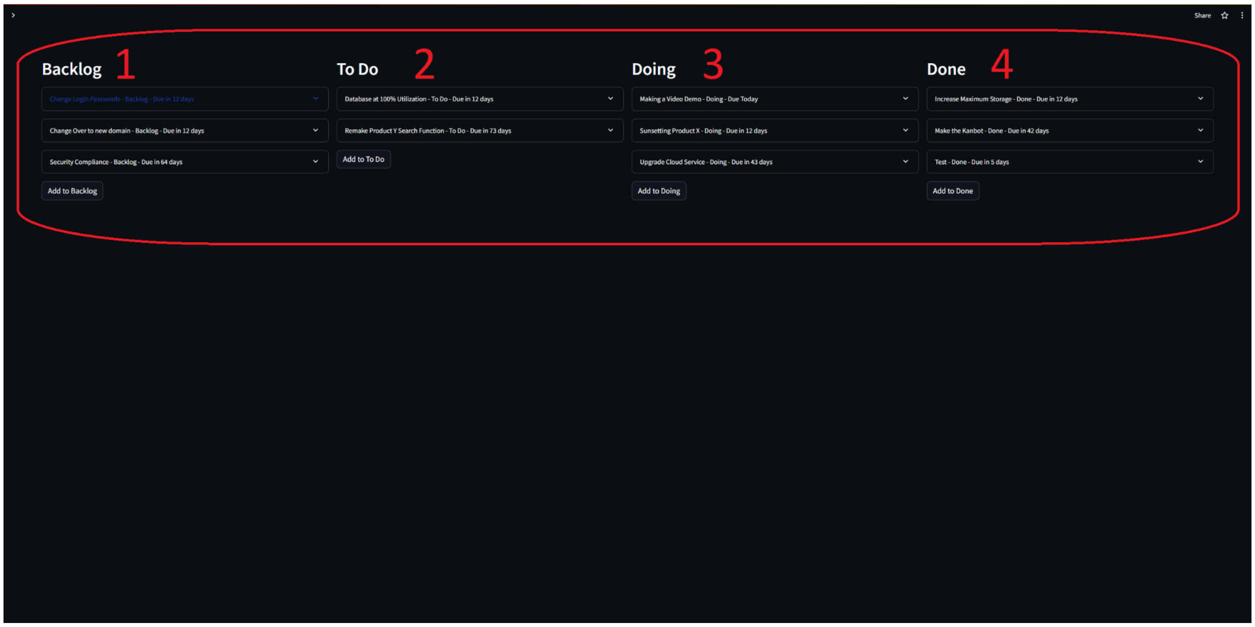
Kanban Board Documentation
Group 3

User Experience

1. Each Category occupies a column on the webpage, making four columns total.



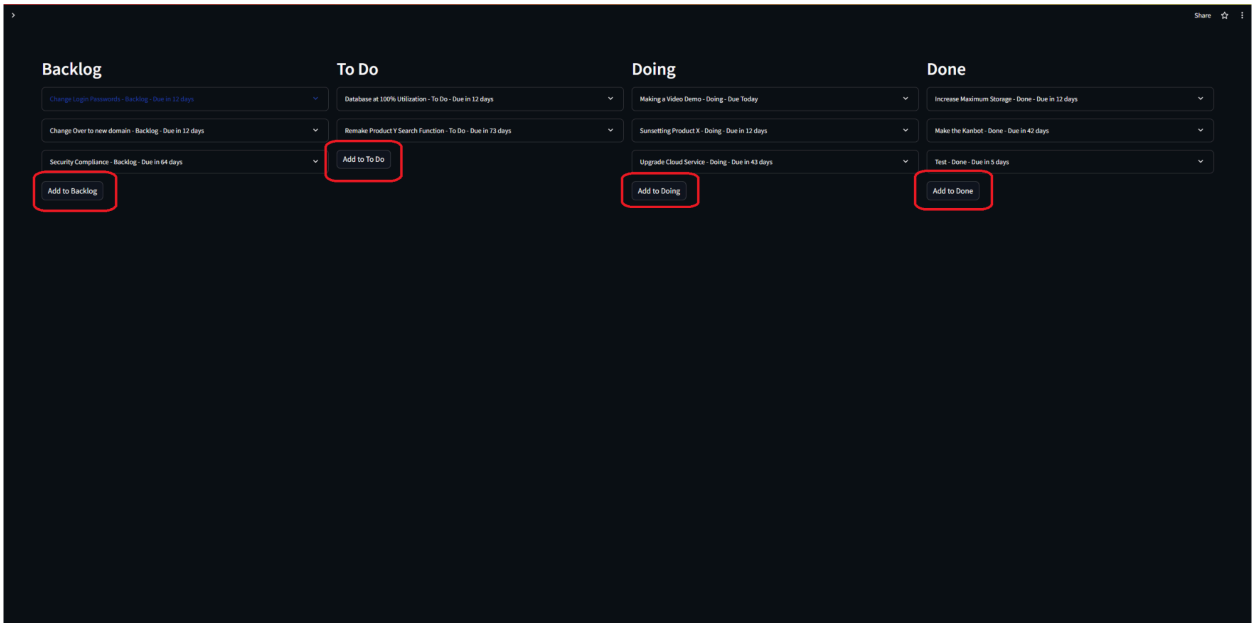
Backlog
- Change Login Passwords - Backlog - Due in 12 days
- Change Over to new domain - Backlog - Due in 12 days
- Security Compliance - Backlog - Due in 64 days
- Add to Backlog

