

**A  
PROJECT  
ON**

**“DigiLocker- Data Security and  
Encryption Tools”**

**G. S. COLLEGE OF COMMERCE & ECONOMICS, NAGPUR  
(AUTONOMOUS)**

**In the Partial Fulfillment of**

**B.Com. (Computer Application) Final Year**

**Submitted by**  
Pallavi Bariyekar  
Namrata Shinkar

Under the Guidance of

Pravin J. Yadao



**G. S. COLLEGE OF COMMERCE & ECONOMICS, NAGPUR  
(AUTONOMOUS)**

**2020-2021**

**G. S. COLLEGE OF COMMERCE & ECONOMICS,  
NAGPUR  
(AUTONOMOUS)  
CERTIFICATE**

**(2020 - 2021)**

This is to certify that Mr./Miss Pallavi Bariyekar and \_\_\_\_\_

Namrata Shinkar has completed their project on the topic of DigiLocker- Data Security and Encryption prescribed by G. S. College of Commerce & Economics, Nagpur (Autonomous) for B.Com. (Computer Application) – Semester-VI.

**Date:**

**Place: Nagpur**

**Pravin J. Yadao**

**Project Guide**

**External Examiner**

**Internal Examiner**

# ACKNOWLEDGEMENT

We take this opportunity to express our deep gratitude and whole hearted thanks to project guide Prof. Pravin Yadao, Coordinator for his guidance throughout this work. We are very much thankful to him for his constant encouragement, support and kindness.

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We also wish to express our sincere thanks to Principal Dr. N. Y. Khandait for providing us wide range of opportunities, facilities and inspiration to gather professional knowledge and material without which this project could not have been completed.

Student Names & Signature

Date:

Place: Nagpur

# DECLARATION

We (**Pallavi Bariyekar and Namrata Shinkar**) hereby honestly declare that the work entitled “**DigiLocker- Data Security and Encryption Tool**” submitted by us at G.S. College of Commerce & Economics, Nagpur (Autonomous) in partial fulfillment of requirement for the award of B.Com. (Computer Application) degree by Rashtrasant Tukadoji Maharaj, Nagpur University, Nagpur has not been submitted elsewhere for the award of any degree, during the academic session 2020-2021.

The project has been developed and completed by us independently under the supervision of the subject teacher and project guide.

Student Name & Signature

Date:

Place: Nagpur

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## 1. Introduction

**The DigiLocker-** Data Security and Encryption Tools is the Application which is used to Lock and Unlock the Files and Folder in the Computer using the 256bit Encryption/Decryption logic.

The Data Protection is a key aspect now a days. Data can be stored in a file system in any format like images, Files, or any other media.

In any organization or institution is focused on securing the Data and Its internal files from the external Users or the hackers which are Intended to theft and data for its Financial or Non – Financial Use.

This application can be used to hide the important files and folder for securing the data from unauthorized Users or if the user wants to hide his entire file or folder this can be very helpful tool.

Data Security refers to the set of practices and standards we use to protect digital information from accidental or unauthorized access, changes, and disclosure during its lifecycle. Data security can also include organizational practices, policies, frameworks, and technologies that can protect data against cyberattacks, malicious intrusions, or unintentional data leaks.

The practice of security data encompasses physical security of hardware and network assets containing the protected data, administrative controls and policies, and logical defense mechanism for software accessing the data.

This application is using 256-bit encryption algorithm and can be used in any operating system to protect the files. The algorithm is a strong enough to protect the large amount of data in the Operating system using the cryptology.

## 1.2 Objectives

The Objectives of this Project Basically to implement the Secured RSA Data Security algorithm to Protect the Files and Folder from the unauthorized users. Some of the following objectives are given below.

- To Encrypt the files and folder for Data security and Data Protection from External User
- To Decrypt the Files while accessing the Files using Authorized user.
- This can be used in Any Environmental with Minimum Requirements.
- We can prevent the data lost and can maintain Data integrity in the system.
- To Learn and Analyzed the Encryption and Decryption algorithm in details and to implement in this Project.

## **2. System Analysis**

### **2.1 Preliminary System Analysis**

Analysis can be defined as breaking up of any whole so as to find out their nature, function etc. It defines design as to make preliminary sketches of; to sketch a pattern or outline for plan. To plan and carry out especially by artistic arrangement or in a skillful. System analysis and design can be characterized as a set of techniques and processes, a community of interests, a culture, and an intellectual orientation. The various tasks in the system analysis include the following.

- Understanding application.
- Planning.
- Scheduling.
- Developing candidate solution.
- Performing trade studies.
- Performing cost benefit analysis.
- Recommending alternative solutions.
- Selling of the system.

### **2.2 Preliminary Investigation**

The underlying respective architecture of most IT systems, including the desktop computer and internet, does not guarantee security. Users with malicious intents have always found a way of exploiting one vulnerability or the other. An attack that affects the confidentiality of information often presents the platform for the integrity of such information to be compromised. Intercepted information on transit would make little or no sense to an interceptor if he is not able to decipher the content of the information.



This explains why it is very necessary to ensure that even when an intruder or unauthorized user successfully obtains access to some information the confidentiality and integrity of the information remain uncompromised

## 2.3 Present System in Use

Designing an encryption/decryption system, amongst other things, requires decision on the basic functionality of the software, and the choice of cryptographic algorithm to be used. While the functionality supports the attractiveness of the system, the type of cryptographic algorithm actually determines how much security the system would actually provide. Hence, this forms the major component in the system design.

Currently, there are many available open-source and commercial encryption/decryption systems. Madi and Lin (2007) developed a system that employs binary rotation of bits with XOR logical operation. The application uses symmetric encryption key, which is generated using random number generation and combination. Another use of symmetric encryption key was by Abdelhalim, El-Mahala, Ayyad, and Lenawee(2012). They designed and implemented a Modified Tiny Encryption Algorithm (MTEA) for use in RFID systems.

