A PROJECT REPORT ON

Geo Share

Submitted by

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Computer Science and Technology

Certificate

Date:

This is to certify that the dissertation entitled "**Geo Share**" has been carried out by **Atik Khatri(130370131054), Nishant Nath(130370131074), Rushabh Pancholi(130370131080), Vishal Munjani(130370131071)** under my guidance in fulfillment of the degree of Bachelor of Engineering in Computer Science and Engineering(8th Semester) of Gujarat Technological University, Ahmedabad-during the academic year 2016-17.

Guide: Internal Guide

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Asst. Professor

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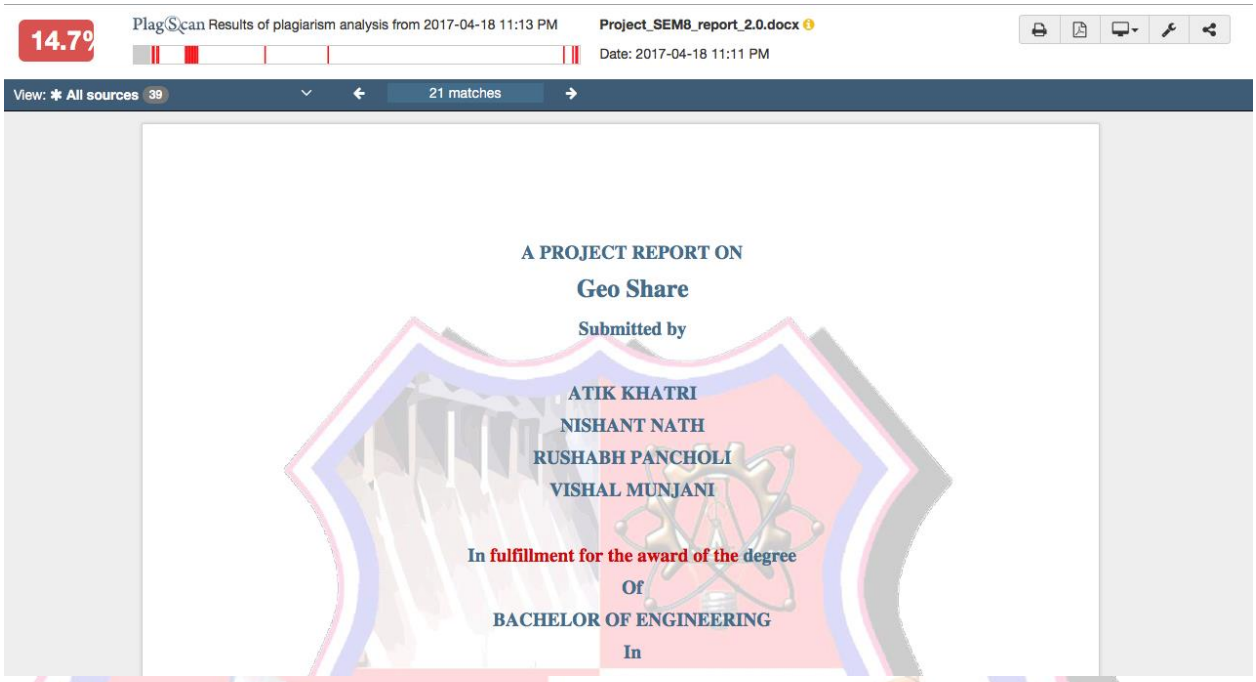
Plagiarism Report



Acknowledgment

It is very difficult to express our feelings and we feel short of words for those who have contributed a lot in our training and provided their invaluable cooperation to us. Many people have helped, provided direction as well as technical information and it is our pleasure to acknowledge our debt to the many people involved directly or indirectly involved in development of this project.

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We would be unjust not to mention the help forwarded to us by our friends who were ever ready to support us. Finally, we express our sincere gratitude to our parents who have encouraged us to try our best to carry out the project.

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Abstract

In recent years, Internet use is booming at tremendous rate and people are sharing millions of data daily. Due to increase in data sharing 'security' becomes the major concern among people, organizations, companies and governments. These groups of entities are in major worries about their confidential data whether it may be business plans, financial data, employer data, marketing strategies, etc. Hence, security becomes the most important priorities among these entities.

Existing security algorithms are providing a good cryptographic mechanism, which are difficult to compromise with. Encryption algorithm like Advance Encryption Standard is widely popular among these entities. However, these entities are seeking for constant change in their security approach and also the knowledge is increasing in the field of security, hence constant evolution is needed.

Therefore, to bring and improvement in the existing cryptographic algorithms we have made some approach by adding location and time to existing algorithms and there by providing extra layer of security that we will ensure encryption and decryption at particular location.

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Chapter : 1 Introduction Of Project

1.1 Project Profile:

Project Name	**:** Geo Share	
Project Type	**:** UDP	
Development Team	**:** Atik Khatri	130370131054
	Nishant Nath	130370131074
	Rushabh Pancholi	130370131080
	Vishal Munjani	130370131071
Internal Guide	**:** Jaydeep Viradiya	
Front-End Technology	**:** Python, Tkinter	
Back-End Technology	: AWS EC2, Python, MySQL, Google Maps API	

1.2 Project Definition:

Geo Share is a system, which provides location based encryption to the existing cryptographic algorithms by adding additional layer of security that contains location and time. The layer checks the receiver's location and it will only decrypt if the constraints matches.

1.3 Scope Of Project:

This system will be used by various entities such as companies, where they will use to secure their confidential data. Cinema will use to prevent the piracy of the movies. This is not going to be the only users of this system, many organizations, Banks, Universities and Governments can invest in the system for reliability and security of the data.

1.4 Modular Description:

1. Registration

Users will register to the application by entering the co-ordinates of the users.

2. Applying the Encryption

After selecting the target data, encryption will be applied on the data using key and geo-lock (location and time).

3. Server Transmission

This encrypted data will be transmitted to the intended users.

4. Decryption at Specific Location

During the decryption, the server will check the receiver's location and then only the decryption will take place.

1.5 Objectives:

The main objective of the project is to provide enhanced security to the existing system by decrypting the data at the particular location.

1.6 Tools & Technology:

Language: Python

Modules/Packages: PyCrypto, Socket, Tkinter, ssl, MySQL, bcrypt, haversine

Back-end technology: Amazon Web Services (AWS), MySQL, Google Maps API

1.7 Feasibility Study:

The purpose of feasibility study is not to solve the problem, but to determine whether the problem is worth solving. This helps to decide whether to proceed with the project or not.

1. Technical Feasibility

The Application product will be a Desktop application that we need to develop for the project and the application is being written in Python programming language which. But, for the back-end we are using MySQL as database and AWS as cloud related work.

2. Economic Feasibility

On Economic side of the project, there is only deployment cost and no developing cost.

3. Behavioral Feasibility

On behavioral side, the system will have simple and clean user-interface. All the cryptographic process is also done at abstract level so that users don't have to deal with technical system.