To Do
- Database at 100% Utilization - To Do - Due in 12 days
- Remake Product Y Search Function - To Do - Due in 73 days
- Add to To Do

Doing
- Making a Video Demo - Doing - Due Today
- Sunsetting Product X - Doing - Due in 12 days
- Upgrade Cloud Service - Doing - Due in 43 days
- Add to Doing

Done
- Increase Maximum Storage - Done - Due in 12 days
- Make the Kanbot - Done - Due in 42 days
- Test - Done - Due in 5 days
- Add to Done

2. Each Column Contains a button called “Add To ____”, when this button is pressed s new entry is made



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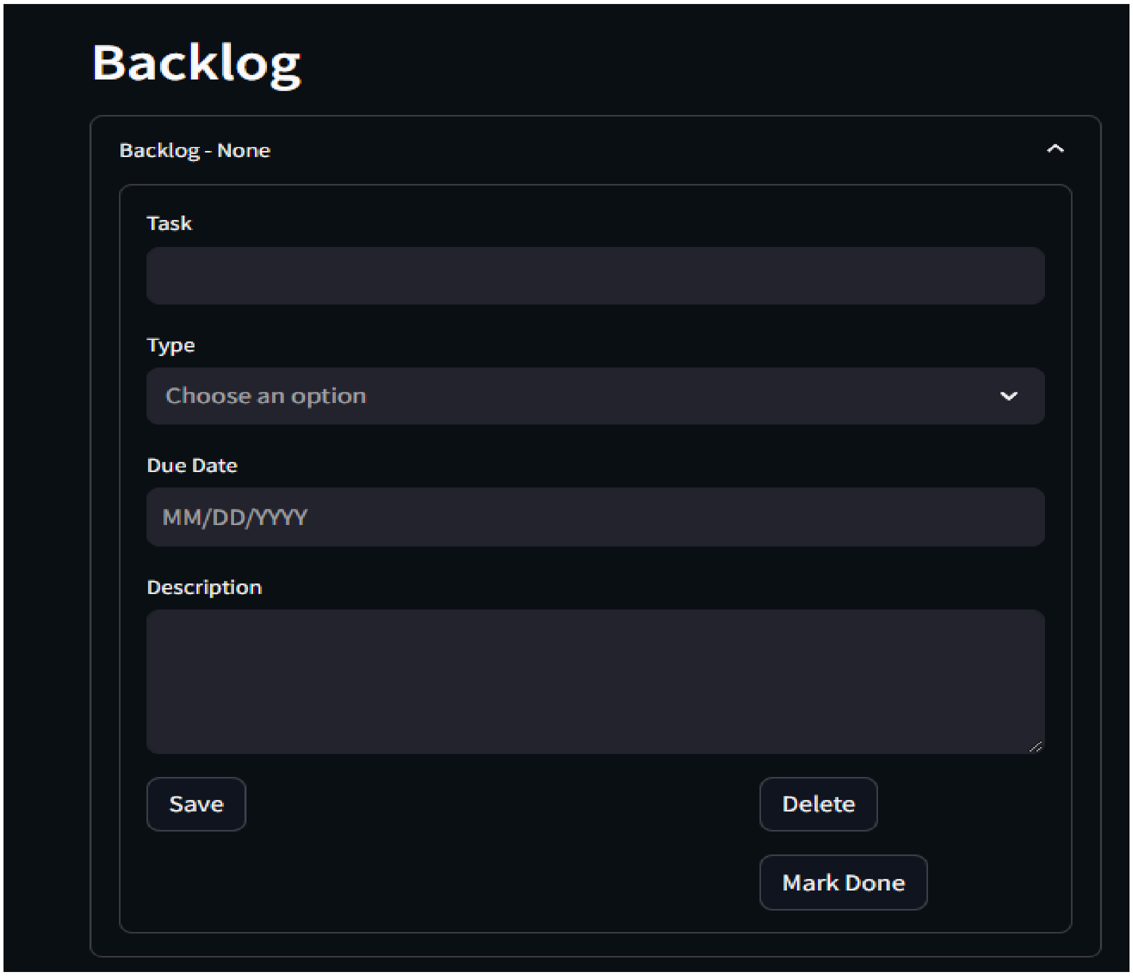


Backlog

Backlog - None

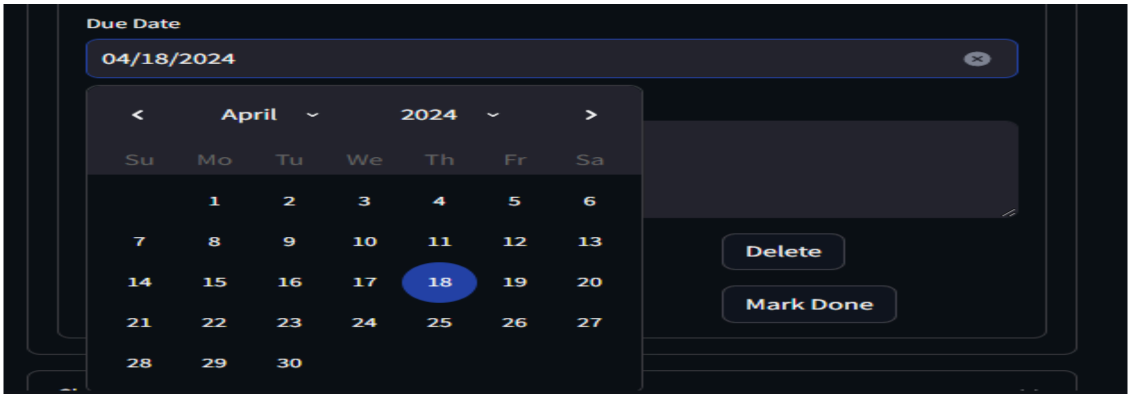
Task:

