A project report on

Multi Cipher Technique Facilitator

Submitted in partial fulfilment of the requirement For the award of the degree

# **MASTER OF COMPUTER APPLICATIONS** Of



Visvesvaraya Technological University Belgaum, Karnataka By PRAVEEN DK 1CR18MCA87



CMR INSTITUTE OF TECHNOLOGY 132, IT Park Road, Kundalahalli, Banglore-560037 2019-2020 A project report on

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Under the guidance of

Internal Guide Dr. Anu Manchanda Associate Professor, MCA Dept. CMR Institute of Technology Bangalore External Guide Mr. Abhishek Technical Manager, Meta Techsys Bangalore



## **CMR INSTITUTE OF TECHNOLOGY** 132, IT Park Road, Kundalahalli, Bangalore-560037 2019-2020

# **CMR INSTITUTE OF TECHNOLOGY**

Department of Master of Computer Applications Bangalore - 560 037



CERTIFICATE

This is to certify that the project work entitled

## **Multi Cipher Technique Facilitator**

Submitted in partial fulfilment of the requirement for the award of the degree of Master of Computer Applications of the Visvesvaraya Technological University, Belgaum, Karnataka bonafide work carried out by

### PRAVEEN DK 1CR18MCA87

during the academic year 2019-2020.

Signature of the Guide Dr. Anu Manchanda Associate Professor, MCA Dept. Signature of the HOD Ms. Gomathi.T HOD, MCA

, MCA PRINCIPAL, CMRIT External Viva

Name of the Examiners

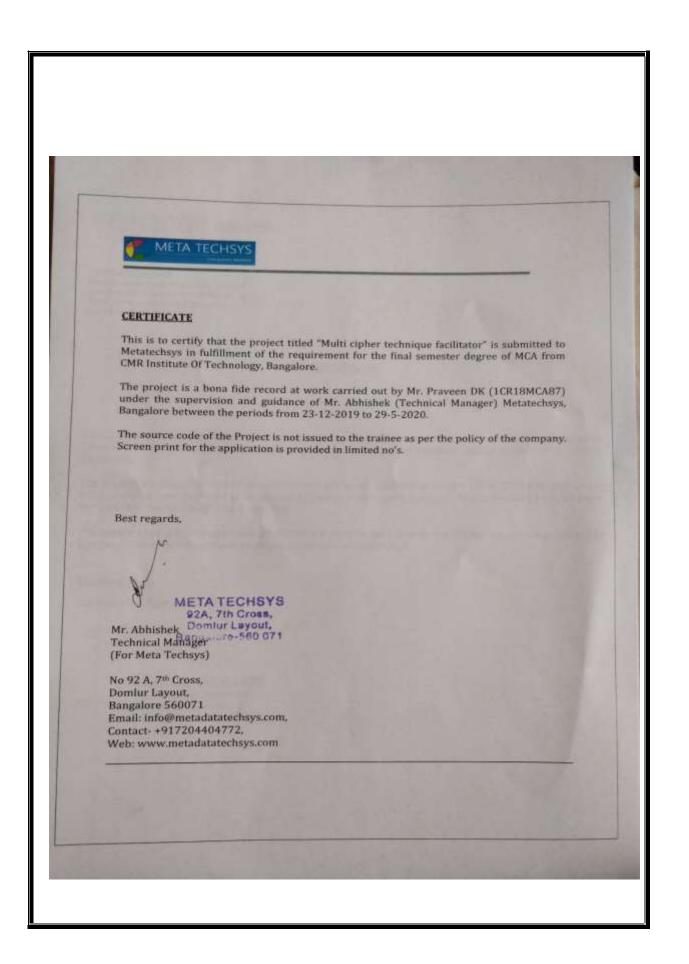
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Signature with date

**Signature of the Principal** 

Dr. Sanjay Jain



## DECLARATION

I, **Praveen DK**, student of 6<sup>th</sup> MCA, **CMR INSTITUTE OF TECHNOLOGY**, bearing the USN **1CR18MCA87**, hereby declare that the project entitled "**Multi Cipher Technique Facilitator**" has been carried out by me under the supervision of External Guide **Mr. Abhishek**, Technical Manager, and Internal Guide **Dr. Anu Manchanda**, Associate Professor, Dept of Master of Computer Applications and submitted in the partial fulfilment of the requirements for the award of the Degree of Master of Computer Applications by the **Visvesvaraya Technological University** during the academic year 2019-2020. The reports has not been submitted to any other University or Institute for the award of any degree or certificate.

Place: Bangalore

PRAVEEN DK

Date:

(1CR18MCA87)

### ACKNOWLEDGEMENT

I would like to thank all those who are involved in this endeavour for their kind cooperation for its successful completion. At the outset, I wish to express my sincere gratitude to all those people who have helped me to complete this project in an efficient manner.

I offer my special thanks to my external project guide Mr. Abhishek, Technical Manager, Meta Techsys Pvt. Ltd., Bangalore, and to my Internal Project guide Dr. Anu Manchanda Associate Professor, Department of MCA, CMRIT, Bangalore without whose help and support throughout this project would not have been this success.

I am thankful to Dr. SANJAY JAIN, Principal, CMRIT, Bangalore for his kind support in all respect during my study. I would like to thank Mr. Abhishek, Technical Manager, Meta Techsys Pvt. Ltd., Bangalore, who gave opportunity to do this project at an extreme organization Most of all and more than ever, I would like to thanks my family members for their warmness, support, encouragement, kindness and patience. I am really thankful to all my friends who always advised and motivated me throughout the course.

PRAVEEN DK (1CR18MCA87)

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## **CHAPTER 1**

## INTRODUCTION

### **1.1 PROJECT DESCRIPTION**

Structuring of the important information is required by multiple types of organizations and Agencies across the globe but the problem arises in terms of the perception of the security that has to be included whereas multiple types of related techniques are used so the system design is to provide multiple references of different types of high end perceptions which can be acknowledged in the custom format to get the type of security variations required. Multiple types of perceptions are included in terms of the environment where the system can utilized so when the system will he integrated it will be asked for the variation of setups based on the environment.

Multiple environment support is provided within the system when the system is incorporated with multiple types of stages of settings that have to be manually incorporated by the main administrator. As the related references are acknowledged the system will provide the differential options of the security and accordingly the related setups again required to be performed for implementing the type of security need which has to be established. The references of the security is quite important to be undertaken because different business references are required to be properly concealed so the organizations specially based on Defense provisions or the related banking sector requires more references of security preferences where is even on the individual references the identities require security.

System incorporates multiple types of techniques which are in built and has to be referenced and even the conditional combinational security provisions are provided which will be very much helpful to acknowledge more essential security Complex build-ups. The system also works on virtual confederations where the system automatically the revised information on self-defined virtual place, the inclusion of virtual perception will be more useful when more complex security requirement arises. The system is also undertaken with zone perfection method where the related environment where the system is being incorporated will be taken as a zone of security. When multiple types of acknowledgments that are related with the security breach are taken into consideration by the system it is more helpful because the system provides more concealed information security provisions. The system is also acknowledged with multiple considerations of algorithms which can be directly utilized so when the user will select the algorithm option multiple display will be provided in reference different types of custom formations can utilize to implement the algorithm required on a particular set of data.

The encryption bits can also be modified in change within the system and even the display provisions as an view will be provided to the users so that they can understand that how the encryption works and how the data will become field for better understanding. System also utilizes different types of cryptographic methodologies and different types of hashing algorithms which will be very much helpful as any reference of the security type of method required can be simply selected acknowledged and can be used. Actual information concealment that is required for the cryptographic methodological implementations are followed where the users will be provided with more optimized referential methodologies and understanding so that any type of cryptographic substantial implementation is required can be properly achieved.

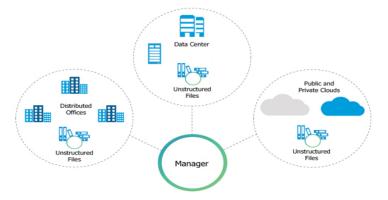


Figure 1: Management aspect for the design system

The references of the security will be defined according to the perception so it will be helpful in terms of maintaining the flexibility and even it any point of reference any type of consideration that is required to be modified can be properly included within the system. The system also provides multiple technique so that the system can work fast and transfer of the retrieval of the information so this will be also helpful for the organizations as any type of retrieval that is required can be commenced properly and even the data retrieval will be based on chunks so that all type of data will not presented to the users for the security reasons at a time.

