University of Bahrain
College of Engineering
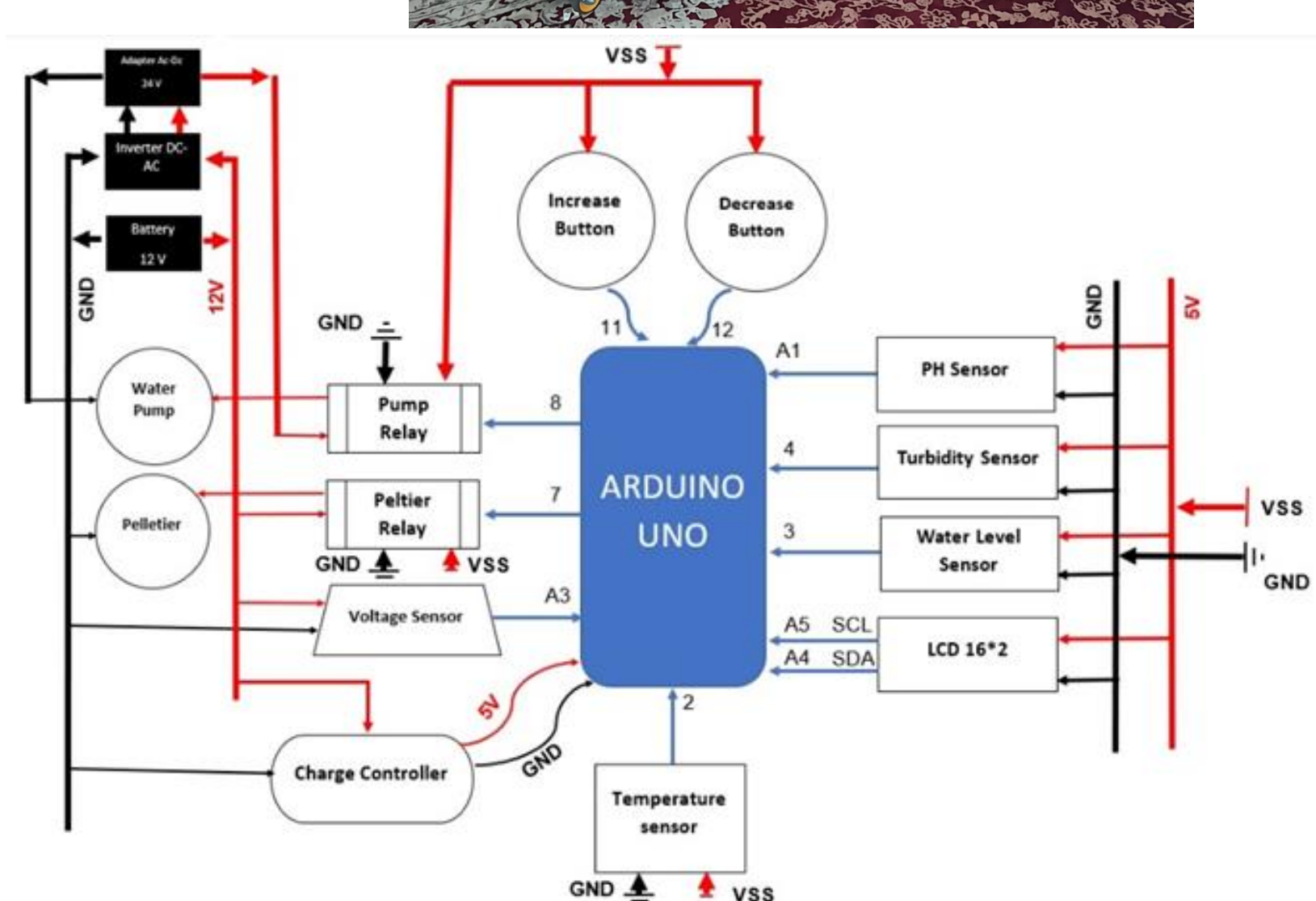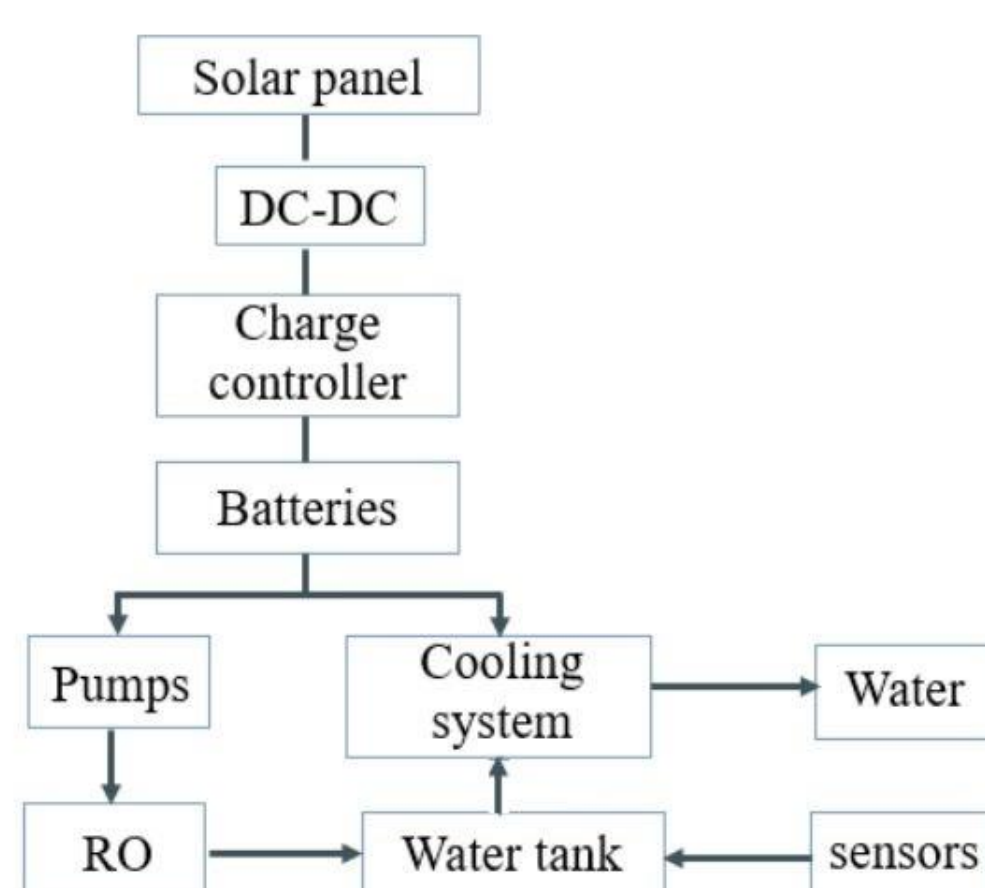