Type: Choose an option

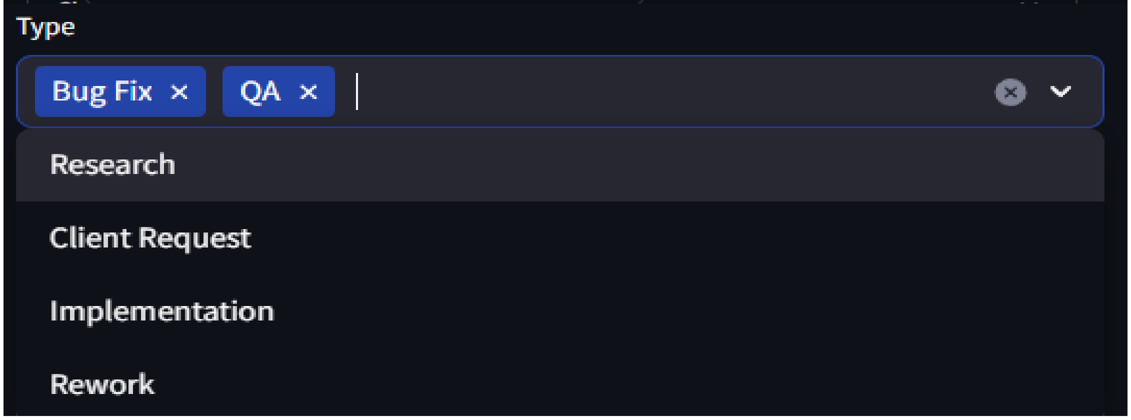
Due Date: MM/DD/YYYY

Description:

4. Each Box can be edited, Type has predefined types that are selected, and Due Date uses a calendar selection to pick the date.

