IMAGE PROCESSING : ENHANCEMENT OF X-RAY FILM TO DETECT BREAST CANCER

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ABSTRACT

Many images were corrupted by interference during capturing, especially on x-ray film. To improve this images, the enhancement technique of digital image processing have been employed. The objective of enhancement technique is to process an image so that the result is more suitable than the original images for specific application. The method of image enhancement to be introduce in this project is Butterworth Highpass Filtering in Frequency Domain (BHPF). The image were then restored by histogram modification and histogram equalization technique. The algorithm and high language software such as Borland C++ 4.5 and Borland Visual Solution Pack were used to develope this techniques. The software has the ability to manipulate the images of common format like PCX , TIF and BMP

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INTRODUCTION

1.0 Introduction

Breast cancer is the leading cause of cancer death in women and has remained relatively constant of death from all cause for women in 40 to 50 age group[1]. Due to these, the screening program[2] has been introduced in order to detect the disease earlier. Currently there are two different methods of screening programs for women of certain age-groups i.e.: for breast cancer (mammography) and cancer of the cervix (cervical smears)[2].

Three popular methods have been applied to detect breast cancer: mammography, CT (Computer Tomography) Scanner and PET (Positron Emission Tomography). All of this method will produce the medical x-ray imaging that will be great help for doctors to make the diagnoses of this disease. Out of this three method at clinical environment, mammography method is generally employed because of the price and the cost of maintenance much lower than other method mention above.

The image produce by mammogram is a two-dimensional representation of a real physical three-dimensional scene. However, the x-ray image can be easily corrupted by interference during capturing. The corrupted image can be improve by using digital image processing technique that will be discuss further in this