INSTITUTEOFAERONAUTICALENGINEERING

(Autonomous)
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Innovation / Prototype Proposal

1. Team Details

Name of the Student	Roll Number	Branch	MobileNumber
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2. Titleof theInnovationorPrototype

Automatic ON-OFF Light using Microcontroller (12-Hour Delay)

3. Define the problem and its relevance to today's market / society / industry need.

In today's fast-growing world, people leave their house without switching off due to busy life style or poor memory power. Such behavior does not only result in wastage but also bring potential danger to the home. We need to turn ON and OFF the switch manually which is very hectic to do every day. Owing to the above problem, an automated home control system is needed to keep the wastage and danger to the very minimum.

4. Describe the Solution Proposed/Developed.

As we have seen in the above problem statement, we came up with the brilliant solution which makes the life easier and more reliable. We developed a circuit of an automatic on-off light using microcontroller including with 12hr delay. Such that there is no need of turning on/off the switch every time. In this way we be relax as well as no wastage of electricity.

5. Explain the uniqueness and distinctive features of the product / process / service solution.

The uniqueness of our model is its microcontroller which gives a 12-hour delay such that we don't need to on or off the switch manually it gets the work done by own! The microcontroller counts up to the given value (12hours) and turns off the switch by give input voltage 0 and when again the counter gets triggered the input value be high enough to turn on the bulb.

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

Our product uses the microcontroller which makes us unique from other products available outside in the market. The products which are available uses the LDR(light dependent resistor) which gets activated by sunlight and gets turned off by sunlight. there is no 12-hour delay and it needs sunlight whereas in our product we do not require any external source.

7. Utility: Highlight the utility / value proposition (keybenefits) aspects of the solution/ innovation*.

“MICRO-CONTROLLER”-this microcontroller makes us unique and highlights us from all other items available in the market. this microcontroller makes an ease of usage and very high in providing efficient work as well as reliable.

8. Scalability: Highlight the market potential aspects of the Solution/Innovation(PotentialMarket Size, segmentationand Target users/customers etc.).

Our product satisfies the criteria and expectations of the customer easily if he requires a time limit based ON/OFF circuitry or application.Every person who uses a Switch is our customer and we are providing an automation to solve the issue.

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

By using the circuit which we have developed will help you in financial terms also. Once it gets in the use all the switching or automation elements in the market will go down. Moreover, our developed circuit do not need any Wi-Fi or Bluetooth or any means of Internet connection. Only a One-time setup is required rest will be done by Device.

10. Environmental Sustainability: Highlight environmental friendliness aspects and related benefit of the solution/innovation.

By using the microcontroller,its very sustainable and eco friendly. The microcontroller is small in size such that is bio-degradable as well as non-hazardous to earth. Our circuit does not harm to any animal or plant or any human being at all.

11. Details of Prototype

Components	1.Arduino Uno board with Microcontroller 2.Bread Board 3.Connecting Wires 4.Led 5.Power Adapter 6.Arduino to Usb cable 7.PC with Arduino Software installed.
Images of Prototype