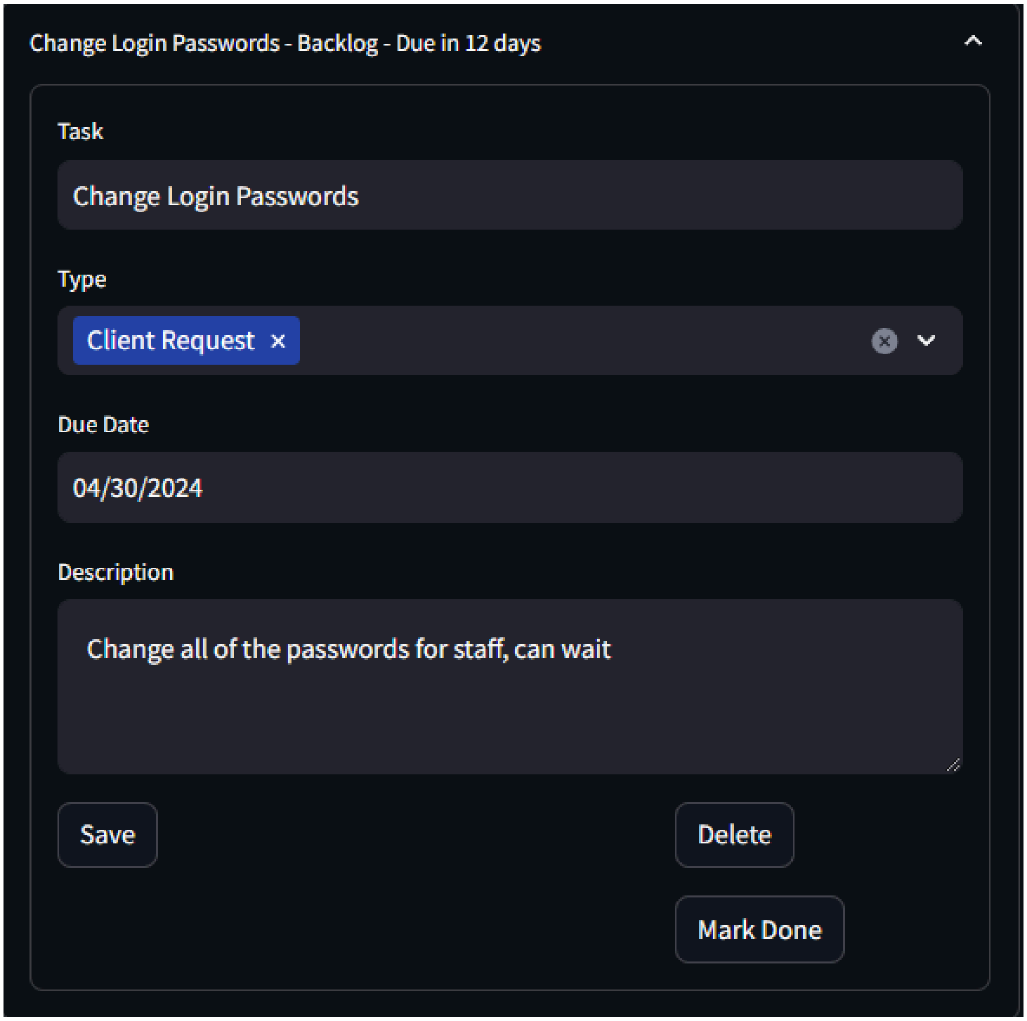


Due Date: 04/18/2024



Type: Bug Fix, QA

5. Example of a Completely Filled out Form



Change Login Passwords - Backlog - Due in 12 days

Task: Change Login Passwords

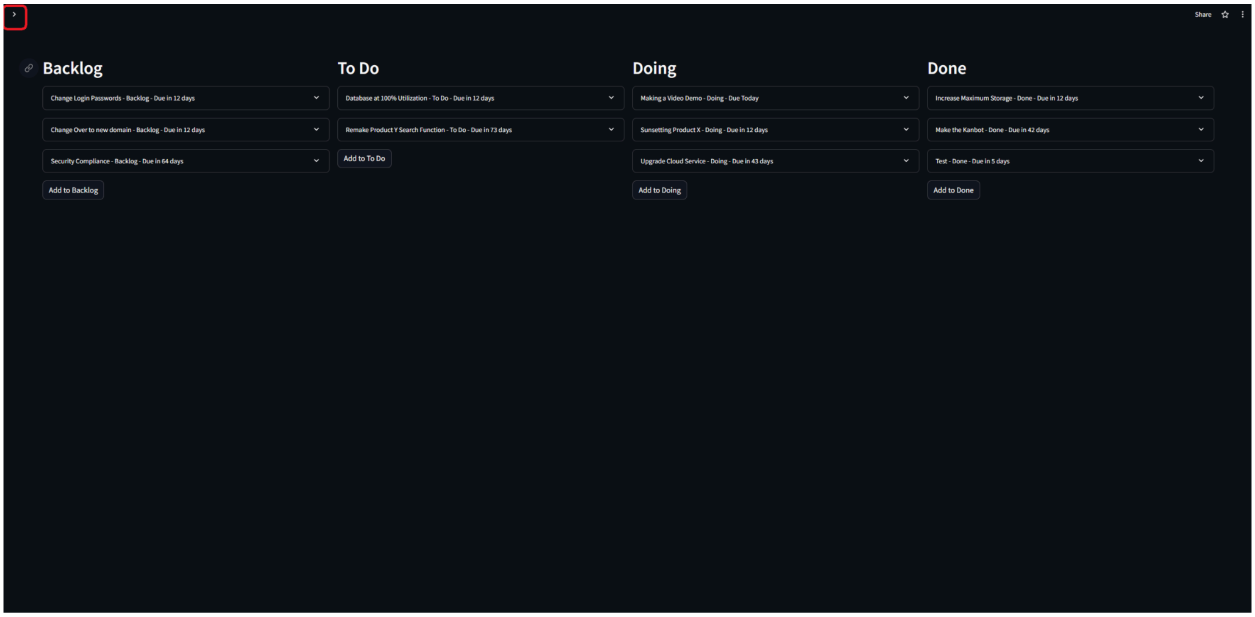
Type: Client Request

Due Date: 04/30/2024

Description: Change all of the passwords for staff, can wait

6. The save button saves the current state of the form into the database, not every field has to be filled out to be saved. Delete removes the task from the table. Mark Done moves the current row to the Done table.

