A Project Report On

Folder Protector App

Submitted in partial fulfillment of the requirement for the award of the degree

Bachelor of Computer Application (BCA)/ Bachelor of Science (IT)

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SHREY PALAN
92200588062

PARAM KHANDAVI
92200588074

TRUSHA SALAVIYA
92200588137

Internal Guide
RIDDHI JOSHI

Rajkot-Morbi Road, At & PO : Gauridad, Rajkot 360 003. Gujarat. India.

Marwadi University

Faculty of Computer Applications (FCA)

Certificate

This is to certify that the project work entitled

Folder Protector App

submitted in partial fulfillment of the requirement for

the award of the degree of

Bachelor of Computer Application/ Bachelor of Science (IT)

of the

Marwadi University

is a result of the bonafide work carried out by

SHREY PALAN (92200588062)

PARAM KHANDAVI (92200588074)

TRUSHA SAVALIYA(92200588137)

During the academic year 2024-25.

RIDDHI JOSHI	SUNIL BAJEJA	DR. SRIDARAN

DECLARATION

I/We hereby declare that this project work entitled **Folder Protector App** is a record done by me.

I also declare that the matter embodied in this project is genuine work done by me and has not been submitted whether to this University or to any other University / Institute for the fulfillment of the requirement of any course of study.

Place: RAJKOT

Date:

PARAM KHANDAVI (92200588074) Signature: _____

TRUSHA SAVALIYA (92200588137)
Signature: _____

SYREY PALAN (92200588062) Signature: _____

CONTENTS

1. SYNOPSIS

The provided Python code implements a simple graphical user interface (GUI) application using the Tkinter library to protect a folder with a password. The application allows users to select a folder, set a password for it, and lock or unlock the folder based on the provided password. Below is a detailed breakdown of the functionality:

2.1 General Information

The Folder Protection App is a simple graphical user interface (GUI) application built Using Python's Tkinter library. Its primary purpose is to allow users to protect a specific folder on their computer by setting a password. When the folder is protected, it becomes hidden or access-restricted, and can only be unlocked by entering the correct password.

Key Features:

1. **Folder Selection**:
   Users can easily browse and select any folder on their system that they wish to protect.

2. **Password Protection:**
   The application enables users to set a password that must be entered to unlock the protected folder. This feature is essential for preventing Unauthorized access.

3. **Folder Locking Mechanism:**
   Once a password is set, the application employs system-specific commands to hide or restrict access to the selected folder. This makes the folder Invisible or inaccessible from standard file navigation.

4. **Unlocking Capability:**
   Users can unlock the folder by entering the correct password, restoring access and visibility. This functionality is crucial for retrieving Files and data stored within the protected folder.

5. **Cross-Platform Compatibility:**
   The application is designed to work on multiple operating systems, including Windows and Linux/Mac, by using appropriate system commands for folder management.

2.2 MODULE DESCRIPTION

Overview:

The Folder Protection Application is a Python module that provides a graphical user interface (GUI) for users to protect folders on their local file system with a password. The application allows users to select a folder, set a password for it, and subsequently unlock the folder by entering the correct password. This module is built using the Tkinter library, which facilitates the creation of user-friendly desktop applications.

Dependencies:

1. Python:
   The application is developed in Python and requires a compatible version
2. Tkinter:
   This is the standard GUI toolkit for Python and is included with most Python installations.
3. OS and Platform Libraries:
   These standard libraries are used for interacting with the operating system and managing file attributes.

Key Components:

Class: FolderProtectionApp
The main class that encapsulates all functionality related to the folder protection application. Responsible for initializing the GUI, handling user interactions, and managing folder protection logic.

Methods:

__init__(self, root):
Initializes the main application window and sets up the initial state of the application, including attributes for the protected folder and password.

create_widgets(self):
Creates and arranges the GUI elements, including labels, entry fields, and buttons for user interaction.

browse_folder(self):
Opens a file dialog to allow users to select a folder and updates the GUI with the selected folder path.

set_password(self):
Validates user input for the password, sets the password, and locks the selected folder by changing its attributes.

lock_folder(self):

Implements the logic to hide or restrict access to the selected folder based on the operating system.

unlock_folder(self):

Prompts the user for the password and unlocks the folder if the correct password is entered, restoring access to the folder.

open_folder(self, folder_path):

Opens the protected folder in the system's file explorer, allowing the user to view its contents.

User Interface Elements:

Labels, entry fields, and buttons are created to facilitate user interactions, such as selecting a folder, entering a password, and unlocking the folder.

