CHAPTER 4: SYSTEM ANALYSIS

4.0 INTRODUCTION

This chapter will discuss about how the system will be analyze, which is the tools and method that being used for the coding needed as well as user’s requirements. In this level, the requirements that need for the system will be structured. The detail research that have been done on programming techniques will be structured and determined on which algorithm that meet the requirements of the system. The purpose of this system analysis is based on how the algorithm of the edge based segmentation will be implemented as a technique on detecting the object. In this stage also were included the knowledge on how the MATLAB will be as the tools to develop the interface in various way depending on user needed. The objective of this system analysis is to ensure and identify the major techniques or algorithm that need for the system work correctly toward the resulting of the output image for recreate back the complete object.

4.1 FUNCTIONAL REQUIREMENTS

This part of the requirements needs a function such as the algorithm that should include in this application to meet the requirements of the system. Functional requirements will contain the requirement that need a measurement technique on the image that being experimental. In this context, the image itself that being inspect will need the functional requirements as below:

4.1.1 Image capture

This part will contains all information about the image that will be chosen and their type of the image as well as their format will be stored. The usage of this
module is for the user to have their option on choosing which image that they want to examined it.

4.1.2 Functional button

In this part, the user will be introduced on various buttons to make use of the application on detecting an edge. The button will call a function to do some part of the programming on that image purpose.

4.2 NON-FUNCTIONAL REQUIREMENTS

The non-functional requirements are related to the functional requirement but differ from their purpose. These requirements are important to be focuses on, because of their effected to the application that lead to the system that can be improved. A non-functional requirement is a requirement that specifies criteria that can be used to judge the operation of a system, rather than specific behaviors.[21]

4.2.1 User friendly

The application required to have a user friendly interface to ensure the user can be understand. Therefore MATLAB R2007a provided tools such Graphical User Interface (GUI), which is have an implementation of the programming part that can call the function of the algorithm and provide a tools in creating a button function to make a user know how to start the application.
4.2.2 Accessibility

The accessibility is a general term used to describe to which an environment is accessible by user or anyone that used the system. Accessibility can be viewed as the ability to access the functionality of the algorithm that implement in coding phase.

4.2.3 Scalability

In this context, scalability will be looking as a desirable property of a system which indicates is ability to either handle growing amounts of works in the application. It means that in this system the algorithm is said to scale if it is suitably efficient and practical when applied to large situations, for example a large input data/image or large image that emerged in this system.

4.2.4 Response time

The interactivity while the image being loaded and the algorithm that are being implemented in coding module must follow the timing schedule to be as fast as possible to avoid the error in this application.
4.3 CONCLUSION

This chapter analyzes and summarizes the functional and non-functional requirements of this application. In functional requirements part, there being identified and implement the algorithm techniques for the major module of this application. While, the non-functional requirements describing the performance of this application towards their objective in determining the techniques on applying algorithm on object detection. Development of this application also identified the tools to support the techniques that being approach during the implementation process.