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Declaration of Joint Authorship

Adrian Caprini, Raphael Najera and Johnson Liang the group members of the project Solar

Capstone, confirm that this report submitted for assessment is the joint work of ourselves, and research which is expressed in our own words. Any uses made within our own works of any other author, in any form (ideas, figures, previous technologies, tables, programs, texts) are properly acknowledged at the point of use. A list of the references used is included. For our group members we have evenly divided the work as follows. Adrian Caprini worked on the Database, Raphael Najera worked on the mobile application, and Johnson Liang worked on the web application.

Abstract

Solar power is clean renewable energy collected from the sun. As a result, by using solar energy it helps reduce greenhouse gas emissions and relying on fossil fuels. The four solar panels will monitor how much solar energy is collected and the total amount of energy collected every month and year. This data that is being gathered by the four solar panels will then be stored in a database. The data being stored in the databases will then be made available for users to access this information from our mobile and PC application. The mobile application will retrieve the data from the solar panel PVs and display the information. The web application will also display the data retrieved from the solar panel in the form of a PC GUI. The users can then access this data globally from our web or mobile application. This system can be used to help educate the community about the significance of relying on renewable energy rather than fossil fuels. For example, the importance of avoiding greenhouse gas emissions and the purpose for using clean renewable energy.

1. Introduction

Fossil fuel has been the Earth's main source of energy for many centuries but this source will one day be depleted and extinct. Instead, we have to educate and make ourselves aware of an alternate energy source such as solar energy. Unlike fossil fuels, solar energy is renewable and clean from the sun, and with the current advancements it can help reduce greenhouse gas emission and the cost of money. We will integrate a solution which will help the community be aware of the significance revolving around clean energy.

This project revolves around solar panels and the Sunny Boy sensor box to gather data on how much solar energy is collected from each solar panel and the total amount of energy collected every month and year. The information stored on the database will be retrieved so that it can be read on our mobile and web application, so that users can access this information from their cell phones or publicly at Humber College. It is possible to monitor all four solar panels within the application and displaying the information of each one by clicking the different tabs in our mobile application.

The idea of the solar panels is for Humber to use renewable energy and eliminate fossil fuel usage and to show the Humber community how solar energy works. Also, the Humber community would be able to see how much solar energy Humber uses each day, month and year. By having access to this data, individuals interested in this data will have live up-to-date records and observe how much solar energy Humber uses on a daily or monthly basis.