International Journal of Scientific and Technical Advancements
ISSN: 2454-1532

# Windows Security Software

Amit Kumar[1], Abhishek Gupta[2], Dr. Deepti Malhotra[3]
[1,2,3]Department of Computer Science & IT, Central University of Jammu, Jammu, 181143
Email address: [1]amit.aadi2010@gmail.com, [2]abugupta123@gmail.com, [3]deepti433@yahoo.com

***Abstract*—** Data security is a major issue which needs to be taken care of. Security is important everywhere whether its home, office, universities or big companies. But the window security software's are vulnerable to various types of attacks. One of the most important challenges these days is the security of data. The objective of this research paper is to secure the data which is stored in the PC, laptops using different security schemes. Many a time we require certain functions in our Operating System that we feel should have been an integral part of the Operating system, but due to one reason or other are missing from it. This research work focuses on developing a system that will allow us to perform certain functions which are otherwise missing from the operating system and deals with the development of security name as "Window Security Software's" that would perform all those required functions with ease.

***Keywords*—** Folder lock, USB lock, security, theft, steal.

## I. INTRODUCTION

Many a time we require certain functions in our Operating System that we feel should have been an integral part of the operating system, but due to one reason or other are missing from it. The research paper focus on the development of **"**Windows Security Software**"** that would perform all those required functions with ease and that would perform all those required Security functions which are otherwise missing from the operating system with ease. Now think of the words THEFT! STEAL! CONFIDENTIAL! TOP SECRET!

*Casual Users***:** If you want to lock, hide and password-protect your personal pictures, videos, private files, from family and friends who would share your computer or have a prying eye on you, you need to drag and drop those files in 'Lock Files'.

*'Technical Users'*: If you want to encrypt your project files, source codes, company documents, Trade secrets, plans, copyrighted material and secret information from colleagues, employees, Technician's and administrators and from accidental deletion and theft.

*'Internet Users'***:** If you want to prevent access, tampering, modification or deletion of your important files that can be caused by viruses, hacker tools, key loggers, Trojans, malware, spyware, malicious programs and harmful scripts.

*'Network Users':* If you want to protect and block your personal files and folders from shared home, public or company network, Wi-Fi, adhoc or Bluetooth connection.'

'*Company Employees':* If you want to maintain a server to keep files encrypted and give limited access to the Lockers to all employees in your company.

'*Portable Drive Users' :* If you want to keep password for the protected files and folders saved on your USB Drives, External Drives, CD, DVD or other portable devices.

*'To prevent data-theft':* If you want to secure a notebook computer so that if it gets misplaced, lost or stolen, all your important files and personal folders are inaccessible.

*'To prevent data-leak'*: If you want to protect data on a portable device such as a USB Flash Drive, Memory Stick, CD-RW, Zip Drive or Floppy Disk, so that you can transfer it from one computer to another or archive it without any fear of losing it.

The rest of the paper is organized as follows. Section II presents the background and related work Section III discusses the details of the proposed security software. Section IV provides the design and implementation detail. Section V presents the testing details. Section VI concludes the paper by providing the future scope.

## II. RELATED WORK

Folder lock is data security software that was developed in 2002 by newsoftwares.net. File encryption and decryption is basically encryption software that offers the aes-256 military-grade encryption. The edition of folder lock, which is the seventh version, is compatible with windows xp, windows vista, windows 7, windows 8 and windows 10. Folder lock has a number of data security features such as ability to lock files, folders and drives. It creates portable lockers, which ensures the privacy of portable drives that include usb flash drives, sd cards, cds and dvds. The software is efficient enough to shared files.

