CHAPTER 3

METHODOLOGY

3.1 INTRODUCTION

The main objective of this project is the design and development automated gripper control for robotic arm. This project is aimed to design a robot purposely for pick and place, which is commonly used in the industry. This section will present about the methodology design and the development of gripper to fulfil the project objectives.

This chapter discusses the method for the design and development of used for automated gripper. For this project, gripper will be created and attached to the robot as a method to move the things from one place to another, according to the input program and the place to move it.

Design and development gripper consists of four main parts which is the mechanical part, the gripper, electrical part and a controller. Each part will be designed stage by stage. In this project, a DC motor is used to control the movement of the robot. The data will be programmed and executed in the computer control and the output will be sent to the robot so that the robot will grab things and move it according to the place wanted.

While for computer control, Visual Basic programming will be used as the fundamental to build the algorithm for automated gripper as well as the interfacing and coordination among the modules. Various sensors are used in order to make achieve automated gripper controlled. Gripper will also follow the instruction from the user.
Software integration required to combine signals from the sensors and motor controllers.

Control system implemented in computer control is used to make the custom measurement, control the stepper motor. All these elements combined together using programming to develop an automatic gripper control for robotic arm.

All these parts will be tested whole automation. Output acquired during development the automated gripper will be taken and analysed to get better results. Further investigation will be established to implement the most optimum solution for the automated gripper.
3.2 METHODOLOGY FLOWCHART

The flowchart is used to show the process to make the automated gripper, the process begins from search the all information in journal and using the software to enhance the reliability for automated gripper.

![Flow chart of the methodology](image)

**Figure 3.1:** Flow chart of the methodology