SMART ENGINE COOLING FAN

1. ABSTRACT

Nowadays the number of vehicles counts are increasing enormously and the use of the vehicles are also increasing a lot. For all the vehicles, engine plays a vital role. The engines temperature gets high within the particular minutes. For that purpose, to reduce the engines temperature cooling fans are used. Electric cooling fans are generally reliable, but sometimes may fail to activate. This may cause the engine to overheat. Diagnosing a failure of this type can sometimes be time consuming, and also require special electronic diagnostic tools. In this proposed mini project, the temperature sensor is used for measuring the engine temperature and the LCD is used to display the obtained temperature. If the temperature displays in the LCD display is above than the fixed value then the cooling fan will be switched ON for reducing the engines heat and then the fan will be switched OFF when the engine becomes to the normal fixed temperature.

2. FEATURES

- Button sensor will check the engine is started or not.
- Displays the temperature value in LCD.
- As per the recommendation the cooling fan will be turned ON.
- It is low cost and cost efficient.

3. SWOT ANALYSIS

3.1. S-STRENGTH

- Low cost
- Measures temperature accurately
- Better performance

3.2. W-WEAKNESS

- Fix the temperature range
- Occupies more space
- Needs additional source of energy

3.3. O-OPPORTUNITIES

- Shall be implement using solar energy
- Shall be implement mobile application for viewing the engine's temperature
- Shall use different microcontrollers
- Shall use different sensors

3.4. T-THREATS

- If the components get damage it is complicated to replace.

4. 4W's and 1'H

4.1. Who:

This shall be used for all the automotive industry

4.2. What:

This shall reduce the heat of the vehicle's engines

4.3. When:

This shall be used when the engine gets heated

4.4. Where:

This shall be used in all the vehicles

4.5. How:

This shall be used by reducing the heat of the engine by cooling fan

5. DETAIL REQUIREMENTS

5.1. HIGH LEVEL REQUIREMENTS:

ID	Description	Status
HLR1	Sensors	Implemented
HLR2	Actuators (Display)	Implemented
HLR3	Micro controller	Implemented
HLR4	Software	Implemented

5.2 LOW LEVEL REQUIREMENTS:

ID	Description	Status
HLR1_LLR1	Potentiometer (1k ohm)	Implemented
HLR1_LLR2	Push button	Implemented
HLR2_LLR1	LCD and LED	Implemented
HLR3_LLR1	Atmega328p	Implemented
HLR4_LLR1	Simul IDE	Implemented