Flash drives may present a significant security challenge for some organizations. Their small size and ease of use allows unsupervised visitors or employees to store and smuggle out confidential data with little chance of detection. Both corporate and public computers are vulnerable to attackers connecting a flash drive to a free USB port and using malicious software such as keyboard loggers or packet sniffers. For computers set up to be bootable from a USB drive, it is possible to use a flash drive containing a bootable portable operating system to access the files of the computer, even if the computer is password protected. The password can then be changed, or it may be possible to crack the password with a password cracking program and gain full control over the computer. Encrypting files provides considerable protection against this type of attack. Flash drives may also be used deliberately or unwittingly to transfer malware and auto run worms onto a network. Some organizations forbid the use of flash drives, and some computers are configured to disable the mounting of USB mass storage devices by users other than administrators; others use third-party software to control usb



Amit Kumar, Abhishek Gupta, and Dr. Deepti Malhotra, "Windows security software," *International Journal of Scientific and Technical Advancements*, Volume 2, Issue 4, pp. 99-102, 2016.

usage. The use of software allows the administrator to not only provide a USB lock but also control the use of cd-rw, sd cards and other memory devices. This enables companies with policies forbidding the use of USB flash drives in the workplace to enforce these policies. In a lower-tech security solution, some organizations disconnect USB ports inside the computer or fill the USB sockets with epoxy. Some of the security measures taken to prevent confidential data from being taken have presented some side effects such as curtailing user privileges of recharging mobile devices off the USB ports on the systems.

## III. Proposed Security Model

*A Components of "Windows security software's"*

*1) Folder Lock:* Folder Lock uses kernel level filtering method protect your files, folders and drives, keeping locked and hidden even in Safe Mode. You can simply select your favourite pictures, documents or Videos in 'Lock Files' to lock them in seconds and keep a list of all of them in one place. No need to unlock or remove their protection to open them, simply double click to run them from Folder Lock while they are protected in the background.

*2) USB Lock:* Another Window Security Software feature is 'Protect USB / CD' with which you can convert your Lockers into standalone files that are portable and self-executable (*.exe), and can be copied or burned to external storage devices like USB Drives, CDs, and DVDs so that you do not need to install Folder Lock on computers where you take your portable drive to. You can then simply run the self-executable, enter the correct password, and access your data anywhere.

*B. Problem Definition and Objectives:*

The standard operating system lacks various options which we want to implement through our research paper. The research paper focus on the development of **"**Windows Security Software**"** that would perform all those required functions with ease and that would perform all those required Security functions which are otherwise missing from the operating system with ease.

Now think of the words *THEFT! STEAL! CONFIDENTIAL! TOP SECRET!Casual Users***:** If you want to lock, hide and password-protect your personal pictures, videos, private files, from family and friends who would share your computer or have a prying eye on you, you need to drag and drop those files in 'Lock Files'.

## IV. Design and Implementation

*A. Design Phase:*

During the design phase the designed document is produced based on the customer requirements as documented in the SRS .The activities carried out in the design phase transform the SRS document into the design document .The design document produced at the end of the design phase should be implemented using a programming language in the subsequent phase. The goal of the design phase is to transform specified in the SRS document into a structure that is suitable for implementation in some programming languages .Too distinctly different approaches are available: traditional design approach and object oriented approach.

*Traditional design approach:* Traditional design consists of two different activities: first a structured analysis of the requirements specification is carried out where the detailed structure of problem is examined .This is followed by a structured design activity. During structured design the results of the structured analysis are transformed into the software design.

*Object Oriented Design Approach:* In this technique various objects that occurred in the problem domain and solution domain are first identified, and different relationships that exist among these objects are identified. The object structure is further refined to obtain the detail design.

This phase starts with the requirement document delivered by the requirement phase and maps the requirement into the architecture .The architecture defines the components, their interfaces and behaviour's .The deliverable design document is the architecture. The design document describes a plan to implement the requirements .This phase represents the ''how'' phase .Details on computer programming languages and environments, machines, packages, application architecture, distributed architecture layering, memory size, algorithms, platform, data structures, global type definitions, interfaces and many other engineering details are established. The design may include the usage of existing components .The architectural team can now expand upon the information established in the requirement document.