1.9 Problem Statement:

Existing algorithm are lacking of location and time. In some cases, location and time are important aspect for confidentiality and integrity of data. For some organizations and companies it is important to decrypt the data at particular location and time so that any confidential and important data of the company cannot be compromised and hence data cannot be used by any unauthorized person of the company.

1.10 Expected Outcome:

This system will provide an extra layer of security which helps the entities to send their confidential data to other entities on a specified location and time and there by decrease in the misuse of the data.

Chapter 2: Design

2.1 Canvas Description

2.1.1 Product Development Canvas

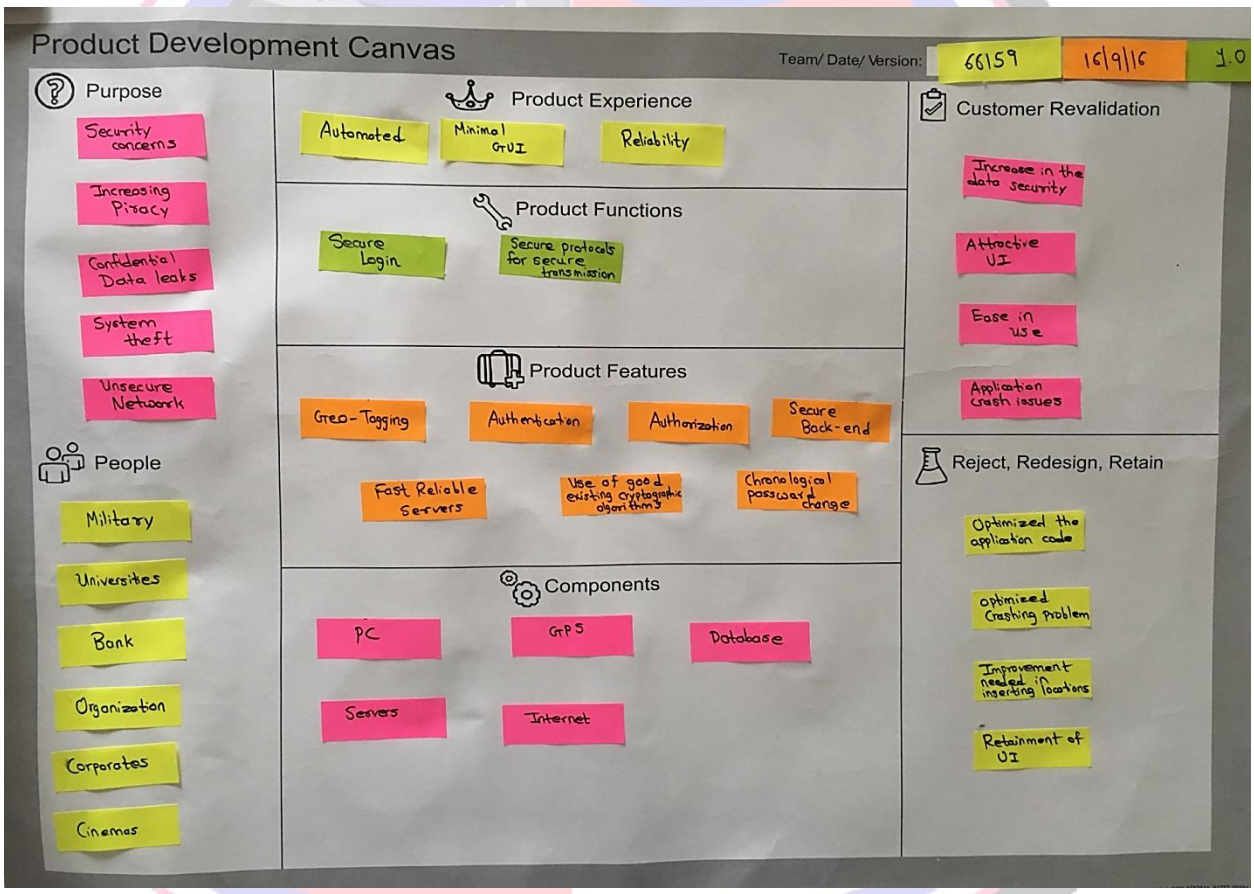

Figure 2.1.1 “Product Development Canvas”

The above canvas describes the main features and functions of the system. The components that will be required for the system.

It also mentions the main purposes for which the system is being developed.

