

ABSTRACT

PACMAN GAME WITH SD CARD AS GAME STORAGE MEDIA ON FPGA-BASED GAME CONSOLE

Technology in the field of games or game currently is highly developed, and it became a thing that could not be considered one eye. It is evidenced by the increasing consumer demand towards the game technology. Developing a simple console game can use a Field-Programmable Gate Array or commonly called an FPGA.

In this final project, a simple FPGA based video game console with SD Card will be developed as a game storage media FPGA and SD Card are connected via a MicroSD Card module that has been integrated with a UART-to-SPI converter interface using ATmega328P. SD Card with SDHC class 6 type is placed in the MicroSD Card module socket. The SD Card stores data from The Pacman game that has been designed.

From the results of experiments conducted, it can be concluded that FPGA can be designed as a simple game console by playing the Pacman game as a game used to test the game console system that has been designed. This can be seen in the use of as many as 19% logic cells and 51% memory bits available on the FPGA. In addition, the SD Card that is used as a storage medium game can work well and have a transfer rate of 2.7 KB/s.

Keywords: *Game Console, FPGA, SD Card, Pacman*