ABSTRACT

Smart Lights & Agriculture System

The nation's backbone profession has been under pressure of losing its value since the past years. This change is mostly seen due to advancements in technology around the globe. It doesn't mean technological advancements are a negative progress in this point, but it shows us how people have evolved to being lazier and avoiding the profession that makes our livelihood. This problem caused by technology on humans can be changed with the help of technology itself.

A change cannot be brought on humans again to leave their gadgets and laziness to go into fields for work. But the change can be made in such a way that the profession reaches their home, to be precise into the gadgets that people feel difficult to leave away. Internet of Things is the evolving technology that could be used to overcome most of the issues around the day-to-day life. It also helps to old and hardworking farmers to rest at times when work in fields is not needed using IoT in Agriculture, and only reach the field when the situation calls.

This can be implemented by using Sensors in IoT, which are available at a minimal price, and these are user friendly too. The data obtained can be monitored using Adafruit IO, a cloud-based service. A sensor to measure the temperature and humidity levels of the field, one to measure the soil moisture level so that whenever it drops, the data can trigger activation of a motor controlled using the same system and turns off when the level is reached. It thus reduces the need of a farmer at the land always, and he/she could monitor all the details through the cloud service. A gas sensor may be used to monitor the pollution levels around the area, and an ultrasound sensor to check the level of water availability, in case needed to activate by data triggering using Arduino and a microcontroller.

The smart light system can be used to reduce consumption of electricity at unwanted times. For instance, at dark times when there is nobody around, electricity goes waste. Here, a LDR sensor and IR sensor can be implemented to control use of electricity at necessary times only. It will remain off during day hours due to resistance offered by LDR and during night hours, it activates only when an obstacle like human or animal is observed, else it remains off thus saving electrical energy.

This project aims to build an automated smart system in an agricultural piece of land, integrating Agriculture and Technology into our homes and gadgets. This proves agriculture still stays for long and technology plays a part in saving this

valued profession. It can be implemented over a large scale too as a smart city project with addition of equipment and data, and thus bringing in the daily functioning of a city monitored with the help of Internet of Things. It paves way for technological advancement in a positive way, without any environmental issues and thus providing opportunities for development in the field.

Project Members:-

Adhiban Ganesh N – 21011102007
Ajay B – 21011102020
Denis Robert – 21011102028

BTech CSE – (IoT) – 'A'