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| **Title:** | Solar Powered Smart Irrigation System Based on Internet of Things (IoT) Using Microcontroller | | |
| **Author(s) Name:** | Sifatuzzaman Niloy, Fahima Haque Sumona, Mehedi Hasan Khan, Mohammad Zohurul Islam, Shameem Ahmad, Sujan Howlader | | |
| **Contact Email(s):** | sujan@aiub.edu | | |
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| **Abstract:** |  |
| In this era of new technology, human life is getting simpler day by day due to the advancement in internet of things (IoT) technology. Similarly, the population is growing rapidly which results in the necessity of huge agricultural goods. To meet that need there is a need for making the irrigation process smart using IoT. This paper aims to design and implement an IoT based smart irrigation system, which can reduce manual labor and maximize the productivity of crops. This system is automatically controlled through microcontroller to monitor the moisture level of crops, humidity & temperature and send messages to the farmers about the agricultural field conditions through GSM system for their further perusal. The system is very simple, and it needs less power. Further, a sun tracking system is installed in the irrigative system which helps the solar panel to track the sun for powering up the irrigation system. The simulation of the overall system is conducted in Proteus platform and a prototype is developed to validate the performance of the system. From the results it has been observed that the system is able to monitor the agricultural field conditions accurately along with informing the farmers about the conditions for further actions. | |