Complex references that are required in terms of configuration and in terms of different types of network status are included the system which is very much important because any type of perception where users will be using the system requires a proper understanding. Understanding will be achieved in a way that user should feel all types of perceptions implementation with proper function the system is designed to help users understand the variations of work is included within the system. Multiple associated working can be acknowledged so the system is handy and can be utilized in different perception for different types of organizations making it a perfect solution for different resources of the security requirements by different Associates worldwide.

### **1.2 COMPANY PROFILE**

Meta



### Profile

Numerous product arrangement and administrations are given to help keep up the intricate capacity plan and counselling in different points of view for the related customers. To give an engaged Win-Win arrangement the organization is into numerous sort of scientific recognition comprehension and announcing where appropriate raging plans are required to be intended for undertaking various kinds of business thought. Various affiliation-based devices for dealing with an appropriate usefulness is likewise hand crafted so the customers will satisfy the necessary working imminent.

We structure and offer the types of assistance to respect the related client desire with serious prerequisite investigation and plan. Kinds of business discernment are embraced with the assistance of skill group which will chip away at a customized work organizing for the customers. Multi-level customer server arrangement or the related statistical surveying the organization is productive for the specific prerequisite accuracy with more savvy execution affiliation and structure.



**Figure 2: Business Philosophy** 

Different innovative work for understanding the work necessities Worldwide customer working observations Expounded solid work group in various aptitude Different reviewing regarding consumer loyalty We offer the going with organizations: Testing, usability testing for application and locales SMS organization applications Market research and analytics Complex Internet-based courses of action, Online business applications, Work area programming

# CHAPTER 2 LITERATURE SURVEY

## 2.1 EXISTING AND PROPOSED SYSTEM 2.1.1 EXISTING SYSTEM

In the existing scenario concealment of the information that is required with different types of structuring and unstructured in techniques where different types of perception knowledge and different types of related resources are required to be acknowledged. In the existing system we have seen that the preferences that are required by the organizations have to be properly planned and various types of consideration of configuration and set of requirements are required to be handled. In the existing system we found that the concealment of the related provisional data requires lots of investments because the inclusion of experts is needed.

Some problems that outlined is as below-

- In the existing system different types of cryptographic methods and different types of references of incorporated security techniques are not supported to be accomplished from a single reference system and inclusion of different types of tools are needed
- In the existing system the variations of selections are not provided so any type of modifications that are required to be implemented by the user according to some usage condition is not supported as the system works on a predefined method
- The considerations in the existing system is based on a particular reference to the security zone perception is not supported and only the target information that is integrated will be applicable for the security references
- In the existing system even the reference combinations and complex provisions of the security requirements is not fulfilled with multiple technique inclusion at the same time
- In the existing system even the provisions of digital virtualizations based on automation and even based on manual integrations which supports multiple types of platforms is not provided so the considerations of the security is having lots of breach issues

- In the existing system even, we have seen that variations of the environment support is not provided so different types of environment and different types of Machines required different sectors of the security techniques where the professional tools are utilized
- In the existing system even, we have seen that pure modification that is needed at any point of reference is also not supported and if any modifications are required multiple types of integrated configuration requirements are required to be satisfied
- Multiple retrieval technique problems are also acknowledged in the existing system where the perceptions of the data that is required to be retrieved will be difficult.

### 2.1.2 PROPOSED SYSTEM

In reference to different types of working organizations and different types of security protection we have acknowledged that various types of problems faced so the propose system is been designed to eliminate all the references and to provide a custom orientations of the working. The propose system is been designed with multiple types of techniques of cryptography, algorithm revisions and other perception of hash methods. In the propose System different types of related working is acknowledged and some of the important perception that is being considered is as below-

- The system provides central reference space to working where all types of acknowledgements based on Cryptography techniques and other provisions of the security methodologies can be properly established with multiple types of setup included
- Any type of required methodological change that is needed can be properly generated within the system because all types of modification perceptions are included with the system which is quite important for the organizations as different types of perception require different types of security implementation
- Security zone consideration are included so whenever the system is being utilized a perfect security zone will be formulated which is quite important because security breach perceptions will be undertaken which will be quiet important as a full proof security can be implied

- Combination and complex provision provisions of security is provided within the system which can be easily established so this will be more interesting for the organizations because if they require more Complex references they can implement multiple techniques
- Digitalized virtualizations is also included within the system which is also important factor of security because it will be done in a automated format and this will help to concealed information in more appropriate provision
- Environment references are required for different types of considerations of work so system supports different types of environment compatibility which will provide more support for different types of individuals and companies to utilize
- Pure Modification is provided any reference required to be updated can be done through system any time required
- The retrieval techniques are also associated with the system which will help the use to retain their data or to retrieve the data in proper aspects and even different security offences are utilized for that for example the chunk reference

### 2.2 FEASIBILITY STUDY

Feasibility references are required to be established in reference of understanding the requirements which are needed to design the system and required to maintain the operations of the system. The feasibility study is important because we have to do the planning properly that will help us to maintain the workability in more appropriate way. All types of considerations that are required to be acknowledged based on different types of cash requirements and investment requirements will be also discussed.

Technical feasibility Operational Economic feasibility

### 2.2.1 Technical feasibility

Technical feasibility concentrates on all types of solutions that are required to be generated in terms of the problem so when we have ethanol to the different types of information concealment problem

occurs we have to provide different references and it will be supported with custom orientation of workability so the detailed process define will be acknowledged

The concentration of the workability will be provided within the company and all the related resources required by the workforce be provided

The related references that have required to be provided in terms of selective variations will be also acknowledged because different types of techniques based on Cryptography has to be included with the users will be having there in choice of usage.

All the solutions will be checked for the reference of custom working

#### 2.2.2 Operational feasibility

We have to make understand the users about the security requirements and about security preferences that are provided within the system so that they can utilize the system in appropriate way Considerations of usability will be acknowledged and we required that user should be provided with some detail documentation for more better understanding

In house training will be conducted and different types of hierarchy will be acknowledged when the training is provided so that the offences of understanding and real time working can be established

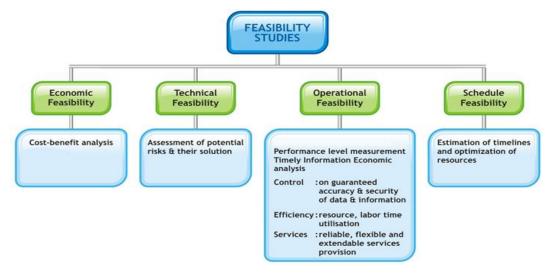


Figure 3: Feasibility association is shown

### 2.2.3 Economical feasibility

For incorporating a system on a global perception we have to check that how much money is required for undertaking the requirements design and implementation

Financial department will be making all the references and the investors those who will be funding for the project assigned will be properly recognized

Multiple stages and the requirements of cash another investment provisions will be acknowledged with proper statistics so that the board of directors will be having a clear idea of the requirements of money

## 2.3 TOOLS AND TECHNOLOGIES



#### Java

We will utilize different editors for Java that is accessible for instance Net Beans and Eclipse. Some noteworthy utilization of Java is that it is having meaning healthy faultlessness that suggests it is reliable as it can manage different sorts of uncommon case dealing with, memory portions, and waste social event.

Java has been configuration by sun microsystems to give the necessary adaptability and furthermore it gives stage autonomous byte codes. Java is a made sure about language which will utilize different open keys for the refreshed security arrangement.

### My SQL

My SQL is promoted in supported by My SQL which is a Swedish association, and different assortments are given by MySQL to point of reference

It is the most predominant database group and huge subsets of the functionalities can be properly sifted through

It is an open source grant based working

It will be versatile

MySQL works on many working structures and it support different lingos for example Java PHP, etc.

## 2.3.1 Installation

1. Run the Eclipse installer.

type filte	er text	Q
<b>8</b>	Eclipse IDE for Java Developers The essential tools for any Java developer, including a Java IDE, a Git client, XML Editor, Mylyn, Maven and Gradle integration	
<b>*</b>	Eclipse IDE for Java EE Developers Tools for Java developers creating Java EE and Web applications, including a Java IDE, tools for Java EE, JPA, JSF, Mylyn, EGit and others.	
©.	Eclipse IDE for C/C++ Developers An IDE for C/C++ developers with Mylyn integration.	
ß	Eclipse IDE for JavaScript and Web Developers The essential tools for any JavaScript developer, including JavaScript, HTML, CSS XML languages support, Glt client, and Mylyn.	
<b>e</b>	Eclipse IDE for PHP Developers The essential tools for any PHP developer, including PHP language support. Git client, Mylyn and editors for JavaScript, HTML, CSS and XML.	

2. Click the "Launch" button.

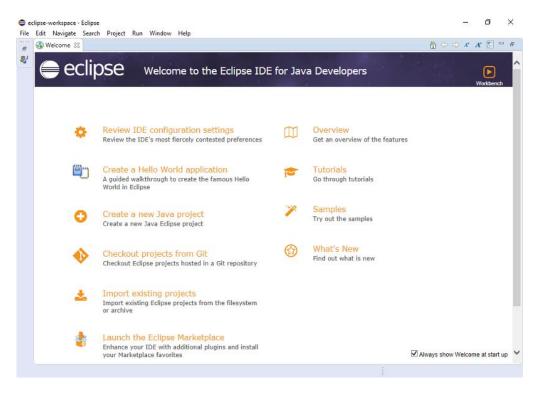
Eclipse I	IDE for Java Developers	
	tial tools for any Java developer, including a Java IDE, a Git client, XM lyn, Maven and Gradle integration.	L
nstallation Folder	C:\Users\User\eclipse\java-oxygen	10-
	<ul> <li>create start menu entry</li> </ul>	
	✓ create desktop shortcut	
	► LAUNCH	
	show readme file	
	open in system explorer	
	keep installer	

## 2.3.2 Configuration

1. Run Eclipse

Eclipse Launcher	Х
Select a directory as workspace	
Eclipse uses the workspace directory to store its preferences and development artifacts.	
Workspace: C:\Users\User\eclipse-workspace	
Use this as the default and do not ask again	
Launch Cancel	

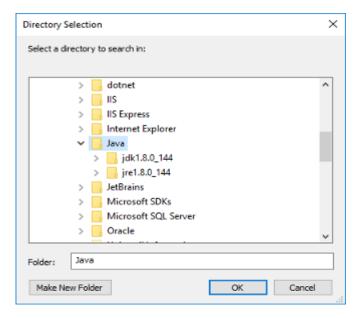
### 2. Open the regular editor.



3. select "Java > Installed JREs":

Preferences					$\times$
type filter text	Installed JREs			⇔ - ⇔ -	
> Ant ^ > Code Recommenders Gradle > Help	Add, remove or edit JRE newly created Java proje Installed JREs:	definitions. By default, the checked J ects.	RE is added to t	he build pat	h o
> Install/Update	Name	Location	Туре	Add	
> Appearance	🗹 🛋 jre1.8.0_14	C:\Program Files\Java\jre1.8.0	Standard	Edit	
> Build Path Code Coverage				Duplicate	
> Code Style > Compiler				Remove	
> Debug				Search	
> Editor					
> Installed JREs					
Properties Files Edito					
> Maven					
> Mylyn > Oomph					
> Run/Debug					
> Team	<		>		
Validation > XML					
~				Apply	,
< >					-
? 💿		Appl	y and Close	Cancel	

- 4. Click the "Search" button and select the "Java" folder.
  - Windows: C:\Program Files\Java



5. Select the line for the JDK:

/pe filter text	Installed JREs			⇔ + ⇔ +
Ant	Add, remove or edit JRE newly created Java proje Installed JREs:	definitions. By default, the checked J acts.	IRE is added to t	he build path
Install/Update	Name	Location	Туре	Add
<ul> <li>Java</li> <li>Appearance</li> <li>Build Path</li> </ul>	✓ ➡ jdk1.8.0_14 □ ➡ jre1.8.0_144	C:\Program Files\Java\jdk1.8.0 C:\Program Files\Java\jre1.8.0_144	Standard	Edit
Code Coverage		era region rine boro grenolo_rin	Standard Th	Duplicate
> Code Style > Compiler			i	Remove
> Debug			[ [	Search
> Editor > Installed JREs				
> Installed JKts JUnit				
Properties Files Edito				
Maven				
Oomph				
Run/Debug				
Team	<		>	
Validation				
XML				
>				Apply

6. Click the "Apply and close" button.

### 2.4 HARDWARE AND SOFTWARE REQUIREMENTS

## SOFTWARE REQUIREMENT

Databases: MySQL 8.0.13 Technology: Hybrid cloud (implementation) Platform: Windows Languages: JAVA (J2EE, JavaScript, JSP) Integrated development environment: NetBeans/ Eclipse Supporting Server Apache Tomcat 8, SSD cloud server, Amazon s3

### HARDWARE REQUIREMENT

- Computer processor : Intel core i3
- CPU Clock speed : 1.7 GHz
- Hard Disk Space : 250 GB
- RAM : 2 GB

## **CHAPTER 3**

## SOFTWARE REQUIREMENT SPECIFICATION

#### Users

#### Associate

Related login will be provided and the long will act as a control login with different types of exceptions requirements can be changed and modified and even if other users are required to be acknowledged it can be done with associated with regulations and rights. The users will be having all types of custom provisions provided so that they can implement the type of techniques required for different types of references.

#### Scope and objective

The scope of the system is to define Technology security provision which will be based on different types of methods and techniques related to Cryptography and other provisional references so that any reference of security required can be properly accomplished through a single system The main objective of the system is to relate all types of related references of security on a single system by providing multiple settings and options where the reference self-designed this will help to relate the working in more appropriate way

#### Assumptions and dependencies

The dependency of the system is that any type of related information structure in that is required has to be done only to the system as all the conditional variations are provided on to the system The function of the system is that the user should have appropriate authority to use the system and even the person should have a detailed knowledge about cryptographic techniques and other related methodologies so that implementation can be properly acknowledged

#### **Problem statement**

Problem statement of the system is that multiple combination methodologies are required to be implemented at the same time it will be crucial because multiple setup references are needed to be understood

The references of digitalization and the references of virtualizations which is required to be integrated is also a major concern because it has to be acknowledged a with automated provisions Considerations of environment references are also required

### **3.1 FUNCTIONAL REQUIREMENTS**

Functional that are divided into multiple references would be again check for the related inputs and outputs where we will be also writing the detailed process that will be acknowledged by the system entrance converting and concealing information

Cryptographic methodologies
Selective and settings
Authentication required
Cryptographic methodologies are provided which has to be referentially utilized by the users according to their own considerations so the system is bound to provide all types of inbuilt preferences for the settings and accordingly the references of incorporation will be processed. Different types of methodological references are included within the system which has to be redefined and

#### Cryptographic methodologies

	has to be re acknowledged whenever
	required.
	The system provides the standard
	references which has to be simply
	selected and used by the users
Post-condition	Added

## Conditional setup

Use Case Name	Conditional setup
Trigger	Settings
Precondition	Authentication
Process	Conditional setup for the usage of the system in a particular environment is also provided where according to the network requirement for according to the hardware requirement the references will be set up. Multiple elaborated settings will be provided so that the referential integration and adaptability can be performed. The system is compatible for different types of environment reference
	and usage
Post-condition	Reference added

## Combinational techniques

Use Case Name	combinational techniques
Trigger	Selective

Precondition	Authentication required
Process	Different types of combinational
	techniques are also associated so the
	users can select multiple techniques and
	can prepare a combinational reference
	for implementing Gateway the system
	will provide the steps that are required to
	be Incorporated.
	Multi considerations of a techniques can
	be implemented at the same time making
	it more complex for the working
	considerations which is good for the
	organization looking for more
	information concealment
Post-condition	Details added

## Algorithms

Use Case Name	Algorithms
Trigger	Selective
Precondition	Authentication and data added
Process	Different types of hash algorithms and other related algorithms for the securities included which has to be selected by the users and in reference to which the related conditions will be
	provided. References of the view are also provided in process as the data will

	be incorporated to provide the users with
	a referential knowledge about the
	constable requirement.
	All types of responses that are required
	to be established based on algorithms
	will be supported in inclusive format.
Post-condition	Selective

### Virtualizations

Use Case Name	virtualizations
Trigger	Selective and auto
Precondition	Reference authentication used
Process	Automated considerations of the
	virtualizations are also provided so that
	the virtual reference will be designed by
	the system and all the related
	information will be outlined and will be
	automatically transferred.
	The system also provides set up where
	that defined platform configuration can
	be also acknowledged for the virtual
	transfer. Virtualize references would be
	undertaken by the system automatically
	so this will present more security
	because the considerations are
	automated and predefined which will be
	intelligently reference by system so even
	the users will be not having the idea of

	the virtual consideration that has been
	undertaken.
Post-condition	Details added