Symmetric cryptography, though faster for encrypting and decrypting compared to asymmetric cryptography, which explains why it is mostly used for applications that involves transfer of large data, it provides less security and is more prone to attacks (Henry, n.d.). Therefore, for any application where security is of the most essence, the need for asymmetric (public key) cryptography is inevitable. The RSA scheme, among available public key schemes, has proven to be the most widely accepted, hence most implemented (Stallings, 2011).

## **2.4 Need of New System**

The purpose of data encryption is to protect digital data confidentiality as it is stored on computer systems and transmitted using the internet or other computer networks. The outdated data encryption standard (DES) has been replaced by modern encryption algorithms that play a critical role in the security of IT systems and communications.

These algorithms provide confidentiality and drive key security initiatives including authentication, integrity, and non-repudiation. Authentication allows for the verification of a message's origin, and integrity provides proof that a message's contents have not changed since it was sent. Additionally, non-repudiation ensures that a message sender cannot deny sending the message.

The Existing system are available with different types of implementations which is based on 128 Bit RSA algorithm. We need to update the Data Security algorithm to use 256 bit key for Encrypting and Decrypting the Folder and Protect from the unauthorized access or users.

The following objectives can be achieved with this System.

- To Encrypt the files and folder for Data security and Data Protection from External User
- To Decrypt the Files while accessing the Files using Authorized user.
- This can be used in Any Environmental with Minimum Requirements.
- We can prevent the data lost and can maintain Data integrity in the system.
- To Learn and Analyzed the Encryption and Decryption algorithm in details and to implement in this Project.

## **2.5 Feasibility Study**

A procedure that identifies, describes and evaluates candidate system and selects the best system for the jobs is called as feasibility study.

Three key considerations are involved in the feasibility analysis:

- 1) Technical Feasibility
- 2) Economic Feasibility
- 3) Behavioral Feasibility

## **1. Technical Feasibility**

Technical feasibility centers around the existing computer system (hardware, software ,etc)and to what extent it can support the proposed addition. This involves financial consideration to accommodate technical enhancement. If the budget is a serious constraints ,then the project is judged not feasible.

For this project, at the most 1GB hard disk, 100 MB RAM , any windows also are require. Thus this project is technically feasible.

## **2. Economic Feasibility**

Economic analysis is the most frequently used method for evaluating the effectiveness of the candidate system. more commonly as cost /benefit analysis, the procedure is to determine the benefits and savings that area expected from a candidate system and compare them with costs.

In this we consider following costs:

1. The cost conducts a full system investigation.
2. The cost of hardware and software for class of application being considered.
3. The benefit in the form of the reduced cost.

If benefits outweigh costs, then the decisions is made to design and implement otherwise further justifications or altercations in the proposed system will have to be made if it is to have a change of being approved. For this project, Since the requirements too low, this project is economically feasible.

## **3. Behavioral Feasibility**

People are inherently resistant to change, and computers have been known to facilitate change. An estimate should be made of how strong a reaction the user staff is likely to have toward the development of a computerized system. It is common knowledge that computer installations have something to do with turnover, transfers, po training and changes in employee job status. Therefore, it is understandable that the introduction of a candidate system requires special effort to educate, sell, and train the staff on new way of conducting business.

## 2.6 Project Category

As the Topic of “**DigiLocker- Data Security and Encryption Tool**” is an standalone desktop application can be used or install at minimum software and hardware requirements which is given in next page.

The Project Used the Core Java as a Programming Language and uses 256-bit key Encryption and Decryption for Folder Locking and Protecting from unauthorized users.

- Java-  
Java is an Object-Oriented Programming Language which is mostly common nowadays which used almost more than 1 billion devices like conductors, applications software's and electronic devices.

Sample Code-

```
Import java. Lang.*;
```

```
Public class User {
```

```
    Int id;
```

```
    String name;
```

```
    Public static void main(String args[]){
```

```
    }
```

```
}
```

- Encryption/Decryption 256 Bit algorithm for securing the folder and data.
  - RSA
  - DSA -Cipher

### **3. HARDWARE AND SOFTWARE REQUIREMENT:-**

#### HARDWARE

- 1.1 GB of RAM Equivalent.
2. Intel P4 or higher.
3. Basic Audio and Video Cards.
4. VGA Monitor or any.

#### SOFTWARE

1. Microsoft Windows XP or Later
2. JDK 1.6 or Later
3. Notepad++ or Any Editor Higher.

- The Project Can be run in Any Environment where Java is Install.

## **4. Detail System Analysis**

### **4.1 Data Flow Diagram**

A data flow diagram is a graphical technique that depicts information flow and the transforms that applied as data move from input to output. The Data flow diagram used to represent a system or software at any level of abstraction. In fact DFDs may be portioned into levels.

A level of DFD, also called a context model, represents the entire software elements as a single bubble with input and output by arrow. A level of DFD is portioned into several bubbles with interconnecting arrows. Each of the process represented at level one is sub function of the overall depicted in the context model.