2.1.2 Ideation Canvas

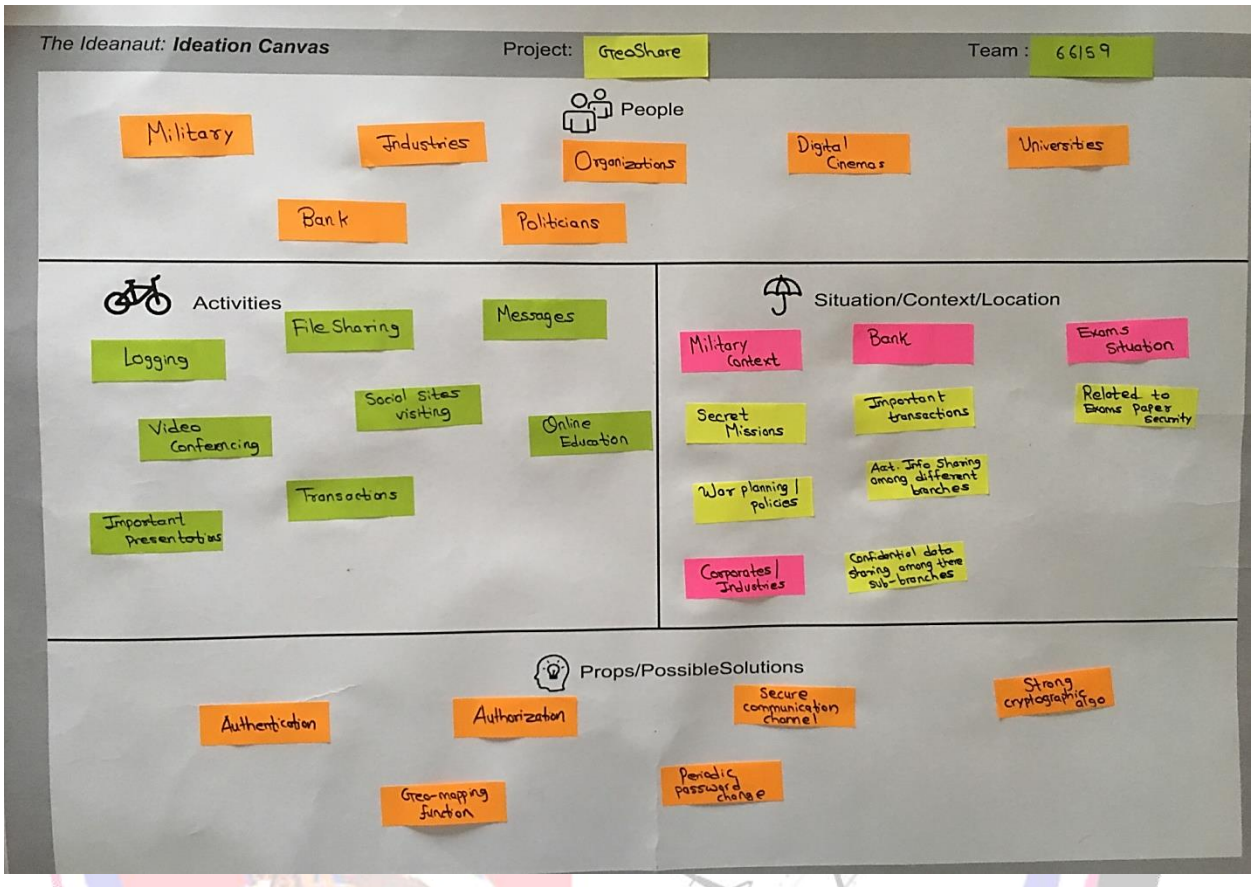

Figure 2.1.2 "Ideation Canvas"

The above figure shows the ideation canvas for the project. The ideation canvas shows the various people involved with system , what are their activities related to the system and situation where it will be used and what solution are proposed by us.

2.1.3 Empathy Summary Canvas

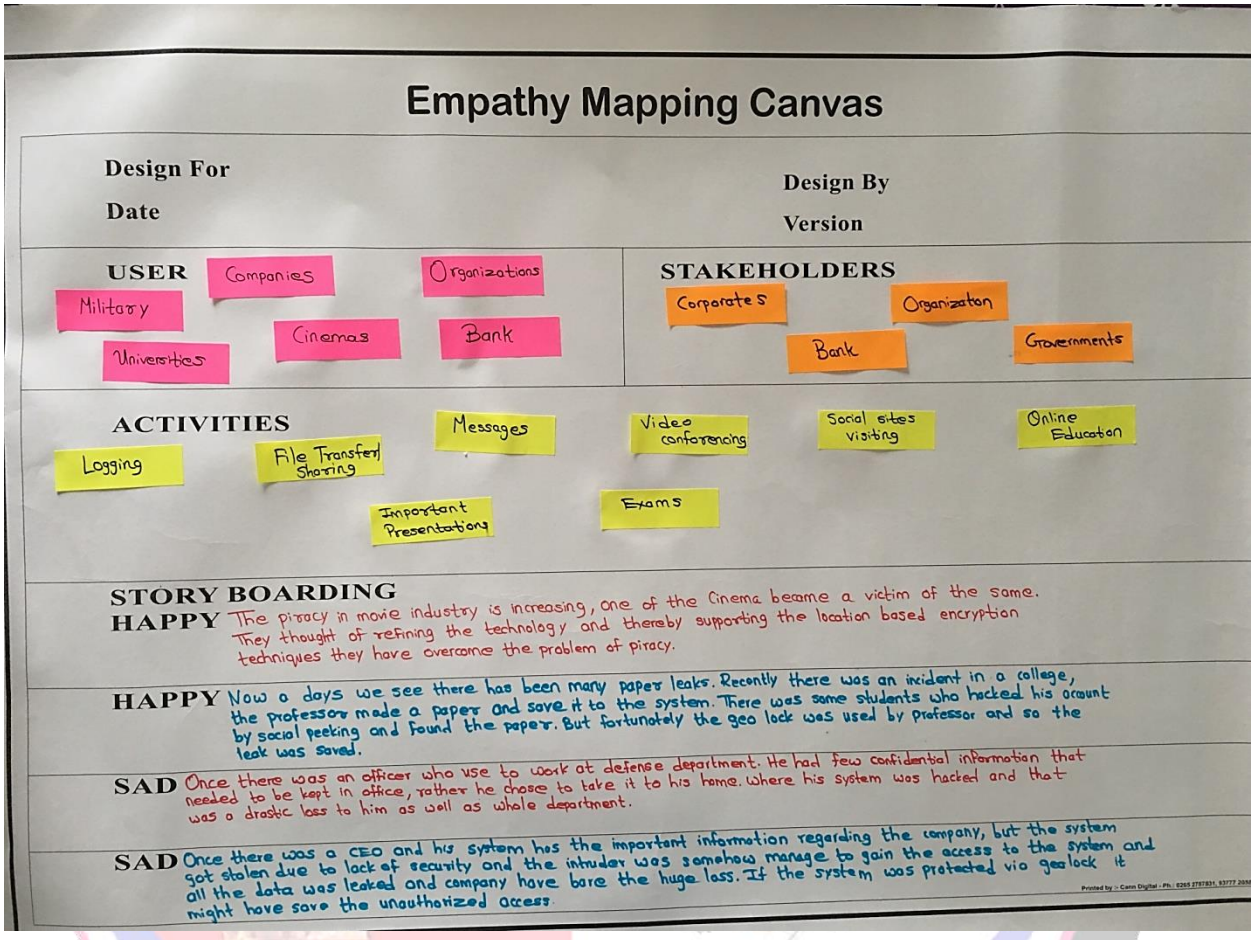

Figure 2.1.3 " Empathy Summary Canvas"

The above figure shows the empathy canvas for the project. The empathy canvas shows the various problem involved with system , what are their problem related to the system and situation where it will come and what solution are proposed by us.

