

ABSTRACT

Treatment process and most patients' activity generally take place on hospital bed due to the natural physiology of patients' body; it's safer and more comfortable to do therapy or other treatment mechanism by laying down on hospital bed. Any means contained by comfortable when laying down are how the patient is capable to freely and easily make any minor activities and slight movements such as raising head or back against hospital bed in order to be able to whether eat and drink which are hard to do after patient just having surgery, or raising fractured leg bones that are given plaster cast. Under these conditions, patient is supposed to do many things concerned about his/her minor activity independently by using automatic bed of microcontroller based.

Whole result of systems and tools in this final project are constructed in model design which represents the real instrument of automatic hospital bed based on microcontroller. This kind of bed construction program is mainly built by AVR *ATmega8535 microcontroller*, keypad gives input to the microcontroller with different alphabetical numbers which are also giving vary reactions to the whole devices and programs. LCD performs nominal degree and length of automatic bed movement along with different number pushed on keypad. Output voltage 5 volt from *minimum system* of microcontroller then used to move gears integrated with DC motor.

Keywords: AVR ATmega8535 microcontroller, minimum system