### **3.2 NON FUNCTIONAL REQUIREMENTS**

Establishment different types of non- functional important because we have to check that the users should have dated operational requirements presented to them in terms of the adaptability and in different terms of security and legal considerations. Add multiple non-functional references to maintain the quality

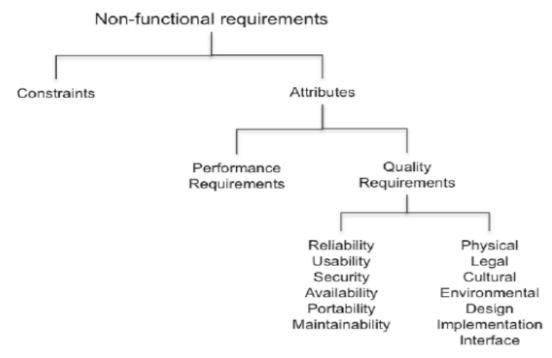


Figure 4: Details for the non-functional requirements are shown

### Adaptability

The system is adaptable as multi references of environment setup and different configurations of the security options are provided so as the requirement arises on the individual reference or on organizational reference the professional implementation can be acknowledged. The considerations that have required to be established can be properly selected and can be implied

#### Transparency

The system is transparent as all types of related working can be properly established with the help of different types of getting constellations included within the system so we can say that any type of workability that is required to be organized or required to be performed can be properly established.

#### Documentation

Documentations are also provided to the user so that they can have a detailed acknowledgement of the work and as the working is properly understood the system can be utilized with more references of working and understanding. All documentations will be provided in terms of start-ups and the usage of different types of functionalities provided in terms of cryptography and other techniques

#### Scalability

Any format of data can be utilized to be acknowledged with the concealment in for security. The system provides detailed workability support so that any type of data can be handled by the system and to maintain the scalability. Multiple types of organizations on a large scale will be using the system for example the Wealth Management organization so the system can handle large set of information properly

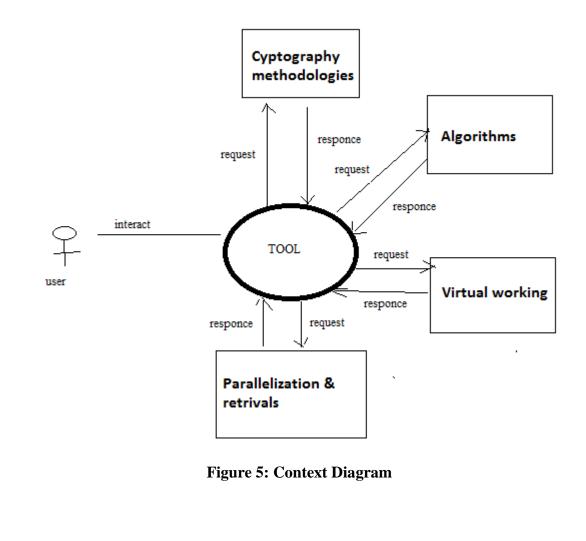
#### Legal

All legal usage of the system will be provided to the user so that they can understand that for which variation and how the system can be utilized. Legal aspects and liabilities will be properly outlined so that the related work perceptions can be properly associated

# CHAPTER 4 SYSTEM DESIGN

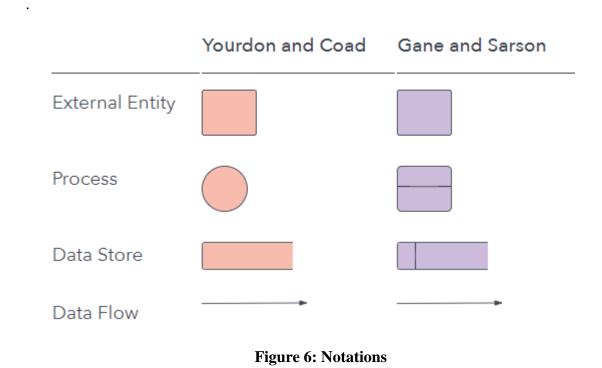
## 4.1 CONTEXT DIAGRAM

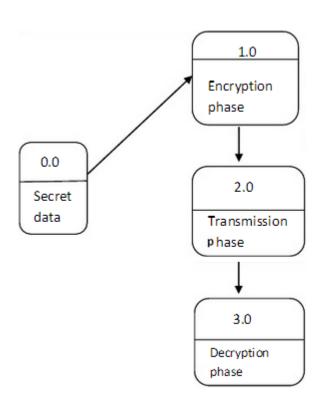
Context diagram provides multiple sequence of synchronization of processes where all types of scope and boundaries of the system at a glance is shown

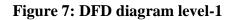


### 4.1.1 DATA FLOW DIAGRAM

Data flow diagram represents the flow of data of a process where the related information based on inputs and outputs of each entity will be represented







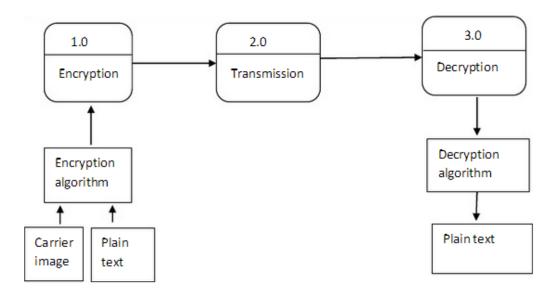


Figure 8: DFD diagram level-2

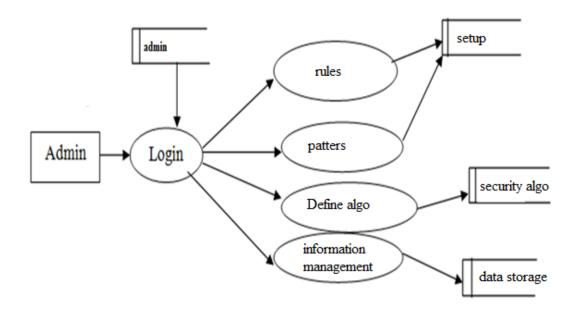


Figure 9: DFD diagram for admin

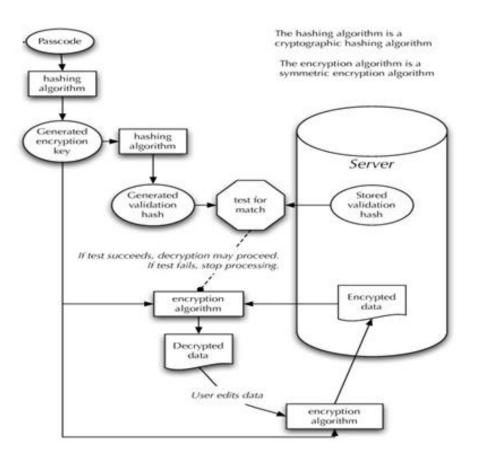


Figure 10: DFD diagram for user(hash-algo)



#### **4.2 ARCHITECTURE DIAGRAM**

A conceptual model is been designed so that the structure behavior and view of the system can be properly recognized this is what we call the architecture diagram

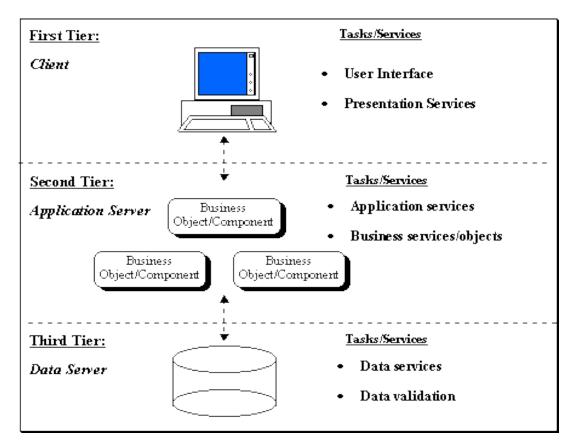
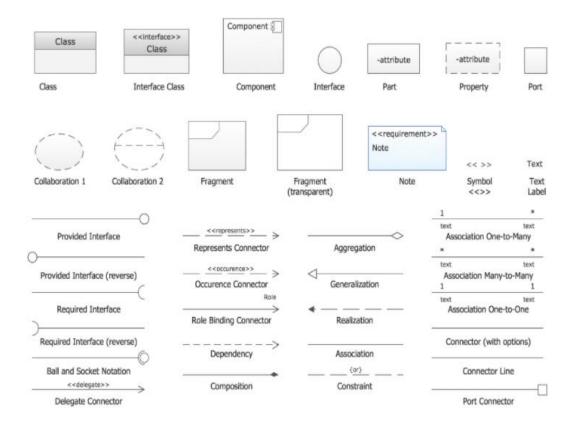