2.1.3 AEIOU Summary Canvas

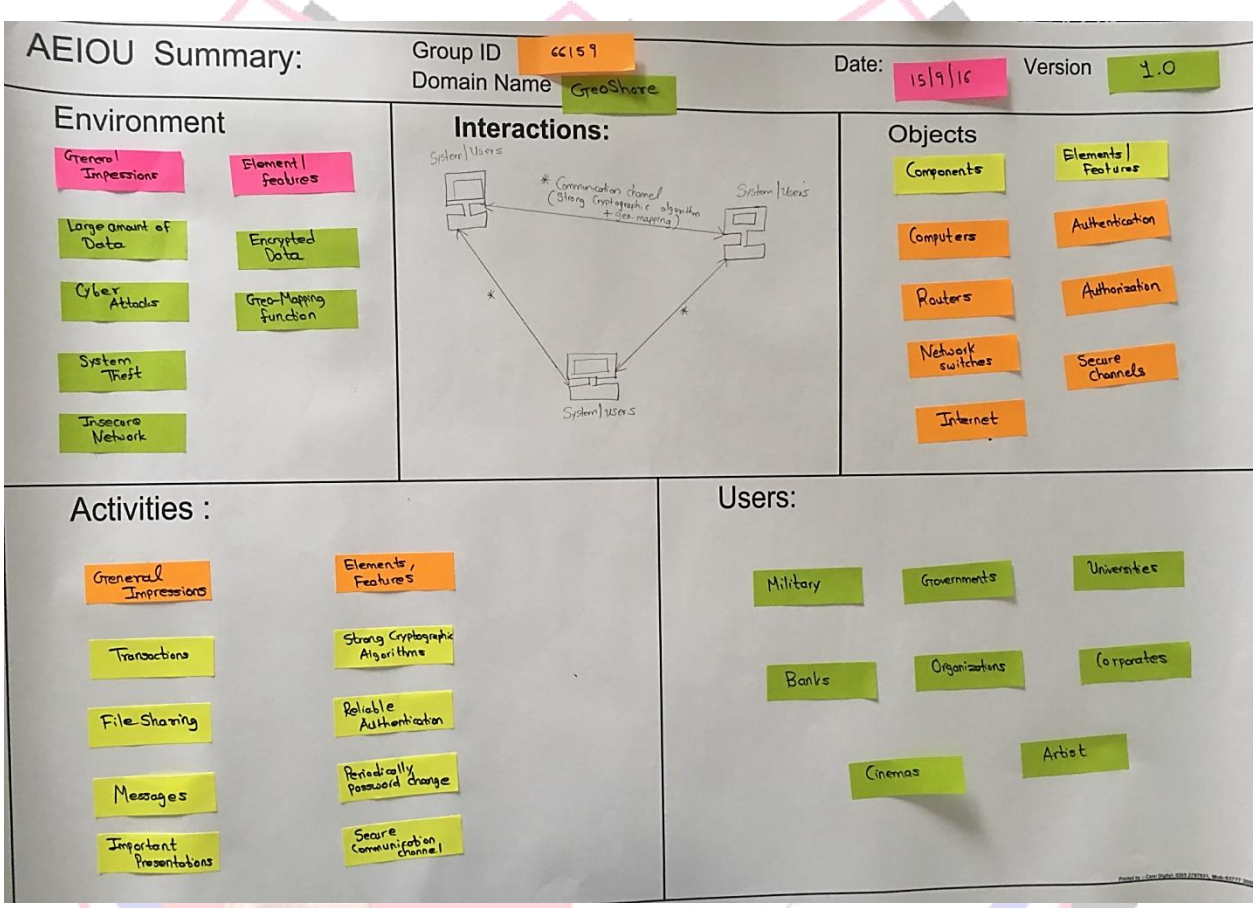

Figure 2.1.4 AEIOU Summary Canvas

2.2 System Design

2.2.1 UML Diagrams

A. Use Case Diagram

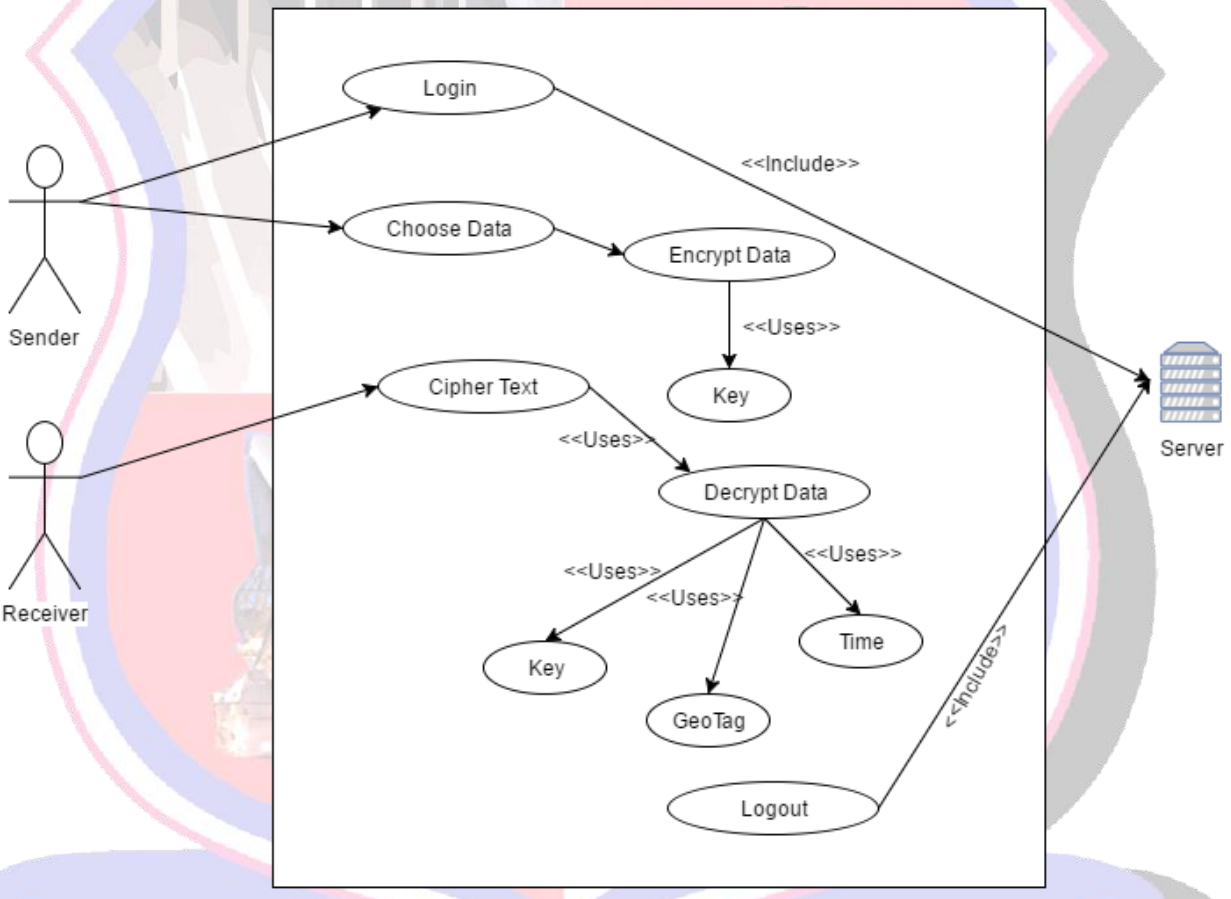

Figure 2.2.1 "Use case diagram"

