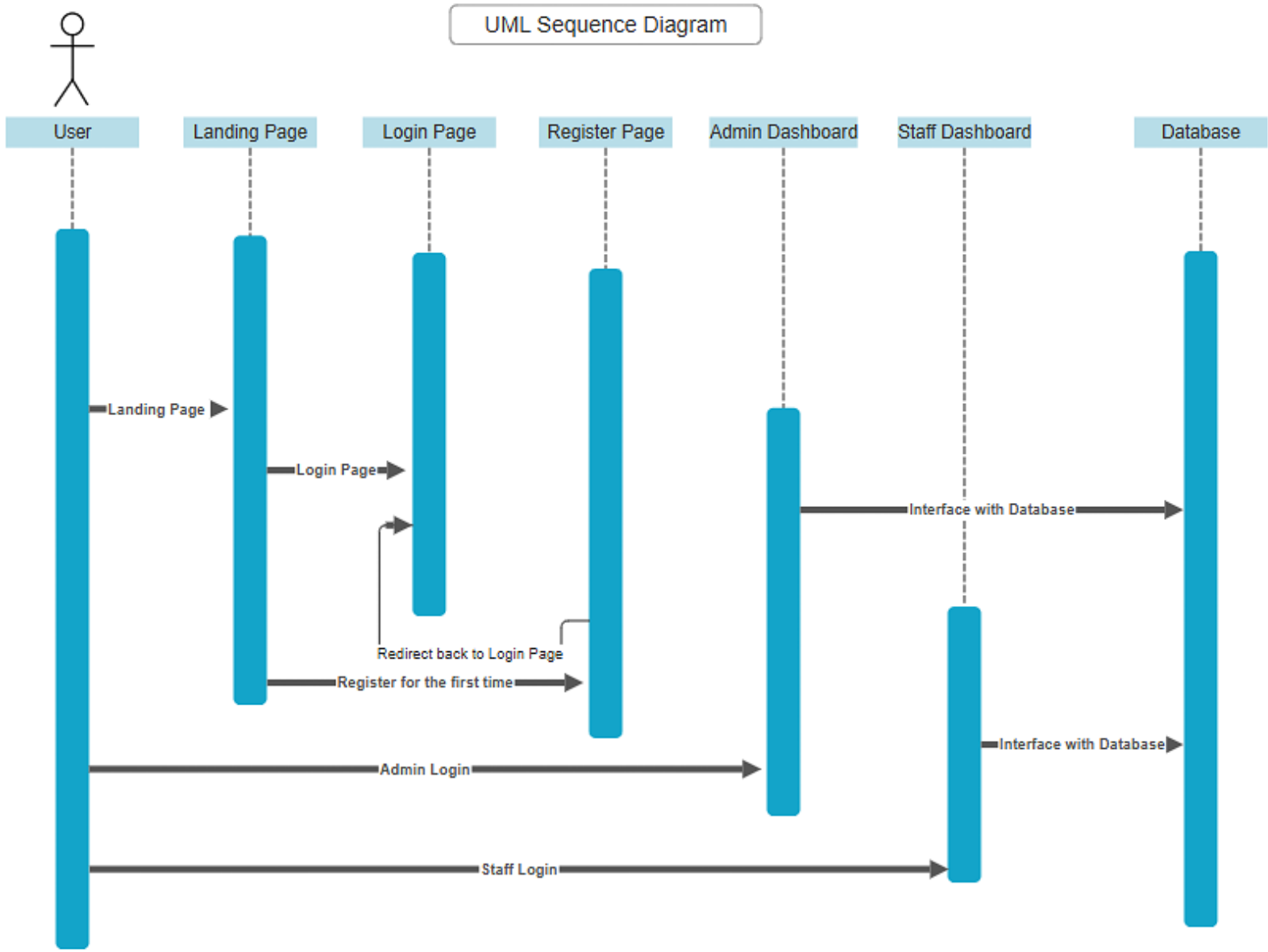



The system includes three primary models:

- **Profile:** Stores user details and role information (admin or staff).
- **Product:** Contains product information such as name, price, and stock quantity.
- **Order:** Tracks purchase details, including customer, product, quantity, and status.

