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# A Web Based Energy Generation through Speed Breaker

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**ABSTRACT:** Reciprocating mechanism(rack and pinion)is used in our project. So with the help of this reciprocating mechanism we can do repetitive linear motion,this is mainly found in engines and pumps. The project will helps to regenerate electricity at lower cost. It will reduce the time of delay of eletricity. Money may also be saved by this project and many of their villages will get the electricity

**KEYWORDS**: Reciprocating mechanism, Generator, Charging Circuit, Battery, Led, Pipes(1inch and 1 ½ inch, Springs, Ms 18 gauge sheet,PyCharm IDE , Django,, Eclipse IDE Oracle Database (MySQL) ,HTML,CSS.

## I. INTRODUCTION

A large amount of energy is wasted by the vehicles on the speed breakers through friction, every time it passes over it. energy can be produced by using the vehicle weight and speed. So here we propose a smart speed breaker that generates power. We design a smart speed breaker that can pass vehicles coming from both sides and yet generate energy from it

## II. METHODOLOGY

**Generator**
It is an electricity generation device it can convert motive power to electric power which is also used for external circuit.

**Reciprocating mechanism**
Reciprocating motion is called as Reciprocating mechanism mechanism we can do repetitive linear motion, this is mainly found in engines and pumps.The two opposite motions can comprise one Reciprocation cycle are called strokes.

**Python**
Python is an object-oriented, interpreted, high-level programming language. It has a high-level build in data structures that make it very attractive for R.A.D(Rapid Application Development), as well as for use as a scripting or glue language to connect existing components together. Python's syntax are easy to learn and it emphasizes readability and therefore reduces the cost of program maintenance. Python supports modules and packages, which encourages code reuse. The Python extensive standard library is accessible in source or binary form for free of cost on major platforms.

Django
Django is a web application framework built with the base of Python. It allows us to easily create dynamic web apps using Python . First of all, you need to have Python installed on your computer. On MacOS, you don't need to install Python , unless you'd like to update it to the latest version. To check version of Python on your computer, type python –version on the terminal for MacOS and the command line for Windows.

**HTML And CSS**
HTML(Hyper Text Markup Language) is the universal markup language for the Web. HTML lets you format text, make graphical interfaces, create web-links, input and output forms,add and remove frames and tables, etc., and save it all in a file that any browser can execute and display .

CSS is used to control layout of multiple Web pages all at once. With CSS, all formatting can be detached from the HTML document and deposited in a separate file. CSS gives you total control of the web-page layout, without messing up the file contents.