#### **The DFD Notations:**



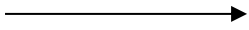
**External Entity**

**Hardware person and other program.**



**Proces**

**Information of the system to be modeled.**

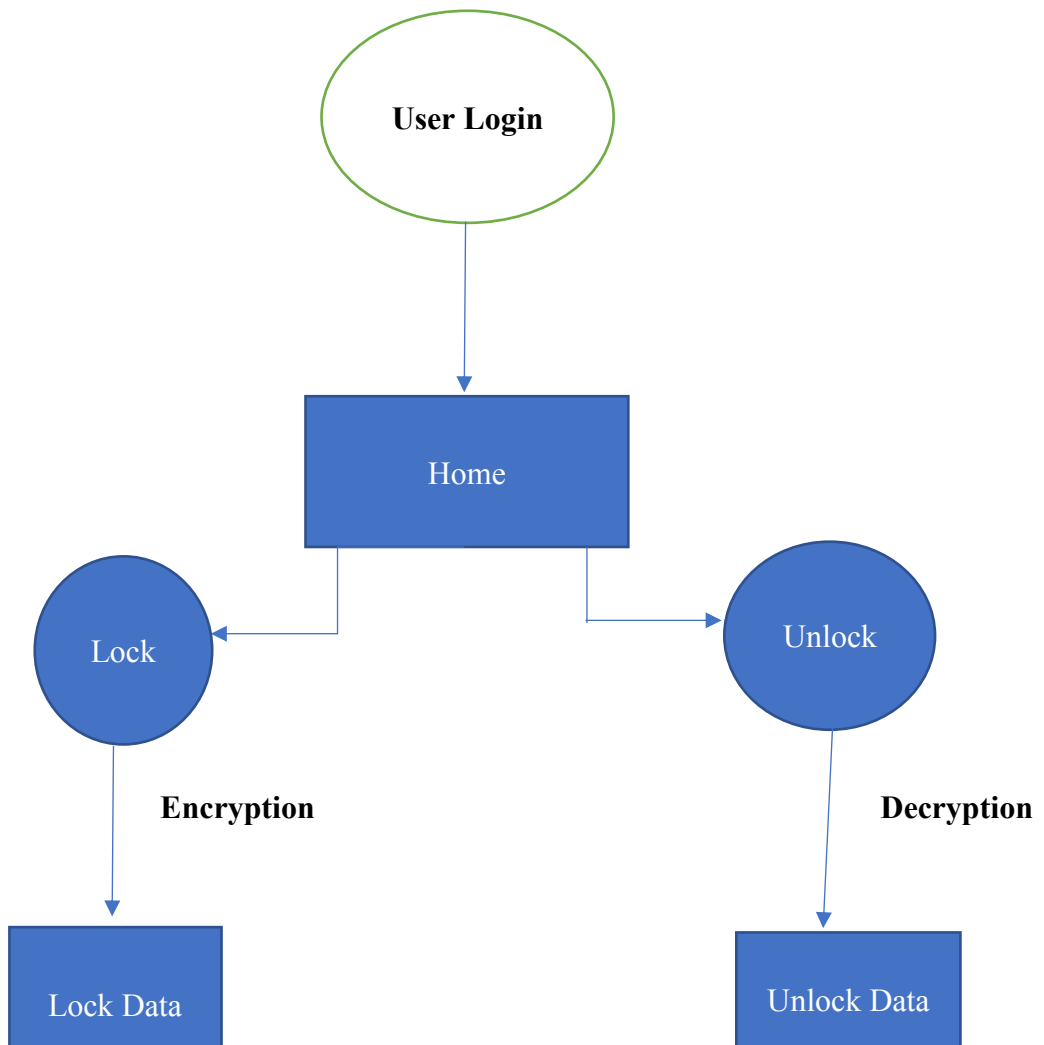


**Data Item(s):** Arrowed indicates the direction of flow



**Stored Information that is used by the s/w**

#### **4.2 DATA FLOW DIAGRAMS OF OVERALL SYSTEM**



## 5. System Design

### 5.1 Source Code

#### 1- Login

```
//wap Login
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;

public class Login extends JFrame implements ActionListener
{
    private JLabel name, pass;
    private JTextField tname;
    private JPasswordField tpass;
    private JButton login, clear;
    Dimension screen=Toolkit.getDefaultToolkit().getScreenSize();
```



```

public Login()
{
    setLayout(null);
    JPanel p=new JPanel();
    p.setLayout(new GridLayout(3,1));
    name= new JLabel("USERNAME");
    pass=new JLabel("PASSWORD");
    name.setBounds(40,50,100,25);
    pass.setBounds(40,105,100,25);
    tname=new JTextField(10);
    tpass=new JPasswordField(10);

    tname.setBounds(160,50,100,25);
    tpass.setBounds(160,100,100,25);
    login=new JButton("LOGIN");
    clear=new JButton("CLEAR");
    login.setBounds(40,170,100,30);
    clear.setBounds(160,170,100,30);
    add(name);
    add(pass);
    add(tname);
    add(tpass);
    add(login);
    add(clear);
    login.addActionListener(this);
    clear.addActionListener(this);
    setSize(330,330);
    setResizable(false);
    setTitle("Login");
    setVisible(true);
}

public void actionPerformed(ActionEvent e)
{
    if(e.getSource()==login)
    {
        if(tname.getText().equals("admin") && tpass.getText().equals("admin123"))
        {
            JOptionPane.showMessageDialog(this,"Login
Successful", "welcome",JOptionPane.INFORMATION_MESSAGE);
            dispose();
            new MainForm().setVisible(true);
        }
        else
        {
            JOptionPane.showMessageDialog(this,"Please Enter Correct Username and
Password", "error",JOptionPane.ERROR_MESSAGE);
        }
    }
}

```

```
        if(e.getSource()==clear)
        {
            tname.setText("");
            tpass.setText("");
            tname.requestFocus();
        }
    }
    public static void main(String args[])
    {
        new Login();
    }
}
```

