

ABSTRACT

In photography there are a few things can determined if digital image is a good captured. One of them is sharpness level. Higher level means that the camera has a good specification to capture an image. Sharpness level of camera also be affected by this following situation such as an image which being captured, camera's ability, surrounding situation and many more. If the quality of camera is good but the object being captured not in steady state, the result will not have a high sharpness level. In the other hand if camera not in steady state while an image ready to capture, it also will not has a good result. So that if we want a good result, beside condition of the camera, surrounding situation influence must be considered. This problem motivates the writer to make this final project.

In this final project the writer build an application based on android which could automatically captured an image using motion detection method in frame difference algorithm, a method that can detect movement changed with compare frame difference named FreezeCam. FreezeCam is an application to capture image based on android which will automatically capture an image when it in steady state. Work system of this application is compare changed between n frame and $(n+1)$ frame with threshold score which being determined before. If frame difference less then threshold score, the camera will automatically capture that object.

The experiment of this system uses three parameters. First is the distance between object and camera, second is light intensity, and the last is threshold. The best accuracy of the first and second parameter is 100%, which is 120cm, at the afternoon and at the night with flash. And the third parameter has it best accuracy on 80%, which is 1.5%. The accuracy of this system is 71.665%.

Keywords: frame difference, android, automatic camera, motion detection