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ENGINEERING FACULTY
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İoT Based Garden Monitoring System

Project Team Info

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Project Proposal

Project Purpose:

Gardening is a delightful hobby and important work for humanity, but it can be a chore and one particularly bothersome job is watering the garden. Water it too often and the plants can die, too little and they can also die! But surely technology can offer a solution to this age old problem? Well yes it can. One of the primary objectives of this project was to be able to maintain the well-being of a garden using the power of the Internet of Things (IoT). With the versatility of the present tools and software, our planter is integrated with sensors that monitor the real-time status of the plants. We built a smartphone app that let's one access the data and take needed actions if necessary. The design of our system is scalable, low-cost and easy to build, making it the perfect option to add greenery to one's terrace or backyard. The smart garden has proven to be more efficient in water consumption and facilitates maintenance and monitoring

To conclude, this system not only makes your garden more efficient but also ensures the well-being of your plants as the real time data feedback provides a robust method to give the right amount of water and sunlight. We hope that the our developed system was useful and that it will help the gardener for grow their plant successfully.

Proposed System:

It usually consists of a central microcontroller to which other objects are connected. The smart garden consists of NodeMCU as a hub to which different types of sensors such as moisture sensor, humidity sensor, temperature sensor and ultrasonic sensor are connected. The ultrasonic sensor is connected to a water tank which indicated the level of water in the tank. Other sensors are connected to their respective positions and these sensors send the data to NodeMCU which consists of an inbuilt Wi-Fi technology. Firebase is a database available on the internet in which real-time values of the sensor are updated every second. Android application is developed using android studio software. Within the software, the connectivity between the application and firebase will be made. So, the user can monitor the parameters from anywhere. Watering of garden varies with the

type of soil. Hence the values of the sensors are predetermined for automation purposes inside the software. Whenever the user finds need of watering the garden, a switch in the application will automate the process. This helps in complete maintenance of the garden.

Logic of the System: