Nutriblocks Web Application for Nutriblocks Limited

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ABSTRACT

This paper presents a web solution for Nutriblocks Limited. The project contains two phases, the first phase is designing the static website based on the existing company website, the second phase involves developing a web dashboard application. Nutriblocks Limited is a company that aims to improve health knowledge by playing a nutrition game, the game is targeted at children aged from 7-11 years old. The static website is built by using HTML, CSS and JavaScript languages. The dashboard application involves not only the languages above, but also PHP and MySQL. The dashboard supports functions such as registering and activating a new account, creating account for children and visualise the data of the game. This project aims to provide a powerful tool for teacher and parent to know their children's performance in the game.

Keywords: Web Application, Backend Development, Dashboard, Education, Game.

1. INTRODUCTION

NutriBlocks Limited is a start-up company with the aim to design engaging, entertaining, and educational games for nutrition education. The game being developed by NutriBlocks - Nutri-Islands, an educational game targeted at Year 5-8 school children (age 8 - 12 years old).

This project is initiated under the request of Claudia Leong - Co-founder & director of NutriBlocks Limited. This project is supported by Industry Supervisor - Claudia Leong and Academic Supervisor – Amit Sarkar.

This project aims to satisfy the client of NutriBlocks by making improvements of company website and producing a web application that can be used by parents and teachers as a dashboard to help keep track of what children are doing in the game, and to attract potential investors to be interested and find out more about Nutriblocks.

At the end of the project, it is expected to deliver a modified company website for people to view the information of what this company does and how this company works. The project will also produce a web dashboard application that displays the children's activities, parents and teachers can have easy access to see what their students are doing in the game.

2. PROJECT GOAL

The main industry goal is to produce a web dashboard application that is hosted by AWS, the server should satisfy the web application requirements and provide stable access. The web application should support various functions such as displaying specific data and generating PDF report.

Visitors can browse detailed information of what NutriBlocks does on its company website, it should provide comprehensive information of the company that may attract potential customers and investors. The web dashboard application can give teachers and parents easy access to the data of what progresses their children are making.

Expected Deliverables are:

- Modified company website.
- Web dashboard application.
- Relational database management system.
- Registration system for customer.
- Research of how to change system from GoDaddy to AWS S3 server

3. METHOD

This project uses several different languages to develop the dashboard application and static website. However, the main language used is PHP. This project does not use any framework such as Vue.js, React.js or Django. This is because client wants the application to be maintained easily. Using frameworks may increase the functionalities but also increase the complexity at the same time.

Under this circumstance, this project only uses CSS for making the layout, HTML for creating the content, JavaScript for achieving some functionalities, MySQL for making database queries and PHP for retrieving and displaying the data from database. This structure reduces the complicities of the project and client can easily understand the logic behind the code. Furthermore, once clients intend to make some changes, they know which bits of code needs to be modified, as the code is client friendly and easy to read.

4. PROCESS

The project management framework used for this project is Agile methodology.

It has following pros and cons.

Pros:

1. **Quality product**.
2. **Customer satisfaction.**
3. **Reduced risks.**
4. **Continuous improvement.**
5. **Increased flexibility**

Cons:

1. **Poor resource planning**.
2. **Limited documentation.**
3. **Fragmented output.**
4. **No finite ends.**
5. **Difficult measurement**

(Kissflow, 2021), (Lynn, 2021)

Agile methodology emphasises on the development phases of a project. The idea of Agile methodology is to basically break the whole project into different parts, with each phase involves communication with clients and constant developing work. (Wrike, 2021)

As project is broken into smaller parts, every part is called a sprint. It consists of many subtasks; these amount of works needs to be done within the sprint period. The Sprint is designed for dividing a big task into smaller tasks so team members can easily manage the project and keep progressing. At the end of each sprint, a retrospective will be taken in place where people can review their performance during the sprint, it is a crucial chance for team members to improve the work efficiency and correct the mistakes. (Brunskill, 2022)

5. CONCLUSION

This web application provides an essential tool for teacher and parent to know the comprehensive performance of a children in Nutri-Island game. It helps teacher to design the activities for each children based on how they did in game. Because the dashboard visualise data in a nice way and provides valuable information, teacher is able to analyse the children's performance and generate education plan with good quality.

6. REFERENCES

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