ABSTRACT

Today's advanced technology has helped many people in carrying out their activities, one of which is the Optical Character Recognition (OCR). OCR is a tool that used to identify optical character to read the information into the computer system.

OCR can ease of handling work that uses inputs such literature in the post office sorting mail, entering data in a library book, etc.. With an intelligent recognition system, it will help massive business that now many businesses doing such as digitization of information and knowledge, for example in the manufacture of digital library collections, digital collections of ancient literature, etc..

In the implementation of this OCR system yet flexible, and has not developed into the form of device, one device that makes it possible to implement this system is a Field Programmable Gate Array (FPGA). With FPGA, OCR system can be implemented and developed in accordance with human needs. One method to design OCR systems are Artificial Neural Networks. With this method the system can recognize any pattern, including pattern handwriting.

From this final project research, OCR system can be build, and it has been tested to see accurate of the system, computation time, and efficiency of implementation on board FPGA. The accurate system for recognize a normal image is 92 %. And utility resources on FPGA are 8% of Slices, 3 % of *Slices*, 8 % of 4 *input* LUTs, 88 % *of Bounded* IOBs, *and 3 % of* GCLKs

Key word : OCR, handwritting, Artificial neural network, FPGA