7. Let’s now take a look at the sidebar, click on that Arrow



Backlog

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Done

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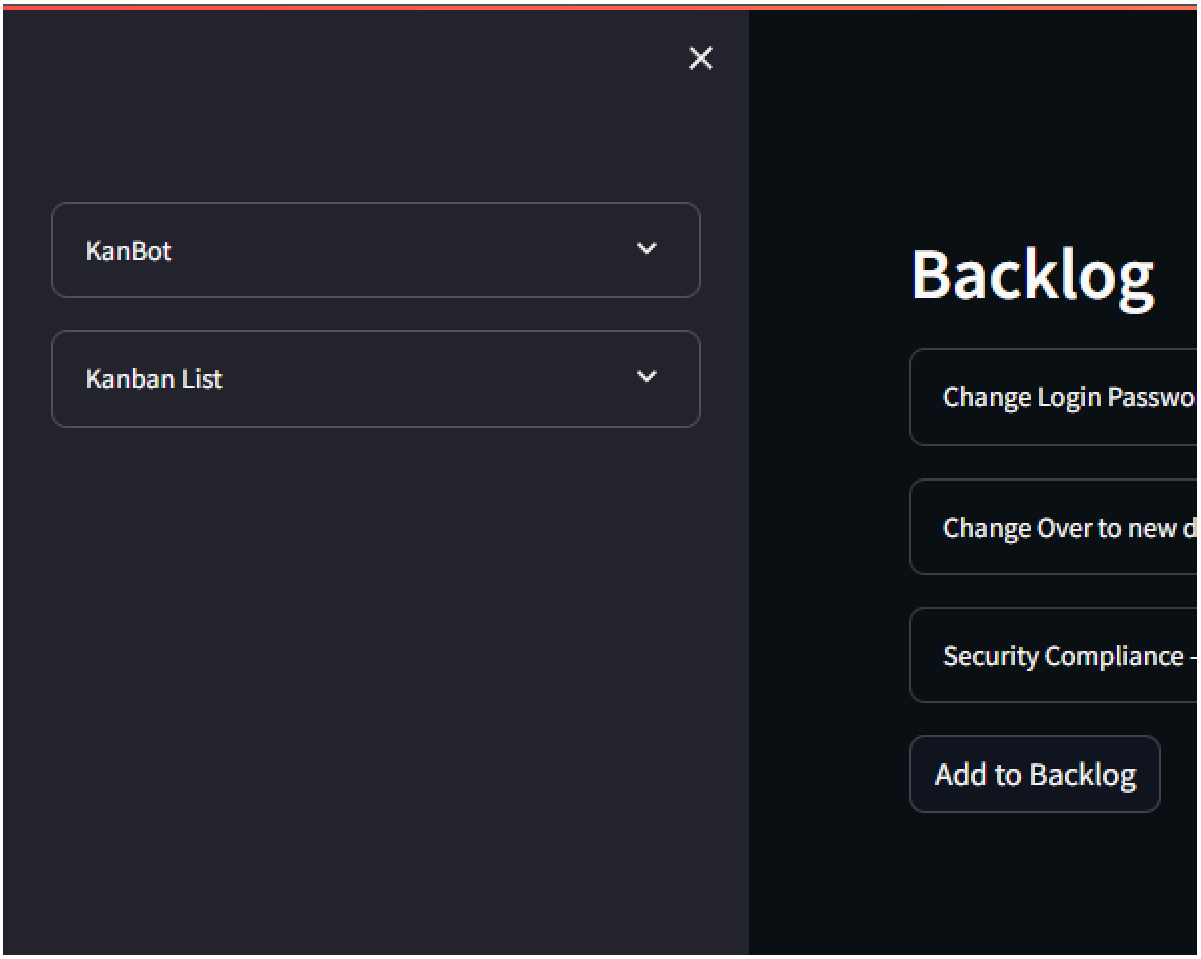
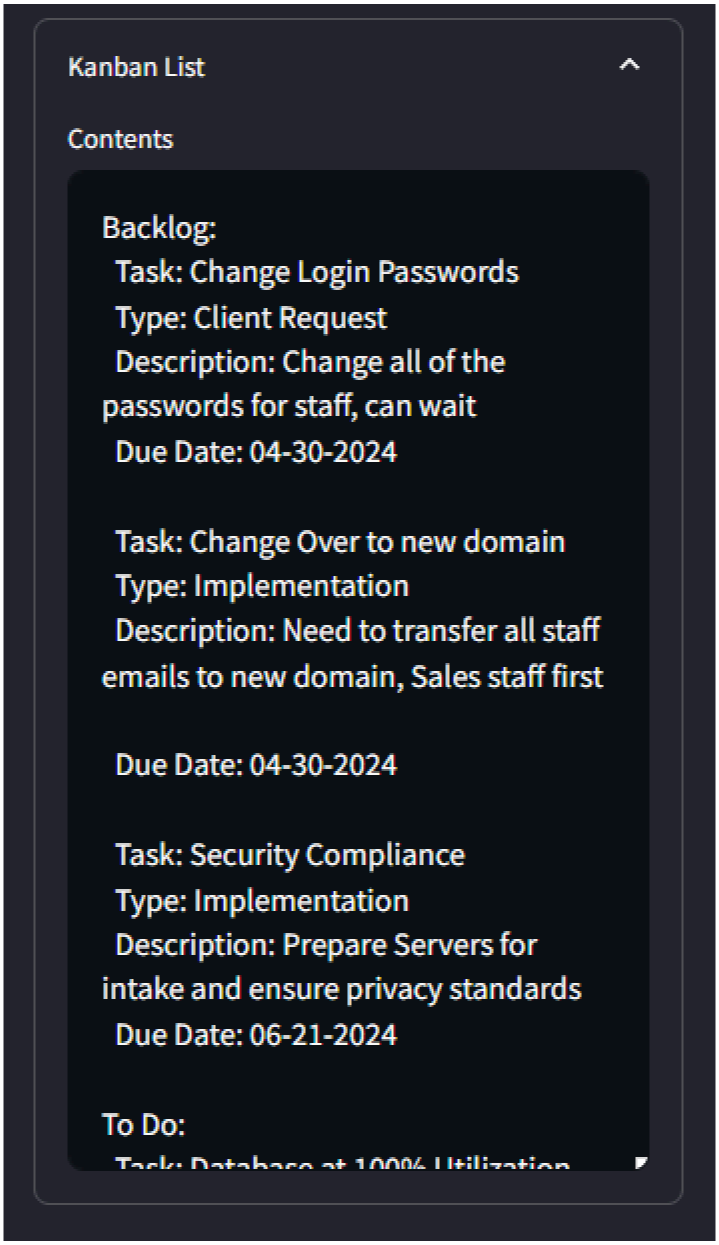
- Test - Done - Due in 5 days