## 2- MainForm.java

```
/*
 * To change this template, choose Tools | Templates
 * and open the template in the editor.
 */

/*
 * MainForm.java
 *
 * Created on Apr 12, 2013, 9:19:57 PM
 */

/**
 *
 * @author User
 */
import java.awt.*;
import javax.swing.*;
import java.awt.event.*;
import java.io.*;
import java.util.*;
```

```

public class MainForm extends javax.swing.JFrame implements ActionListener {

    /** Creates new form MainForm*/
    public MainForm() {
        initComponents();
    }

    /** This method is called from within the constructor to
     * initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is
     * always regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code"> //GEN-
BEGIN: initComponents
    private void initComponents() {
        setTitle("File Search Utility");

        jLabel1 = new javax.swing.JLabel();
        tsearch = new javax.swing.JTextField();
        cmdgo = new javax.swing.JButton();
        jLabel2 = new javax.swing.JLabel();
        l = new javax.swing.JLabel();
        jComboBox1 = new javax.swing.JComboBox();
        jLabel3 = new javax.swing.JLabel();
        jComboBox2 = new javax.swing.JComboBox();
        jButton1 = new javax.swing.JButton();
        jCheckBox1 = new javax.swing.JCheckBox();
        jCheckBox2 = new javax.swing.JCheckBox();
        jTextField1 = new javax.swing.JTextField();
        jMenuBar1 = new javax.swing.JMenuBar();
        jMenu1 = new javax.swing.JMenu();
        jMenuItem1 = new javax.swing.JMenuItem();
        jMenuItem2 = new javax.swing.JMenuItem();
        jMenu2 = new javax.swing.JMenu();
        jMenu3 = new javax.swing.JMenu();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jLabel1.setText("SEARCH ");
        l.setText("here.....");

        cmdgo.setText("GO");
        cmdgo.addActionListener(this);

        jLabel2.setText("Select Drive");

        jComboBox1.setModel(new javax.swing.DefaultComboBoxModel(new String[] { "C:",
"D:", "E:", "F:", "ALL" }));

```



```

        .addComponent(jLabel3)

        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addComponent(jComboBox2,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
            .addComponent(jCheckBox1)
            .addGroup(layout.createSequentialGroup())
                .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE,
74, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(18, 18, 18)
                .addComponent(jComboBox1,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)))
            .addGap(18, 18, 18))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                .addComponent(jLabel1)
                .addGap(29, 29, 29)))

        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
            .addGroup(layout.createSequentialGroup()
                .addComponent(tsearch, javax.swing.GroupLayout.PREFERRED_SIZE, 120,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(37, 37, 37))
            .addGroup(layout.createSequentialGroup()
                .addComponent(jCheckBox2)
                .addGap(18, 18, 18)))

        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING,
false)
            .addComponent(jTextField1)
            .addComponent(cmdgo, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addComponent(jButton1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
            .addContainerGap(66, Short.MAX_VALUE))
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(40, 40, 40)

        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
            .addComponent(tsearch, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)

```

```

        .addComponent(cmdgo)
        .addComponent(jLabel1))
    .addGap(28, 28, 28)

    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
        .addComponent(jCheckBox1)
        .addComponent(jButton1))
    .addGap(42, 42, 42)

    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
        .addComponent(jLabel2)
        .addComponent(jTextField1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addComponent(jCheckBox2)
        .addComponent(jComboBox1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
    .addGap(18, 18, 18)

    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
        .addComponent(jLabel3)
        .addComponent(jComboBox2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
    .addContainerGap(75, Short.MAX_VALUE))
    );

    pack();
} // </editor-fold> // GEN-END: initComponents

public void search(File f)
{ // root directory is passed as argument
//System.out.println("errrrror");
    try{
        if(f.isDirectory())
        {
            File [] fi=f.listFiles();
            for(int i=0;i<fi.length;i++)
            {
                if(fi[i]==f) break; // fileFound is boolean data type used as flag to indicate whether
the file is found or not
                System.out.println(fi[i].getName());
                search(fi[i]);
            }
        }
    }
    else

        if(f.getName().equalsIgnoreCase(jTextField1.getText()) ||
(f.getName().toLowerCase().startsWith(jTextField1.getText().toLowerCase())) ||

```

```

        (f.getName().toLowerCase().endsWith(jTextField1.getText().toLowerCase()))
        {
            l.setText("file found " + f.getAbsolutePath()); // l is JLabel that indicated prints the
info like file found and its path
            fileFound=true;
        }
        else
            JOptionPane.showMessageDialog(null,"File Not
Found","Message",JOptionPane.INFORMATION_MESSAGE);

```

```

    }
    catch(Exception e){

```

System.out

```

        t.println(e);
    }
}

```

```

public void actionPerformed(ActionEvent ae)
{

```

```

    if(ae.getSource()==jButton1){ new Advanced().setVisible(true); }

```

if(ae.getSource()

```

    if(ae.getSource()==jMenuItem2){ this.setVisible(false); }

```

if(ae.getSource()

```

    if(ae.getSource()==cmdgo) {

```

if(ae.getSource()

```

        File
        f1=new File(jTextField1.getText());

```

File

```

    }

```

search(f1);

}

```

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {//GEN-
FIRST:event_jButton1ActionPerformed
    // TODO add your handling code here:
} //GEN-LAST:event_jButton1ActionPerformed

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new MainForm().setVisible(true);
        }
    });
}

// Variables declaration - do not modify//GEN-BEGIN:variables
private javax.swing.JButton cmdgo;
private javax.swing.JButton jButton1;
private javax.swing.JCheckBox jCheckBox1;
private javax.swing.JCheckBox jCheckBox2;
private javax.swing.JComboBox jComboBox1;
private javax.swing.JComboBox jComboBox2;
private javax.swing.JLabel jLabel1;
private javax.swing.JLabel jLabel2;
private javax.swing.JLabel jLabel3,1;
private javax.swing.JMenu jMenuItem1;
private javax.swing.JMenu jMenuItem2;
private javax.swing.JMenu jMenuItem3;
private javax.swing.JMenuBar jMenuItemBar1;
private javax.swing.JMenuItem jMenuItem1;
private javax.swing.JMenuItem jMenuItem2;
private javax.swing.JTextField jTextField1;
private javax.swing.JTextField tsearch;
boolean fileFound;
// End of variables declaration//GEN-END:variables
}

