CHAPTER 1

INTRODUCTION

1.1 Background

Security is one of the challenges faced in the use of smartphones today. Encryption is required to avoid photos that have been sent to not be been, opened or accessed by irresponsible people.

For this reason, encryption and decryption algorithms are very necessary. The program is designed so that smartphones can easily execute programs relatively fast.

This research was conducted on the DES Mode ECB (Electronic Codebook) Algorithm and CBC (Cipher Block Chaining) Mode. From the comparison of DES algorithm modes tested, the algorithm that has the fastest or most efficient time is going to be used to create smartphone applications.

1.2 Problem Formulation

The problem formulations in this research are:

1. Implementation of the ECB DES algorithm and CBC mode on Android

2. Comparing the ECB mode DES algorithm and CBC mode in terms of the speed of the encryption and decryption process

1.3 Scope

Problems limitation in this study are:

1. The image used for testing has the highest resolution of 387 x 791

2. The smartphone used is the Pixel 3 emulator with Android system version 8.1.0 with 1 GB RAM

1.4   Objective

The purpose of this study is to implement the ECB mode DES algorithm and CBC mode on Android and to compare the speed of the encryption and decryption process. The algorithm that has the fastest encryption and decryption process speeds is going to be used to create smartphone applications that can send images securely.