**Introduction:**

A Heated seats are a standard feature on many vehicles thesedays in cold areas. They provide the driver and passengers with a pleasantly warm seat at all times, even in winter. The desired temperature is usually set in several levels. This can be activated by control of knob which will be allotted for it or by actuating the buttons manually , depending on the configuration installed. We can also implement the option of adjusting the temperature in the seat cushion and backrest areas according to personal perception of the temperature in each area. Heated seats are used increasingly in conjunction with climate controlled ventilation, which removes any condensing moisture from the seat.

**Features**

* A flexible approach system
* The implementation of this project leads for adjusting passenger seat temperatures according to their adjustments.
* Driver or Passenger has the access to modify the temperature in the vehicle.
* As per the passengers requirement, Heater will generate the heat accordingly when they tune the knob of control.
* It is best for those countries where the room temperature will be below -5\* Celsius .
* This system is cost effective and user friendly.

**SWOT- Strengths, and Weakness, Opportunities Threats**

**Strengths**

* Easy adoptable system.
* We can adjust temperature accordingly in a easier way.
* Flexible Approach
* It’s a cost-effective and a robust system.

**Weakness**

* Its only applicable for those countries which are having low temperature.

**Opportunities**

* If possible we can covert this system to both heater and cooler application

**Threats**

* Doesn’t fit good for the places where the room temperature is above 20\* Celsius.

**4W's and 1'H**

**WHO: This project can accessed by customers or end users of automobile industry .**

**WHAT : STEPin\_Seat\_Temperature\_Monitoring\_System**

**WHERE : Used in Automobile industry for vehicles**

**WHEN : Can be implemented for the counties which are having room temperature less than -5\* Celsius.**

**HOW: By implementing Seat temperature Monitoring System.**

**Detail requirements**

**\*High Level Requirements**

|  |  |
| --- | --- |
| **Requirements** | **Description** |
| HLR1 | Microcontroller |
| HLR2 | Temperature Sensor |
| HLR3 | LCD Display or LED’s(different colored) |
| HLR4 | Temprature Generation |
| HLR5 | Softwares to Implement |

**\*Low Level Requirements**

|  |  |
| --- | --- |
| **Requirements** | **Description** |
| HLR1\_1 | ATmega328 |
| HLR2\_1 | LM35 and ADC |
| HLR2\_2 | ADC with PWM |
| HLR3\_1 | LCD OR LED’S |
| HLR4\_1 | Heat Pump Module |
| HLR5\_1 | Code Blocks with AVR GCC compiler |
| HLR5\_2 | SimulIDE |