CHAPTER 1

INTRODUCTION

1.1. Background

In this project I want to solve a problem that often occurs, namely robberies when the house is empty. Because currently, his house is unoccupied, it is often the target of theft. The current theft cases do not take into account time and place. Because nowadays there are often cases of theft that occur during the day and the environment is quiet. The case of theft can occur because the security system in the home environment is still lacking, such as the number of security officers who are still small, the condition of the house environment is quiet so that they are able to commit criminal acts easily without someone knowing.

In solving the problem of this project, I used the Haversine algorithm approach to find the nearest location in sending data in the form of notifications received via smartphones. So with the haversine algorithm and the data structure that I use, I can draw final conclusions in generating comparisons to determine the effect of the results on the data transmission process.

So that a solution can be determined to solve the problem of theft in the home, namely by building a smart home security system to automatically detect movements and send message notifications. With the whole house installed with this home security system, it can provide a sense of security and not worry.

1.2. Problem Formulation

1. Can using the Haversine algorithm solve this problem?

2. How good is the Haversine algorithm at calculating and determining the distance comparison of the closest locations?

3. How effective is the haversine algorithm in determining the closest distance?

1.3. Scope

1. This study discusses the system of tools used to provide time effectiveness.

2. The result obtained is a comparison of the location distance between the house and the security post.

3. The data used comes from a distance that has been measured manually using google maps.

1.4. Objective

The purpose of this project is to find out how effective the Haversine algorithm is in determining the closest distance. Can find out how good the Haversine algorithm is in calculating the comparison of each distance.