Product Document

(V1.0)

TA27

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1.0 Basic information about the website

Drought is a well-known hazard in Australia which threatens the country a lot. However, in such a severe drought, the students living in metropolitan Melbourne are completely unaware of the current drought in Australia and preventive measures. It is necessary to tell children the knowledge about the drought so that they can have a systematic awareness of drought. This project aims to construct a web application for education. Target users of the product is children between 10 and 13.

The current alternatives are too technical for our target to use, which is the reason why our team wants to develop the website. Our team is about to develop a user-friendly website for our target users to introduce drought to them in a less technical manner.

2.0 Fundamentals of the system

The web application consists four main functionalities, which teach children what is a drought and what they can do to protect themselves from droughts.

2.1 Drought background

This functionality provides with information about what is drought, why drought happens, kinds of damages caused by drought and the history of drought in Australia. Target users then will have basic awareness of the drought in Australia.

2.2 Visualization

Water evaporation, Temperature and rainfall are three main factors which lead to drought in Australia. This functionality provides data visualization and simple data analysis to target users. I Tableau embedded API is used here to provide well-designed data visualization.

2.3 How to prevent drought

This part includes countermeasures to fight against drought and household water consumption test. These let target users take action to fight against drought by themselves or with family members.

2.4 Quizzes

At the end of the learning journey, users are able to test their learning outcome. Different quizzes are provided to users so that they can know whether they have completely know what is drought.

3.0 Benefit of the website

This website is designed as simple as possible so that our target users can use it without technical barriers. Also, this website uses vivid pictures, stories and videos, which is more attractive to children. It is suitable to be used both in class and in families. Teachers could use this website to reduce their workload and parents can practise those countermeasures about drought prevention with children.

Compared with the current tools, like Australian drought map provided by the government or a lot of other websites which uses much texts, the website is more user-friendly. Information is provided with less text and more pictures and data visualization is simple but interactive. Our target users will not feel confused about what they should do or feel boring while reading too much text.

4.0 Day-to-day basis functioning

The developer of the website should have good command of AWS Services like AWS RDS, AWS Amplify, AWS Lambda, AWS API Gateway, AWS Route53, AWS IAM and AWS Cloud9. Also, Since Nodejs(React) is the framework used to develop the frontend, developers must be able to write React. In regard to the database, MySQL is the DMBS of the database, which means the data administrator must have a good use of it. Finally, Lambda functions in AWS Lambda are written by Python, developers who are able to read Python file are strongly recommended.

5.0 Open data sources

The data used by the website are mainly about the climate data used for data visualizations and quiz questions. The sources of the climate data are mentioned in the **Maintenance Document**.

Please visit: https://github.com/Wolphatch/industralExperience. The quiz data is designed by the project team according to the content in the website.

6.0 Security and privacy

All content about Security and privacy has been written in the **Maintenance Document.** Please visit: https://github.com/Wolphatch/industralExperience.

7.0 Test information

All content about test information has been written in the **Maintenance Document.** Please visit: https://github.com/Wolphatch/industralExperience.