

Individual Project #1

Survey Engine

CSC-17B

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Introduction

My Survey Engine project utilizes OOP and binary file operations to allow admins to create/read/update/delete surveys and users to read/update surveys. The project has a login feature so that multiple users are able to have their own survey information saved to their own unique files that only they have access to.

The first iterations of this project I struggled with getting it to work as I intended it because I was using a struct instead of a class for the Question. Once I made this change, it was very easy to continue through the following iterations of the project. The Question object to create a Survey object, the Survey object would create Question objects, then the Admin and User objects create Survey objects from the binary file input.

Summary

[GitHub](#)

Lines of Code

Language	files	blank	comment	code
C/C++ Header	6	293	171	1453
C++	1	5	8	6
SUM:	7	298	179	1459

Project Files

- 1 main.cpp
- 5 class files: Question.h, Survey.h, Admin.h, User.h and SurveyEngine.h
- 2 binary files: SurveyInfo.dat and UserInfo.dat
- 2 binary files per user: Surveys.dat and Resp.dat

Instructions

Logging in as Admin:

Username: mlehr

Password: mlehr

Logging in as User:

Username: drmark

Password: drmarkpw

Sample Input/Output

Create Survey

```

CREATE NEW SURVEY
Enter Title: Basic Survey
Enter Number of Questions: 2
Enter Question: What's your favorite color?
Enter Question Type(1 = Single, 2 = Multiple, 3 = WriteIn): 3
Enter Number of Response Options: 4
Enter Response Option 1: Red
Enter Response Option 2: Orange
Enter Response Option 3: White
Enter Question: What is your favorite dessert?
Enter Question Type(1 = Single, 2 = Multiple, 3 = WriteIn): 3
Enter Number of Response Options: 4
Enter Response Option 1: Ice cream
Enter Response Option 2: Cake
Enter Response Option 3: Pie

```

```

-----
Title: Basic Survey
Active: true
Number of Questions: 2

```

```

Question 1: What's your favorite color?
Type: Multiple Choice/Write-In Response
1 ) Red
2 ) Orange
3 ) White
4 )

Question 2: What is your favorite dessert?
Type: Multiple Choice/Write-In Response
1 ) Ice cream
2 ) Cake
3 ) Pie
4 )

```

Read/View Survey

Title	Active
1) Stress Survey	true
2) Household Budget Survey	true
3) Cryptocurrency Survey	true
4) RSVP and Contact Info Survey	true
5) Environmental Issues Survey	false
6) Course Evaluation Survey	false
7) Basic Survey	true

```

Enter the Number of the Survey to View: 7
VIEW SURVEY

```

```

-----
Title: Basic Survey
Active: true
Number of Questions: 2

```

```

Question 1: What's your favorite color?
Type: Multiple Choice/Write-In Response
1 ) Red
2 ) Orange
3 ) White
4 )

Question 2: What is your favorite dessert?
Type: Multiple Choice/Write-In Response
1 ) Ice cream
2 ) Cake
3 ) Pie
4 )

```

Update a Survey

Enter What You Would Like to Update for This Survey

- 1) Status
- 2) Questions/Responses Options
- 3) Add Question
- 4) Delete Question
- 0) Cancel Survey Updates

3

ADD QUESTION

Enter Question: What is your zodiac sign?

Enter Question Type(1 = Single, 2 = Multiple, 3 = WriteIn): 1

Enter Number of Response Options: 12

Enter Response Option 1: Aries

Enter Response Option 2: Taurus

Enter Response Option 3: Gemini

Enter Response Option 4: Cancer

Enter Response Option 5: Leo

Enter Response Option 6: Virgo

Enter Response Option 7: Libra

Enter Response Option 8: Scorpio

Enter Response Option 9: Sagitarrius

Enter Response Option 10: Capricorn

Enter Response Option 11: Aquarius

Enter Response Option 12: Pisces

Enter What You Would Like to Update for This Survey

- 1) Status
- 2) Questions/Responses Options
- 3) Add Question
- 4) Delete Question
- 0) Cancel Survey Updates

4

DELETE QUESTION

Enter Number of Question to Delete: 1

Title: Basic Survey

Active: true

Number of Questions: 2

Question 1: What is your favorite dessert?