B. Activity Diagram:

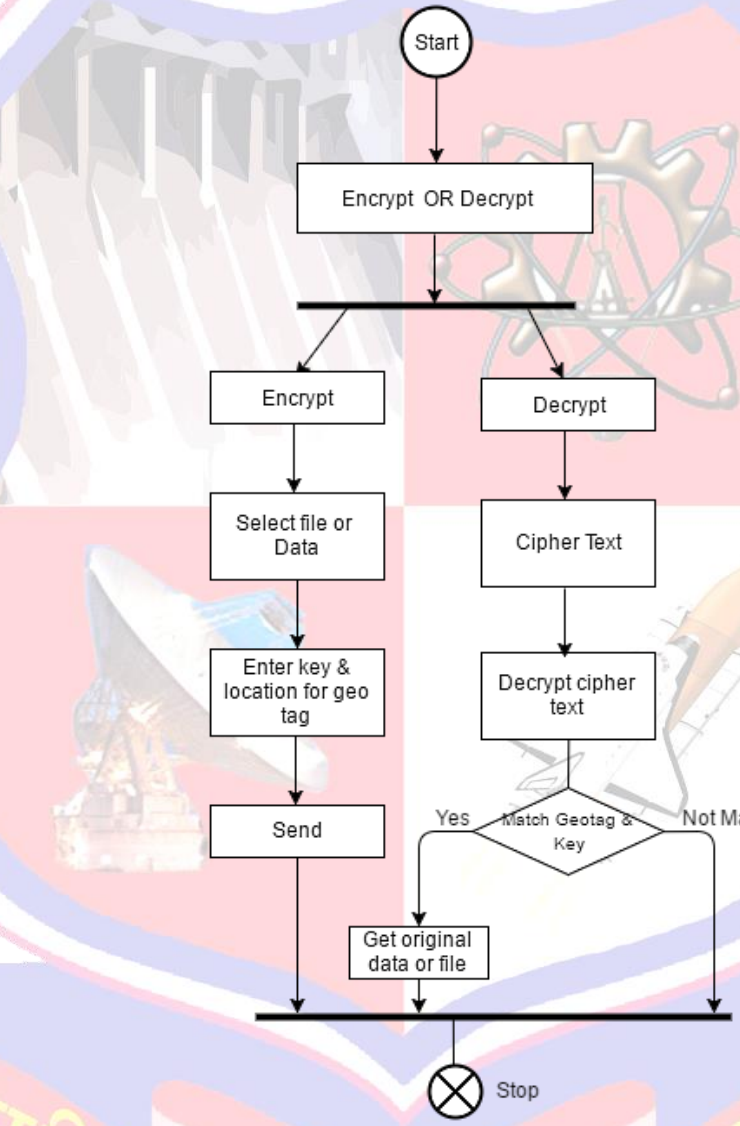

Figure 2.2.2 "Activity diagram"

C. Sequence Diagram

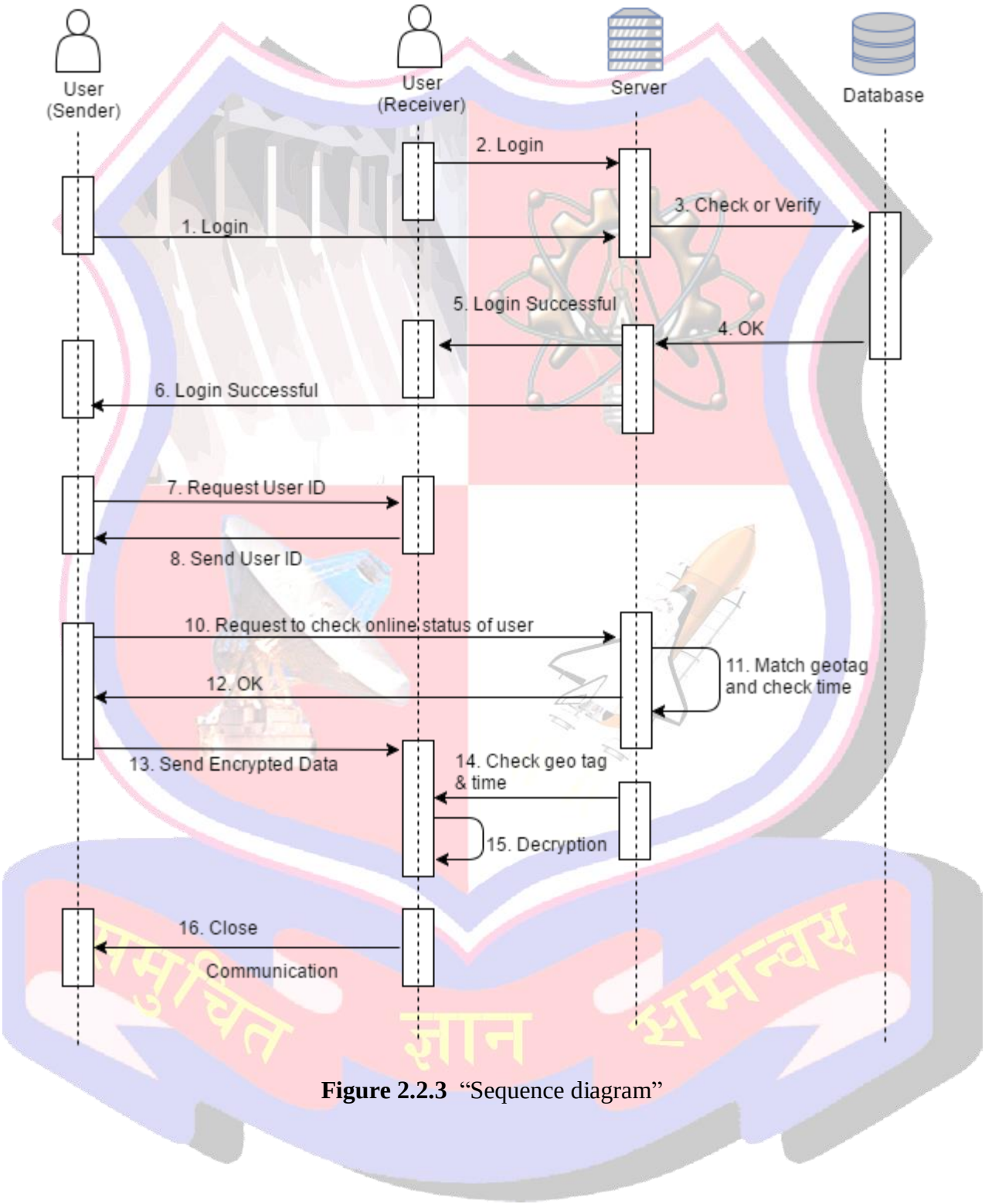

Figure 2.2.3 "Sequence diagram"