```

Advance.java

```

/*
 * To change this template, choose Tools | Templates
 * and open the template in the editor.
 */
/*

```



```

* Advanced.java
*
* Created on Apr 12, 2013, 9:39:53 PM
*/

/**
 *
 * @author User
 */
public class Advanced extends javax.swing.JFrame {

    /** Creates new form Advanced */
    public Advanced() {
        initComponents();
    }

    /** This method is called from within the constructor to
     * initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is
     * always regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">//GEN-
BEGIN: initComponents
    private void initComponents() {
        setTitle("Advanced Options");
        jCheckBox1 = new javax.swing.JCheckBox();
        jCheckBox2 = new javax.swing.JCheckBox();
        jCheckBox3 = new javax.swing.JCheckBox();
        jTextField1 = new javax.swing.JTextField();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jCheckBox1.setText("Search Hidden Files also");

        jCheckBox2.setText("Search Read Only files also");

        jCheckBox3.setText("By regular expression");

        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addGroup(layout.createParallelGroup()
                        .addGap(82, 82, 82)
                    )
                )
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(jCheckBox3)
                        .addComponent(jCheckBox2)
                        .addComponent(jCheckBox1)
                    )
                )
        );
    }
}

```

```

        .addGroup(layout.createSequentialGroup()
            .addGap(21, 21, 21)
            .addComponent(jTextField1, javax.swing.GroupLayout.PREFERRED_SIZE,
65, javax.swing.GroupLayout.PREFERRED_SIZE)))
        .addContainerGap(93, Short.MAX_VALUE))
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addGap(38, 38, 38)
            .addComponent(jCheckBox1)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
            .addComponent(jCheckBox2)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
            .addComponent(jCheckBox3)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
            .addComponent(jTextField1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap(92, Short.MAX_VALUE))
        );

    pack();
} // </editor-fold>//GEN-END:initComponents

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new Advanced().setVisible(true);
        }
    });
}

// Variables declaration - do not modify//GEN-BEGIN:variables
private javax.swing.JCheckBox jCheckBox1;
private javax.swing.JCheckBox jCheckBox2;
private javax.swing.JCheckBox jCheckBox3;
private javax.swing.JTextField jTextField1;
// End of variables declaration//GEN-END:variables
}

```

## Search.java

-//for searching

```
import java.io.*;
import java.nio.file.*;
import java.nio.file.attribute.*;
import static java.nio.file.FileVisitResult.*;
import static java.nio.file.FileVisitOption.*;
import java.util.*;
import java.awt.event.*;
import javax.swing.*;

public class Search
{
    public static class Finder extends SimpleFileVisitor<Path>
    {
        private final PathMatcher matcher;
        private int numMatches=0;
        Finder(String pattern)
        { matcher=FileSystems.getDefault().getPathMatcher("glob:"+pattern); }

        //compares global pattern again
        //the file or directory name

        void find(Path file){

            Path name=file.getFileName();
            if(name!=null && matcher.matches(name)) {
                numMatches++;
                System.out.println(file);
            }
        }

        //prints the total number of matches to standard out.

        void done() {
            System.out.println("mached: "+numMatches);
        }

        //invoke the pattern matching on each file
        @Override
        public FileVisitResult preVisitDirectory(Path dir, BasicFileAttributes attrs) {

            find(dir);
            return CONTINUE;
        }

        @Override
```

```

public FileVisitResult visitFileFailed(Path file,IOException exc) {
    System.err.println(exc);
    return CONTINUE;
}
}
static void usage(){
    System.err.println("java find <path>+" -name\"<glob_pattern>\");
    System.exit(-1);
}

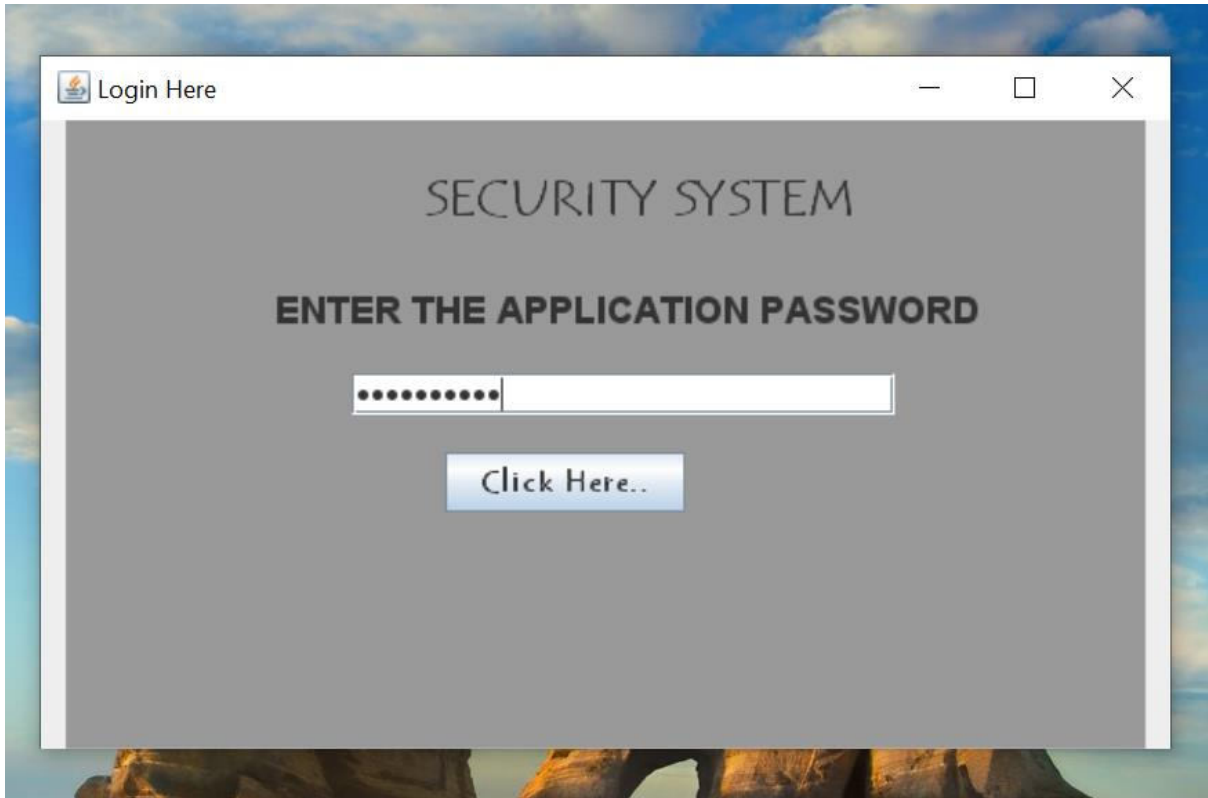
public static void main(String[] args)throws IOException
{
    if(args.length<3 || !args[1].equals("-name"))
        usage();

    Path startingDir= Paths.get(args[0]);
    String pattern=args[2];
    Finder finder=new Finder(pattern);
    Files.walkFileTree(startingDir, finder);
    finder.done();
}
}