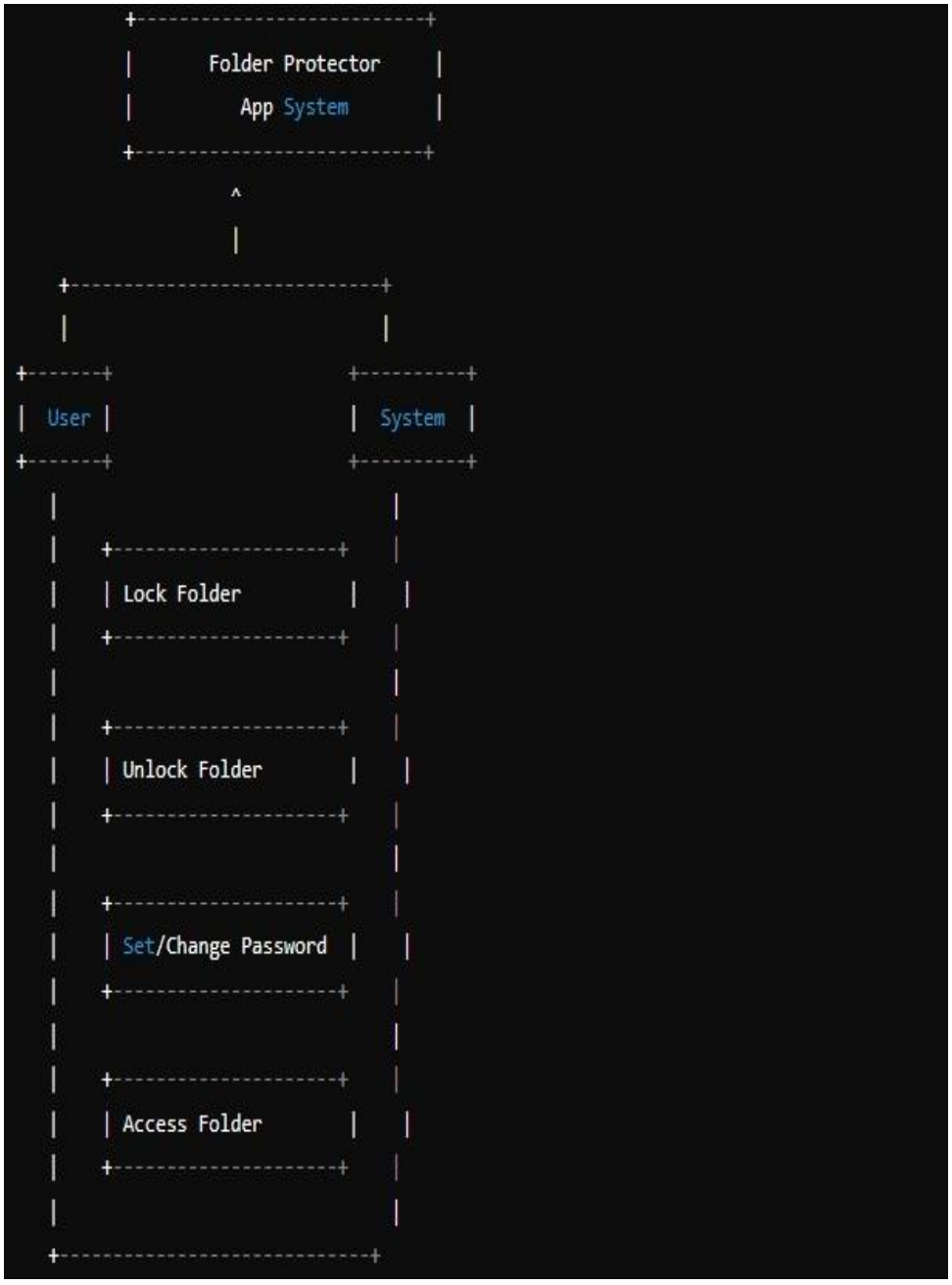
2. TECHNICAL DESCRIPTION

HARDWARE REQUIREMENT	
HARD DISK	MINIMUM 80GB
RAM	MINIMUN 1GB
ACCESORIES	KEYBOARD, MOUSE AND MONITOR
GRAPHIC DESIGNING	INTEGRATED GRAPHICS OR DEDICATED GRAPHICS CARD WITH AT LEAST LUS512 MB VRAM