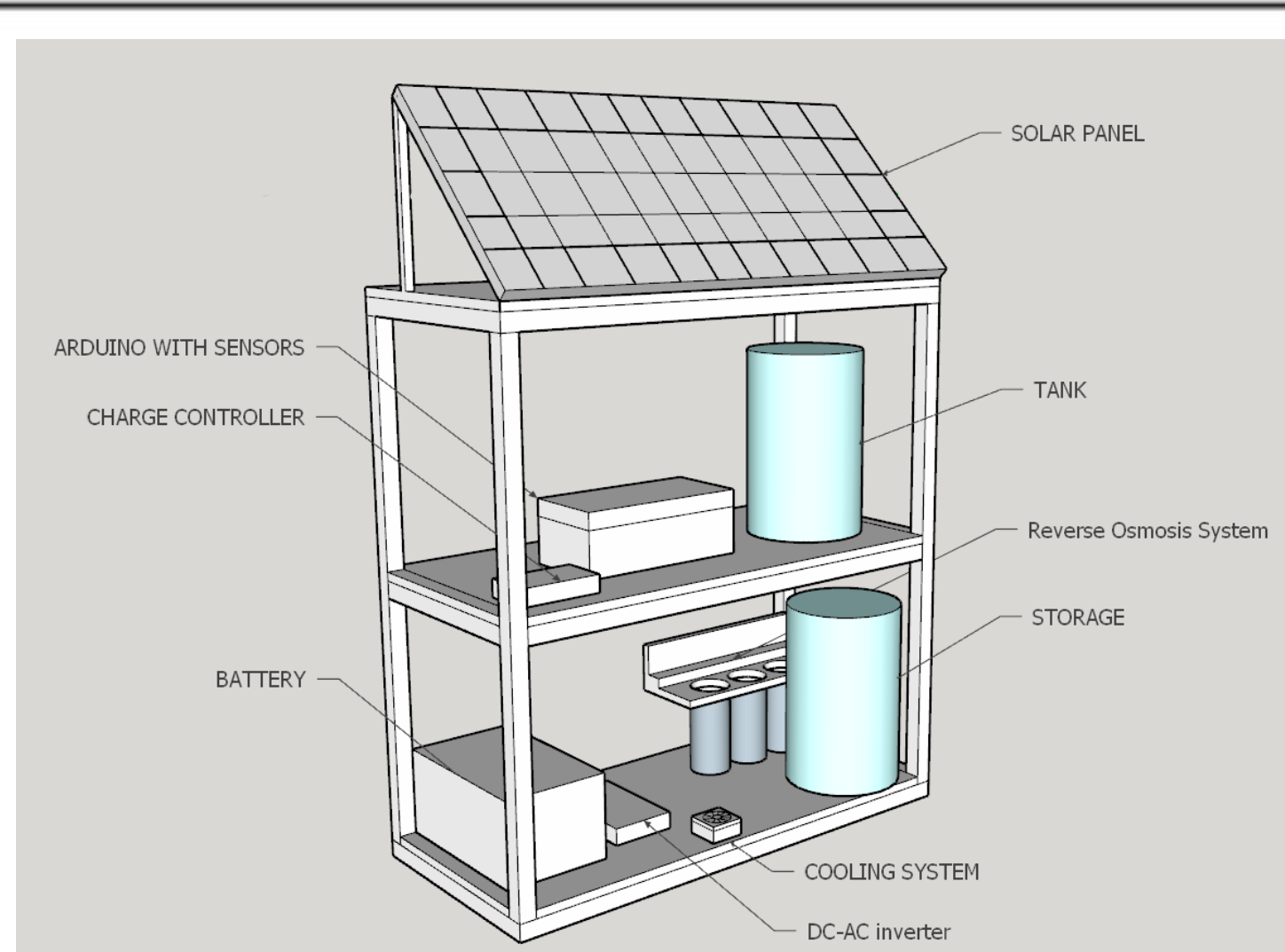Department of Electrical and Electronics Engineering

