IDEATION PHASE

LITERATURE SURVEY

Team ID	PNT2022TMID16026
Project Name	Smart Farmer - IoT Enabled Smart Farming Application

S.NO	YEAR	TITLE	AUTHOR	METHOD TECHNOLOGY USED	SENSORS/MAIN COMPONENTS USED		ADVANTAGES	DISADVANTAGES
1.	2020	SMART AGRICULTURE USING IOT WITH RASPBERRY PI	1.Zuraida Muhammad 2.Shabinar Abd Hamid 3.Zakiah Mohd Yusoff	Water pump will be active if the current time is at 7am &6pm and soil moisture level is below the desired value.	Raspberry Pi	Cloud computing	1.Helps to conserve water use. 2.To avoid over water or contamination of the plants.	1.Not able to run as a windows operating system. 2.Impractical as a desktop computer.
2.	2018	AUTOMATED IRRIGATION SYSTEM - IOT BASED APPROACH	1.Dweepayan Mishra 2.Arzeena Khan 3.Rajeev Tiwari	Humidity value is checked and based on the moisture level, motor is switched ON or OFF.	Arduino	WiFi Module	1.Reduce labor work. 2.Optimize water usage. 3.Increase productivity of crops.	1.It is slow in measurement. 2.It has limited accuracy.
3.	2017	A GROUND - BASED AGRICULTURE ROBOT FOR HIGH -THROUGH PUT CROP PHENOTYPING	1.Tim Mueller 2.Merritt Jenkins 3.JustinAbel	The machine Will cultivate the form at fixed distance depending on crop.	PID Controller And Hokuyo UTM-30LX.	GPS	1.Field based robotic phenotyping which in turn will improve crop yields. 2.Low cost and reliable.	1.It only follows the programming path.
4.	2017	INTELLIGENT IRRIGATION SYSTEM - AN IOT BASED APPROACH	1.M. Newlin Rajkumar 2.S. Abinaya 3.V. Venkatesa Kumar	An automated irrigation system was developed to optimize water use for agricultural crops.	Arduino Mega 2560 Microcontroller Board	GSM Network and WiFi	1.It improves the environment quality and increases the irrigation. 2.It also reduces water logging and water shortages.	1.Traditional farming consumes more water and results in water wastage. 2.In dry areas where there is inadequate rainfall, irrigation becomes difficult.

5.	2016	SOLAR POWERED SENSOR BASED IRRIGATION SYSTEM	1.Kavita Bhole 2.Dimple Chaudhari	The results from the sensors are provided to microcontroller which is interfaced with DC pump, LCD and GSM module. When the moisture content of soil is low, pump will start and farmers can get information on their mobile.	AVR Microcontroller and solar panel	GSM Module	1.Alternate source for electric power and automated control.	1.Installation cost is high.
6.	2015	SENSOR BASED AUTOMATED IRRIGATION SYSTEM WITH IOT	1.Karan Kansara 2.Vishal Zaveri 3.Shreyans Shah	Moisture sensor sends signal to microcontroller when moisture is low which then gives the signal to mobile and activate the buzzer. The buzzer will turn on the water pump.	MAX 232 IC	GPRS based mobile system	1.Save money and time. 2.Low power consumption.	1.It gives only information about the environmental conditions. 2.This system doesn't monitor the nutrient content in the soil.
7.	2015	AUTOMATION IN AGRICULTURE	1.S. S. Katariya 2.Kanawade 3.Khan Mazhar	The result of the comparator is fed into microcontroller which takes action according to the result. The robot takes action like dropping a seed, ploughing etc. depending upon the action.	Microcontroller and LM358 IC	Robotic Process Automation	1.Improves the fruit quality and soil standard.	1.The system is failed in rice agriculture production because the white track is possible for implementatio n.

8.	2014	WIRELESS MONITORING OF SOIL MOISTURE, TEMPERATURE AND HUMIDITY USING ZIGBEE IN AGRICULTURE	1.C.H. Chavan 2.P.V. Karande	Signals are read by different sensors and its output is given to microcontroller and then the output from microcontroller is given to LCD display and ZigBee. The signals are used for precision farming.	AVR Microcontroller	GSM – ZigBee based remote control	1.The GDP per capita in agro sector can be increased.	1.Weather forecasting and nutrient content is not determined in this system.