A Smart Irrigation and Monitoring System

Internet of Things, commonly known as IoT is a promising area in technology that is growing day by day. It is a concept whereby devices connect with each other or to living things. Internet of Things has shown its great benefits in today’s life. Agriculture is one amongst the sectors which contributes a lot to the economy of Mauritius and to get quality products, proper irrigation has to be performed. Hence proper water management is a must because Mauritius is a tropical island that has gone through water crisis since the past few years. With the concept of Internet of Things and the power of the cloud, it is possible to use low cost devices to monitor and be informed about the status of an agricultural area in real time. Thus, this paper provides the design and implementation of a Smart Irrigation and Monitoring System which makes use of Microsoft Azure machine learning to process data received from sensors in the farm and weather forecasting data to better inform the farmers on the appropriate moment to start irrigation. The Smart Irrigation and Monitoring System is made up of sensors which collect data such as air humidity, air temperature, and most importantly soil moisture data. These data are used to monitor the air quality and water content of the soil. The raw data are transmitted to the
cloud platform, Microsoft Azure cloud platform, and are processed through a machine learning operation which had to be trained beforehand. The farmer is then informed through either a web app or mobile app as to when to irrigate. The Smart Irrigation and Monitoring System proposed in this paper allows the farmer, through both the mobile app and web app to send command to start the irrigation process.

References

Index Terms

Computer Science
Information Sciences

Keywords

Internet of Things, a Smart Irrigation and Monitoring System, Microsoft Azure Cloud, Azure Machine Learning