8. We have Two Modules, Kanbot and Kanban List.



9. Kanban List Displays a text formatted list of all the tasks in the kanban table

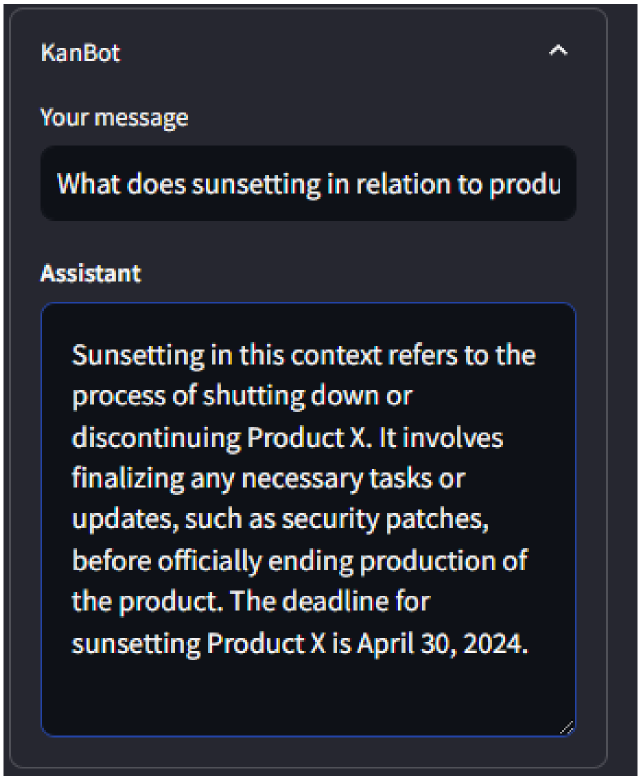


Kanban List

Contents

```
Backlog:
  Task: Change Login Passwords
  Type: Client Request
  Description: Change all of the
passwords for staff, can wait
  Due Date: 04-30-2024

  Task: Change Over to new domain
  Type: Implementation
  Description: Need to transfer all staff
emails to new domain, Sales staff first

  Due Date: 04-30-2024

  Task: Security Compliance
  Type: Implementation
  Description: Prepare Servers for
intake and ensure privacy standards
  Due Date: 06-21-2024

To Do:
  Task: Database at 100% Utilization
```

10. Kanbot is an LLM that is aware of the contents of your kanban chart. You can ask it any questions pertaining to the tasks on your todo list

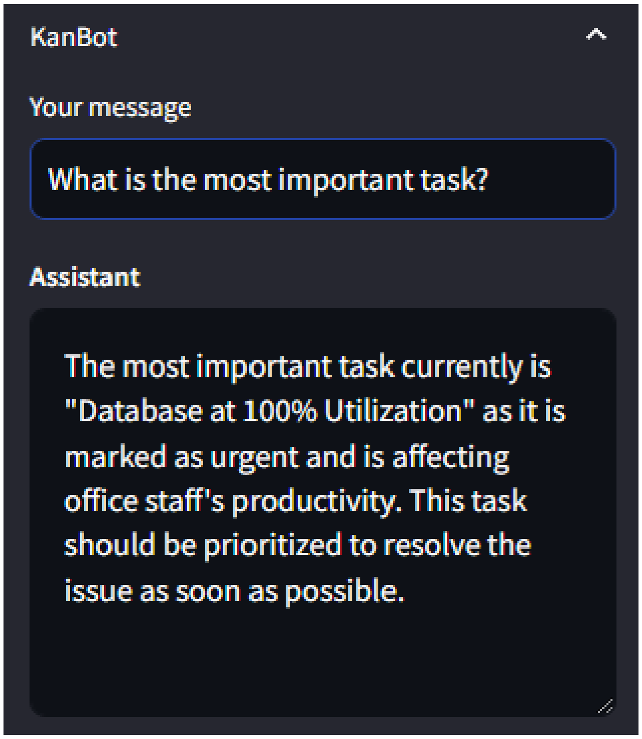


Your message

What does sunsetting in relation to produ

Assistant

Sunsetting in this context refers to the process of shutting down or discontinuing Product X. It involves finalizing any necessary tasks or updates, such as security patches, before officially ending production of the product. The deadline for sunsetting Product X is April 30, 2024.

