TECHNICAL PROJECT REPORT

Title of Invention / Project:

**LED T-SHIRT**

Team Members / Inventors:

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| **S. No.** | **Name** | **Department** | **Designation** | **Mobile** | **E-Mail** |
| 1. | Ishika Sandhu | BE CSE BD | Student | 8708643528 | Ishikasandhu2000@gmail.com |
| 2. | Aditya Gaur | BE CSE BD | Student | 6396433761 | gauraditya01@gmail.com |
| 3. | Sakshi Almadhi | BE CSE BD | Student | 8218477539 | superbalmadhi@gmail.com |
| 4. | Mamta Sirohiya | BE CSE BD | Student | 8448872663 | monisirohiya@gmail.com |
| 5. | Jhanvi Singh | BE CSE BD | Student | 8505080959 | Janhvisingh850@gmail.com |
| 6. | Khushal Thakur | ECE | Mentor | 9646030764 | khushal.thakur@cumail.in |
| 7. | Anshul Sharma | ECE | Mentor | 9478697475 | Anshulsharma.ece@cumail.in |
| 8. | KiranJot Singh | ECE | Mentor | 9463909689 | Kiranjotsingh.ece@cumail.in |
| 9. | Divneet Singh Kapoor | ECE | Mentor | 9878422653 | Diveneet.ece@cumail.in |

***Section – 1 (IPR Related)***

Our project is an LED T-shirt which helps a person to look attractive and different in this busy world. With this light-up t-shirt we're ready to exploring in the dark when it's late or when the power goes out. We can also display some important messages and quotes by using this product. We can also display the name of an organisation or any charity or something else by using this product. In this project we keep these all things in mind and working on this project. As the time increases, we keep innovating our project which help the in so many different ways. In starting, i.e., at initial stage we just making the project simple and displaying the symbol of our University(CU) in a different and bright way.

* The present invention to solve the technical problem to provide a light emitting beautiful T-shirt and can be used safely. This product can also be used in there is dark.
* We are using LED’s along with the DC battery so that whenever the individual is in the darkness can use the product by just switching it on and the product start working. There is a switch is also given to manually operate the product.
* Additional modifications that can cater to improved solution

Existing state-of-the-art and Drawbacks in existing state-of-the-art

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| --- | --- | --- |
| **S. No.** | **Existing state of art** | **Drawbacks in existing state of art** |
| 1 | <https://patents.google.com/patent/WO2017125937A1/en?q=led&q=Tshirt&oq=led+Tshirt> | There is not a different pattern or something attractive in this product. This product contains just a symbol which can be a quote or slogan which and make the project more attractive and motivational. |
| 2 | <https://patents.google.com/patent/CN205831114U/en?q=led&q=Tshirt&oq=led+Tshirt> | As there is a symbol of the University on the product so it is only be used in the university competitions or anything related to the university. We can’t use this product outside to look attractive or in any external function. |

Novel/Additional modifications that you can propose to improve upon drawbacks

* We can add the Arduino in this product which can make this product better then this or we can also use any mobile application and connect it with a small Bluetooth device.
* We can use sensors which sense the lightning in the area and adjust the light of this product according to the requirement.

Advantages

* By adding Arduino or any small application to this project the user can make any type of pattern or text that the individual wants in the product. The one can draw and save the pattern in the app and save that and after that the app process it through the Arduino and form the user defined pattern or text.
* By using sensors in the product, the lightning of the product is automatically controlled and it also can save the energy and the product battery will last long. Also the product will glow bright in the dark as compare to the lightning.

**Block Diagram**

***Section – 2 (Real Project)***

Materials

* Led strip - Rs 300
* Battery - Rs 30\*2
* Connecting wires -Rs 50
* Fabric - Rs 75
* Tshirt - Rs 600
* Glue- Rs 10\*5
* Hot glue gun - Rs 200
* Switch -Rs20

Circuit Diagram



Steps of Circuit Completion

* Attach the led to fabric using hot glue gun and glue refills
* Using connecting wires complete the circuit of led and battery
* Use switches to complete the connection
* Paste the fabric inside out on the t-shirt
* End the finishing by cutting out the extra fabric pieces
* Complete the connection and glow the LEDs

Program Code