Figure 11: Architecture diagram

## **DETAILED DESIGN**

### 5.1 CLASS DIAGRAM

Class diagram is a reference where the structure is described in the format of classes attributes operations in the relationships



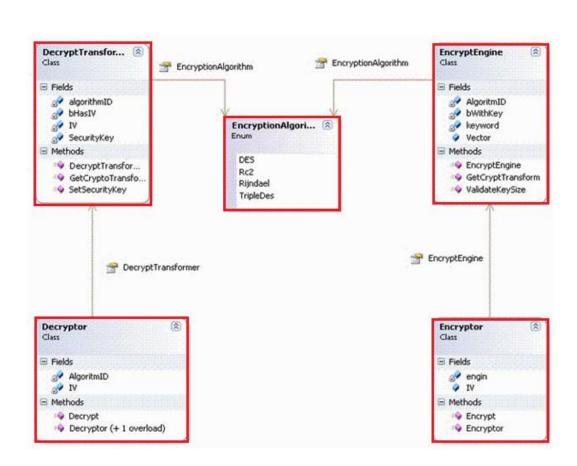


Figure 12: Class diagram for encrypting and decrypting

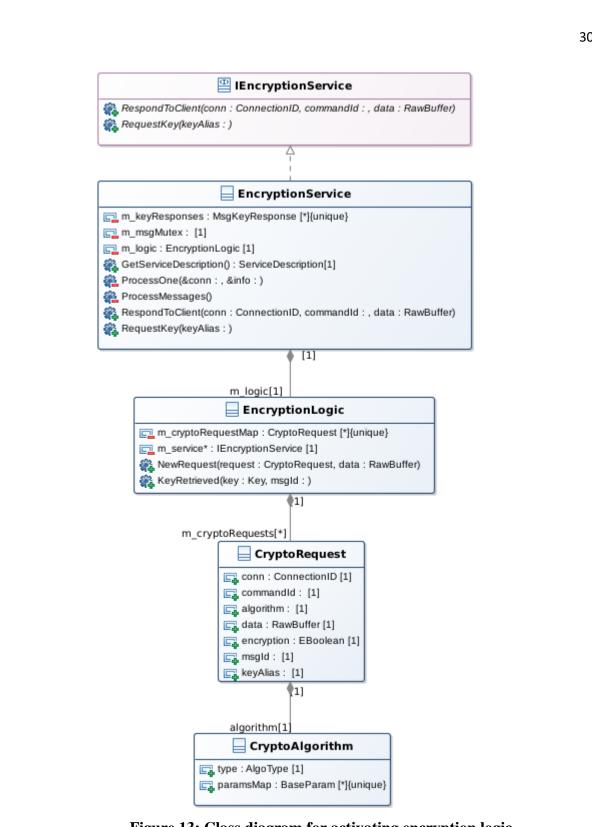
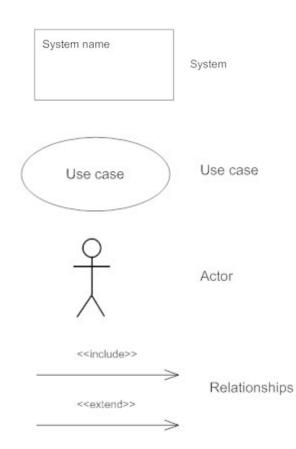


Figure 13: Class diagram for activating encryption logic

### **5.2 USE CASE DIAGRAM**

For accomplishing a particular goal the interactions between the external act and the system is being considered in terms of use case diagrams



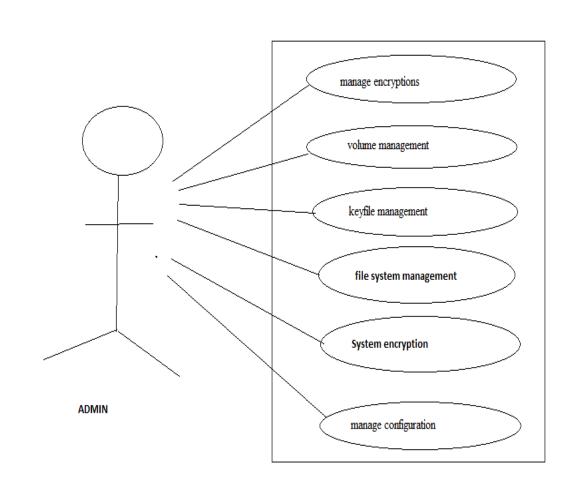


Figure 14: Use Case Diagram for multi cipher Facilitator

#### **5.2.1 UML DESCRIPTION**

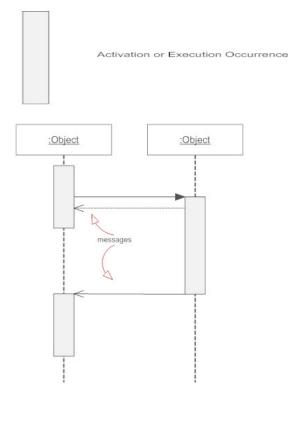
The above Diagram Figure 14, having admin as actor specifies the admin functionalities.

- Admin manages the various encryption methodologies, that is present in the proposed system, these methodologies works different for different users, as different users has, different way of encrypting their data.
- Admin selects or update the volume ie. The drive where the encryptable file is located.
- Selecting and deleting key files for securing the hidden file in the drive.
- Admin create, update, delete, adding and deleting of files is done by admin

- Managing the encryption area, which refers to System encryption is handled by admin.
- Various methodologies and techniques can be managed based on requirements by the one who uses it.

### **5.3 SEQUENCE DIAGRAM**

Sequence diagram is associated with different types of arrangements based on objects interaction in a time sequence. Sequence diagram also shows the referential message exchange between the objects needs to carry out the function of the scenario which is undertaken



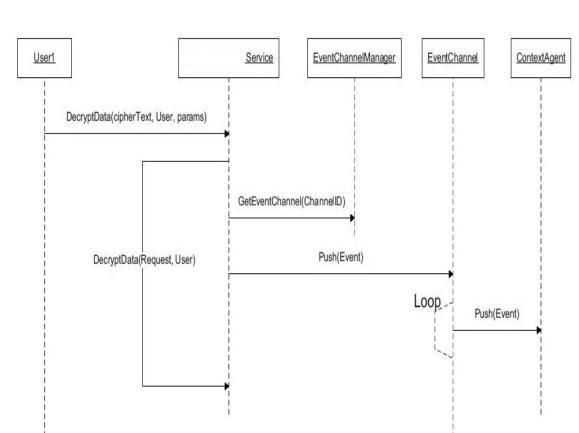


Figure 15: Sequence diagram for normal user



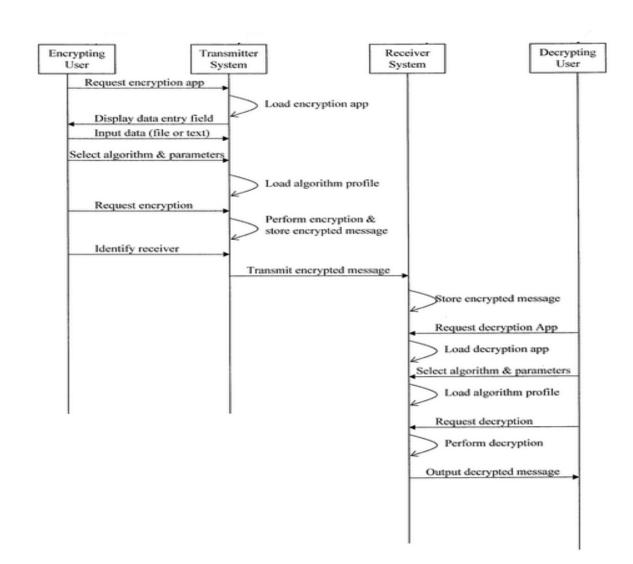
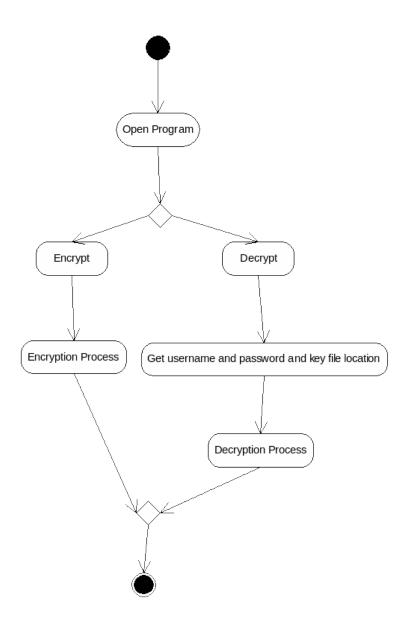
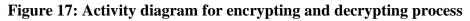