We design our system by these methods which are as follows:

- Architectural design
- User interface design

*1) Architectural design*

The high level Design maps the given system to logical data structure**.** Architectural design involves identifying the software component, decoupling and decomposing the system into processing modules and conceptual data structures and specifying the interconnection among components. Good notation can clarify the interrelationship and interactions if interest, while poor notation can complete and interfere with good design practice. A data flow-oriented approach was used to design the project. ERD representation of the project is given below. It follows Chen's convention in which entities are represented as rectangles and relationships as diamonds.

*2) User Interface design:*

User interface design is an essential part of overall software design process .If the software system is to achieve full potential ,it is essential that its user interface should be designed to match the skills of its anticipated user.

*Splash Screen:* First screen is the welcome screen shown in figure1 .The welcome screen will display the topic of the project and a button. This screen will have progress bar with timer that will move to the next page.



Amit Kumar, Abhishek Gupta, and Dr. Deepti Malhotra, "Windows security software," *International Journal of Scientific and Technical Advancements*, Volume 2, Issue 4, pp. 99-102, 2016.

International Journal of Scientific and Technical Advancements
IJSTA
ISSN: 2454-1532

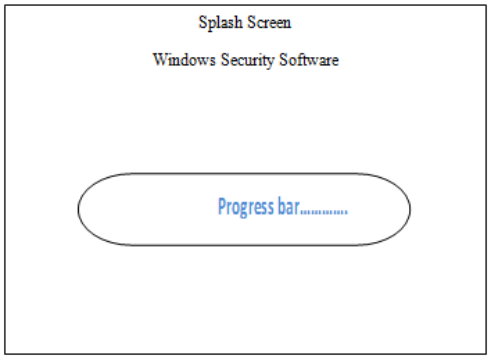


Fig. 1: Splash screen.

*Home Screen*

The next screen which is displayed after the splash screen is the home screen .This screen will have four modules that are linked with this home screen. But here we have worked on only two modules that is Folder Lock and USB Lock

- After clicking the one of the four modules in home screen will display the corresponding Screen.

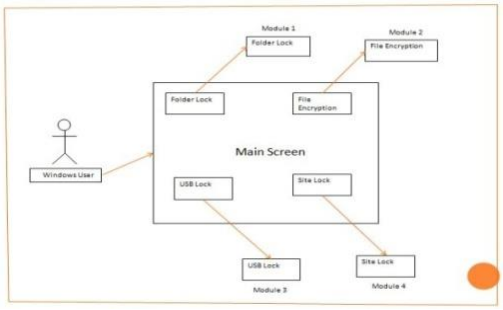


Fig. 2. Main screen.

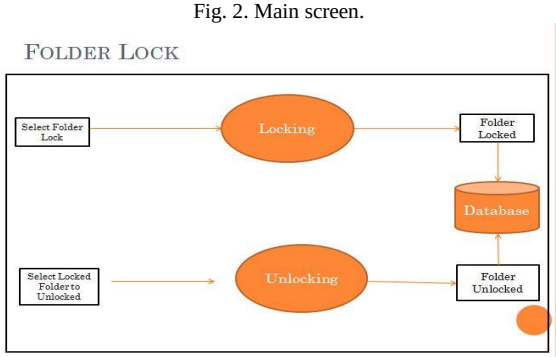


Fig. 3. Block Diagram of folder lock.

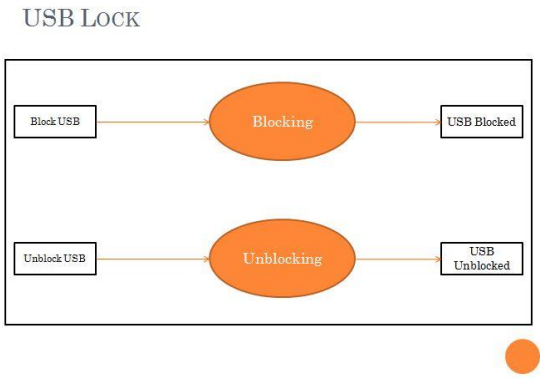


Fig. 4. Block diagram of folder lock.