D. Data Flow Diagram

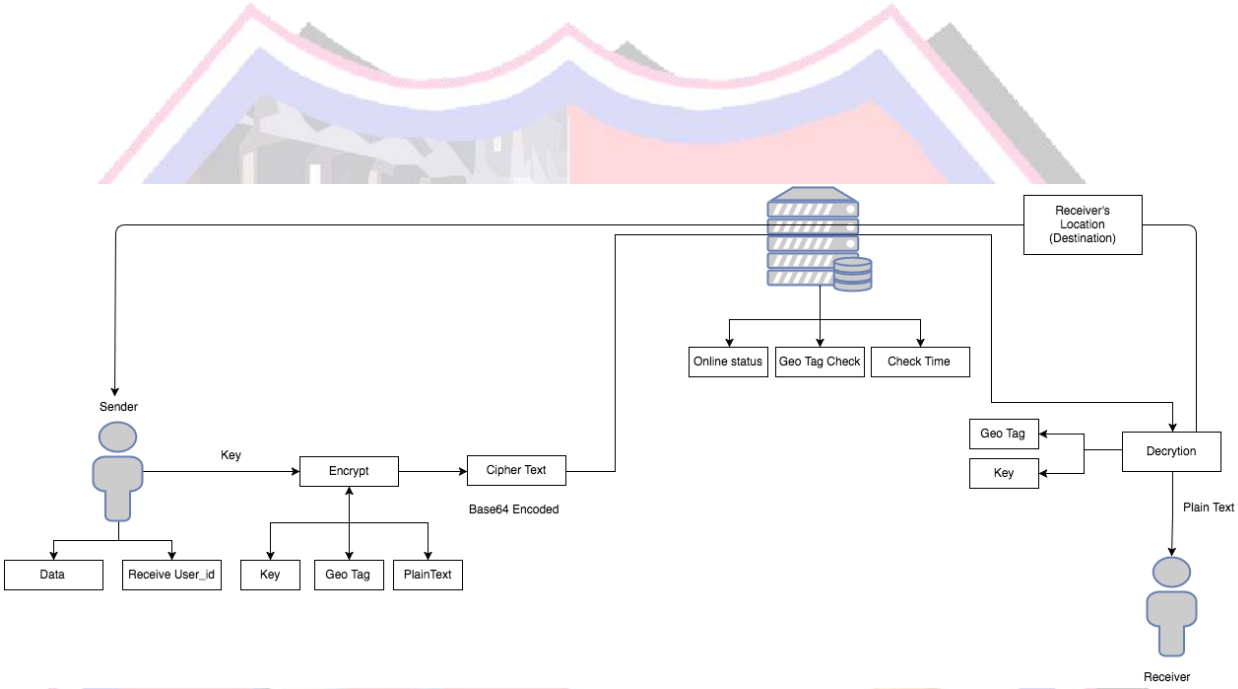

Figure 2.2.4 "Data Flow diagram"

E. Class Diagram

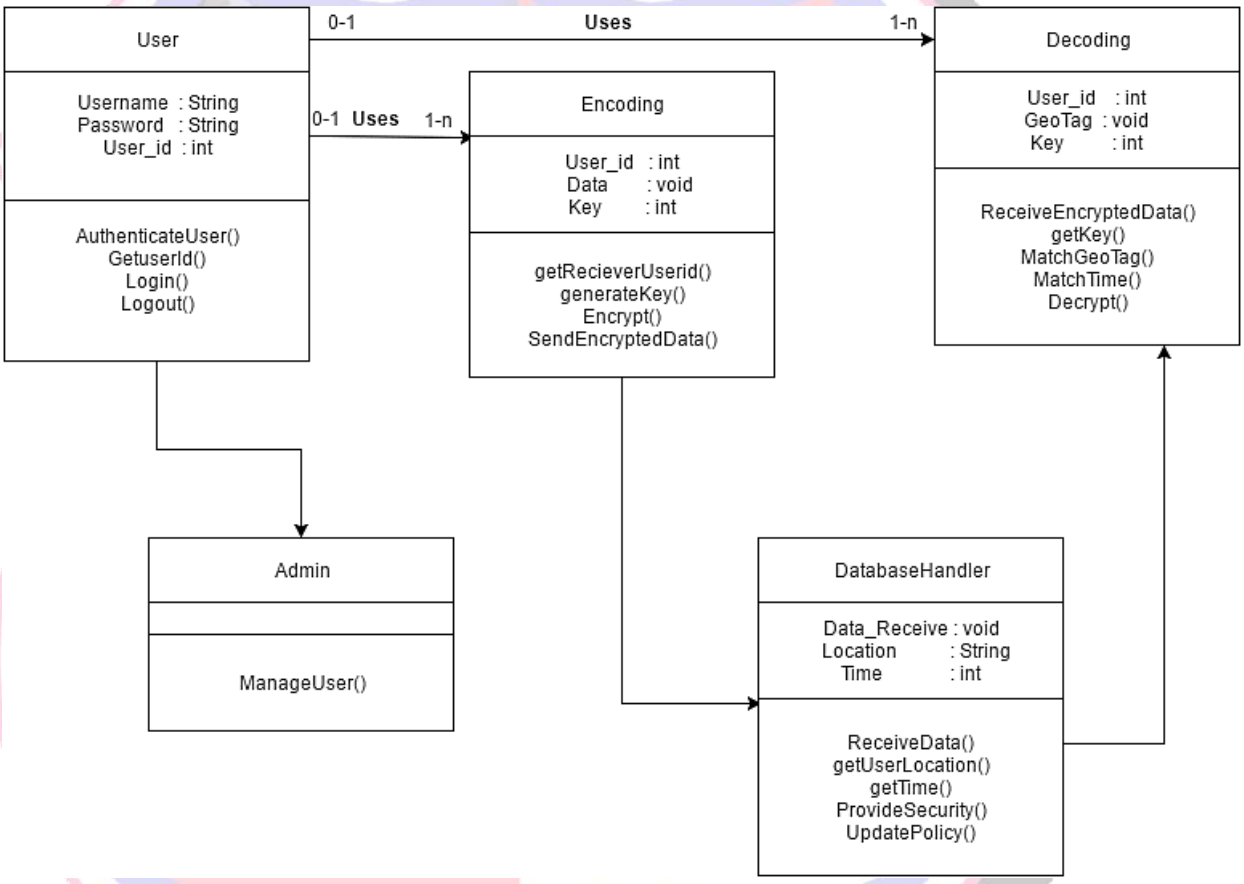

Figure 2.2.5 "Class diagram"

2.3 Data Dictionary

2.3.1 Database Tables:

Table 1 : User

Name	Datatype(size)
User Name	varchar(25)
Password	varchar(10)
Email	varchar(30)
User Co-ordinates	Varchar(30)

Table : 2 User Detail

Name	Datatype(size)
Email id	varchar(25)
Password	varchar(10)

Chapter :3 Implementation

Geo Share is a Desktop based application, which has been implemented, in Python programming language. For the back-end work we are using MySQL as database and AWS for cloud related work. To fetch the precise co-ordinates, we are using Mobile phone as it has built-in GPS. This whole system works on all major operating system.