Figure 16: Sequence diagram for Encrypting user

### **5.4 ACTIVITY DIAGRAM**

Activity diagram captures the dynamic behaviour and shows the message flow from one object to the another





#### 5.5 Entity relationship model

Entity relationship model is a high level conceptual model which helps us to analyze data requirements and it is helpful for well-designed database

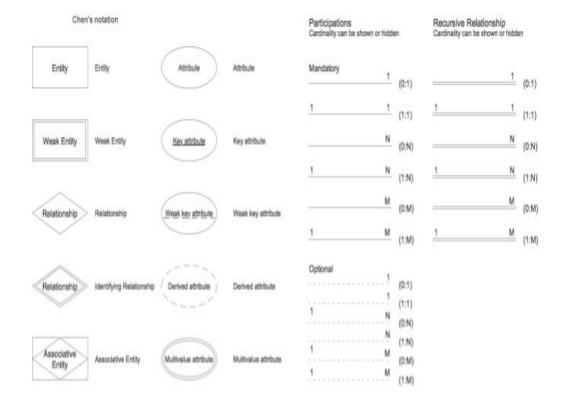


Figure 18: Chen's notations

Crow's Fo	ot notation		Many - to	- One		
	Entity (with no attributes)		*	M:1		a one through many notation on one side of a relationship and a one and only one on the other
	Entity		>0	M:1		a zero through many notation on one side of a relationship and a one and only one on the other
	Entity (with attributes field)		*	M:1		a one through many notation on one side of a relationship and a zero or one notation on the other
	Entity (attributes field with o	olumns)	>>>	M:1	0+	a zero through many notation on one side of a relationship and a zero or one notation on the other
			Many-to-Many			
	Entity (attributes field with o		>0	M:M	⊙€	a zero through many on both sides of a relationship
			>	M:M		a one through many on both sides of a relationship
Relationships (Cardinality and M	odality)		≫0	M:M		a zero through many on one side and a one through many on the other
>0		Zero or More	Many-to-I	Many		
>		One or More One and only	-+	1:1	-0+	a one and only one notation on one side of a relationship and a zero or one on the other
+0		One Zero or One	-1	1:1	-	a one and only one notation on both sides

**Figure 18.1 CrowFoot notations** 

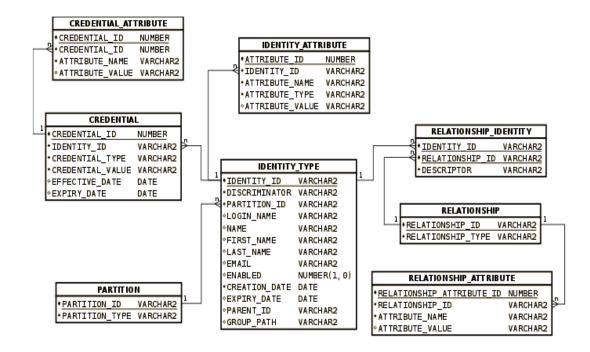


Figure 19: ER diagram

# **IMPLEMENTATION**

# Screenshots

Figure 20: User login page	Login Email Id:      Password: Forget Password LOG ME IN	
	Figure 20: User login page	, ng ng gi ang 1

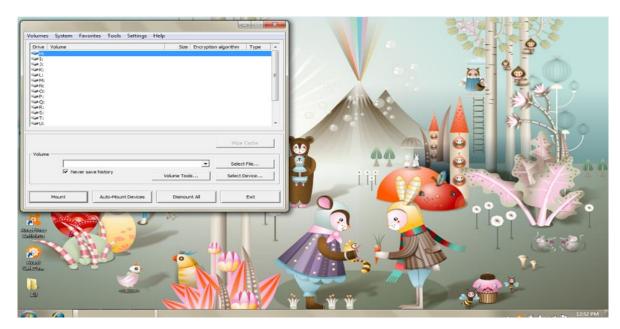


Figure 21: virtual drives are shown



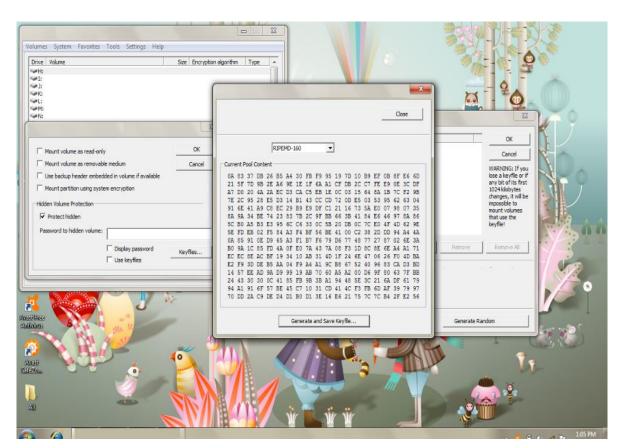
Figure 22: Volume-setups are given for selective usage



Figure 23: Example- selecting the file for the security

Volumes       System       Favorites       Tools       Settings       Help         Drive       Volume       Size       Encryption algorithm       Type         With       Size       Size       Encryption algorithm       Type         With       With       Size       Encryption       With         With       Wount volume as removable medium       Cancel       With         With       Mount partition using system encryption       With       Select File         Hidden       Volume Protection       Select File       Select File         Password to hidden volume:       Sel	Keyfie	CK Cancel WARNING: If you be a keyfile or if any bit of its first changes, it will be mount volumes that use the keyfile!	
Display password Keyfles	Add Files Add Path	Add Token Fles Remove All Generate Random	

Figure 24: Different types of key security preferences can be selected



**Figure 25: Algorithm selections** 

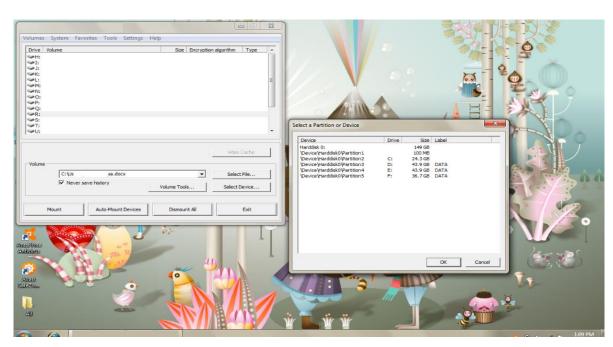


Figure 26: Mounting a physical-space

Volumes System Favorites Tools Settings Help Drive Volume Size Encryption algorithm Type Ht	Coher: Co
Volume         Volume           C:\Userssa.docx         Select File           If Never save history         Volume Tools           Mount         Auto -Mount Devices	mode
Automotives Usition All Differences	Parte text (rexadecine)

Figure 27: Cipher-algorithm selections and conversions

Volumes System Favorites Tools Settings Help			动城汉
₩H:	ion algorithm Type		
	E	V of	A - 20
₩1: ₩N: ₩0:	1 18		
♥P: ♥Q: ♥R:	- 03	ACIN SA	
Change Password or Keyfiles	·		E Sal
Password: ***			
Use keyfles Keyfiles   Display password			
New Password: Reason		i iii	
Confirm Password: ++++			
Use keyfies Keyfies			
		3	
Andrew		🗽 V 📶	69.99
AVOR			· · · · · · · · · · · · · · · · · · ·
		r 🦉 🚽 🖉	1.21 0.1

Figure 28: Credential-setups

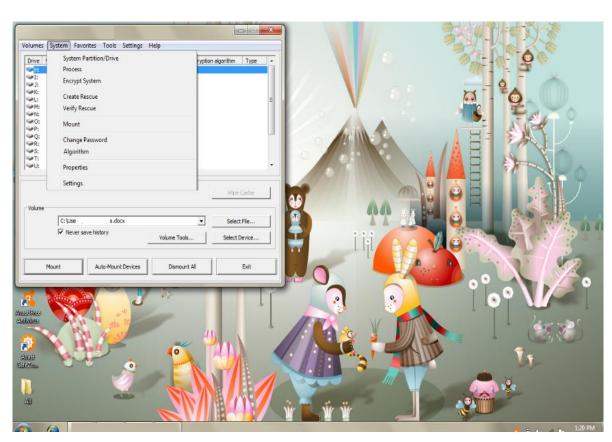


Figure 29: Detailed system settings (entire system)

## SOFTWARE TESTING

Testing perceptions will play important consideration as this is important phase of the designing perspective because here we will be checking all the references of security that are included and you will check that how the system behave in different references of the environment. The information concealment is a difficult consideration that is being undertaken for the development sweet has to be properly checked because different types of algorithms and methodological references are included within the system. In that software testing proper perception testing will be performed with the help of collaborated teams and all departments related to the system will be a part of the designing and testing references.

