

SMART VILLAGE FOR RURAL DEVELOPMENT

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Keywords:

IoT, soil moisture, level sensors, waste management cloud computing, real time monitoring using GSM systems

Introduction:

IoT based smart village system is developed to support value-added services for various attributes of the village and for the people. The development of a IoT based smart village includes Cloud based network which can provide a virtual infrastructure to process and integrate the analysis tools monitoring equipment, storage, and visualization platform within the system. IoT based Monitoring system will help consumers to monitor their own usage and adjust behaviors. The proposed systems will eventually regulate automatically by operating during off-peak energy hours and connect to sensors which are connected to the devices.

India is rapidly digitising with a vision to transform itself into a smart nation. Also a worldwide smart community is gradually growing up (in which Indians can play a massive role by joining it actively. The first few stepping stones being, implementing a culture of using renewable energy sources, introduction of smart metering, development of automated infrastructure for creating the base for smart grids, 100 smart cities programme, variable tariff policies etc.

Scope / objectives of the project:

Smart Village development enable and access to sustainable energy services which paves way for a development – enabling the provision of good education and healthcare, optimized energy management, sanitation, avoid wastage of water, and enhanced security, gender equality and the growth of productive enterprises to boost incomes, democratic engagement.

The Development of opportunities for youths in villages, thereby discouraging migration to cities. Farming remunerate occupation, with guidance and mentoring to farmers on how to get the best yield and market at remunerative prices for the future rural development. Proper implementation which presides over the benefits such as crop insurance, soil health card, and pesticides which can reach the grassroots. The paramount importance should be given to develop an economically viable and culturally sensitive ecosystem in villages.

The challenges remain the same, direct access to the global market has been a major challenge largely due to multiple intermediaries and lack of skilled workforce.

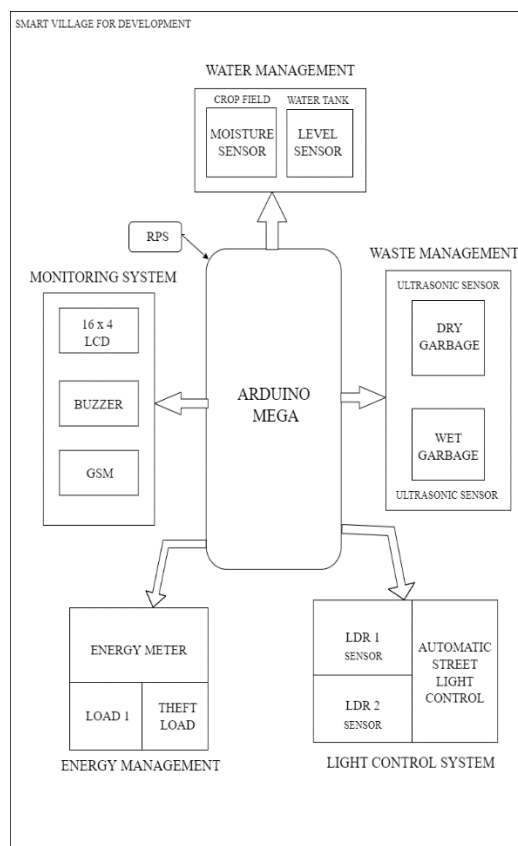
The large population lives in villages, we always fail to improve economic potential and basic services by creating smart village.

The most villages lack essential infrastructure like proper irrigation system, electricity and water. To overcome this challenge, three strategies can be followed:

- Provide education on technology that supplements indigenous skills,
- Ensure digital and IT awareness, and
- Connect skilling-interventions to market.

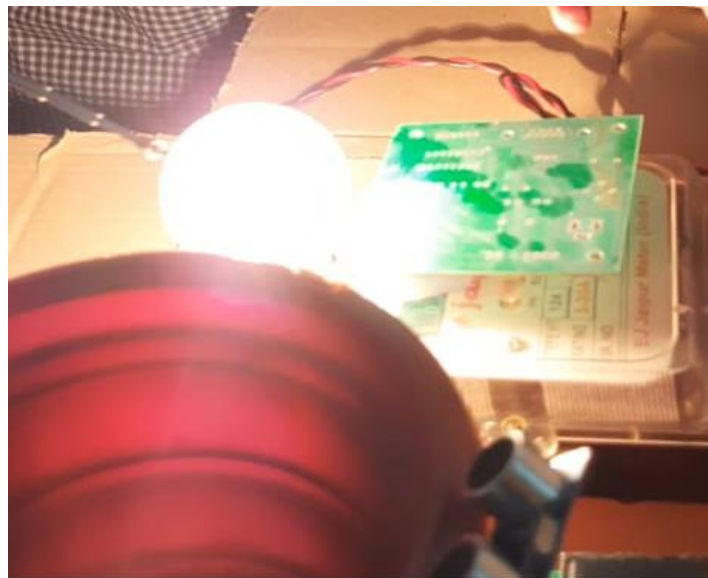
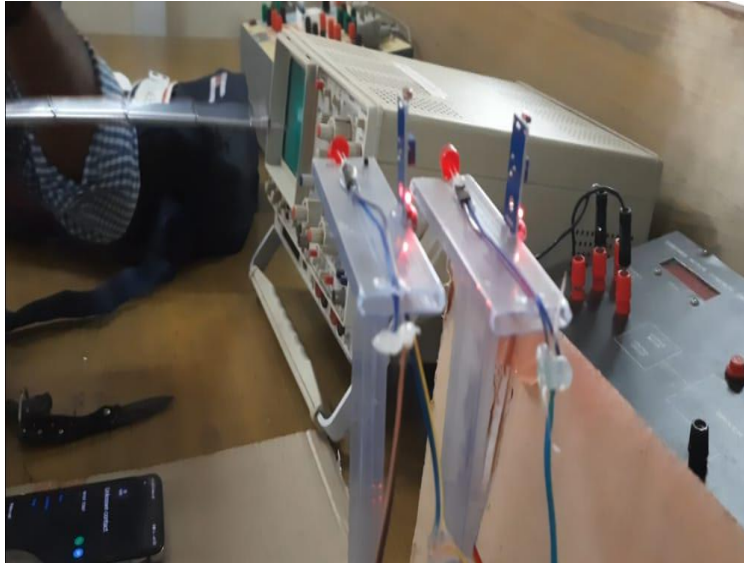
Methodology:

The overall block diagram of the smart village system. The enormous IT infrastructure is required by rural development along with the huge financial support which is to be incorporated. Sensors, thousands of networking equipment and computing devices are built in this complex network. Operational and maintenance cost of such a complex real time system will be much higher which is evident to meet stringent reliability and efficiency improvement. In case of smart irrigation management system each field has to be fitted with a sensors and data control unit which are highly efficient and reliable. The paramount importance should be given to develop an economically viable and culturally sensitive ecosystem in villages. The challenges remain the same, direct access to the global market has been a major challenge largely due to multiple intermediaries and lack of skilled workforce. The large population lives in villages, we always fail to improve economic potential and basic services by creating smart village.



Result:

We got a model village, in which we used modern technologies to reduce the man power and to spread awareness about the modern technologies to villagers



CONCLUSION

Smart village that aims to empower villages with advance rural connectivity through web server, measurement of environment factors like soil moisture, level sensors, waste management and implementation of cloud computing along with real