

ABSTRACT

One of the classic instruments that almost forgotten or rarely to play is harp instrument. In Indonesia especially harp music instrument is very rarely to played on performances of musical instruments. To make harp musical instruments are not forgotten and easy to remember and especially to prove that Ray of Light can be applied on arts, it has created a modern harp musical instrument that use lasers for producing the tones.

On this final project has designed Harp musical instrument using Laser as substitute for string that is usually used to produce the tunes on harp instrument itself and Light Sensor LDR (Light Dependent Resistor) as receiver light of Laser. Analogy of this tool is like picking from the harp string, but replaced by laser which is played by blocking the light of laser beam to LDR so it can produce sounds or tunes. Through this tool can prove that transmission of sound sources through visible light (laser) can be realized. The system has designed using the Atmega 2560 microcontroller as the center of the controller, sound module DFPlayer as tones producer and Speaker as output of sounds.

It is designed to be able to create new alternatives for the sound source of the music instrument without need to physical sound source can be producing the same tone quality as real and realized harp instrument with 12 lasers and 12 Light sensors (LDR) that produce 48 tones with range light intensity between 15 Lux – 50 Lux. As well as proving that the communication of light source can be applied in the field of art with the proven performance of the LDR sensors worked 100% as input to microcontroller with condition of environment ligh intensity no more than 80 Lux and then produce average of delay 0,2 second in each the tones.

Keywords: Harp, Laser, LDR, Atmega 2560, DFPlayer, Speaker