Proper considerations will be substituted and proper test cases will be written so that we can operate different types of software testing techniques properly. Multiple scenarios will be tested because we require that all the relative references that have provided within the system should be tested before it is given to the user so that when the users are using it for different types of concealment activities it can be technological by them with proper standards followed. A customised formation of different types of activities based on cipher that is provided has to be properly introduced and check before it is being provided to the users. The finalization of the activities work properly will be done within the software testing reference because it has to be automated and it have to be checked for the quality. All the requirements that are being there that will be checked that as the system helps to maintain all types of objectives and scope. Software testing is important and has to be considered properly with refined planning.



**Figure 30: Automation process** 

#### 7.1 Unit testing

Unit references is based on different types of units to be checked so fast will be undertaking different types of cryptographic techniques that will be checked individually

All types of hash algorithms are included will be checked for the convergence and for the views All types of references that are provided for the integrated network working will be chat as we require the different types of network divisions in individual hardware support should be provided All types of workability in different directions with the related virtualizations will be tested because a virtual concept of digitalized place provision is required to be provided

All the references that are required to be based on the data table will be also taken so that we can check that all types of data retrieval provisions are working properly and the system is fast in terms of the retrieval

Various types of conditions will be checked when different technologies are added at the same time so will check that how the system behaves when multiple conditioner perceptions are added

#### 7.2 Automation testing

System requires Automation Testing because different persons are added so we will be performing an automated testing review with the help of Selenium software

QTP will be also utilized for managing different types of reference of the testing

Conditional outputs will be tested and will be checked as we require that all types of condition should be fulfilled and should be satisfied according to the consideration for the requirement that has been discussed at the time of requirement gathering

### **TEST CASES**

Serial	Test-case	Test-Input	Results	Actual	Checked	Severity
						category
	Users	Credential	Setup	Users	Pass	Critical
			process	working		
1			provided	reference		
				added and		
				provided		
	Usage	Choice	Setups	Various usage	Pass	Critical
		based	provided	considerations		
2				seen		
	Environment	Setups	Settings	Different	Pass	Critical
			applied	instance		
3				added		
	Space-	Auto	Different	Virtualization	Pass	Critical
	virtualization		instance	reference seen		
			added			

4						
5	Security	Selective	Instances added	Different method reference added and used	Pass	Critical
6	Aldo	Selective	Options to select	Conditions of setups provided	Pass	Critical
7	Hash	Selective	Selective input provided	Reference of hash added	Pass	Critical
8	Fetching	Auto selective	Implied as selected	Data fetched	Pass	Critical

## CONCLUSION

Comprehensive understanding based on different types of security needs are provided within the system so when we have used the system acknowledgement of different perceptions are utilized in we can say that all types of perception works properly. Conditional references that were included has been included so we have done different types of combination of the security provisions on a particular data set and we found that all types of combination work properly. Acknowledgement on different types of environment are also undertaken so individual customers taken into the reference and even a company environment is taken into the consideration and we have seen that system provide the status in each set up includes all types of stages of variations that are required to be included with the help of different types of inputs.

All types of conditional references that are included works in parallel so we have also seen the different types of method implementation can be organized at the same time and even the system provides us a view of the residence when encryption is being used the system first provides the encryption view so that a proper understanding about how the data will be concealed is shown. All types of different references of the data concealment Technologies and the data retrieval technologies are undertaken and we found that all references perfectly. Conditional acknowledgement of the system is very much helpful because any type of offence requirements can be properly included within the system and system provides all types of compatibility in terms of hardware support in terms of reference is of Network Support.

## **FUTURE ENHANCEMENT**

Enhancement is in terms of integrating more options in the future if the new perception arises so we have to order the users and we have to check that any type of new reference technology is required by them. Some of the new reference that can be added in the future is listed as following

More references of security can be added if new technology based provisions arises

The user information tracking with the help of different types of logs can be generated for tracking

Implementation of the related resources can be added search any type of reference collaboration is needed it can be achieved

