Introduction:

The design of the Electric Tricycle is adaptable to the current tricycles available with little modification. The design consists of an electric motor, controller and normal tricycle controls, and a power supply.

An electric motor was chosen because high fuel costs prohibited the use of a combustion engine and ease of maintenance. A solar array that provides electricity can be the ideal source of electricity for battery recharging or we can recharge it by plugging it in the AC power source. The first aspect of our design that was addressed was the drive system or means of power transmission. Power is transmitted directly from the electric hub motor to the front wheel of the tricycle. Second, a method of motor control was decided on. The E-Bike controller was used to control the motor speed and torque and to suit the different load and working condition. Third, power is supplied to the motor by a battery pack. Two 12 volt batteries are connected in series and placed in the battery box where the power is transmitted from the battery to the electric hub motor which drives the tricycle.

Objectives of the project highlighting its importance:

- **Folding ease**: Folding should be easy. It should be stress-free, flexible.
- **Environment friendly**: Electrical energy is used to develop a vehicle that uses renewable energy, environmentally friendly and cheap, and it gives 0% Emission.
- **Economical**: Tricycle should travel longer range and should be economical in running cost and in maintenance cost.
- **Reliability**: It ought to have a steady ride, sure feel, and comparable execution to a regular bicycle. Fit different measured individuals, should have easy maintenance and reliability.

**Retailer Network**: Program should offer two to three price points such as a good, better and best philosophy.

**Methodology**:

- The design calculations and computations are carried out.
- A design drawing is made.
- Suitable material are selected, according to the requirement.
- A suitable motor is been selected according to the design and calculation.
- The motor is fixed to the rim and attached to the front wheel through spokes.
- The necessary additional jobs such as cutting, drilling, welding and paint works were done.
- The performance of the tricycle has been tested on road with the weight constraint of 90kg.
Expected Outcome of the project:
- The study is expected to add value to already available literature.
  An improvement in foldability of tricycle is attained.

Results and conclusion:
- Folding ease and flexibility of tricycle is obtained.
- DC motor provided receives power from the battery, the relay decides when to activate and deactivate the motor.
- From experimental results we can conclude that reliability and economy of tricycle obtained.
- The performance test done on the 500w DC motor which gives a ride range of 25min for 30min of charge.

Future Scope:
- Solar panels can be used for charging of batteries. A solar powered Personal Transporter can go 20 to 30 kms.
- Solar docking stations can be used for the vehicles to get charged which can be installed conveniently in the campuses and large companies which save lot of power.
A trolley can be attached to the rear so that it can carry loads and can be used in industries by accommodating a high powered motor.