The ~~Home~~ Gnome Depot

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CS582 Final Project

This database is themed as a fantasy role-playing game magic shop, inspired by worlds such as Dungeons & Dragons. To strengthen the immersion and align with RPG terminology, traditional e-commerce labels were replaced:
- Products become "Items"
- Vendors become "Shops"
- Customers become "Adventurers"

The item catalog is sourced directly from a curated D&D item list, ensuring authenticity in names, rarity, descriptions, and categories. All shop names, fictional addresses, and adventurer identities were generated by ChatGPT to save time and stay on theme.

Initialization is fully automated through the setup.sql script, which performs 100% of the database bootstrap process assuming MySQL is installed. The script:
1. Creates the database schema
2. Defines all tables
3. Generates a dedicated API user with the necessary privileges
4. Installs all stored procedures used by the application
5. Seeds the database with thousands of entries for sample items, shops, adventurers, and order history records

Because the Items and OrderItems tables represent the overwhelming majority of the dataset, they were optimized for performance. Indexes were added to both tables based on the fields most frequently queried:
Items(name) since item searches are the most common operation
OrderItems(order_id) since order lookups and aggregations rely heavily on this column

For the backend, Python was selected due to my familiarity with the language and its strengths in data processing and database interaction. For the front end, Streamlit proved to be the most efficient choice, offering:
- Clean UI components
- Native session state support
- Fast iteration and development
- Seamless integration into Python code without requiring a separate web framework

Thanks to Streamlit, the entire app runs from a single script of under 400 lines, eliminating the need for additional routing, controllers, or frontend markup files, which bloat traditional web development. However, Streamlit is designed to run as a single page, so other functions instead run in containers throughout the UI, it also means this code is likely limited to just an example project. A true e-commerce site would need a much more robust backend.