Cloud-Based Health Account Management

Multimedia University

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TPT1201
Assignment 2

Abstract

- Major privacy problems can be caused due to users' illegal access to private health information belonging to a data owner.
- It's expected that cloud-based health account management will work securely in the cloud using improved MSOPE with blockchain.

Introduction

The main focus is on the problems underlying when coming up with a solution to counter these challenges. In this section we will explain :

- The Problems
- The Aims
- The Method
- The Limitation

Research Objectives

- To improve the privacy and security of Cloud-based Personal Health Record systems (CB-PHR).
- To propose a system encryption method to sustain data privacy in e-health management.

Motivation of the Research

This section identifies the problem that is worth tackling or not, we have four main motivations :

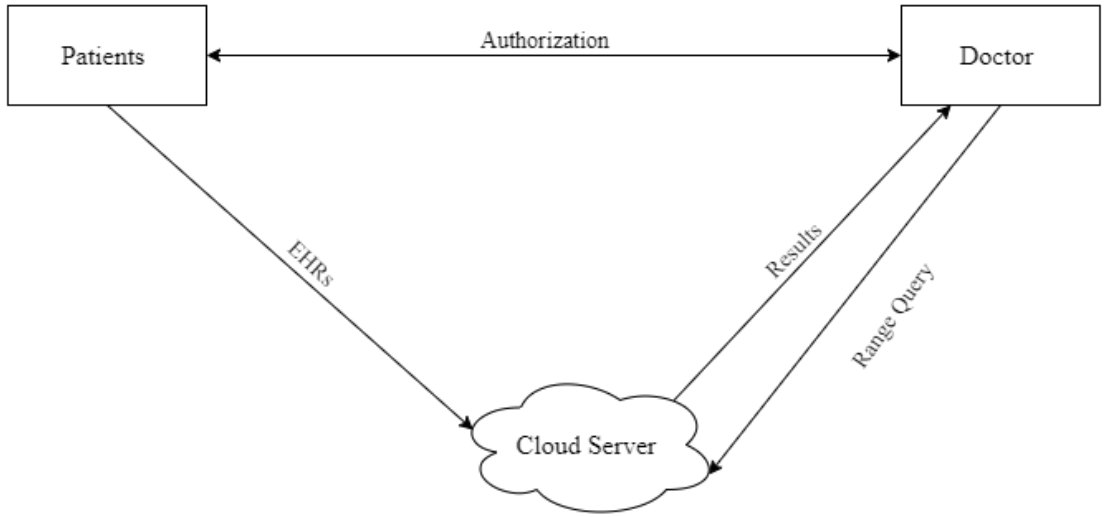
- The need to investigate a proof-of-concept
- There is no methodical tactic
- Improve e-Health to promote its use in Malaysia
- The need to further resolve privacy concerns

Literature Review

For the Literature Review, 11 out of the 15 journals faced issues. These issues are :

- Data Security
- Lack of Data Maintainability
- Client or Provider privacy
- Data Loss and Data Leak

Research Method



- Multi-Source Order-Preserving Symmetric Encryption (MSOPE)
  - About the scheme
  - The benefits of the scheme
  - The limitation of the scheme
- The proposed method is to improve the limitation by using blockchain.

Expected Outcomes

- To further improve and secure high-risk information by using blockchain in the MSOPE scheme.
- The MSOPE has some security issues, that blockchain can securely share data.
- The expected outcome stated will contribute to the research community.

Part 2 : About the Program

The four methods were used to calculate distance are :

- Great Circle
- Haversine
- Haversine Vector
- Euclidean

Three for loops was created to calculated and to pass current variables.

Computer Specification

Computer	RAM	Hard Disk Type	CPU
ASUS Vivobook	16 GB	KINGSTON SNVS1000GB	AMD Ryzen 9 5900HX withRadeon Graphics 3.30 GHz
MSI GF65 Thin 9SEXR	16 GB	KIOXIA KGB40ZNV512G	Intel(R) Core(TM) i7-9750H CPU @ 2.60GHz
ASUS G14	16GB	INTEL SSDPEKNW512GB	AMD Ryzen 7 4800HS 2.90 GHz
HP Notebook - 14q-cs0001tx	8GB	1 TB 5400 rpm SATA	Intel ® Core(™) i5- 7200U 2.50Hz