The following are some snap shots of the application:

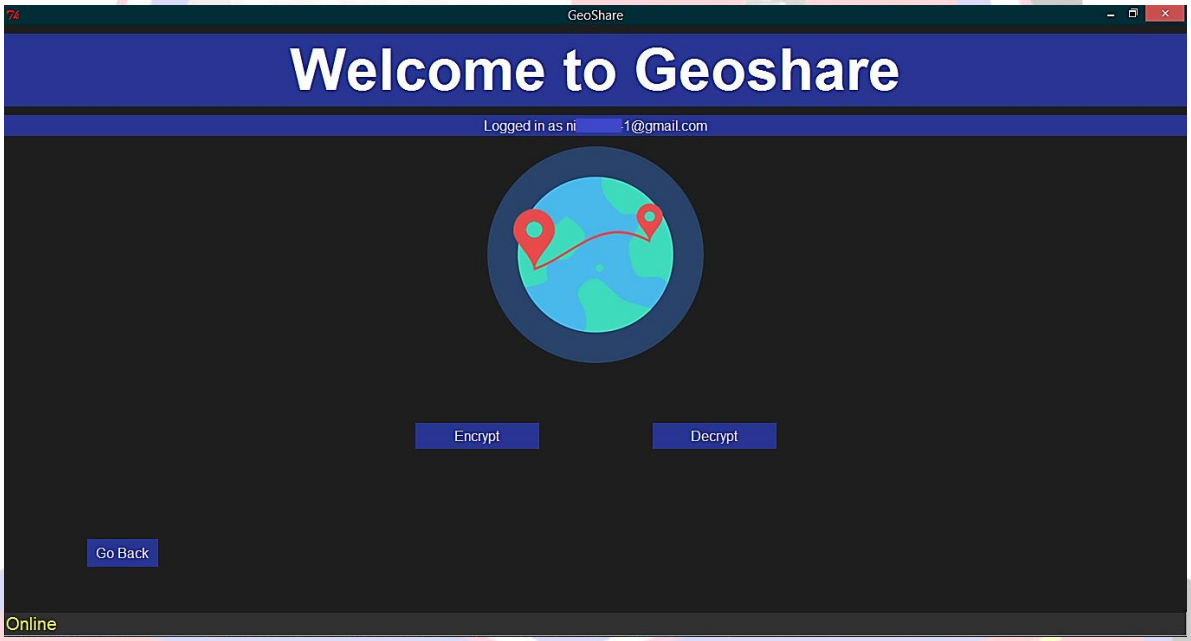

Fig.3.1.1 "Main Window"

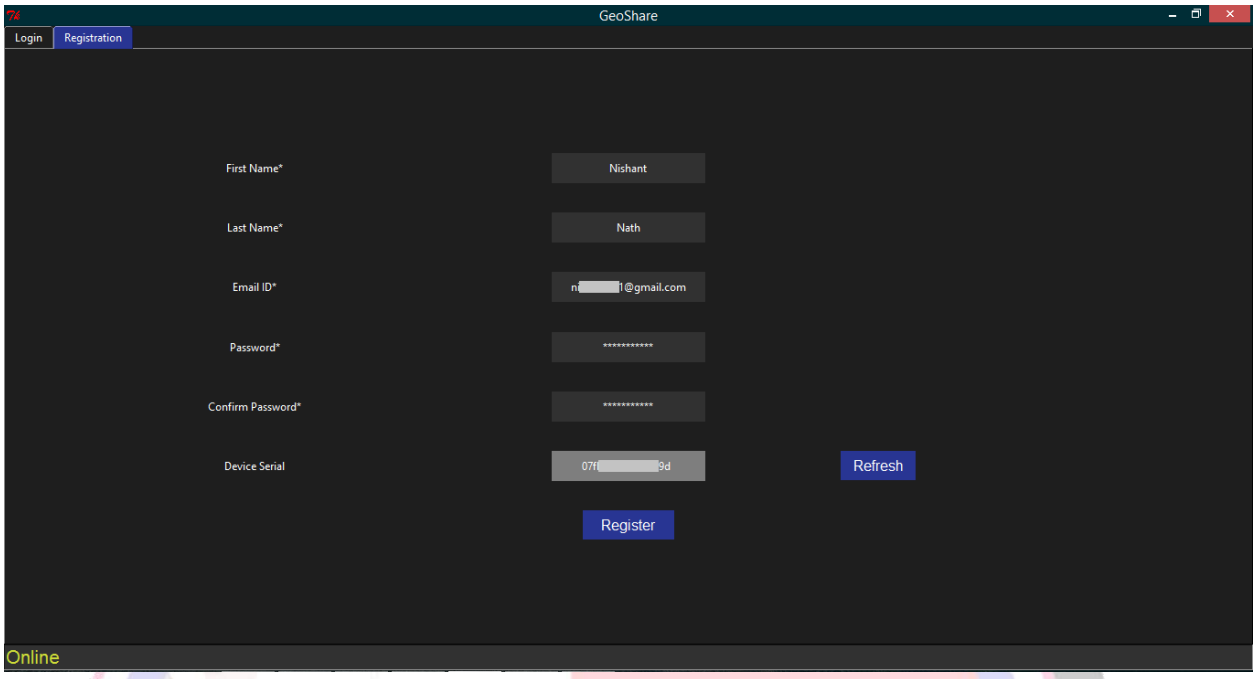

Fig.3.1.2 "Registration"

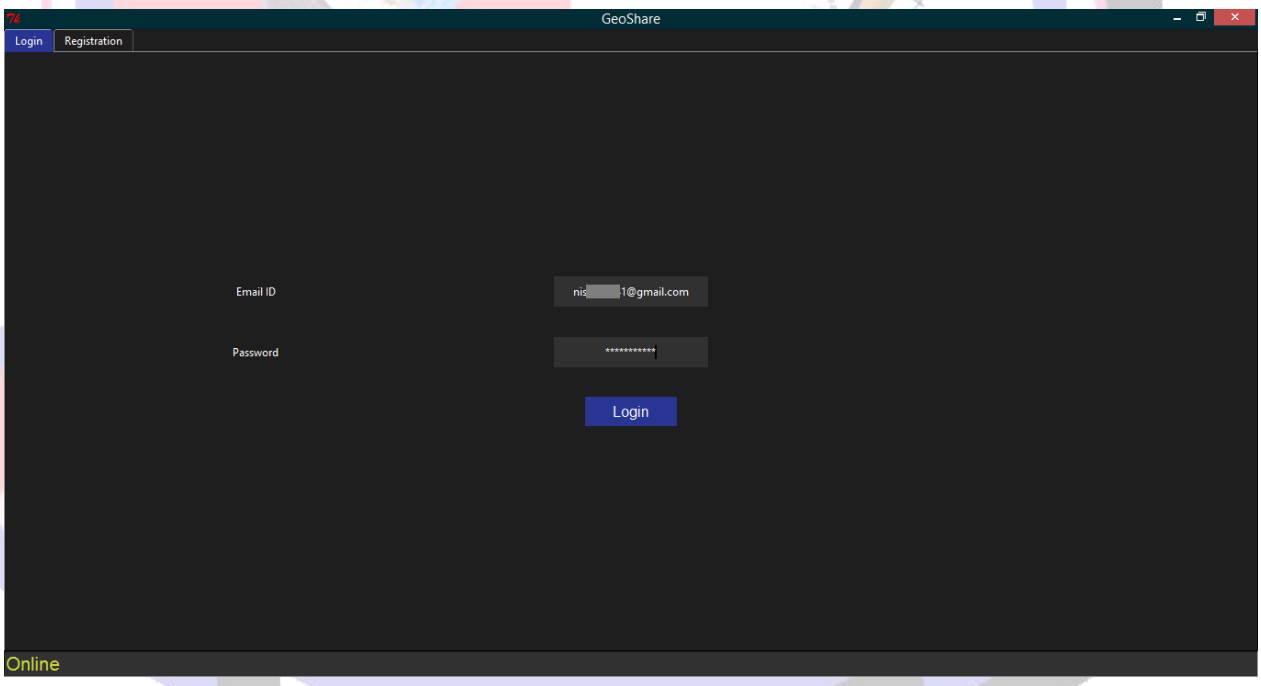

Fig. 3.1.3 "Login"