Type: Multiple Choice/Write-In Response

- 1) Ice cream
- 2) Cake
- 3) Pie
- 4)

Question 2: What is your zodiac sign?

Type: Single Choice

- 1) Aries
- 2) Taurus
- 3) Gemini
- 4) Cancer
- 5) Leo
- 6) Virgo
- 7) Libra
- 8) Scorpio
- 9) Sagitarrius
- 10) Capricorn
- 11) Aquarius
- 12) Pisces

Create User

Welcome to SurveyMonster

R) To Register L) To Log In

r

REGISTER

Enter New Username (6 to 10 Characters): newuser

Enter New Password (8 to 12 Characters): newuserpw

Account Successfully Created.

R) To Register L) To Log In

Create Admin

```
Enter the Username for the Admin: admin2
Enter the Password for the Admin: admin2pw
```

```
List Admins
```

Username	Password
mlehr	mlehr
aguzman	agpass
newadmin	newadmin
admin2	admin2pw

Read/View Users/Admins

```
LIST USERS
```

Username	Password	Active
drmark	drmarkpw	true

```
Hello Admin,      newadmin
```

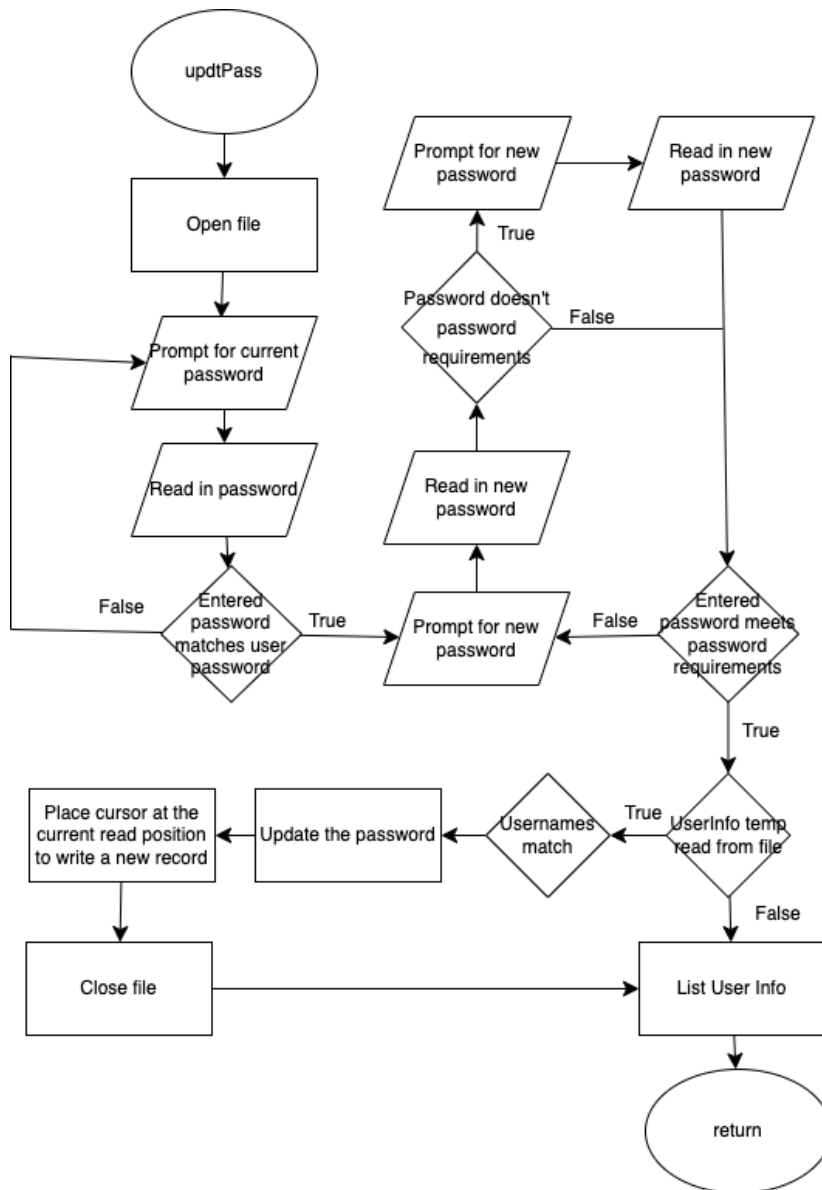
```
1) Create New Survey
2) List All Surveys
3) List Active Surveys
4) List Inactive Surveys
5) View a Survey
6) Update a Survey
7) List Users
8) List Admins
9) Add Admin
-99) Delete All Surveys
-1) Logout
8
```

