SmartFarmer - IoT Enabled Smart Farming Application

Literature Survey

|  |  |  |
| --- | --- | --- |
| **TITLE** | **SOURCE** | **FINDINGS** |
| Smart Farmer System | https://[www.irjet.net/archives](http://www.irjet.net/archives)  /V7/i4/IRJET-V7I4589.pdf | It described several beneﬁts and challenges of IoT have been identiﬁed. They also presented the IoT ecosystem and how the combination of IoT and DA can be enabled in  smart agriculture. |
| IoT in Agriculture : Smart Farming | https://[www.researchgate.net](http://www.researchgate.net/)  /publication/329438453\_IoT\_ in\_Agriculture\_Smart\_Farming | In smart farming, threshold values of temperature and soil moisture can be programmed into a microcontroller-based gateway to control water quantity. The system is powered by photovoltaic panels and can have a duplex communication link based on a cellular Internet interface that allows data inspection and irrigation scheduling to be programmed through a web page. |
| IoT-Enabled Smart | [https://www.mdpi.com/2076-34](https://www.mdpi.com/2076-3417/12/7/3396/pdf) | In the smart agriculture |
| Agriculture: Architecture, | [17/12/7/3396/pdf](https://www.mdpi.com/2076-3417/12/7/3396/pdf) | domain, besides the main |
| Applications, |  | problems of sensing, |
| and Challenges |  | collecting data, and |
|  |  | controlling devices to respond |
|  |  | to the real farming |
|  |  | environment, data storage |
|  |  | and processing are also |
|  |  | important problems and face |
|  |  | some challenges In reality, the |
|  |  | number of collected data is |
|  |  | huge, and traditional data |
|  |  | storage, organization, and |
|  |  | processing solutions are not |
|  |  | feasible. Therefore, big data |
|  |  | processing solutions need to |

|  |  |  |
| --- | --- | --- |
|  |  | be researched and applied for  smart agriculture |
| SMART FARMING STICK | https://[www.studocu.com/in/](http://www.studocu.com/in/) document/i-k-gujral-punjab-te chnical-university/electronics- devices-circuits/project-02-ﬁn al-report/28934160 | With advancement in technologies IoT frameworks and platforms has been used in many domains like smart healthcare, smart cities, etc. but still in agriculture domain large scale use of IoT solutions is not seen in many countries. To describe some of the IoT based solutions proposed by some of the  researchers. |
| IOT Based Smart Agriculture Monitoring System | https://d1wqtxts1xzle7.cloudf ront.net/53284195/37\_14886 09467\_04-03-2017-with-cover  -page-v2.pdf?Expires=166343 5354&Signature=KlkNwxpAA wFcyiEpIV9Fxf1FUY7dDH5W TPDOramzuieLGAcuuSX6Y5z sHCRAA~rWbETa-wgD4eWU mUE1yWxjSeS5dlzmx94zQRH lB~Tw8f~tBi~kFHEZOB-m7D q88gh2fA4qUk2SdVwW2STo nDUakkv2iq07Y1F3ONi~9hGq 2sp51gTsUFr0ED6iJ7C330KL  QNkPJgYN2c2aQzBChKxMx8 vDy6SAAxJsM0QxL3GR3sMZ  ONkqYMay0zwWfVasm4~hT N7kyI0xzrjyohkoUGAviX9gWn xtcTDupLiDNHuTpDsaSaI7z2 mDLMfVFksErozNgYgzcBn3B GbMkOINgICkTg &Key-Pair-I d=APKAJLOHF5GGSLRBV4Z A | Smart farming by linking a smart sensing system and smart irrigator system through wireless communication technology.It proposes a low cost and eﬃcient wireless sensor network technique to acquire the soil moisture and temperature from various location of farm and as per the need of crop controller to take the decision whether the irrigation is enabled or not. |

PROBLEM STATEMENT:

Food production and its safety are a major problem in the agricultural sector. A lot of crops easily get damaged causing a huge amount of ﬁnancial loss for the nation and even for the farmers (small scale or at large scale). Hence, we developed a stick that will solve all these problems in a better way. This stick will perform all the activities that will help our farmers in many different ways and will pave a way for Smart Farming into the nation. This stick will provide live data of various different parameters, live temperature, soil moisture, humidity, rainfall updates etc., that will help farmers in deciding the right time for their farming.

Following are certain additional features that is added to our stick:

1. Crop Water Management.
2. Precision Agriculture.

In order to perform agriculture activities in an eﬃcient manner, adequate water is essential. Agriculture IoT is integrated with Web Map Service (WMS) and Sensor Observation Service (SOS) to ensure proper water management for irrigation and in turn reduces water wastage. High accuracy is required in terms of weather information which reduces the chances of crop damage. Agriculture IoT ensures timely delivery of real time data in terms of weather forecasting, quality of soil, cost of labor and much more to farmers.Agriculture IoT systems assures farmers with accurate environmental data via proper live data monitoring of temperature, moisture, plant growth and level of pests so that proper care can be taken during production.