# Templates

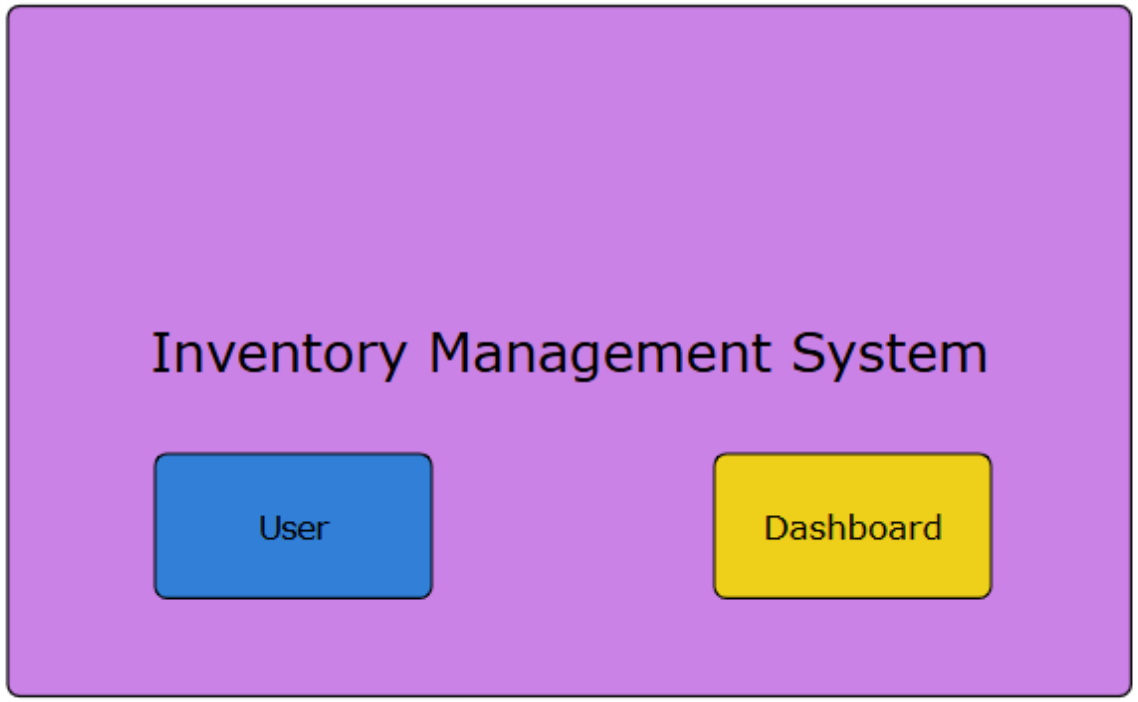

HTML Templates
landingpage.html
index.html
product.html
order.html
staff.html
product_delete .html
product_update .html
staff_detail .html
staff_index .html
Dashboard
login.html
register.html
logout.html
profile.html
profile_update.html
User
base.html
nav.html
topnav.html
Partials


UML Sequence Diagram
User
Landing Page
Login Page
Register Page
Admin Dashboard
Staff Dashboard
Database
Landing Page
Login Page
Redirect back to Login Page
Register for the first time
Interface with Database
Admin Login
Interface with Database
Staff Login

# Django Apps

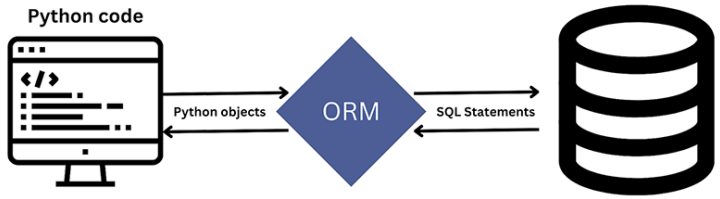
The system is divided into two Django apps for better modularity:

- **User:** Handles authentication, user profiles, and role management.
- **Dashboard:** Manages product inventory, orders, and analytics.



