ICT FINAL PROJECT REPORT

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PROJECT TITLE: DIGITAL DIARY

REPORT:

1. Introduction: The Digital Diary Project is a program designed to simulate a digital diary where users can write, read, and delete diary entries. The project provides options for users to write new diary entries, read existing entries, and delete entries if needed. It also incorporates a password feature to protect the privacy of the diary.

2. Project Structure: The project is implemented in C++ programming language and consists of multiple functions to perform various operations. Here's an overview of the main functions in the project:

- **setPassword():** Allows the user to set a password to encrypt and secure the diary entries. The function prompts the user to enter a password and confirms it to ensure accuracy.
- **checkPassword():** Verifies the entered password against the stored password. If the passwords match, the user is granted access; otherwise, they are prompted to re-enter the password.
- **displayMenu():** Displays the menu bar for the digital diary, providing a visual representation of the program to the user.
- **displayBar():** Displays the options available for the user to interact with the diary, such as writing a new entry, reading existing entries, or deleting entries.
- **write():** Allows the user to create a new diary entry. The function captures the current time, prompts the user to enter the diary content, and stores it along with the timestamp.
- **read():** Enables the user to read their existing diary entries. The function prompts the user to enter their password and checks its validity before displaying the stored diary content along with the timestamp.
- **deleteNote():** Allows the user to delete their diary entries. The function prompts the user to enter their password and confirms their intention to delete the data. If confirmed, the diary content and password are cleared.

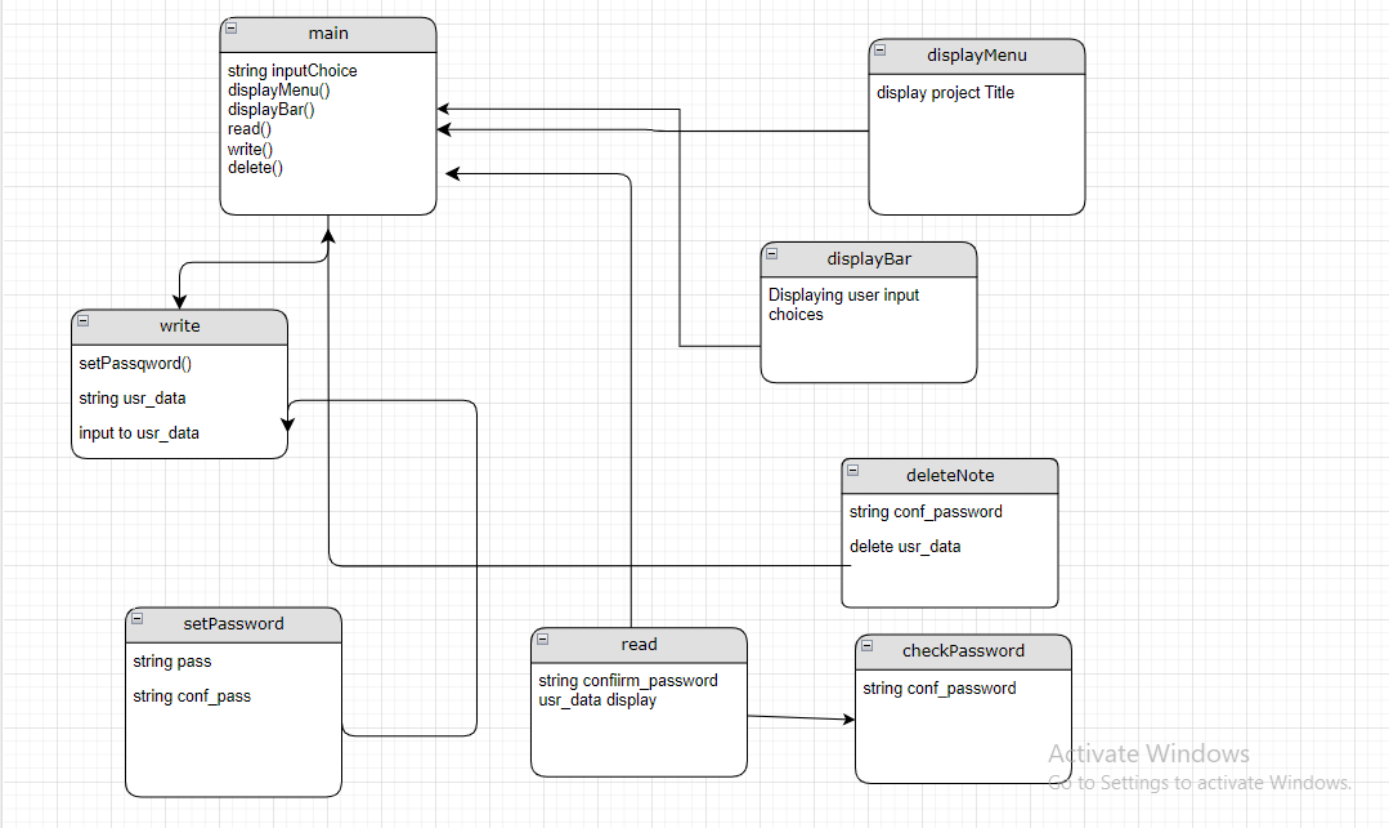
3. Program Flow: The program starts by displaying the menu bar using the displayMenu() function. The user is then presented with options through the displayBar() function. Based on the user's input, the corresponding function is called to perform the desired operation. The program continues to loop until the user chooses to exit by entering "-1".