```

## **5.2 Output Screen**

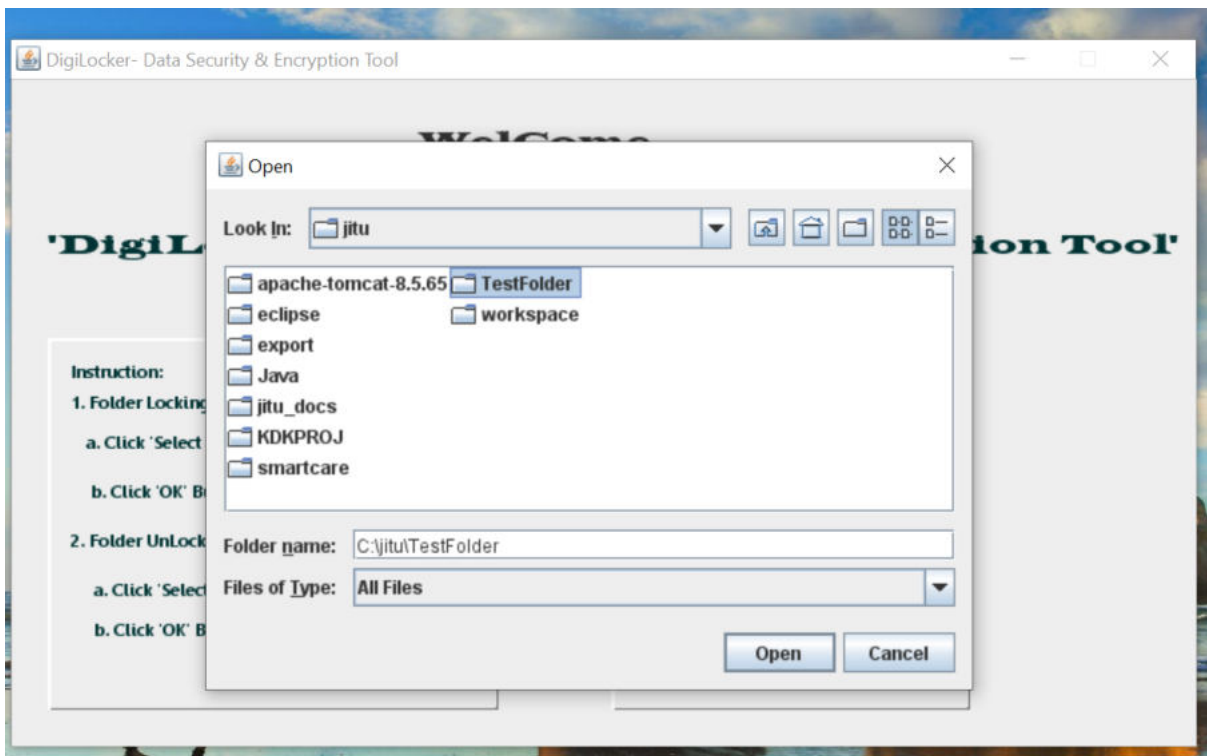
1- Login Page



2. Home page

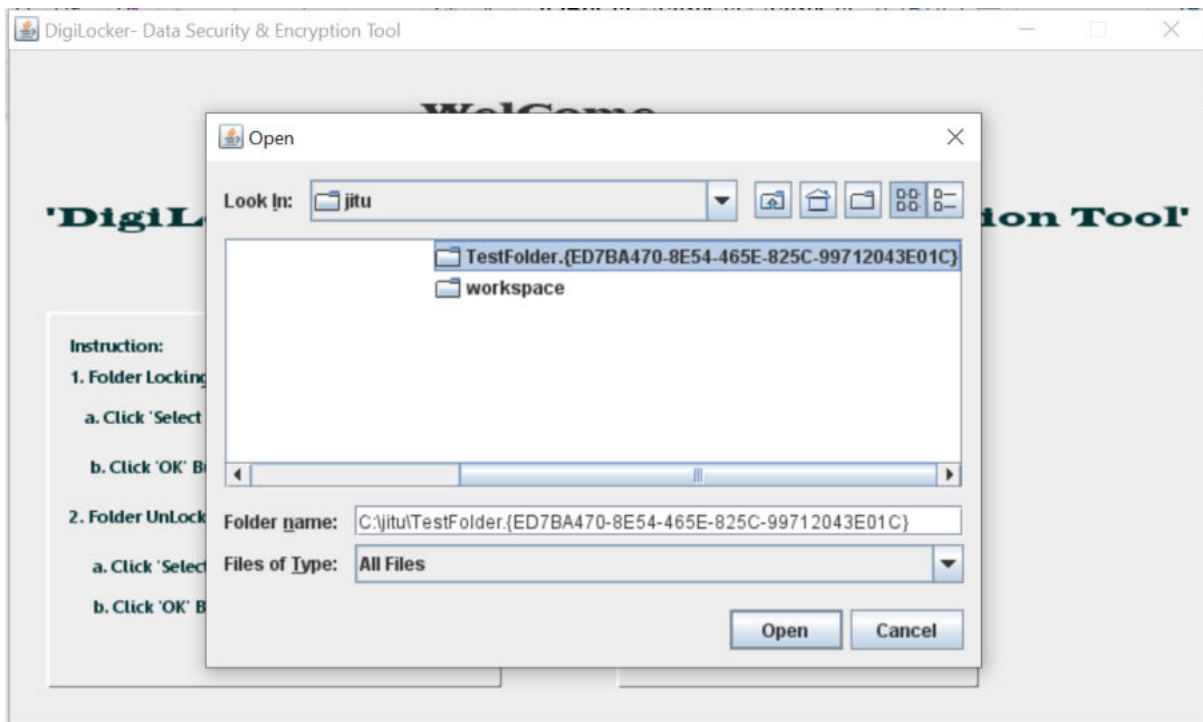


## 2- Lock- Encryption



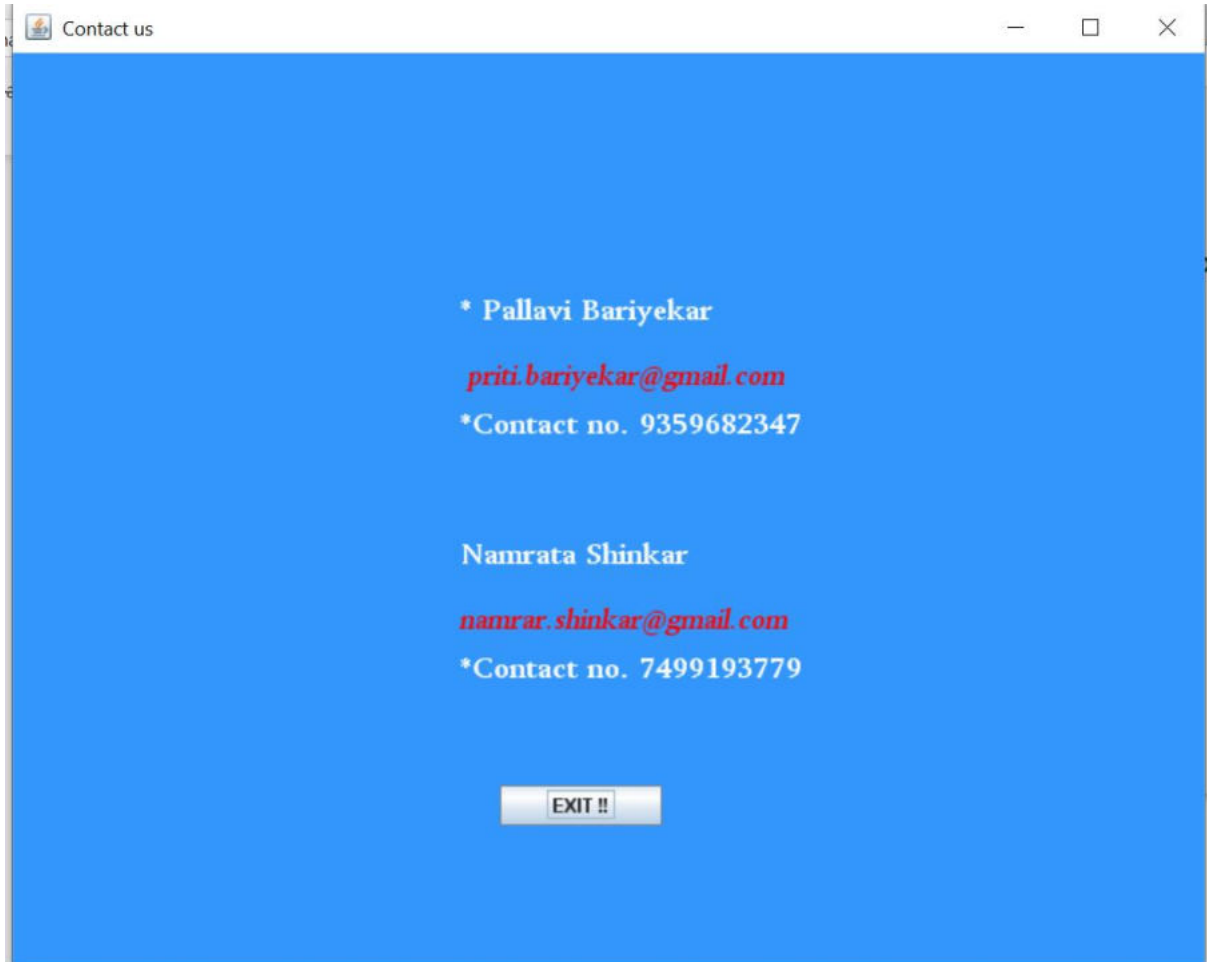


### 3- UnLock – Decryption





## Help Page-



## 6. Testing & Validation Checks

### 6.1 Introduction

Once source code has been generated, software must be tested to uncover (and correct) as many errors as possible before delivery to customer. Our goal is to design a series of test cases that have a high likelihood of finding errors. To uncover the errors software techniques are used. These techniques provide systematic guidance for designing test that Exercise the internal logic of software components, and Exercise the input and output domains of the program to uncover errors In program function, behavior and performance.