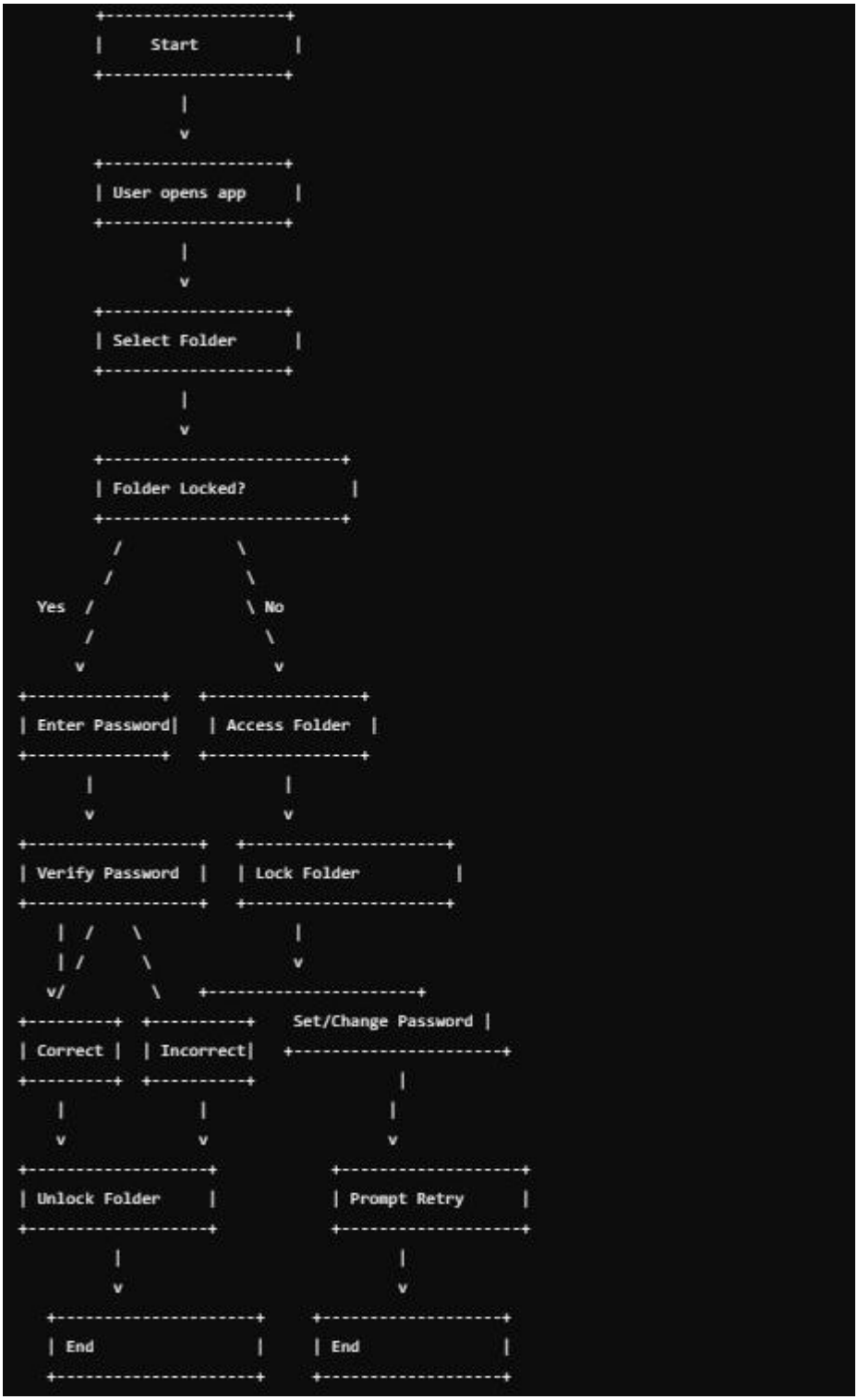
SOFTWARE REQUIREMENT	
OPERATING SYSTEM	WINDOWS 11
CODE EDITOR	VISUAL STUDIO
DATABASE	MY SQL