4. Security Measures: To ensure the privacy and security of the diary entries, the project incorporates a password feature. The setPassword() function allows the user to set a password, while the checkPassword() function verifies the entered password before granting access to the diary content.

5. Conclusion: The Digital Diary Project provides a simple and user-friendly interface for individuals to create, read, and delete their diary entries. It demonstrates the use of functions, string manipulation, timestamp generation, and basic password protection.

Overall, the Digital Diary Project offers a practical solution for those seeking a digital alternative to traditional pen-and-paper diary keeping, providing convenience, privacy, and security.

UML DIAGRAM OR FLOWCHART:



SOURCE CODE:

```
#include <iostream>
#include <cstring>
#include <string>
#include <cmath>
#include <cstdlib>
#include <ctime>

using namespace std;

// macros
#define BUFFER_SIZE 100
// prototypes
void displayMenu();
void displayBar();
void write();
void read();
void deleteNote();
void setPassword();
void checkPassword(string);

// global variables
string pass_list, usr_data[BUFFER_SIZE], current_Time;
int looptime = 0;

int main()
{
   string inputChoice;
```

```
displayMenu();
do
{
   // displaying options of note add write or delete
   displayBar();
   cin >> inputChoice;

   if (inputChoice == "0")
   {
      write();
   }
   else if (inputChoice == "1")
   {
      read();
   }
   else if (inputChoice == "2")
   {
      deleteNote();
   }
   else if (inputChoice == "-1")
   {
      cout << "\n\t HAVE A GOOD DAY :)" << endl;
   }
   else
   {
      cout << "\n( Enter  a valid number! )" << endl;
   }

} while (inputChoice != "-1");
```

```
}

// functions
void setPassword()
{
   string pass, conf_pass;
   cout << "\n\n--------------------------------------------------------------------------\n  ==> Set a password\n  ==> To encrypt it from other users\n  ==> Set atleast 4 digit password\n\n--------------------------------------------------------------------------" << endl;
   cout << "First Create your Password!\nNew Password:     ";
   cin.ignore();
   getline(cin, pass);

   do
   {
      cout << "Confirm password: ";
      getline(cin, conf_pass);
   } while (conf_pass != pass);

   cout << "\n\t( Your password is successfully created! )" << endl;
   pass_list = pass; // password is copying password list
}

// this function is for confirming | checking a password in password list
void checkPassword(string pass)
{
   if (pass != pass_list)
   {
      cout << "\nTry again: ";
```

```
        cin >> pass;
        checkPassword(pass);
    }
    else
    {
        cout << "\n\t( Your password is Correct! )" << endl;
    }
}

// this function for displaying title
void displayMenu()
{
    cout << "--------------------------------------------------------------------------------\n\t\t\tDIGITAL-DIARY-PROJECT\n--------------------------------------------------------------------------------\n";
}

void displayBar()
{
    // displaying
    cout << "\n\nInput_Taking:\n\t\t0: for write your Diary\n\t\t1: for Read your Diary\n\t\t2: for delete your Diary\n\n(-1 for exit): ";
}

void write()
{
    string yesNo;
    time_t currentTime = time(nullptr);
    string timeString = ctime(&currentTime);
    current_Time = timeString;
```

