

## ABSTRACT

Interaction with other people is a social creature needs. But for people who have feet and hands disabilities, it would be hard to do. Because of these conditions will be made toy car controller by electrooculogramy signal, as a prototype wheelchair to help the paralyzed patients to be able to move. Movement of the human eye there is the potential difference that can be recorded with electrodes , Electrodes placed around the eyes. The signal of eyes movement recording called electrooculogram (EOG).

The EOG signal processing can be used as a command to control a toy car. The acquisition system which becomes input value for arduino uno. The EOG signal has been converted from an analog signal to a digital signal by the ADC that had been programed on the arduino board. The threshold value previously obtained from calibration results, it will be used as threshold values to activated the relays. Relays is used to set the remote control to controlling the toy car move according to the movement of the eyes. The EOG value will be displayed on the LCD, *push button* shall be provided to stop the toy car.

Toy car controller with electrooculogram signal has been designed with reinforcement 200 times, has 1,45-9,96 Hz bandwidth filter, arduino, relays dan RF remote control that can control the toy car to the right, left, forward and stop. The prototype is expected to be developed in a wheelchair to help the paralyzed patients.

**Keywords : Electrooculogram, EOG, arduino, uno, microcontroller, control, eye movement.**