**MODELING AND ANALYSIS**
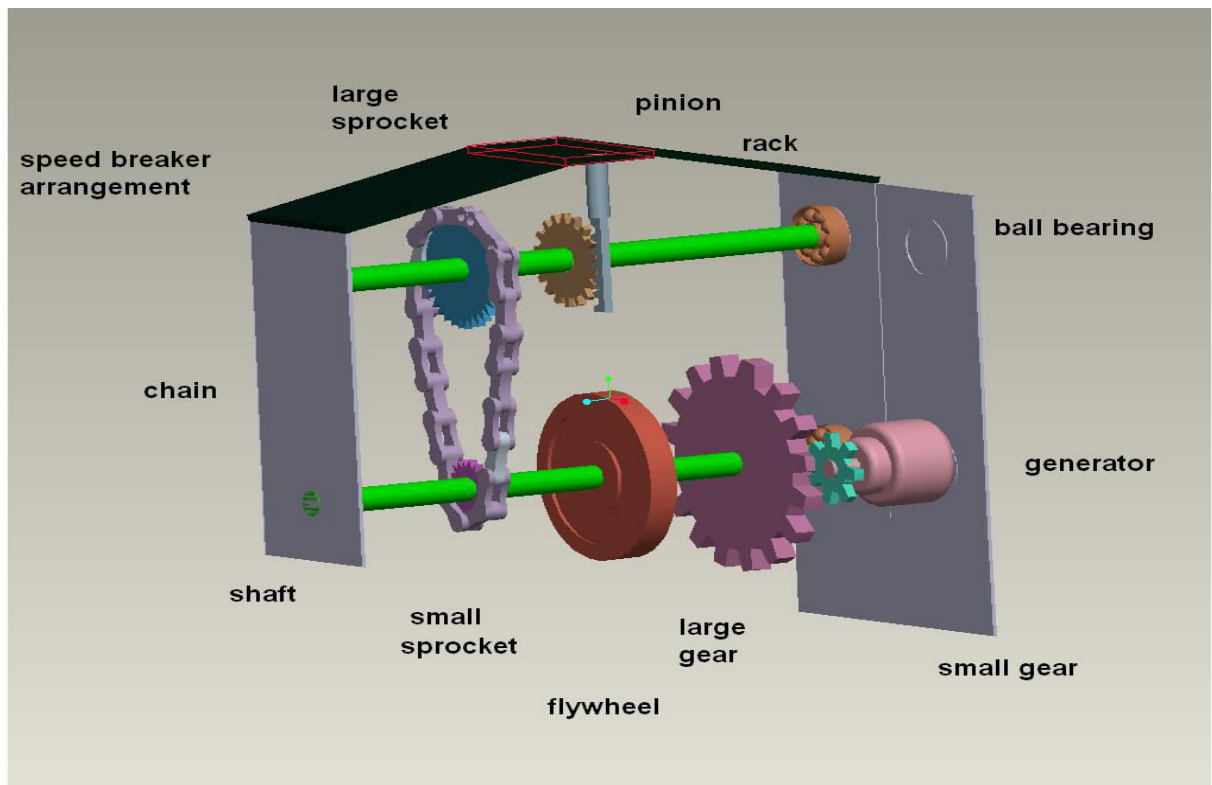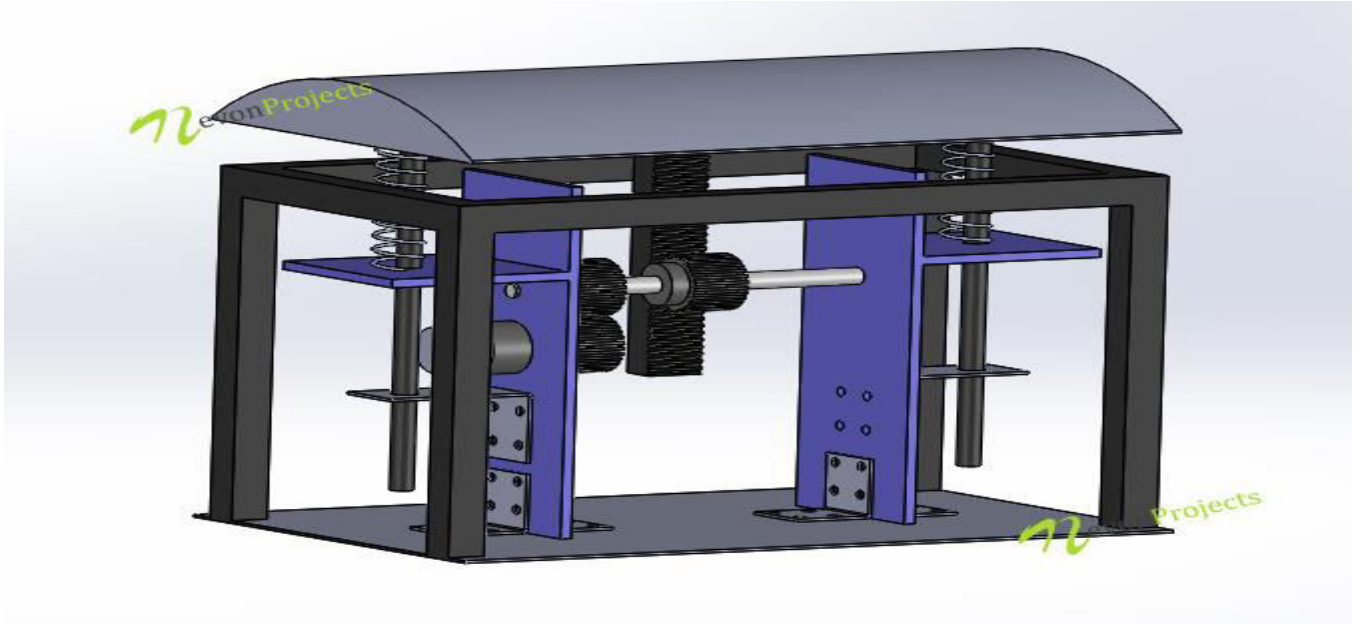




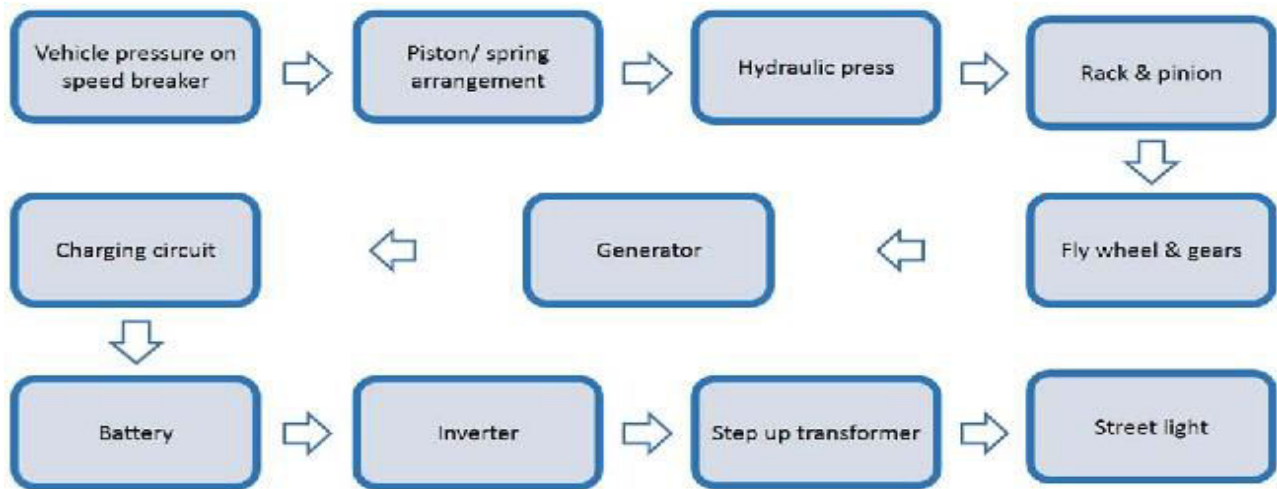**Figures:** Some Screenshots of the website under development.

Fig. 1. Block diagram of

**Figure :** Block Diagram Displaying Internal Working .

**Analysis:** Working of the website in short.

1. A speed breaker arrangement is a mechanical device designed to smooth out or damp shock impulse, and convert kinetic energy to another form of energy (usually thermal energy, which can be easily dissipated).
2. The pushing power is converted into electrical energy by proper driving arrangement.
3. It is a type of dashpot. A speed breaker is a device which converts mechanical energy into electrical energy.
4. The reciprocating motion of the speed breaker is converted into rotary motion using the rack and pinion arrangement.
5. The system makes use of the speed breaker press and then uses rack and pinion arrangements to press down and run generator motor thus generating energy.
6. The spring mechanism is the used to drive the speed breaker back into original position.it converts rotary motion into linear motion.
7. But sometimes we use them to change linear motion into rotary motion.

### III. RESULTS

The main objective of the project is to utilize the energy from vehicles while they pass on the speed breaker. This process is very economical and easy to install.we design a smart speed breaker that can pass vehicles coming from both sides and yet generates energy from it.

### IV. CONCLUSION AND FUTURE WORK

Our project **'power generation through speed breakers'** is mainly intended to generate electrical power as non-conventional method by simply walking or driving on the speed breaker. Non-conventional energy using speed braker is converting mechanical energy into the electrical energy.

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