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Advanced Web Technologies

Coursework 2

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# Introduction

For my assignment I was asked to create a web-app of a topic of my choice. The web-app is required to meet a set of requirements and constraints which are:

* The web-app has to be made using Python and Flask and must run within levinux.
* It must have a well-designed URL hierarchy and needs to make use of templates to create pages.
* It must make use of routing, static files, templates, redirects, requests and responses, logging, data storage, encryption and data transports.
* It has to be all within a Git repository.

For my web-app I decided to make it a site which you can use to store bookmarks in of books, once you have created an account and logged into the site you are able to add new books to your page and set its image and the page and line number you are at, once the book is added it will display on your main page.

# Design

I designed my web-app so that users will have to create an account and login to access the actual website, I did this so that I can store details of everyone’s books and not have everyone see them. The site stores the user’s username and password in a database file.

The main page is made to hold the button to create new bookmarks and to display all the current bookmarks the user has. However, the bookmarks are not displaying on the main page for an unknown reason.

The bookmark page allows users to create new bookmarks by inputting their username and password which is done to link them to the book and then inputting the book details and adding an image, the images are stored in the static folder as the images were not going to change. All the book details are saved to a database file which also saves the username.

The whole site uses templates to display each page which allows me to avoid re-using code and also enables me to make the pages customized to each person without having to create a new webpage for each individual. The site redirects from localhost:5000/ to the login page and also if the user tries to go to any page which does not exists it will give them a custom 404 error which has a link back to the login page.

# Enhancements

If I was to make a web-app like this again there are a few improvements I would add and a few additions I would like to make to it.

* Better design

I would like to re-do the design of the site to make better use of the white space and to also add a colour scheme which suits the theme of books or libraries.

* Edit book

I would like to enable users to have the options to edit the books they have by having a button below its information which would take them to a page which would allow them to input new details.

* Delete book

I would like to allow users to delete books once they have finished reading them.

* E-mail requirement

I would like to force users to have to sign-up with an email and then have the email verified to ensure it is not a robot.

* Lost password

I would like to allow users to request a password reset which would then send a random password to their email which they can use to login with and be prompted to change their password to something else.

# Evaluation of Web-App

During the development of my Web-app I came across some flaws with my app which I never got sorted out, these flaws were: books not displaying, having to re-log when you refreshed a page, unresponsive

* Books not displaying:

This issue I am unsure of why it happened, I coded the site so it should loop through the database and pull out all the books related to the person and then display them next to and below the new bookmark button, this might be due to it not pulling the data from the database or that I just implemented the display part incorrectly.

* Unresponsive:

This issue normally appears when you start up the web-app after not running it for a while and will allow one page to load but after that it just hangs and never lets you do anything else and the only way to solve this problem I’ve found is to just restart the web-app. This also occurs if you click a button on a page you haven’t refreshed if you just restarted the server.

* Having to re-log:

I wanted to implement sessions however when I did implement it I had a problem where no pages would load due to a view error in the sessions code which I had no access to, I do not know what caused this error to occur so I removed the code which also removed the ability to stay logged in when you revisit the site.

The site needs a better navigation method such as breadcrumbs which would help to improve the users experience as they would know where they are in relation to the other pages which will help prevent them getting lost on the website. A navigation panel could also be used which when logged in will display all the different pages you could navigate to.

# Personal evaluation

From doing this assessment I have learnt that I need to get better at time management as I let another coursework cut into the time I had allocated to this coursework, I feel if this had not of happened then I would have been able to solve a few of the issues I had and been able to implement some of the features I would have liked to of added. I also wasted a lot of valuable time during the first couple of weeks of the coursework being handed out deciding what to make the site of and even when I had finally decided what to make it about I ended up changing the design a week later as I came up with a different idea which I felt I would be able to complete much easier and would also make use of the requirements instead of trying to force them into the site.

I do feel like I have learnt a lot about python during this coursework as I was able to complete the basics of it which were similar to the last one much faster and with less mistakes. However, I feel I have a lot to learn about python still as I was still referring to the workbook a lot to find out how to code certain parts. I was also still referring to the internet for a lot of my problem solving which sometimes helped me but there were some cases where it seemed to only make the problem worse. When I was developing the login and register I was struggling to get it to get the data back from the database and then compare it to what the user inputted, I ended up rewriting the code for it multiple times to try and get it to work as intended.