Table 2.1 Computer specification

Four Computers Using Great Circle Method

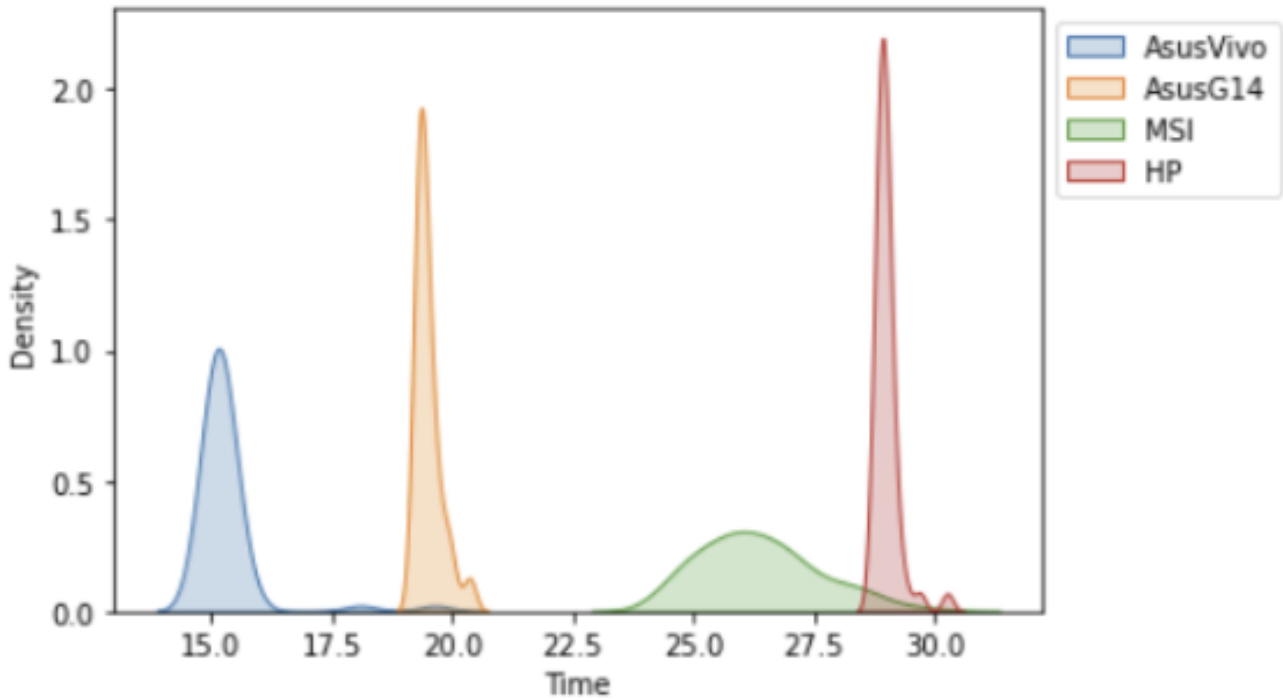


Fig 2.1 Shaded Density Plot for Execution Time Comparison using 4 Computers Using Great Circle

Four Different Methods

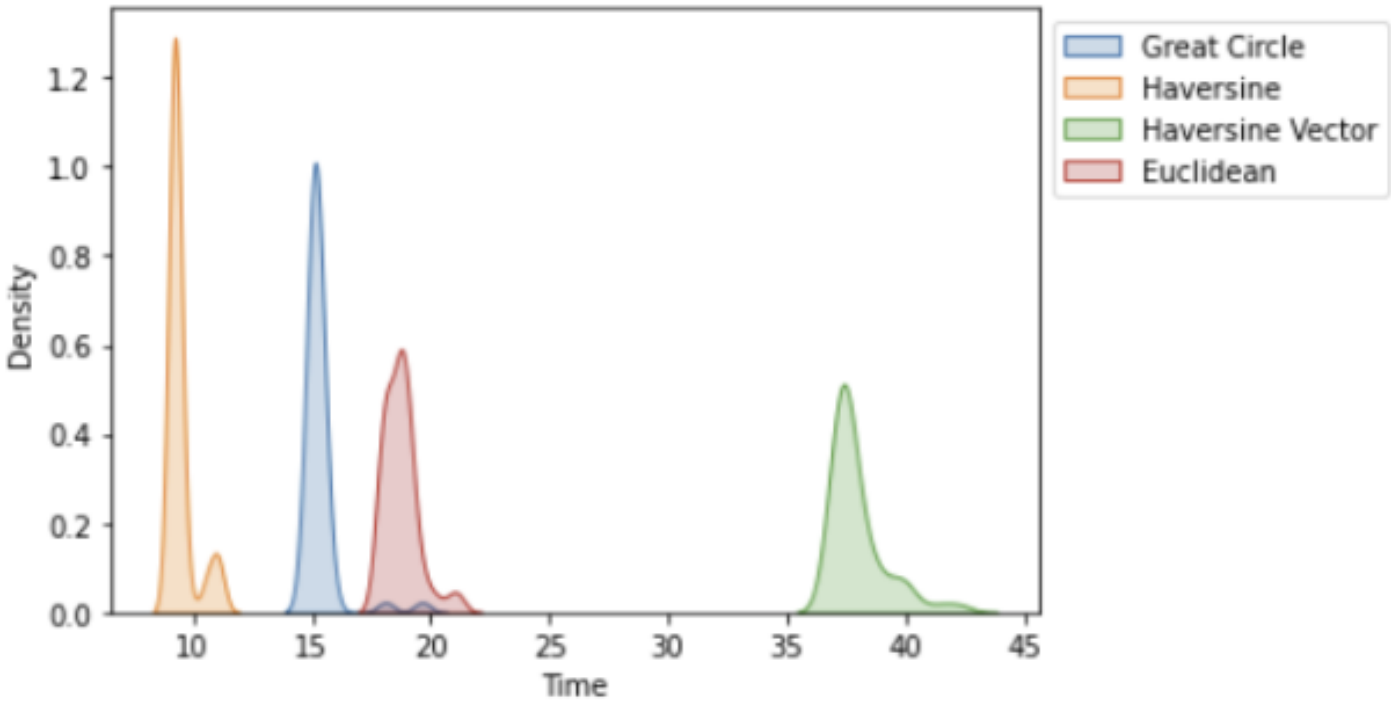


Fig 2.2 Shaded Density Plot for Execution Time Comparison for 4 Different Methods