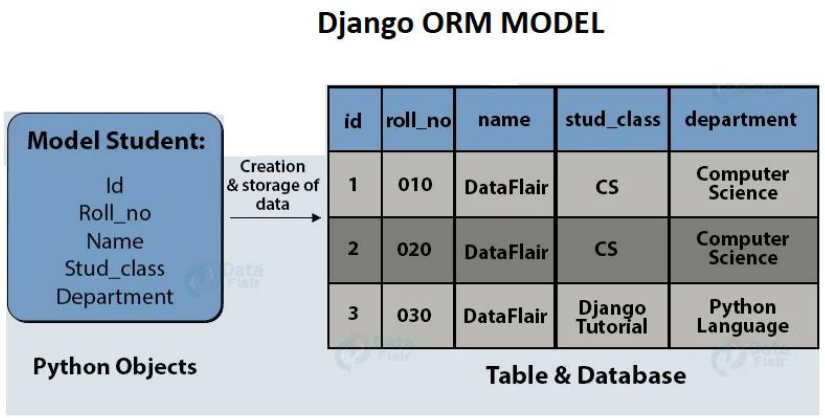

Django Project and Apps

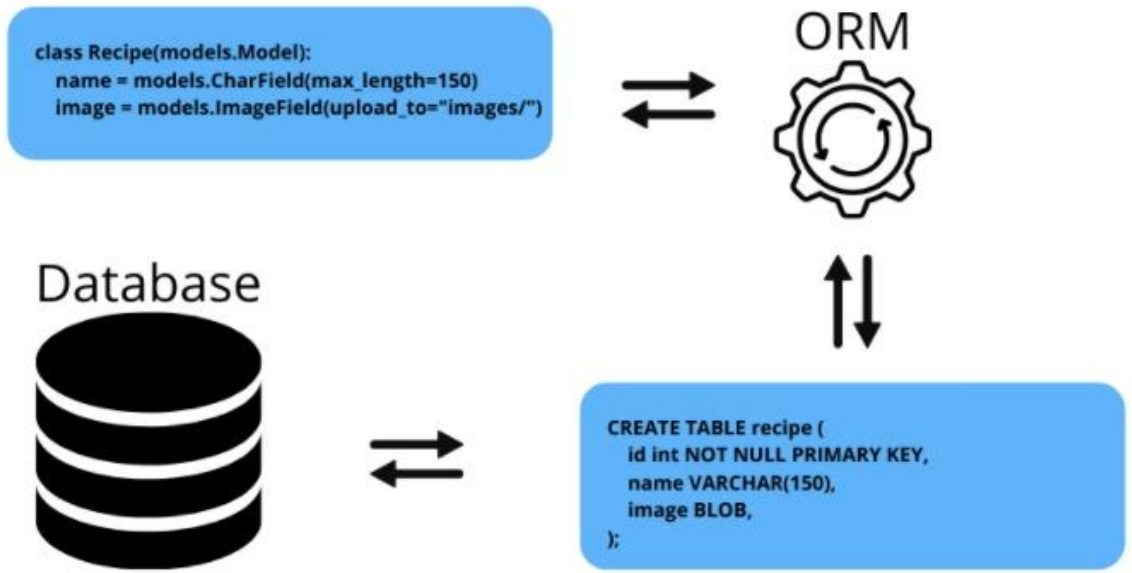
# Django ORM




The project utilizes Django's **Object-Relational Mapping (ORM)** to interact with the MySQL database efficiently. Key ORM operations used:

- **Querying data:** Product.objects.all(), Order.objects.filter(status='Completed')
- **Creating records:** Product.objects.create(name='Laptop', price=1000, stock=10)
- **Updating records:** product.stock -= 1; product.save()
- **Deleting records:** product.delete()



# Summary

This **Inventory Management System** provides an intuitive interface for admins and staff to manage inventory efficiently. By leveraging Django’s powerful architecture and ORM, the system ensures smooth data management and scalability.

# Screenshots