# **APPENDIX** A

# **BIBILIOGRAPHY**

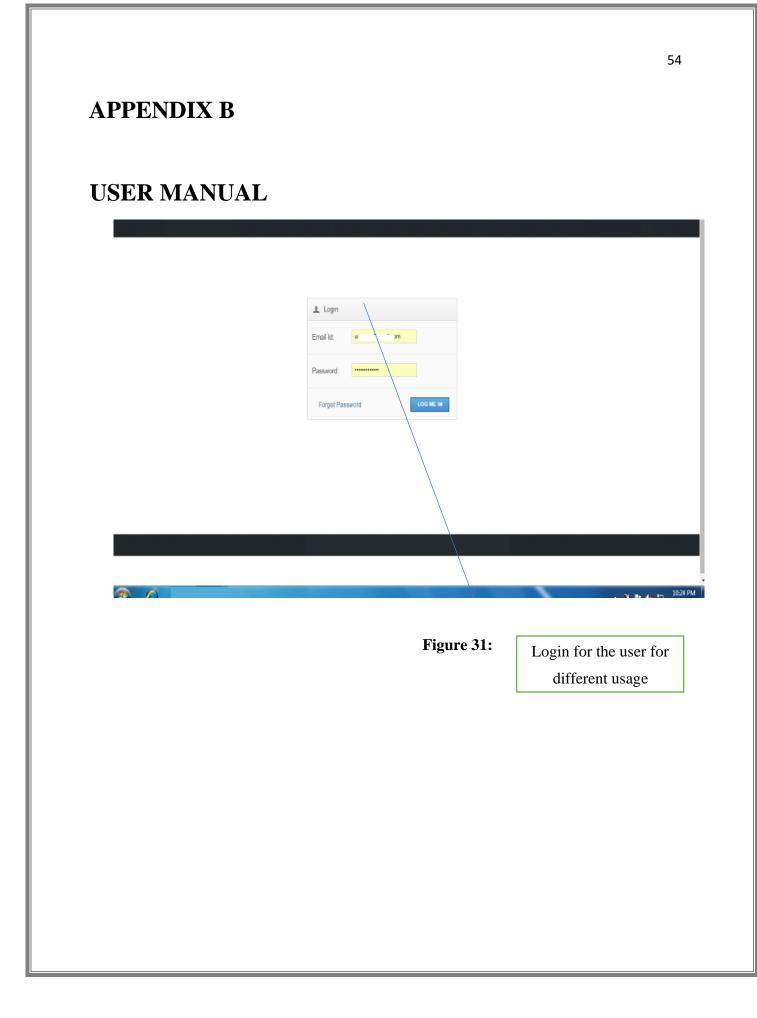
### Java

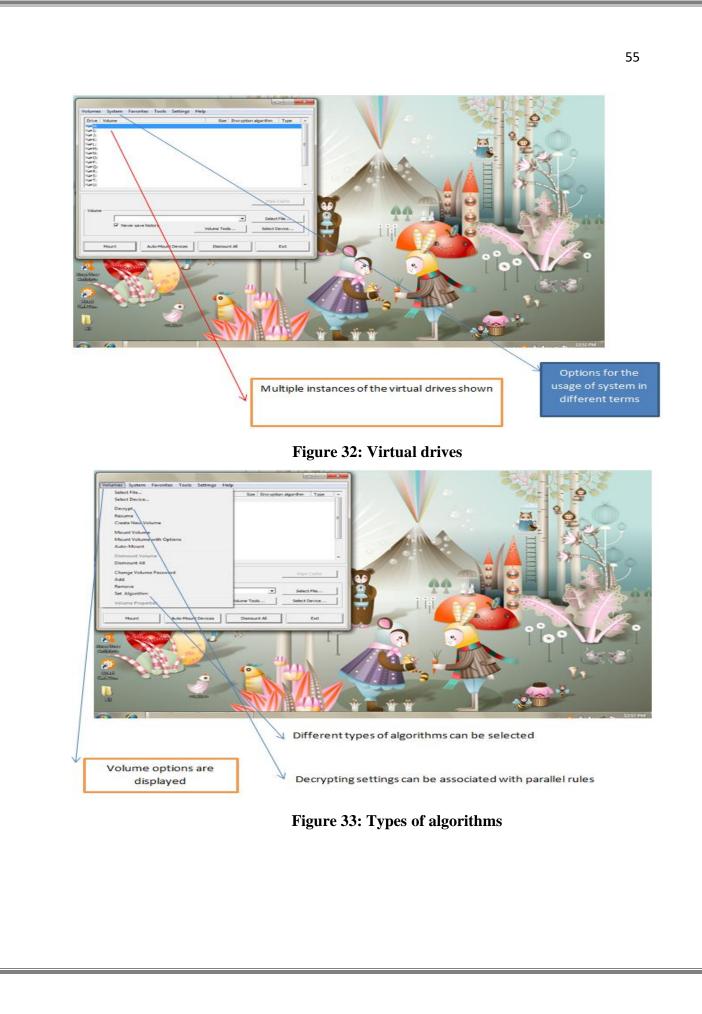
#### BIBLOGRAPHY

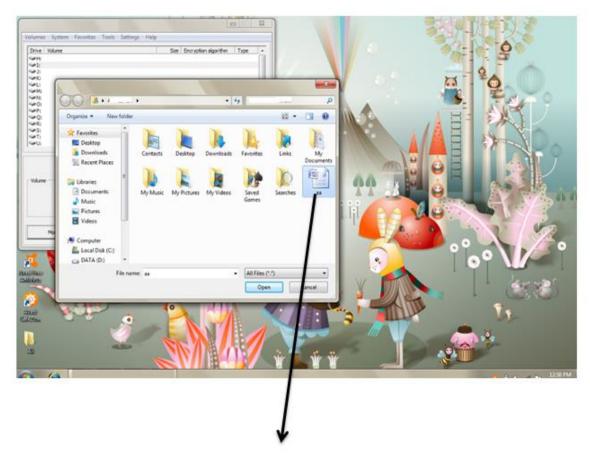
- "The Arrival of Java 14!". Oracle. March 17, 2020. Retrieved March 17, 2020.
- "Binstock, Andrew (May 20, 2015). "Java's 20 Years of Innovation". March 18, 2016.

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- ➢ www.microsoft.com
- ➢ www.google.com

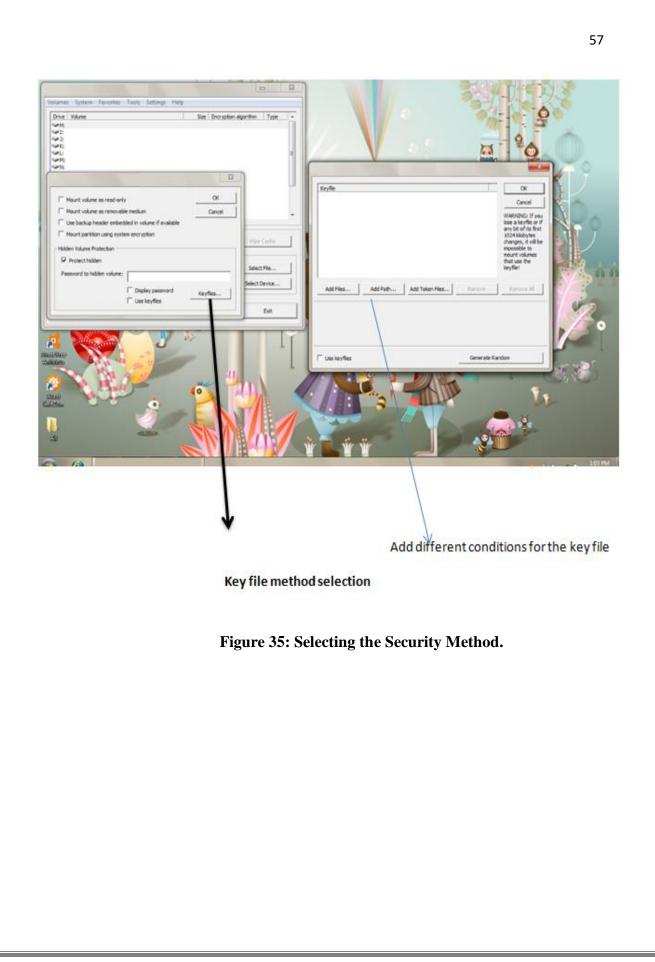


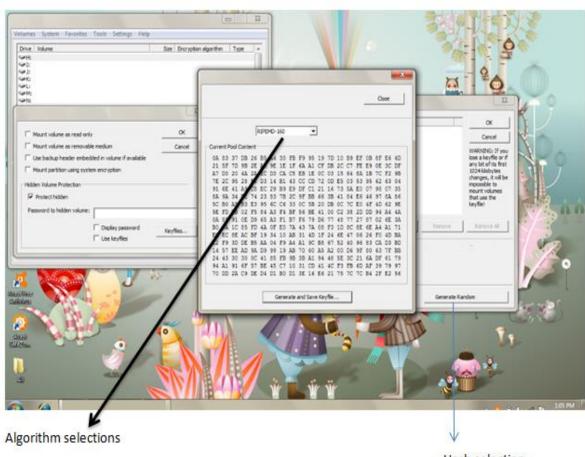




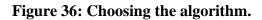
Select file is selected from volume options; system provides the browsing and adding the file required for the security

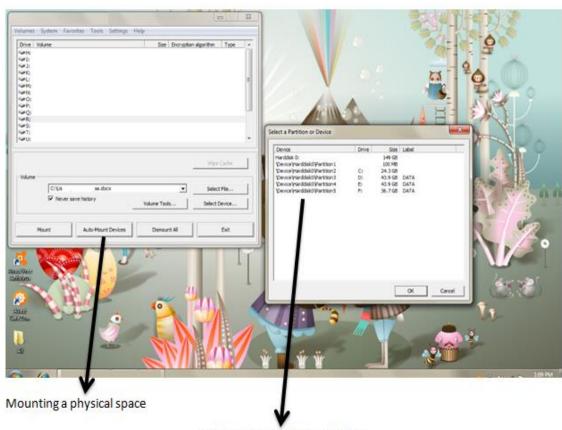
### Figure 34: Selected file from volume for security





Hash selection





Available physical space shown

Figure 37: Display of available space.

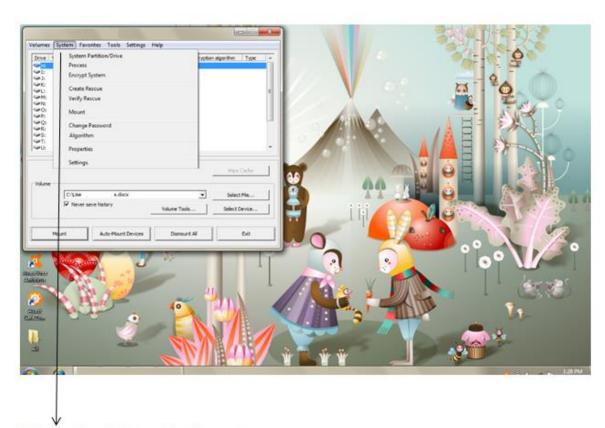
Image: System         Farenties         Tools         Settings         Help           Drive         Indexe         Set         Brougston signifier         Type           Web         Set         Brougston signifier         Type         Image: Set in the set	9
	9
98	
Garding         Key (besadecimal)           Garding         Key (besadecimal)           Garding         Goodococococo           Garding         Goodococococo           Garding         Key (besadecimal)           Goodocococococo         Goodocococococococococococococo           Garding         Key (besadecimal)           Goodococococococococococococococococococ	
Might Cache	
Crissers As doos Select Pie	And Annual Annua
	DecryptAuto-Test AlCove
./ ↓	
Algo bits sel	ections
Cipheralgorithm selections	

Figure 38: Displaying the selected Algorithms

Women System Facoretas Tocio Settings Holp	
Drive Volume Social Decryption appriller. Type + Social Decryption	
wit: wit: Stange Password or Keythes	
Current Password errer OK	
Penswerd: ***** Confirm Passwerd: ***** Confirm Passwerd: ***** Confirm Passwerd: *****	
Dipley pressord	

For accessing a file credential are required to be first entered with combination of key security files

Figure 39: Selecting the security files for accessing.



Options of the system settings are shown

Figure 40: Available Settings.