Pimpri Chinchwad College of Engineering, Pune

Department Of Electronics and Telecommunication

Project Title: Earth Tile

A.Y.2018-19

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ABSTRACT

Nowadays energy and power are the one of the basic necessities regarding this modern world. As the demand of energy is increasing day by day, so the ultimate solution to deal with these sorts of problems is just to implement the renewable sources of energy. The objective of this work is power generation through footsteps as a source of renewable energy that we can obtained while walking on to the certain arrangements like footpaths, stairs, plate forms and these systems can be install elsewhere specially in the dense populated areas. We can implement this foot step power

INTRODUCTION

In order to achieve electrical energy from mechanical energy we have constructed a model where, when someone applies force on model then it creates pressure on the piezoelectric sensors, which are present in between two tiles. single piezoelectric sensor will produce few watts of energy and to create more amount of energy we have a series and parallel connection as to get required output voltage and current. These sensors convert's the mechanical energy (force) into electrical energy. The produced energy is in the form of ac which is rectified and filtered and then fed to Battery.

OBJECTIVES

Design Electricity Generating model

Study basics of PIC18F2550 Microcontroller.

Study designing of PCB.

To study the software tools like PSIM, Mplab, Proteus.

To simulate the system in software.

To do troubleshooting and remove all the errors.

SPECIFICATIONS

PIC 18F2550 Microcontroller –

Full Speed USB 2.0 (12Mbit/s) interface

1K byte Dual Port RAM + 1K byte GP RAM.

Full Speed Transceiver.

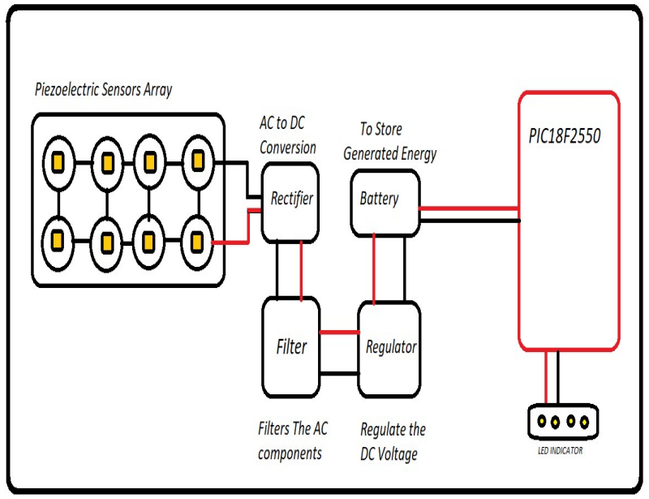
16 Endpoints (IN/OUT)

Internal Pull Up resistors (D+/D-)

48 MHz performance (12 MIPS)

Pin-to-pin compatible with PIC16C7X5.

BLOCK DIAGRAM



SYSTEM DIAGRAM

ADVANTAGES & APPLICATIONS

ADVANTAGES:

1.The piezoelectric ceramic tile is not only renewable electricity source but also unique, safe, reliable, geographically, and economically.

2.This project is simple and easy to access. 3.There is low power consumption. It can be operated from a long range

APPLICATIONS:

1.It can be used in the area where there is crowdy it can be used as pedestrian and the energy produced will be used to light the streetlights

CONCLUSION

A resource of electricity is produced with mechanical energy i.e. force as input and electricity as output

This source in no matter harms environment and its implementation can be done all over world provided, human's force will act upon it in any method (walking or any vehicle passing above it)

Creating pollution free and highly future valuable energy source

REFRENCES

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