- **Steps:** Software is tested from two different perspectives:

Internal program logic is exercised using —White box|| test case design Techniques.

Software requirements are exercised using —block box|| test case Design techniques.

In both cases, the intent is to find the maximum number of errors with the Minimum amount of effort and time.

- **Testing Methodologies:**

A strategy for software testing must accommodate low-level tests that are necessary to verify that a small source code segment has been correctly implemented as well as high-level tests that validate major system functions against customer requirements. A strategy must provide guidance for the practitioner and a set of milestones for the manager. Because the steps of the test strategy occur at a time when deadline pressure begins to rise, progress must be measurable, and problems must surface as early as possible. Following testing techniques are well known and the same strategy is adopted during this project testing.

### 6.2 Unit testing:

Unit testing focuses verification effort on the smallest unit of software design- the software component or module. The unit test is white-box oriented. The unit testing implemented in every module of student attendance management System. by giving correct manual input to the system ,the datas are stored in database and retrieved. If you want required module to access input or get the output from the End user. any error will accrued the time will provide handler to show what type of error will accrued .

### 6.3 System testing:

System testing is actually a series of different tests whose primary purpose is to fully exercise the computer-based system. Below we have described the two types of testing which have been taken for this project. it is to check all modules

worked on input basis .if you want change any values or inputs will change all information. so specified input is must.

#### **6.4 Performance Testing**

Performance testing is designed to test the run-time performance of software within the context of an integrated system. Performance testing occurs throughout all steps in the testing process. Even at the unit level, the performance of an individual module may be assessed as white-box tests are conducted.

#### **6.5 System Security Measures**

The System is a Standalone desktop application which is based on windows operating System has been Tested and Perform some sort of security measures as a whole system. The project implemented with some basic sort of validation and testing, only the valid users who can be logged in with the system and process the application at once. The Security measures are concerns for every environment and will affect the end users who are using this system as a whole system.

The Application will only allow valid users to access the DigiLocker application and only those user which granted this can be used.

The project implemented with some basic sort of validation and testing, only the valid users who can be logged in with the system and process the application at once. The Security measures are concerns for every environment and will affect the end users who are using this system as a whole system.

## 7. Implementation, Evaluation and Maintenance

Implementation is the stage of the project where the theoretical design is turned into a working system. It can be considered to be the most crucial stage in achieving a successful new system gaining the users' confidence that the new system will work and will be effective and accurate. It is primarily concerned with user training and documentation. Conversion usually takes place about the same time the user is being trained or later. Implementation simply means convening a new system design into operation, which is the process of converting a new revised system design into an operational one.

### 7.1 Purpose

System implementation is the important stage of project when the theoretical design is tuned into practical system. The main stages in the implementation are as follows:

- Planning
- Training
- System testing and
- Changeover Planning

Planning is the first task in the system implementation. At the time of implementation of any system people from different departments and system analysis involve. They are confirmed to practical problem of controlling various activities of people outside their own data processing departments.

The line managers controlled through an implementation coordinating committee. The committee considers ideas, problems and complaints of user department, it must also consider:

- The implication of system environment
- Self selection and allocation for implementation tasks
- Consultation with unions and resources available
- Standby facilities and channels of communication

## **7.2 System Maintenance**

Software maintenance is far more than finding mistakes. Provision must be made for environment changes, which may affect either the computer, or other parts of the computer-based systems. Such activity is normally called maintenance. It includes both the improvement of the system functions and the corrections of faults, which arise during the operation of a new system.

It may involve the continuing involvement of a large proportion of computer department resources. The main task may be to adapt existing systems in a changing environment.

Back up for the entire database files are taken and stored in storage devices like flash drives, pen drives and disks so that it is possible to restore the system at the earliest. If there is a breakdown or collapse, then the system gives provision to restore database files. Storing data in a separate secondary device leads to an effective and efficient maintains of the system. The nominated person has sufficient knowledge of the organization's computer passed based system to be able to judge the relevance of each proposed change.

### **7.3 Future Scope of Project:**

The project is because now available on web portal It has a future scope to work in market. As we try to Implement Encryption Decryption using 256-bit key in future we can increase the size of the bit and algorithm.

As the technology emerges, it is possible to upgrade the Locker key and algorithm for fast and Secure access of the folder and Data. Data Encryption can be optimized in ways that can be perform the faster and stable.

Some of the Points are mentioned below.

- Because it is based on object-oriented design, any further changes can be easily implemented.
- New Enhanced Algorithm of Encryption can be added.
- We can add Quick access or Folders and Data likewise in any explorer.
- We can add Database for centralized access in future.
- We can integrate this with network or cloud in future.
- Encryption-Decryption algorithms can be optimized in Future.

## **8. Conclusion**

As the project **DigiLocker** – Data Security and Encryption Tool we provided the best Encryption and Decryption Algorithm and Tried to implement as best as. The Data Security in Every aspects we have focused to protect form external or unauthorized users. With the help of this tool we can able to lock or unlock the data in our system and we can maintain data loss or theft form outside of the world because at the end Data is Important

Following points we tried to implement in this project.

- ✓ Instant access
- ✓ Authorized Users only
- ✓ Optimum utilization of resources
- ✓ Efficient Data Encryption Algorithms
- ✓ 256 bit Encryption/Decryption Algorithm
- ✓ User friendly
- ✓ Portable and flexible for further enhancement.

### **8.1 Bibliography & References**

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