3. SYSTEM DESIGN AND DEVELOPMENT

4.1 USE-CASE DIAGRAM



4.2 ACTIVITY DIAGRAM



4.3 DATAFLOW DIAGRAM

5. TESTING

5.1 SOURCE CODE

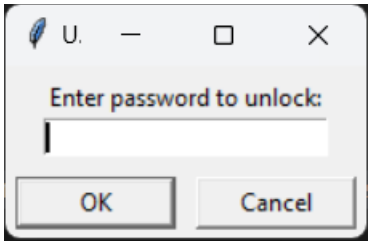
```
import os
import tkinter as tk
from tkinter import messagebox, filedialog
import subprocess
import platform

class FolderProtectionApp:
    def __init__(self, root):
        self.root = root
        self.root.title("Folder Protection App")
        self.root.geometry("500x300")

        self.protected_folder = None
        self.password = None

        # Create GUI elements
        self.create_widgets()

    def create_widgets(self):
        # Folder selection
        self.folder_label = tk.Label(self.root, text="Select Folder to Protect:")
        self.folder_label.pack(pady=10)

        self.folder_entry = tk.Entry(self.root, width=50)
        self.folder_entry.pack(pady=10)

        self.browse_button = tk.Button(self.root, text="Browse",
command=self.browse_folder)
        self.browse_button.pack(pady=5)

        # Password setting
        self.password_label = tk.Label(self.root, text="Set Password to Protect
Folder:")
        self.password_label.pack(pady=10)

        self.password_entry = tk.Entry(self.root, width=50, show="*")
```

```
        self.password_entry.pack(pady=10)

        self.set_password_button = tk.Button(self.root, text="Set Password",
command=self.set_password)
        self.set_password_button.pack(pady=10)

        # Unlock Folder
        self.unlock_button = tk.Button(self.root, text="Unlock Folder",
command=self.unlock_folder, state=tk.DISABLED)
        self.unlock_button.pack(pady=10)

    def browse_folder(self):
        folder_selected = filedialog.askdirectory()
        if folder_selected:
            self.folder_entry.delete(0, tk.END)
            self.folder_entry.insert(0, folder_selected)
            self.protected_folder = folder_selected

    def set_password(self):
        if not self.protected_folder:
            messagebox.showerror("Error", "Please select a folder first!")
            return

        password = self.password_entry.get()
        if not password:
            messagebox.showerror("Error", "Password cannot be empty!")
            return

        self.password = password
        self.password_entry.config(state=tk.DISABLED)
        self.set_password_button.config(state=tk.DISABLED)
        self.unlock_button.config(state=tk.NORMAL)

        # Lock the folder (hide it or restrict access)
        self.lock_folder()
        messagebox.showinfo("Success", "Password set! Folder is now protected.")

    def lock_folder(self):
        if os.name == 'nt':  # Windows
```

```
            os.system(f'attrib +h +s "{self.protected_folder}"')
        elif os.name == 'posix':  # Linux/Mac
            os.system(f'chmod 000 "{self.protected_folder}"')
        else:
            messagebox.showerror("Error", "Unsupported OS")

    def unlock_folder(self):
        if not self.protected_folder:
            messagebox.showerror("Error", "No folder selected!")
            return

        password_prompt = tk.simpledialog.askstring("Unlock Folder", "Enter
password to unlock:", show="*")
        if password_prompt == self.password:
            # Unlock the folder (make it visible or restore access)
            if os.name == 'nt':  # Windows
                os.system(f'attrib -h -s "{self.protected_folder}"')
            elif os.name == 'posix':  # Linux/Mac
                os.system(f'chmod 755 "{self.protected_folder}"')
            messagebox.showinfo("Success", "Password correct! Folder unlocked.")
            self.open_folder(self.protected_folder)
        else:
            messagebox.showerror("Error", "Incorrect password!")

    def open_folder(self, folder_path):
        # Open the folder in the file explorer
        if platform.system() == "Windows":
            os.startfile(folder_path)
        elif platform.system() == "Darwin":  # macOS
            subprocess.call(["open", folder_path])
        elif platform.system() == "Linux":
            subprocess.call(["xdg-open", folder_path])
        else:
            messagebox.showerror("Error", "Unsupported OS")

if __name__ == "__main__":
    root = tk.Tk()
    app = FolderProtectionApp(root)
    root.mainloop()
```

5.2 OUTPUT


Folder Protection App
Select Folder to Protect:
Browse
Set Password to Protect Folder:
Set Password
Unlock Folder


U.
Enter password to unlock:
OK
Cancel

6. CONCLUSION

The Folder Protection App is a basic implementation of folder protection using password security. While it provides a simple interface and basic functionality, it is essential to consider its limitations, especially regarding security and platform compatibility. For more robust folder protection, more advanced techniques and encryption methods would be necessary.

7. BIBLIOGRAPHY

8.1 ONLINE REFERENCE

8.2 OFFLINE REFERENCE

- **Param Khandvi**
- **Shrey Palan**