Software Engineering

Website

Group Report

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Introduction

Overview of the Project

The website is a population information reporting system that allows users to generate various reports based on data stored in an SQL database. The website is a web application that provides a user-friendly interface for users to interact with the database and generate reports.

Goals

The goal of the website is to provide an easy-to-use system for generating reports based on population information. The website provides users with the ability to generate reports based on different criteria, such as country, region, and continent, and should allow users to filter the reports based on different parameters.

Objectives

The objectives of the website are as follows:

- Allow users to generate reports based on different criteria, such as country, region, and continent

- Allow users to filter the reports based on different parameters

- Allow users to add new data to the database

- Implement security measures, such as login credentials, to ensure the safety of the data stored in the database

- Provide additional yet relevant functionality to enhance the user experience

Design Process

Planning Stage

During the planning stage, the team identified the requirements and prioritized them based on their importance. The team then allocated tasks and identified the scope of the project. Stakeholders were also identified, and risk management strategies were put in place. We setup a Github repository to manage the project, we decided to have 3 branches to work on, release, develop, and main. We brainstormed the technologies to use. And finally, we wrote a Code of Conduct to follow through this process.

Project Management Approach

The project management approach used was agile methodology. This approach was chosen because it allows for flexibility and adaptability to changes in requirements. In the technical aspect, we utilized Docker to contain all the libraries and necessary installations to run the project. We also implemented Zube.io as a sprint board to manage the tasks for the project and have a backlog. We use Github Issues to handle Bugs and Task that need to be done.

Project Roles and Responsibilities

The project team consisted of a Scrum Master, Product Owner, and developers. The Scrum Master makes sure of fostering an effective and productive working environment and guiding others to understand scrum values. The product owner makes sure of maximizing the value delivered by each member of the team. We are all developers.

Implementation Overview

Front End

The front end of the website was developed using PUG. PUG was chosen because it is a lightweight and easy-to-use template engine that allows for the creation of dynamic web pages. The front-end developer implemented the user interface according to the requirements identified during the planning stage. The user interface allows users to generate reports based on different criteria, such as country, region, and continent. Users can filter the reports based on different parameters, such as population and language. The Website has three main are Home, Account, and About. About page talks about the project and the developer of it. The Account page is to login and register and it is useful to edit the database. The home page is the most important page which contains the whole queries to search through the website.

Back End

The back end of the website runs via Node.js and communicates with the front end via Express.js. The back-end developer implemented the back-end functionality according to the requirements identified during the planning stage. The back end retrieves data from the SQL database and sends it to the front end for display. The back end also allows users to add new data to the database and implements security measures, such as login credentials, to ensure the safety of the data stored in the database.

Conclusion

In conclusion, the population information reporting system is a web application that provides users with the ability to generate reports based on different criteria, such as country, region, and continent. The website was developed using PUG for the front end and Node.js for the back end. The website communicates with the SQL database via Express.js. The website also allows users to add new data to the database and implements security measures, such as login credentials, to ensure the safety of the data stored in the database. Overall, the website provides a user-friendly interface for users to interact with the database and generate reports.