DESIGN AND IMPLEMENTATION DIGIT RECOGNITION USING MULTI GPU ON CUDA PLATFORM

Student Name : Lukmanul Hakim
NRP : 2208205745
Supervisor : Mochamad Hariadi, ST., MSc., PhD.
Co-Supervisor : -

ABSTRACT

Digit recognition process requires large rate computational resources to achieve high accuracy value. Higher value of accuracy, greater computing power must be provided. On the other hand, GPU (Graphics Processing Unit) technology has evolved very quickly into a parallel, multithread, and has a lot of processor cores with amazing computing power. In development area, GPU computing power (expressed in units of FLOPS) is far exceeding the CPU computing power. Initially, the GPU function is to perform rendering only, but now its became a general-purpose as the CPU function. This research implements digit recognition program that was originally run on the CPU only, to run on a single GPU, and multi-GPU. Results from this study is a digit character recognition program that run three times faster by using multi-GPU acceleration than when the program running using CPU only, where the program code that is used has been adapted to the parallel model on an existing GPU resource. Besides that, in this research we obtain high accuracy, namely 95%.

Keyword : digit recognition, multi GPU, parallel programming.
[Halaman ini sengaja dikosongkan]