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|  | | Block 2 – Back End Development | | | | |  | |
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# Introduction.

This is the report of the Block 2 – Backend development module, which the main purpose of the assignment is to build a website from scratch and allow users to create data entries to the database. The way these users provide the data is through forms on different webpages, the provided data has requirements for the information to be sent. Linux Operating System on a live Apache server is used to host the website as well as help in viewing the website live in a browser. To operate Linux the focus is knowing it’s commands to operate and configure the files, directories and pushing and pulling the files from GitHub. In this assignment 3 different programming languages were used: PHP, HTML and CSS.

# ER Diagram.

Diagram, engineering drawing

Description automatically generated

# Website Functionality (What the website does)

The website itself is fully functional and useable for the user, as the user can insert the data into the forms (Astronaut, Missions, Attends, Targets) then after the data has been inserted into the database, the user can view the whole table they inserted the data to as well any other inputs before if there are any. The data inserted by the user is being validated in 2 different ways there is more information about that in “**How is data validated**”. Users don’t have access to view the data in the tables in phpMyAdmin, therefore the data is populated from a database to the table on the website, this is done using PHP programming language and mySQL command queries.

Text

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This line of PHP code states the connection to the database, and it defines the name of the database, the name of the user, the host it’s using to connect and the password to log into phpMyAdmin. This connection.php file is linked with every “Create” and “View” file for the website to work and the user to be able to insert the data as well as well as view it.

# How does the software work together?

GitHub was used to manage work effectively and to “Push” and “Pull” work/code between local files and files on the Apache Linux Server. The original code was written in Visual Studio Code then pushed onto GitHub and the code was then pulled from GitHub onto the Linux Server.

PHP stands for “Hypertext Preprocessor” and its purpose is used in web developing to manage the websites back-end information like databases. Its functions add functionalities to the website like processing and returning the values. This language was used in the assignment to help with the database and collecting/storing the data.

HTML stands for “Hypertext Markup Language” and the purpose of this language is to structure the website and create the main content of the web site without adding any style to it. Both PHP and HTML link up well when it comes to website building and its functionality as HTML works as the client-side language and PHP works as the server-side. This language was used to structure the website and link all the webpages together.

CSS stands for “Cascading Style Sheets” and its purpose is to help in styling out the website on a visual side for example adding color and layouts, it helps in presentation aspects of the website. This language was used in my assignment to help in styling out the HTML structure.

All these 3 programming languages work together for the website to work and look great visually using CSS and, allowing the website to be functional using HTML and PHP.

# How is data validated.

# There are 2 types of validation on the website. The first one being the requirements for the form to be fully completed with the correct data type, if the user doesn’t fully fill out the form an alert will pop up saying “Fill This” otherwise the data can’t be inserted into the database. The second and highly secured validation is a checker if the user is inserting the correct data into the forms, for example the data inserted cannot have special characters unless allocated, or the user isn’t able to insert anything long for example a piece of code etc. This type of validation prevents the database from being hacked as hackers may write their own command/code in the textbox which “phpMyAdmin” would read and possibly spit out some information which are in the database, which in this case is a massive security breach.

# Making and Development Process.

The local website was deployed and developed on a portable version of a software called “XAMPP”. This application allowed to view the work locally for example starting an Apache Server or MySQL and using these to work on the database and the website locally. VMs were also used to host the website through the terminal to connect to the virtual machine and run the whole website from there.

# Technologies used to create the website.

The technologies and applications used for creating the website were XAMPP to deploy a local live server and local database, Visual Studio Code to write the code for all the different files (Web pages), Microsoft Azure to get a Virtual Machine and host the original/final version of the website to be deployed on the website, MySQL and phpMyAdmin were also used to manage the database and its command lines to run it. phpMyAdmin is a great choice to use for the back-end of the website development as it’s very simple in use and has a very detailed GUI.

# References

[https://app.diagrams.net/](https://app.diagrams.net/%20) accessed (09/12/2021)

[https://w3schools.com/](https://w3schools.com/%20) accessed (01/12/2021)

<https://developer.mozilla.org/en-US/docs/Web/HTML> accessed (02/12/2021)

<https://developer.mozilla.org/en-US/docs/Web/CSS> accessed (03/12/2021)

Block 2 Back-End checklist brief accessed (20/11/2021)

Astronaut.saxtons.org.uk is my website.