Electric Bicycle System

**ABSTRACT:**

The Electric Bicycle System is a systems project that incorporates three different ways of charging a lithium-ion battery: the 120VAC wall outlet, regenerative braking, and solar power; which is used to power an electric hub motor running a bicycle.

The purpose of the project is to show that it is possible and relatively simple, to build an electric bicycle by oneself. This project can be broken down into five separate categories: the lithium-ion battery, the DC-DC boost converter, the solar panel, the motor, and the motor controller. Each of these will be built upon and improved further by future students, one category at a time. The hope is that this design can become very efficient, cost-effective, and one day mass-produced, especially in developing countries where automotive transportation is an impossibility.

**BLOCK DIAGRAM UNIT:**

