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A Water Kiosk System Based on Internet of Things

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Abstract

In developing countries, it can be difficult for people to obtain clean water at an affordable price. For example, there are currently about 700 million people without access to clean water among the 1.033 billion people in Sub-Saharan Africa. Moreover, more than 100 million people live in areas with poor water quality in India. To allow more people access to clean water, one possible solution is to use a solar powered pumping system to provide clean water underground.

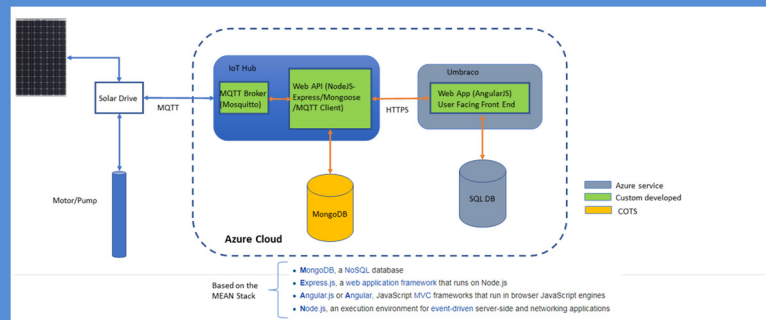
One challenge to such a solution is to design a low-price, easy-to-use kiosk system. In this senior capstone project, a virtual kiosk system is developed based on the technologies of the Internet of Things (IoT), a network of sensors or devices connected to the Internet. Specifically, this virtual kiosk system is Web-based so that users are able to employ their smart phone, tablet, or computer to request, pay for and obtain clean drinking water from the pumping system through the Internet. The IoT framework that powers the system senses the flow data in real-time. Moreover, the system can control the pump through a simple user interface in a remote browser. For the administration of the pumping system, a dashboard is implemented to monitor and make changes to the system.

As part of a senior engineering capstone project, a working virtual water kiosk system has been realized based on IoT technology. Such a system can potentially provide clean drinking water to people in developing countries at an affordable price and have a significant positive impact to their lives.

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Design



Design Components