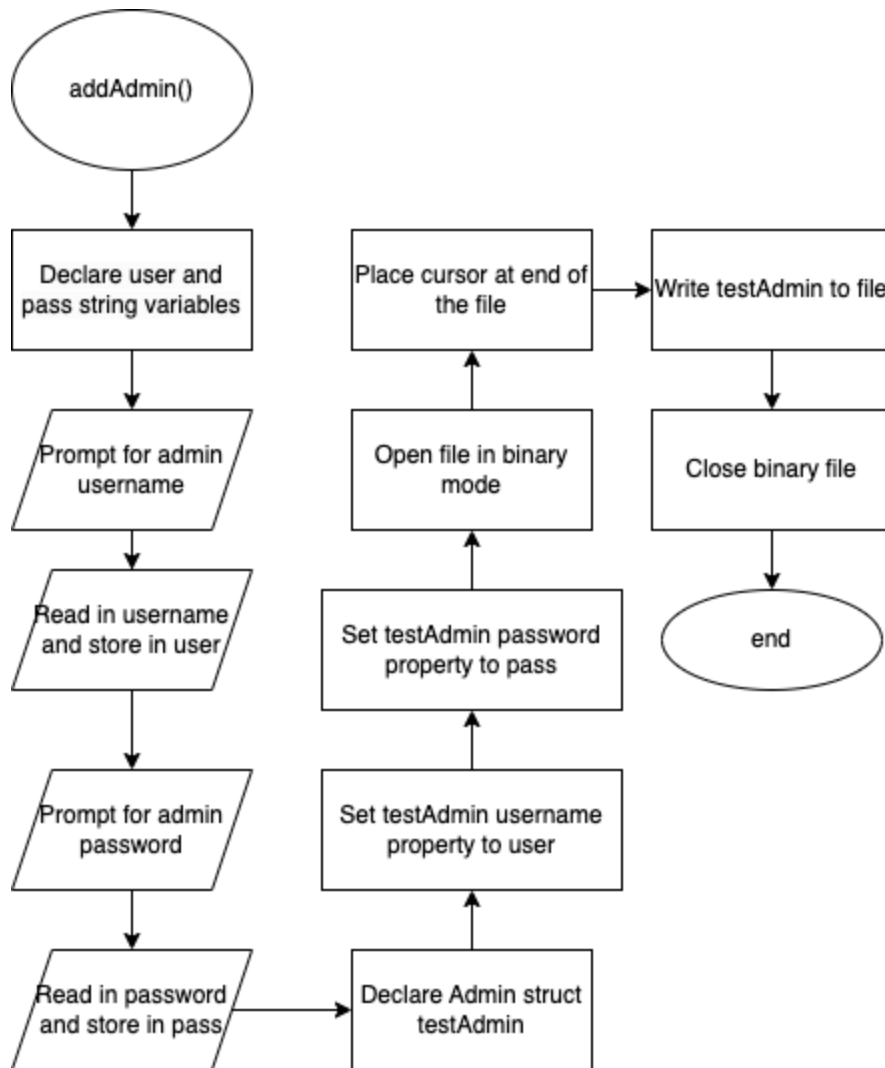
```
List Admins
```

Username	Password
mlehr	mlehr
aguzman	agpass
newadmin	newadmin
admin2	admin2pw

Description

Flowcharts





UML Diagrams

SurveyEngine Class

Private Member Variables

- bool isActive
- bool isAdmin
- bool loggedIn
- string username
- string password

