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SMART FARMING: AN IOT BASEDMONITORING SYSTEM M.

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Harish Kumar Reddy51, 2, 3, 4, 5 Final Year Students, ComputerScience and Engineering, AITS, Rajampet  Abstract: Smart farming has been introduced in manycountries and in India agriculture needs to be modernized with the introductionof technologies for production improvement. In this paper smart farming based on Internetof Things was proposed in which humidity sensors and temperature sensors areused to take the reading of the test soil and depending on the reading waterpump will be automatically powered on/off. With which human intervention can bereduced to a maximum extent. Keywords: agriculture, Internet of Things, SensorsIntroduction: In India most of the agricultureis completely involves human intervention like human needs to see the fieldsand depending on the condition he has to turn the pump on and needs to waittill fields get sufficient water and then human turns off the pump. In most of the villagesgovernment will not provide 24 hrs current facility and current will be givenin the rotation basis for 8 hrs and so. And the farmer needs to wait for thecurrent to come and see the fields and turn on/off the pump depending on therequirement. Night times its very dangerous for the farmers so many farmers arelosing their lives. Proposed Model: Devices Used: 1.

HumiditySensor: This sensor isresponsible for measuring the humidity in the sample soil and this will bereported. Fig 1: Humidity Sensor2.       Temperature SensorThis Sensor isresponsible for measuring the changes made in the test soil and this will bereported.  Fig2: Temperature Sesnor 3.       PressureSensorUsing this sensorthe water pressure from the pump is identified and then farmer will beintimated about the time to fill fields with water. Fig. 3 PressureSensor4.

RainSensorRain Sensor is used to identify the rainand it can be used for rain water harvesting. Fig. 4Rain Sensor 5.      PIRSensor                                Fig5.

PIR SensorPIR Sensor is responsible to detect the motion of theanimals and intruders and report it to the farmer by activating the camera. 6.       Camera Fig. 6  pi CameraPi Camera is used to take video of the intruder and this canbe activated by PIR sensor. And the video will be sent to the farmer. 7.

GSM ModuleUsing which the information can be sent to the mobile phoneof the farmer. 8.      WiFi ModuleUsing which the information can be sent to the application. 9.      PumpPump is used to facilitate water supply to the fields. Proposed System: Fig. 7 shows the block diagram ofthe proposed Model and this model is used to improve the productivity andreduce the resource utilization               Fig 7: Block diagram for proposed systemFarmer will install the system inthe test soil and humidity sensor will sense the humidity in the soil and thetemperature sensor is going to send temperature to the farmer andsimultaneously we will power on the motor and supply water to the fields ifnecessary depending on the reading taken from humidity and temperature sensorand water flow and pressure sensor is used to estimate the time taken for pumpto fill the fields with enough water, and rain drop sensor is used to sense therain and to perform rain water harvesting and PIR motion sensor is used toidentify the intruders and activate the camera to take the video of theintruder and send it to the farmer to take necessary actions. GPRS module and WiFi module isused to send information from the set/kit to the farmer.

Conclusion: Smart Agriculture improvesproductivity and saves lives of the farmer in most dangerous situation, ittakes various measures into account              and automatically turns on/offthe pump and simultaneously sends alerts to the mobile phone of the farmer tothe mobile phone or to the app from where farmer can control the pump. References: 1. S. R. Nandurkar, V. R.

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