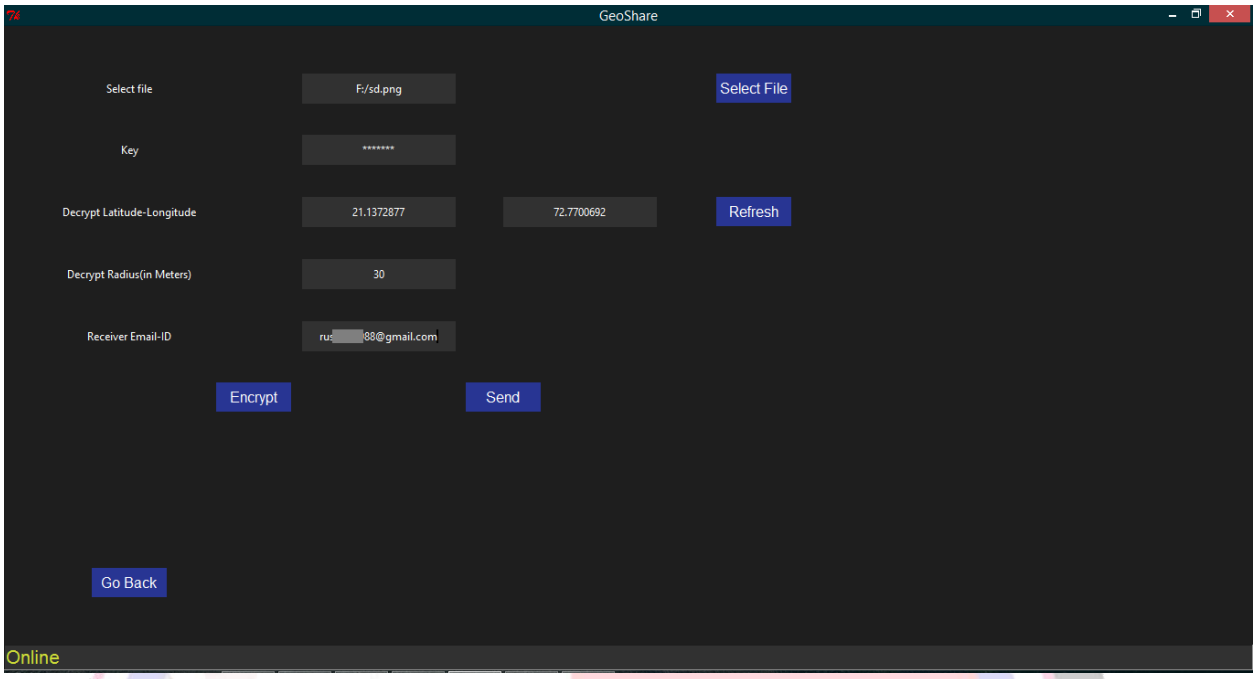

Fig.3.1.4 "Encrypt Window"

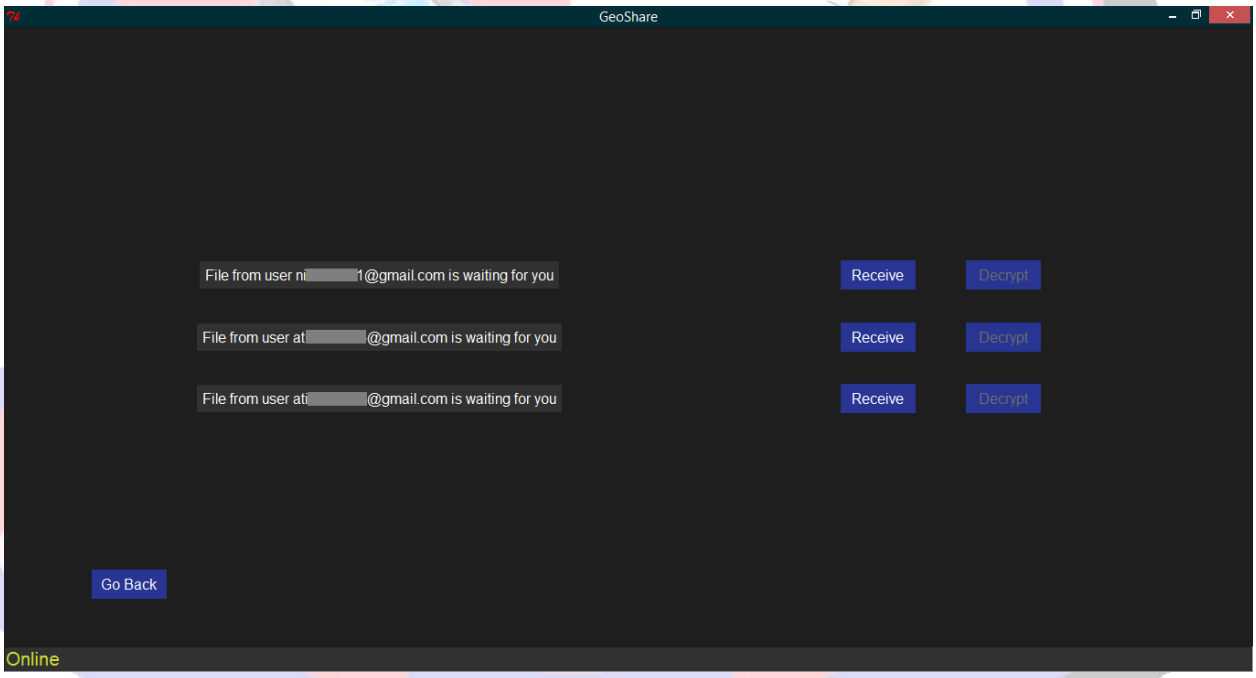

Fig.3.1.5 "Decrypt Window"

CHAPTER : 4 Summary And Future Enhancement

4.1 Advantages Of The System:

1. Enhanced Security

- It provides better protection of data flowing across the network.

2. Reduced resource overhead

- Increased speed and less resource usage because of efficient algorithm.

3. Double authentication

- Geotag is checked twice for making algorithm better against spoofing.

4.2 Future Enhancements:

Few enhancements can be done in the future like.

- Improving algorithm security and efficiency

Conclusion

According to our study we concluded that security and efficiency of an application is the most important aspect of an application in current generation of technology.

So our system emphasizes on these main aspects and fixes the problem that were previously held for decreased security of information system.

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