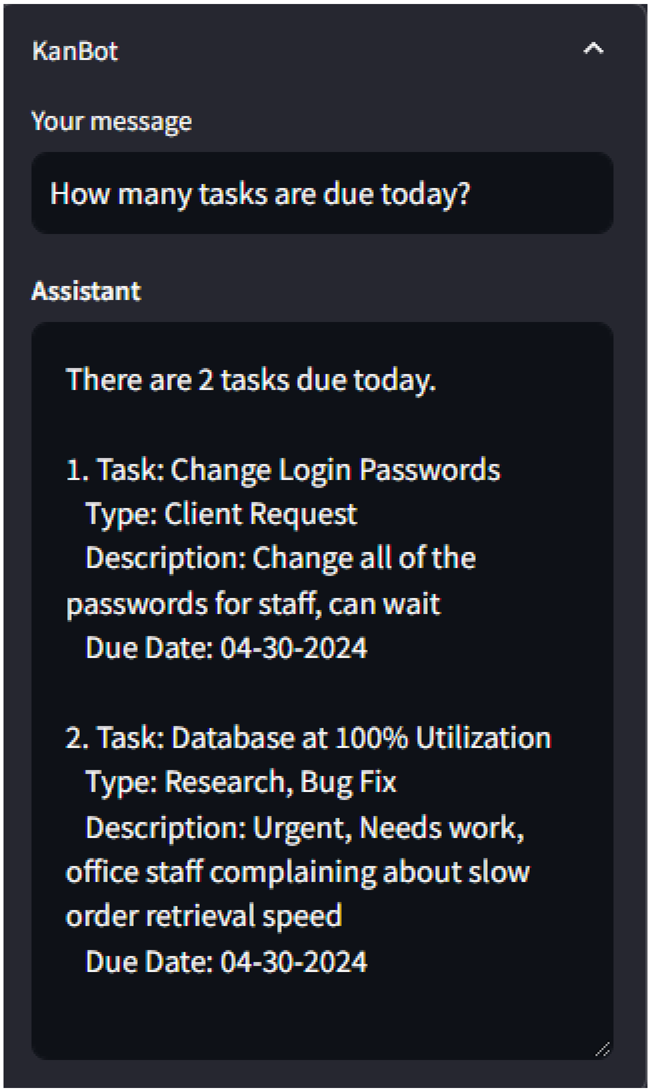


Your message

What is the most important task?

Assistant

The most important task currently is "Database at 100% Utilization" as it is marked as urgent and is affecting office staff's productivity. This task should be prioritized to resolve the issue as soon as possible.



Your message

How many tasks are due today?

Assistant

There are 2 tasks due today.

1. Task: Change Login Passwords
   Type: Client Request
   Description: Change all of the passwords for staff, can wait
   Due Date: 04-30-2024

2. Task: Database at 100% Utilization
   Type: Research, Bug Fix
   Description: Urgent, Needs work, office staff complaining about slow order retrieval speed
   Due Date: 04-30-2024

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Architecture

The Kanban Board is entirely created in python, leaning on a library named streamlit to combine backend operations with a modern and easy to integrate frontend.

Streamlit is designed for data scientists to compile their findings into easy to read webpages.

For data persistence, four tables are created with SQLite (a base python module) where each row contains Name, Task, Type, Due Date, and Description for each task.

Each Table table correlates to a category within the kanban board, being Backlog, To Do, Doing, and Done.

The primary form of data entry is handled by streamlit's forms functionality, which allows users to enter data with an intractable widget. Each section of the form correlates to a feature in the row of the respective database. Each form represents a row within the database. Within each form, there are 2 - 3 buttons, being; Save, Delete, and Mark Done. Forms in the Done Column do not have the Mark Done button.

The title of each form mirrors the name of the task, as well as the name of the column, and finally the amount of days away the due date is from the current date.

In the Sidebar, there are two widgets. One being Kanban List and Kanbot.

The Kanban List utilizes a function (Which you will see in the modules section) which translates the database entries into formatted text by category, and places these contents into a markdown box. The list is dynamically updated as the kanban board is modified

The Kanbot is a LLM assistant powered by chatgpt API. The bots system prompt (Hardcoded instructions defined by the developer) contains the contents of the kanban board, and is dynamically updated as new elements are added or removed. This allows the user to ask specific questions about the kanban board or individual tasks.

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Modules

add_new_row(con)

Adds a new row to the 'db' table in the database.
where DB is one of the categories of the Kanban Table (Backlog, To Do, Doing, Done)

Parameters:- con: The database connection object.

Returns:

None

create_new_database(db_name)

Creates a new SQLite database with the given name and returns the connection object.

Parameters:
db_name (str): The name of the database to be created.

Returns:
con (sqlite3.Connection): The connection object to the newly created database.

days_until_date(date_str)

Calculate the number of days until a given date.

Args:
date_str (str): The date string in the format 'YYYY-MM-DD'.

Returns:
str: A string indicating the number of days until the date.
- If the date is today, it returns "Due Today".
- If the date is tomorrow, it returns "Due Tomorrow".
- If the date is in the future, it returns "Due in X days" where X is the number of days.
- If the date is in the past, it returns "Overdue".

None: If the date string is empty or the date format is incorrect.

db_index_to_name(db_index)

Converts a database index to its corresponding name.

Args:
db_index (int): The index of the database entry.

Returns:
str: The name corresponding to the given database index.
Returns 'Unknown' if the index is not recognized.

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display_forms(con, db_index, other_db_con)

Display forms for each row in the database and handle form submissions.

This function retrieves rows from a database table and displays a form for each row. The form allows users to edit the task name, type, due date, and description. The function also handles form submissions, updating the database with the edited values.

Args:
con (connection): The database connection.
db_index (int): The index of the current database AKA Which Database (Backlog = 1, To Do = 2, Doing = 2, Done = 4)
other_db_con (connection): The connection to the other database (Which database we would move data to when marking done (In this Case dat

Returns:
None

duplicate_row_to_fourth_database(row, source_con, dest_con)

Duplicate a row from the source database to the destination database.
IN this case, the source database is the current database and the destination database is the done (fourth) database.
Args:
row (tuple): The row to be duplicated.
source_con: The connection to the source database.
dest_con: The connection to the destination database.

Returns:
None

kanbot(contents)

A chatbot function that interacts with the user and provides responses using the OpenAI GPT-3 model.

Parameters:
- contents (list): The current task list.

Returns:
None

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display_database_contents()

Displays the contents of the database in an expander within the sidebar as markdown.

