

ABSTRACT

Human motivation in the search for new energy is driven by a global situation which indicated reserves of fossil energy in the earth's dwindling because it is non-renewable. As an alternative to limited fossil fuels, humans tried to create a means of harvesting energy (energy harvesting).

Recent research has focused on alternative power generation using renewable energy from the environment. Wind power and solar energy are the most popular for electricity generation around, but not always available in some cases, for example in the darkened area and there is no source of abundant wind [3], therefore we need other alternatives to deal with these conditions, one of which footrest of humans.

Walking is the most common activity in our daily lives. While walking, loss and provide energy to the ground in the form of mechanical [4]. One example when we walked on the stairs, there is a footrest our energy on the floor of the stairs. The footing has a great style and occurred in a relatively short time. One material that is likely to be implemented in this case is piezoelectric. Piezoelectric can transform mechanical pressure into electrical energy.

From the above problems, came the idea to harness energy from the human foothold into electrical energy can be utilized. Piezoelectric materials have been selected in this study. Type which is the type used piezoelectric PZT.

In this final project execution will be carried out repairs on the piezoelectric floor construction and the addition of a series of previous studies for the utilization of electrical energy produced piezoelectric floor so can be used for charging batteries. Additionally, it will be made a series of reader that can automatically record the electrical energy produced piezoelectric and influence utilization for charging the battery via a microcontroller.

Keywords: *Piezoelectric, PZT, Microcontroller, Battery*