*3) Database Design*

*Ms Access*

Three tables are used in MS Access. These are login table Login table

TABLE I. LOGIN TABLE.

| Username | Password |
|---|---|
| Data type-Text | Data type-Text |

*Front End:*.NET - a framework

*VB.NET:*VB.NET is an object-oriented computer programming language implemented on the .NET Framework. It is a programming environment used to create Graphical User Interface (GUI) applications. It is easy to learn. It produces efficient programs and can be complied on a variety of computer platforms.VB.NET is implemented by Microsoft's .NET Framework. Therefore, it has full access to all the libraries in the .NET Framework.

*Backend: Microsoft Access*, also known as *Microsoft Office Access*, is a data base management from Microsoft. It is a member of the Microsoft office suite of applications, included in the Professional and higher editions or sold separately. *Software developers* and *data architects* can use Microsoft Access to develop *application software*, and "*power users*" can use it to build software applications.

## V. TESTING

Ultimately software is incorporated with other system elements and the series of system integration and validation tests are conducted. It verifies that all system elements have been properly integrated and perform allocated functions.

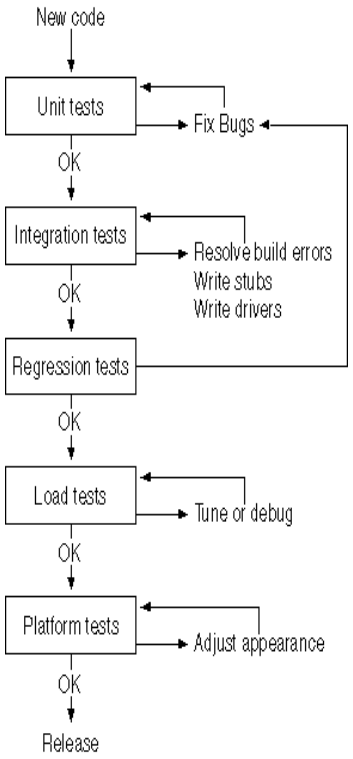


Fig. 5. System Testing



Amit Kumar, Abhishek Gupta, and Dr. Deepti Malhotra, "Windows security software," *International Journal of Scientific and Technical Advancements*, Volume 2, Issue 4, pp. 99-102, 2016.

ISSN: 2454-1532

Test Cases

Test Case 1 (folder Lock)

| SYSTEM STATE | INPUT(Create password, RE-password) | EXPECTED OUTPUT | ACTUAL OUTPUT | REMARKS |
|---|---|---|---|---|
| Folder lock Module | Valid, Valid | Locked Successfully | Locked Successfully | Ok |
| Folder lock Module | Valid, Not Valid | Error | Error | Ok |
| Folder lock Module | Not valid, valid | Error | Error | Ok |
| Folder lock Module | Not valid, Not valid | Error | Error | Ok |
| Folder lock Module | Not valid, Blank | Error | Error | Ok |
| Folder lock Module | Blank, Blank | Error | Error | Ok |
| Folder lock Module | Valid, Blank | Error | Error | Ok |
| Folder lock Module | Blank, valid | Error | Error | Ok |
| Folder lock Module | Blank, Nonvalid | Error | Error | Ok |

## VI. FUTURE SCOPE

The future scope of this research paper is to add on more security features in it such as:

1. Security for the network (antivirus).
2. Screen lock
3. Site Lock
4. User monitoring.
5. File encryption and decryption
6. Biometric security system (Face recognition, fingerprint).vBackup data using cloud computing

## REFERENCES

[1] Francesco balena, *Programming microsoft visual basic 2008,* microsoft press.
[2] Richard blair, *Beginning vb. Net ,second* edition, wrox press
[3] Microsoft Visual basic. Net deluxe learning edition,



Amit Kumar, Abhishek Gupta, and Dr. Deepti Malhotra, “Windows security software,” *International Journal of Scientific and Technical Advancements*, Volume 2, Issue 4, pp. 99-102, 2016.