Controllable Solar powered portable water desalination unit

Abstract

Our aim of this project is to use design and implement Controllable Solar powered portable water desalination unit, which it will help to get a drinkable fresh water at the same time to use the solar power to get the power for this system moreover we will design and write some codes to control this project, this device will have some applications by adding this sensor we will use the Arduino. that will make the control easier, and it will offer a lot of applications to our project such as it will help the consumer to Controls the water temperature by using push buttons at the same time more sensors will be added these sensors will help to get the highest quality of the water as possible as we can. This project will help to solve some of global problems since it will offer clean and fresh drinking water that anyone can drink it even in the middle of the sea since it have the ocean or the sea as Unlimited source of water more over the source of the power will be environmentally friendly since we will take the power to charge the battery from the sun by offering these source of water for human that will help with habitat protection by reducing the number of the water plastic bottles that could be thrown in the sea from some peoples.

Design and Implementation

Objective and Motivation

The objective of the project is to make a cooling and desalination device with low cost that can produce drinkable water by using the solar system with controlled part and some new features. This device for should be interactive, readily available, as small as possible. Also, to create an automated system which will help Poor countries suffer from high rates of water pollution.

The motivation : what Do you think that you can walk away and fill your bottle with water from the sea? Or do you think that you could continuo your day if you didn't get clean water? So, what about the people who's don't have a permanent access to electricity and water such as poor people or people like the fisher man in the middle of the sea moreover to use a permanent and environmentally friendly renewable energy source that is offer to everybody in everywhere every time with cheap cost.

Results

Firstly, for the hardware part we build the structure table that will hold our system, then we insert the solar system on it we test our solar system and we found that its charger the Battery in very good that serves our purpose. When we done of writing the codes of each sensor, we test each one by separate and the results were correct, and each sensor does it job. Finally, we combined all the codes of each sensor in one code after that we combine all sensors with each other and connect them to our design and we found that the result is as what we expected and that we achieved our goal of the project.

Conclusion

Our aim of this project is to design and implement Controllable Solar powered portable water desalination unit that will offer a lot of advantages and will help to come over a lot of problems since it will offer clean and fresh drinking water that anyone can drink it even in the middle of the sea since it have the ocean or the sea as Unlimited source of water more over the source of the power will be environmentally friendly since we will take the power to charge the battery from the sun by offering these source of water for human that will Help with habitat protection.by using Arduino device to control our seniors by writing and modifying some codes and then combine them with each other's then combine them with our solar system it was a little bit difficult to research and have good knowledge to develop our project. The result of developing was Solar powered portable water desalination unit that can be controlled by some of sensors and some push button that will help the consumer to get a good quality of water by using a solar power.

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