

Trade-Engine eCommerce Backend Project

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Overview

Welcome to the **Trade-Engine** eCommerce Backend Project!

This project is designed to provide essential functionalities for managing an eCommerce platform. It includes features for **user registration**, **login**, **stock management**, **cart operations**, and **the checkout process**. Built using **Python** and **SQLAlchemy**, this backend ensures efficient data handling and robust performance.

Project Structure

Let's start by exploring the structure of our project - shall we 😊👉:

```
├── dependencies
│   ├── interfaces
│   │   ├── admin.py
│   │   ├── main_menu.py
│   │   └── user.py
│   └── helpers.py
├── models
│   ├── cart.py
│   ├── stock.py
│   └── user.py
├── relationships/
│   ├── ecommerce_relationships_backend.png
│   └── ecommerce_relationships_backend.svg
├── storage
│   ├── database
│   │   └── storage.db
│   └── setup.py
└── main.py
```

Dependencies

- **interfaces/admin.py:** Handles admin functionalities like managing users and products.
- **interfaces/main_menu.py:** Contains the main menu logic and routes.
- **interfaces/user.py:** Manages user-related operations like login and registration.
- **helpers.py:** Provides utility functions for formatting, validations, and transitions.

Models

- **models/cart.py:** Defines the Cart model for managing user carts.
- **models/stock.py:** Defines the Stock model for inventory management.
- **models/user.py:** Defines the User model for user account management.

Storage

- **storage/database/storage.db**: SQLite database file that stores data.
- **storage/setup.py**: Handles database setup and configuration.

Main

- **main.py**: The entry point of the application, initializing the database and starting the main menu.

Running the Project

To run the project, follow these steps:

Prerequisites

- Ensure you have Python 3.7 or above and pip installed.

Installation

1. Clone the repository:

```
git clone mafabi_ecommerce_backend.git  
cd mafabi_ecommerce_backend
```

2. Install dependencies:

```
pip install sqlalchemy
```

3. Initialize the database:

```
python main.py
```

4. Run the application:

```
python main.py
```

Example Usage

Let's demonstrate a typical user interaction with the application:

Starting the Application

Upon running `main.py`, you'll be greeted with the main menu:

```
---- welcome to: Trade-Engine ----  
To proceed, choose an option below:  
1) Login  
2) Register  
3) Admin  
4) Help  
8) Press this to clear screen in all interfaces...  
Press any other key above or below selection to exit...  
Option: 2
```

User Registration

When a user selects the registration option:

```
---- Register ----  
Enter your name: Emmanuel Mafabi  
Enter your email: emmanuel.mafabi@outlook.com  
Enter your account password: mysecurepassword  
Account creation succeeded
```

Adding Items to Cart

After logging in, the user can add items to their cart:

```
---- Add to Your Cart: John Doe ----  
Enter Item ID: 101  
Enter Item Quantity: 2  
Added 2 items of ProductName to cart.
```

Admin Functions

Admins can manage stock through the admin menu:

```
---- Trade-Engine, Admin Menu ----  
1) Add Stock  
2) Remove Stock  
3) Change Price  
4) List All Items  
5) Back to Main Menu  
Option: 1  
  
---- Trade-Engine, Add Stock ----  
Enter Item Name: New Product  
Enter Item Category: Electronics  
Enter Item Price: 99.99  
Enter Item Quantity: 50  
Stock for New Product added.
```

Features

- **User Management:** Registration, login, and account recovery.
- **Stock Management:** Adding, removing, and updating stock items.

- **Cart Operations:** Adding items to cart, viewing cart, removing items from cart, and checking out.
- **Admin Functions:** Managing inventory, adjusting prices, and viewing stock details.

Future Enhancements

- **User Roles:** Implement roles like customer and admin.
- **Front-End Interface:** Integrate a user-friendly front-end interface.
- **Payment Integration:** Add a payment gateway for handling transactions.

Enjoy the Project!!!

Feel free to reach out... 🤔💖😊

Made with Love... 🧡

More so, Glory to God!!!

License

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