Public Member Functions

```
void mainMenu ()
void login ()
void regUsr ()
bool validtUsr ()
bool validtName ()
bool validtAdmn ()
```

Question Class

Private Member Variables

- char question[QRSIZE]
- int typeInt
- int numRespOptions
- vector<string> respOptions

Public Member Functions

```
Question (char q[], int type, int numResp, vector< string > options)
void setQ (char q[])
void setType (int t)
void setNumResp (int n)
void setRespOptions (vector< string > options)
void setResp (int i)
void addResp ()
void deleteROpt (int i)
const char * getQ () const
int getType () const
int getNumResp () const
vector< string > getRespOptions () const
string dispType ()
void display ()
```

User Class

Private Member Variables

- UserInfo info
- vector<Survey *> surveys
- vector<Survey *> userSrvs
- vector<string> responses
- string usrSrvFile
- string usrRespFile

Public Member Functions

```
void prompt ()
void setUsrInfo (string name, string pass)
void completeSrv ()
void answerQ (int i, Question *q)
void singleResp (int i, Question *q)
void multResp (int i, Question *q)
void wrtInResp (int i, Question *q)
vector< string > strSplit (string s)
void deleteAll ()
void updtUsrMenu ()
void updtPass ()
void deactvtAcc ()
void listUsrInfo ()
void listSrvs (string srvDBfile)
bool chkComplete (Survey *srv)
void listCompSrvs (string file)
void prntSrvs (string srvDBfile)
void prntUsrSrvs ()
void prntResp (Survey *srv, int srvIndx)
int findRespIndx (Survey *srv, int srvIndx)
void wrtRespBin ()
void readRespBin ()
void reloadResp ()
void readFromBin (string file, vector< Survey * > &srvs)
void reloadSrvs (string file, vector< Survey * > srvs)
void clearBin (string file)
```

Admin Class

Private Member Variables

- AdminInfo info
- vector<Survey *> surveys

Public Member Functions

<code>Admin</code>	<code>(string name, string pass)</code>
<code>void listUsrs</code>	<code>()</code>
<code>void addAdmin</code>	<code>()</code>
<code>void listAdmins</code>	<code>()</code>
<code>void createSrv</code>	<code>()</code>
<code>void listAllSrv</code>	<code>()</code>
<code>void listActvSrv</code>	<code>()</code>
<code>void listInacSrv</code>	<code>()</code>
<code>void prntSrv</code>	<code>()</code>
<code>void updtSrv</code>	<code>()</code>
<code>void deleteAll</code>	<code>()</code>
<code>void addSrvQ</code>	<code>(Survey *survey)</code>
<code>void deleteQ</code>	<code>(Survey *survey)</code>
<code>void updtStatus</code>	<code>(Survey *survey)</code>
<code>void updtSrvQs</code>	<code>(Survey *survey)</code>
<code>void updtQ</code>	<code>(Question *q)</code>
<code>void updtQType</code>	<code>(Question *q)</code>
<code>void updtROpts</code>	<code>(Question *q)</code>
<code>void updtROpt</code>	<code>(Question *q)</code>
<code>void addROpt</code>	<code>(Question *q)</code>
<code>void deleteROpt</code>	<code>(Question *q)</code>
<code>void readFromBin</code>	<code>(string file)</code>
<code>void clearBin</code>	<code>(string file)</code>
<code>void reloadSrvs</code>	<code>(string file)</code>