

## Author

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I am pursuing the B.S. degree in Data Science and Applications from Canada. I consider myself incredibly lucky that I got this chance to learn from a very prestigious institute and I express gratitude by being honest with my coursework and decent in the subject matter I learn.

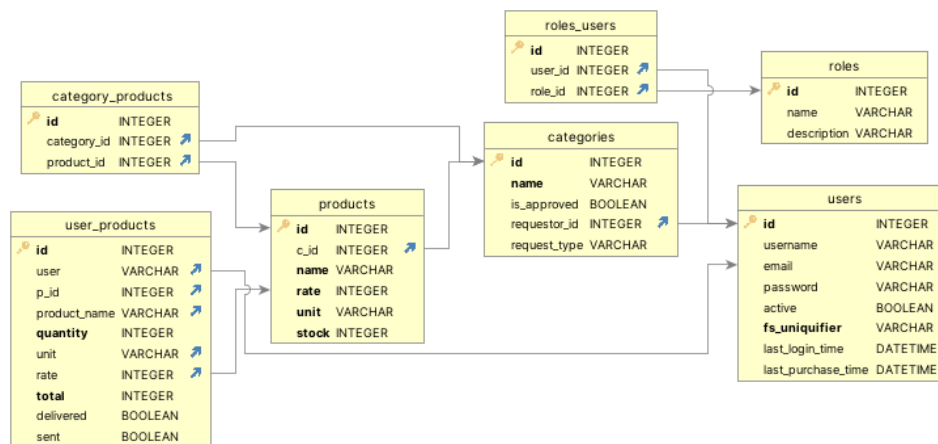
## Description

The project demands a web-based application which lets multiple users to cart and buy products and is managed by a store administrator and/or a manager. Both manager and users have diverse types of access and functionalities, with admin overseeing core access and updates. Categories (like Fruits, Décor etc.) which in turn consists of products. (Orange, Photo Frame etc.) are the central entities around which the whole app is based.

## Technologies Used

- Python – Programming language for backend
- HTML5 – For creating Web Documents
- CSS – Styling (inline in my case)
- JavaScript – Vue (For Frontend)
- Jinja2 – Templating Engine for Report Generation
- Bootstrap – Styling and UI (Layout, Cards, Navigation etc.)
- Flask – Web Application Development (as it has a built-in development server)
- DB Browser – For manipulating the SQLite Database
- Celery –For backend jobs (reports and triggered jobs)
- Redis– For caching and results backend

## DB Schema Design



## API Design

CategoryAPI – GET, POST, PUT, DELETE (Cached)

ProductAPI - GET, POST, PUT, DELETE

CategoryResource - GET, POST (For accessing Single Category)

ProductResource - GET, PUT (For accessing Single Product)

## Architecture

The application is structured with main folders as follows –

- application
  - config.py – Configuration Setup
  - controllers.py – All the controllers
  - database.py – Database Setup
  - models.py – All the models
  - tasks.py - celery tasks
  
- db\_directory – Contains the actual the SQLite Database file
- static – Vue Components
- main.py – The main python file to run the app
- requirements.txt – Necessary requirements for app setup
- readme.txt – Instructions for running the app

## Features

Following are the features implemented in this project with help of Flask, Vue and basic python logic.

- Login and Registration for Multiple Users (RBAC)
  - Admin (Login only)
  - Manager (Admin's approval for logging in)
  - User
- CRUD for Categories
- CRUD for Products
- Request exchange b/w Admin and Store Manager
- User's Cart & Checkout
- Monthly Report (User)
- Export CSV (Manager)
- Daily Alerts (User)
- Caching & Performance
- Search Bar

## Video

<https://drive.google.com/file/d/16KPCIQj9LDC13hN1OfOuTjquHsCGUYtz/view?usp=sharing>