

ABSTRACT

Digital image processing is growing from time to time . The development of digital image processing can be a solution that complements the limitations in the photography field, including limitations to take images with a wide viewing angle, or often called a panoramic image . While the development of technology makes mobile phones were used only for the phone or send a message, to be a 'smart phones' that integrated and can perform a variety of functions from other electronic devices, such as cameras. Coupled by the presence of the Android platform as a mobile operating system with its open source, allowing developers create and develop applications according to their own needs.

Based on these two things, then the final project will be designed as an Android-based application that can be the solution of panoramic maker from camera, using two overlapping images that called mosaic images. This application will be made using Global Image Method which is an enhance from previous methods . For feature extraction, SURF is used, to match the features used Greedy Algorithm, RANSAC is used to eliminate outliers, and the last one is mapping the second input image to the first input image using a matrix obtained from the homographic mapping. Input from the application can be composed of two kinds: user takes a picture directly from the camera, or user takes a picture that had been previously captured and stored in the gallery.

From this implementation, created an application that can create panoramic image with the average of computation time is 7.7s for gallery input, and 8.7 for camera input, the average of MSE is 0.0145, and the average of correlation value is 0.08594, and the optimum overlap region is 25%.

Keyword: Image Mosaicking, Global Alignment Method, SURF, Greedy, RANSAC, Android.