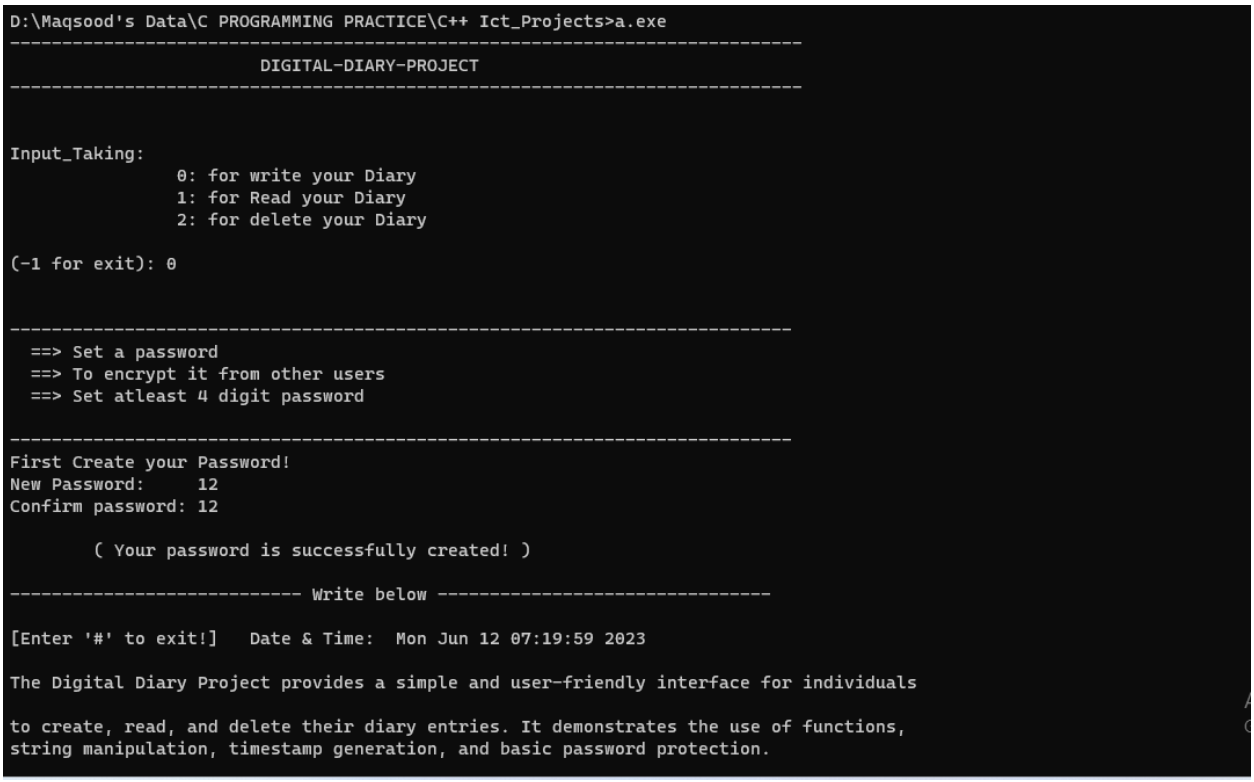
```
if (pass_list.empty())
{
   setPassword();
   cout << "\n---------------------------- Write below -------------------------------\n"
        << endl
        << "Enter '#' to exit!"
        << "   Date & Time:  " << current_Time << endl;
   cin.ignore();
   string tempData;
   while (tempData != "#")
   {
      cin >> tempData;
      usr_data[looptime] = tempData;
      looptime++;
   }
   cout << "\n----------------------- Successfully Created! ----------------------------\n"
        << endl
        << endl;
}
else
{
   cout << "\nThere is exisiting Data available!\nDo you want to delete that (y/n): ";
   cin >> yesNo;
   if (yesNo == "y" || yesNo == "Y")
   {
      pass_list.clear();
      write();
   }
   else if (yesNo == "n" || yesNo == "N")
```

```
        {
            return;
        }
        else
        {
            write();
        }
    }
}

// this function is for reading a note
void read()
{
    string password;
    if (!pass_list.empty())
    {
        cout << "\n\nEnter your password: ";
        cin >> password;
        checkPassword(password);
        cout << endl
             << "---------------------------- READ-YOUR-DIARY-BELOW ----------------------\n\n"
             << "Date & Time:  " << current_Time << endl;
        cin.ignore();
        for (int i = 0; i < looptime; i++){
            if (usr_data[i] == "\n"){
                cout << endl;
            }
            else if (usr_data[i] == "\0")
            {
```

```
            cout << " ";
        }
        else
        {
            cout << usr_data[i] << " ";
        }
    }

    cout << "\n--------------------------------- [ :) ] ----------------------------------" << endl;
  }
  else{
    cout << endl
        << "\t( You haven't wrote any Diary! )\n\n";
  }
}
// this function is for deleting a note
void deleteNote()
{
  string password, conf_password;
  if (pass_list.empty()){
    cout << endl
        << "\t( You haven't wrote any Diary! )\n"
        << endl;
  }
  else{
    cout << "Confirm your password: ";
    cin >> password;
    if (password != pass_list)
    {
```

```
            deleteNote();
        }
        else
        {
            cout << "\nAre you sure (y/n)?: ";
            cin >> conf_password;
            if (conf_password == "y" || conf_password == "Y")
            {
                pass_list.clear();
                cout << "\n\t( Your Data has been Deleted! )" << endl;
            }
            else if (conf_password == "n" || conf_password == "N")
            {
                cout << "\n\t( Your Data is Safe & Secure! )" << endl;
            }
            else {
                cout << "\n\t( It seem's like you don't want to delete! )" << endl;
            }
        }
    }
}
```

