



# Final Project Report

BY PUSHPAK RUHIL

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## AUTHOR

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About me – I love tech! I started my journey with tech when I was in 4<sup>th</sup> grade. Started coding in 6<sup>th</sup> grade. I developed my interest in Data Science when I was in my 12<sup>th</sup> grade.

## DESCRIPTION

In this project, we need to build a WebApp which can be used as an event logger. Users can login to their account, create different sorts of tracker, and log values for that particular event. They should have the CRUD functionality for their trackers and events!

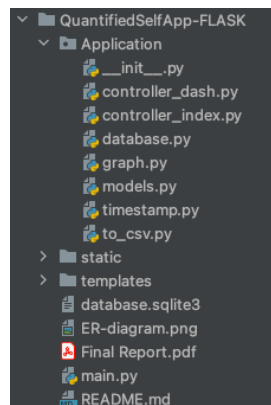
## TECHNOLOGIES USED

Here's are the technologies I used in this project.

Python, HTML/CSS/JS, Jinja, bootstrap, Flask, SQLite, Flask-SQLAlchemy, Matplotlib's pyplot.

- Python is the core programming language used; Flask is the main framework used for the WebApp.
- SQLite is used for creating a database file for data storage and access.
- Flask-SQLAlchemy is the SQL toolkit used to connect with the database file.

## ARCHITECTURE



Main.py file contains the main code; Application folder is the module that I have created. File names are pretty obvious for their roles.

“static” folder contains all the CSS files, images and GIFs; “templates” folder contains all the HTML files. “database.sqlite3” contains the database.

## FEATURES

Here's a list of features –

- CRUD operations on tracker - Create, Read, Update, Delete
- CRUD operations on log
- Graphs for each tracker – summarizes all the logs graphically

These are the additional features that I have added –

- Streak – A number representing the current longest login record. Your streak goes +1 if you login daily. If you skip a day, it resets back to 1. Streak updates at 12AM every day.
- Member since – Represents the number of days since you've registered with the application.
- Sign out option – signs the user out
- Integrated sign in/sign up page – Interactive page with animation where users can sign in and sign up. Also checks whether a username already exists or not while signing up. Throws an error if username already exists, incorrect username, incorrect password, etc.
- Export logs to a CSV file – User can export and save their logs for a particular tracker in the CSV format.

Everything has been implemented using basic python libraries and storing the record in the database.

## VIDEO LINK

Video demonstration of my project is available here.

<https://drive.google.com/file/d/1mekyglleZVAztBbuEiW3Qr4KMzPYogSg/view?usp=sharing>

## DB SCHEMA DESIGN

I have created a total of 9 tables to make my work easy and more organized. I have tried to Normalize the schema.

ER diagram for the schema has been attached by me on the last page, kindly refer to that for more details.

<<DB>> Discussed Before

Table Name	Columns	details	Constraints
User	Username	Username of the user	Text, Primary key
	Password	Password of the user's account	Text, Not null
	Email	Email ID of the user, can be used to recover account.	Text
	Creation	Date of creation	Text
Tracker	Tracker_ID	Tracker's ID number	Integer, Primary key, Autoincrement
	Name	Name of the tracker	Text, Not null
	Description	Description of the tracker	Text
	Type	Type of the tracker (Numerical, multi choice, time duration, Boolean)	Text, Not null.
	Last_log	When was the value last logged for the tracker	Text, Default = "Not yet logged!"
Tracker_bool Tracker_num Tracker_mc	Log_ID	Log event's unique ID	Integer, Primary key, Autoincrement
	Tracker_ID	<<DB>>	<<DB>>
	Timestamp	Time at which the value was logged	Text, Not null
	Value	Value input for the log	Integer(num)/text(others), Not null
	Note	Note for the particular log	Text
Tracker_TD	Time_start, time_end	Start and ending time for the event being logged. In this table, we don't have a value attribute, but these 2 separate attributes.	Text, Not Null (Time_start only)
Multi_choices	Tracker_ID	<<DB>>	<<DB>>
	choices	Stores the choices for trackers with type multi choice!	Text
Streak	Streak_id	<<DB>>	<<DB>>
	Username	<<DB>>	<<DB>>
	Date	Date of last login	Text, not null
	Count	Streak count	Integer, default=1
User_Tracker	ID	Just the Primary key	Integer, Autoincrement
	Username	<<DB>>	<<DB>>
	Tracker_ID	<<DB>>	<<DB>>