

Abstract

Mobile devices currently not just support *navigation* through a joy pad or direction key, with innovation in touch sensitive screen technique, make it is easier to use application in *mobile phone*. The latest of mobile phone navigation technique is shake detection technique. But these technique needs some additional hardware which means can make mobile phone price is more expensive.

Because of that, this Final Project analyse and implements motion detection technique by analyzing image sequences captured by the built-in camera. This use TinyMotion Algorithm for motion detection and translate output to be a navigation of mobile phone application.

After analyzed, the average of process time for TinyMotion Algorithm in nokia 6630 (processor 220 Mhz) is 0.4454 second, that means frame rate of navigation is 2.25 fps. Memory usage of application that using motion detection for navigation application much bigger than navigation application using joy pad, that because image processing to get motion detection need more memory usage.

This navigation technique are expected to be an alternative navigation that more capable, more reliable, and cheaper because this navigation technique not need additional hardware, the other way, this technique maximize mobile phone camera usage.

Keywords: *mobile phone, navigation, motion detection, TinyMotion Algorithm.*