

Project Report

Kanban App V2

Author

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I graduated in 2018 with a bachelor's degree in chemistry. I always had a desire to learn coding and I'm especially interested in the UI/UX part of application development.

Description

App name: MyKanban V2

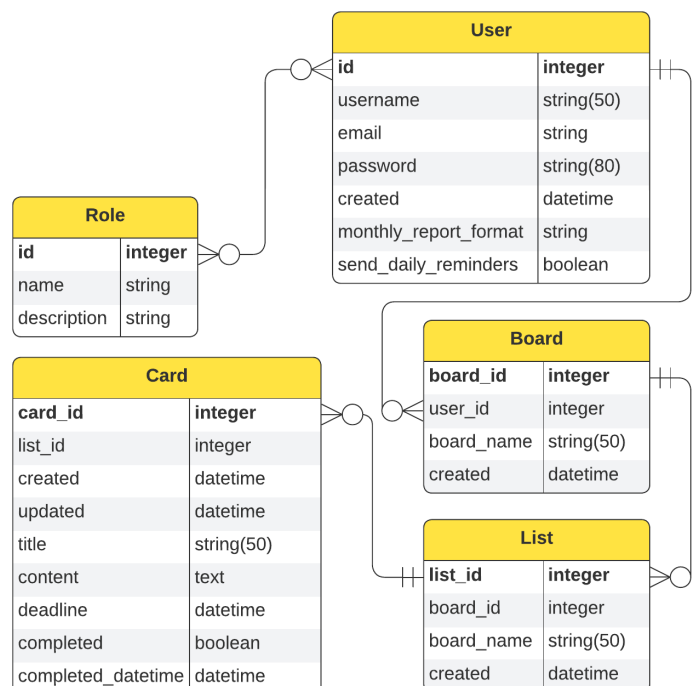
Description: A basic kanban app developed and submitted for the MAD-II project course (September 2022 term)

Technologies used

Frontend	Backend	Other
Vue CLI Vue Vue Router Chartjs	Flask (framework) Flask-SQLAlchemy (ORM) Flask RESTful (API) Flask Security (Authentication) Flask Cors (CORS) Flask Caching (Caching) Celery (Backend Async Jobs) requests (Sending webhook requests) weasyprint (converting HTML to PDF) Jinja2 (for email and report templates)	Mailhog Redis GSpace (webhook receiver)

DB Model:

The schema of the database consists of five relations for user, role, board, list and card. All of them except (user and role) have one-to-many relationships with each other as can be inferred from the graph. The role relation was only added to get Flask-Security working. I have added the boards relation to allow a user to maintain multiple boards for different projects.



API Design

A REST API for the kanban app was made with the Flask-RESTful module. It has:

- Endpoints for basic CRUD operations on users / boards / lists / cards.
- Endpoints for getting cards completed per day (timeline) the no. of complete / pending / overdue cards (proportion)
- Other endpoints for frontend rendering.

Architecture and Features

The following is the directory structure of the application. The frontend is a Vue CLI development server while the backend is a flask development server

```
.
├── frontend/
│   ├── public
│   └── src/
│       ├── assets
│       ├── components/
│       │   └── ... components (.vue)
│       ├── router/
│       │   └── index.js
│       ├── views/
│       │   └── ...views and components (.vue)
│       ├── App.vue
│       └── main.js
└── backend/
    ├── application/
    │   ├── api/
    │   │   └── ... api controllers (.py)
    │   └── celery/
    │       └── ...backend task controllers (.py)
    ├── db_directory/
    │   └── database.sqlite3
    ├── static/
    │   ├── exports
    │   ├── img
    │   └── monthly_reports
    ├── templates/
    │   └── ... jinja templates
    └── main.py
```

Features at a glance:

User

- create, read and update a user / user's preferences

Board / List

- create, read, update and delete a board / list
- export lists in a board / cards in a list

Card

- create, read, update and delete a card
- move a card from one list to another

Statistics

- get the proportion of completed, pending and overdue cards overall or on a list basis
- see the no. of cards completed per day for the last week

Daily reminders

- on enabling this setting, get daily reminders for pending cards on Google Chat

Monthly reports

- get a progress report of the past month on the 1st of every month on the registered email in HTML/PDF

Video

<https://drive.google.com/file/d/1OcMHQyEREfoWGmf3rN-ChqdbCBSeJhSZ/view>