Returns:

None

generate_database_contents_text()

Generates a formatted text representation of the contents of multiple databases.

Returns:

str: The formatted text representation of the database contents

Running The Program

Install the requirements with requirements.txt

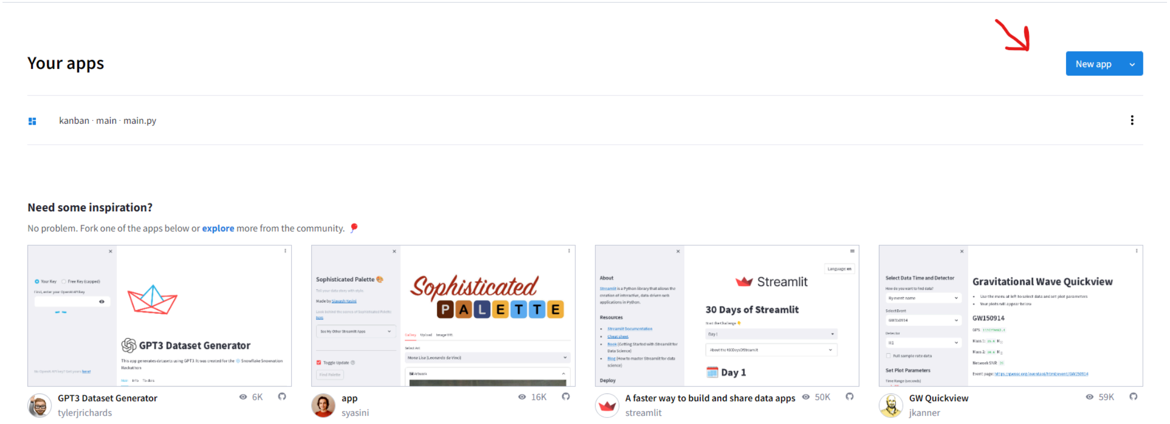
pip install -r requirements.txt

You can run the program locally by simply typing in your terminal.

streamlit run main.py

OR

You can host your program on a streamlit web page by creating an account, on the homepage navigate to the right hand side of the page, click new app



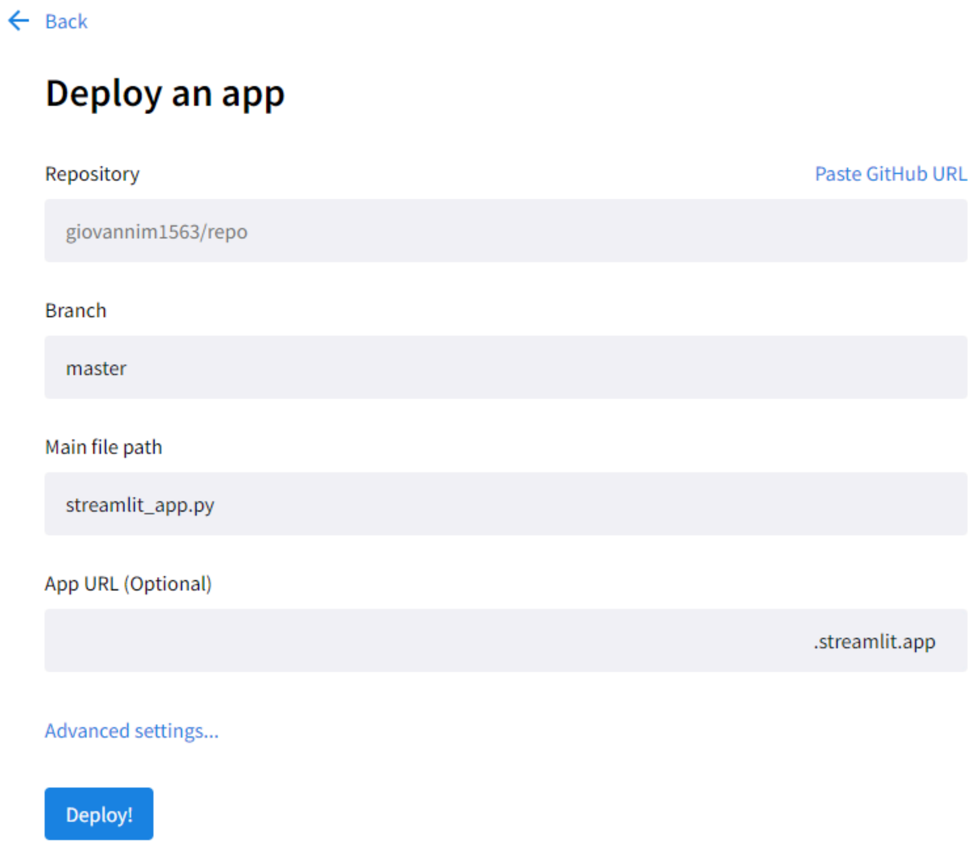
Your apps

kanban · main · main.py

Need some inspiration?

No problem. Fork one of the apps below or explore more from the community.

Once you click this, a window will appear. You must host the files on github.



Deploy an app

Repository: giovannim1563/repo

Branch: master

Main file path: streamlit_app.py

App URL (Optional): .streamlit.app

Enter the repository link, branch, and the file path of where your webpage is mainly held (In our case its main.py)

Deploy will take you to the page.