Final Project for Computer Programming for Computer Science

Final Draft

A Web Application to enhance the ease of making food orders from Ashesi Cafeterias

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CHAPTER 1

(a) Preamble

For the short period of time that I have been a student at Ashesi, I have been frustrated and inconvenienced when I want to buy food at the two cafeterias on Campus, that is, Akornor and BigBen. This has been occasioned by the fact that there are always long queues at either cafeterias and the fact that for some orders that you place at that point, you will have to wait and therefore this, most of the times, when you are in a hurry, serves to inconvenience you.

After taking Foundations of Design and Entrepreneurship as a fundamental course, I was keen to understand what some of my friends were taking as a societal problem to undertake as their year-long project. To my amazement, the inconveniences occasioned by the delay in getting food at the cafeterias and the stress of going all the way to cafeterias was dominant. Most of the ventures undertook to solve the problem of deliveries. One major part that was still cumbersome was on getting and placing orders. There was heavy reliance on using google forms or phone calls to place orders that would be delivered by the third-party delivery services. Having been part of these services, it was still cumbersome and stressful for me to get to access the phone numbers or google forms to place my orders, which most often, could not be placed.

After some research, I realized that there could be an amicable and feasible solution that would solve this using the knowledge learn in class in Python and additional knowledge on web application using frameworks. This project therefore aims at solving this problem by enabling the students make orders at their own convenience. It is basically a web application designed to enable user sign up and login and seeks to provide the user with the menu available at the two cafeterias and the respective price tags. This is in an aim to offer accessibility, affordability, and convenience.

(a) Web Application Framework

1.1 Homepage

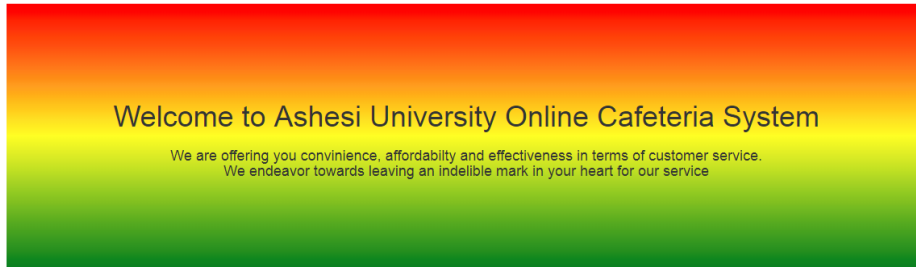It is the interface that contains the welcome message for the esteemed users.

Fig 1.0

1.2 User Sign Up

There is an interface to allow new users to register themselves and hence get to use the platform. The users are required to key in their usernames (their first name and surname), email addresses and passwords.
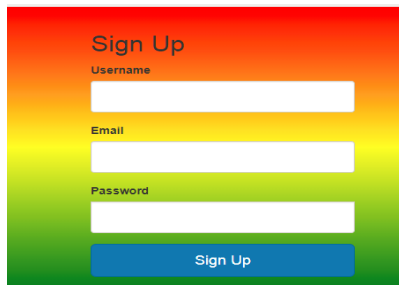

Fig 2.0

1.3 User Login

This is an interface that allows already registered users to log in into the online system and be able to successfully access the dashboard, that provides the menu and placing orders.
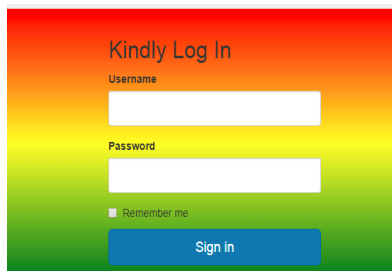

Fig 3.0

1.4 Dashboard

This interface provides the users with the information regarding the menu available at the respective cafeterias and the price tags. It further provides a platform to make your orders, check meal plan balance and the transaction history. The user can logout too.

Fig 4.0

   Fig 5.0

1.5 Contacts

This sub-section provides the user with contacts for all cafeterias, this is to aid the users to be able to get in touch with them.

Ashesi University College

Contact Us

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Email: hakunamatata@ashesi.edu.gh
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BigBen
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Phone: +233.256.188.521 OR +233 012 042 503
Email: bigben@ashesi.edu.gh

Fig 6.0

CHAPTER 2

In-Class Concepts Applied

1.1 Chapter 2: In this chapter my project made use of the Assignment statements. I used simple assignments, that's, a variable to an expression. In this case, an example is the variable I used to set up the bootstrap and SQLAlchemy, which enables me to initialize both of them More variables were defined under the classes to enable get user input and store it into a variable, hence using the knowledge of assigning input.

1.2 Chapter 3: In this chapter, I made use of the different data types that represent numerical values. That was illustrated when getting to assign variables in the classes where the user_id and username require an integer and string data type respectively.

1.3 Chapter 5: I made use of the string manipulation concept whereby I used len() to limit the user on the number of characters they are required to enter for the username and password respectively to ease the storage of information and overcome ambiguity. I equally used the concept of encryption, whereby I applied the concept of password hashing to make the passwords private keys.

1.4 Chapter 6: I used the concept of defining functions whereby the functions I defined therein were to enable the user to define an argument which would facilitate routing and return the

user to the defined URL using the render_template module. I also used function variables which are local variables hence could be invoked locally on the local server.

1.5 Chapter 7: I applied the concept of decision structures to help the user submit the various login forms. I used the simple decisions involving if, that is to check if the form has been submitted and if the username and password are correct, which if proved true would return some information.

1.6 Chapter 8: I used the concept of nested loops where the system is meant to determine first if the log in form filled by the user has been submitted and next if the credentials filled are correct. Secondly, I used Boolean operators, True or False, that is, for the app.run where the developer sets debug= True to enable him detect bugs and correct them. I also applied for the if-statements in the loops

1.7 Chapter 9: Under Simulation and Design, I used the concept of spiral development, whereby I started with creating a simple version of the final design and tackling it using the top-down design to allow the ease of breaking the project piece by piece.

1.8 Chapter 10: I defined classes to enable me collect data from the user and hence create my database. They were fundamental in passing the parameters that would help create the database model and FlaskForms that will enable the service provider to receive the credentials from the user and store them in the SQLite database and hence can be retrieved afterwards.