

**ADOPTING MORPHOLOGY METHOD IN CAMERA BASED  
EAN-13 1D BARCODE RECOGNITION USING SIMULINK**

**SITI NOR SAFINAZ BINTI OZAIMIDI**

**FACULTY OF ELECTRICAL ENGINEERING  
UNIVERSITY TEKNOLOGI MARA  
MALAYSIA**

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## **ABSTRACT**

This paper studies barcode recognition which implements using Simulink MATLAB 7.13. The proposed algorithms and the implementations of image are for EAN-13 barcode by using camera devices. A Barcode recognition process is based on image color conversion in order enhance visual quality of 1D EAN-13 barcode image. Each scan lines were processed by transforming it into a feature value to analyze. RGB to intensity color conversion block is approach to compute the feature extraction. Gaussian Filter is used to smooth the image gradient of barcodes which is consist of sequence of parallel, light and dark stripes printed. In barcode recognition, the symbols were up sampled and compared with codebook to determine the corresponding code. A result of barcode numbers saved in file.mat is used for product matching code. The percentage of success is 94.44% and failure of the system is 5.56%.

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# **CHAPTER 1**

## **INTRODUCTION**

This thesis introduces the background, problem statement, objectives, and scope of this project. Besides that, the outline of the thesis will be discussed.

### **1.1 PROJECT INTRODUCTION**

This project is to implement barcode recognition system which is capable to recognize the EAN-13 barcode. This project implement barcode recognition system which capable to recognize EAN-13. The project is proposed using Simulink MATLAB 7.13 software as its Video and Image Processing Blockset which provided by the MATLAB, it is more convenient to implement the system.