INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

Innovation / Prototype

1. Student Details

Name of the Student	Roll Number	Branch	Mobile Number
E.AJAY KUMAR	21955A0401	ECE	9849201196
G.NARESH	21955A0410	ECE	7670807637

2. Title of the Innovation or Prototype

AUTOMATIC PLANT WATERING SYSTEM

3. Define the problem and its relevance to today's market / society / industry need (Max: 100 Words)

Normally agricultural lands are very far from the farmer's house so farmers have to go farm land for irrigation that causes inconvenience and fuel consumption "if used any vehicle".

Some plants as Thorny plants don't need a lot of water means high Humidity ratio so the farmers can benefit from the sensor reading to Determination if the plants need the water now or not.

Power consumption is very high and the price on electricity bill is also high.

4. Describe the Solution / Proposed / Developed (Max: 100 Words)

An automated watering system is such a system that starts watering to plants by measuring soil moisture through soil moisture sensor. In this project we will have some extra benefits. We don't need to control this watering, because the device will make this automatically when it will need it.

The major advantages of this project are reduced labour, timely irrigation, plants being watered when needed, preserver's soil structure and nutrients.

5. Explain the uniqueness and distinctive features of the (product / process / service) solution (Max: 100 Words)

When the plant need water "Humidity less " the sensor will read the ratio and based on the already specific value of humidity which is already given i.e., if the value of humidity is less than the value already given the motor is ON and water is given to the plants and if the value of humidity is greater than the value already been given the motor is in OFF state and no water is supplied.

Our product is

* Compact in size.
* Simple design
* Less power consumption
* Portable anywhere.

6. How your proposed / developed (product / process / service) solution is different from similar kind of product by the competitors if any (Max: 100 Words)

Our proposed system is very easy to understand and as the circuit is simple with basic knowledge it can be operated easily.

The way our product utilizes the energy Consumption and the way it operates with the help of sensors for finding the right time to get the plants watered.

Being a portable product it can be used anywhere without much efforts to move The best thing about our product is, it is less cost at the same time most useful.

7. Utility: Highlight the utility/value proposition (key benefits) aspects of the solution/innovation* (Max: 100 Words)

* Simple design
* Less power consumption
* Less cost
* Portable
* Easy to Operate

8. Scalability: Highlight the market potential aspects of the Solution/Innovation (Potential Market Size, segmentation and Target users/customers etc.) (Max: 100 Words)

* Farmers
* Gardeners
* As far as we came to an understanding that its going to have a medium scale in the market. And in the future it will be on top in the market.

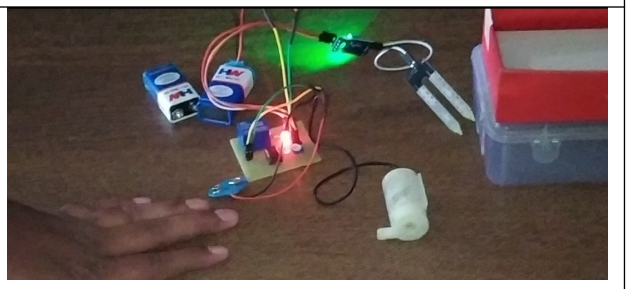
9. Economic Sustainability: Highlight commercialisation/business application aspects of the solution (how it is going to economic profitable and viable) (Max: 100 Words)

Our project is economically profitable and valuable in the market. it helps in protecting the plants/crops for gardeners and farmers increasing productivity of crops and more plants getting back will help in balancing climate making it getting back to olden natural days.

10. Environmental Sustainability: Highlight environmental friendliness aspects and related benefit of the solution/innovation (Max: 100 Words)

Our project is very environmental friendly. It helps in preserving and protecting plants/crops from water problems by proving required amount of water when needed and not providing water when they don't need.

11. Details of Prototype

Components	NE555 Timer IC DC Pump 10k Preset 5V SPDT Relay Male Pinheads Soil Sensor 5mm LED 9v batteries with cap - 2 pieces
Budget	900 Rs
Photos	 
Video link	https://youtu.be/RqGGaH0tQes