OUTPUT:


D:\Maqsood's Data\C PROGRAMMING PRACTICE\C++ Ict_Projects>a.exe
DIGITAL-DIARY-PROJECT
Input_Taking:
0: for write your Diary
1: for Read your Diary
2: for delete your Diary
(-1 for exit): 0
==> Set a password
==> To encrypt it from other users
==> Set atleast 4 digit password
First Create your Password!
New Password: 12
Confirm password: 12
(Your password is successfully created!)
Write below
[Enter '#' to exit!] Date & Time: Mon Jun 12 07:19:59 2023
The Digital Diary Project provides a simple and user-friendly interface for individuals
to create, read, and delete their diary entries. It demonstrates the use of functions,
string manipulation, timestamp generation, and basic password protection.


Successfully Created!
Input_Taking:
0: for write your Diary
1: for Read your Diary
2: for delete your Diary
(-1 for exit): 1
Enter your password: 12
(Your password is Correct!)
READ-YOUR-DIARY-BELOW
Date & Time: Mon Jun 12 07:19:59 2023
he Digital Diary Project provides a simple and user-friendly interface for individuals to create, read, and delete their diary entries. It demonstra
tes the use of functions, string manipulation, timestamp generation, and basic password protection. #
[:)]
Input_Taking:
0: for write your Diary
1: for Read your Diary
2: for delete your Diary
(-1 for exit):
Activate Windows
Go to Settings to activate Windows.

```
Input_Taking:
                0: for write your Diary
                1: for Read your Diary
                2: for delete your Diary

(-1 for exit): 0

There is exisiting Data available!
Do you want to delete that (y/n): n


Input_Taking:
                0: for write your Diary
                1: for Read your Diary
                2: for delete your Diary

(-1 for exit): 2
Confirm your password: 12

Are you sure (y/n)?: y

        ( Your Data has been Deleted! )


Input_Taking:
                0: for write your Diary
                1: for Read your Diary
                2: for delete your Diary

(-1 for exit): -1

         HAVE A GOOD DAY :)
```

THE END