# C++ PROJECT

# REGISTRATION AND LOGIN PAGE

```
C:\Users\delea\Downloads\Testing\Debug\Testing.exe

                                    ...Welcome to Blood Bank NZ...


Register as Donor [1]
Login [2]
Press 3 to exit [3]
```

On this page, only donors can register, admins & hospitals have their own username and password.

# TXT Files

| | | |
|---|---|---|
| 📄 bookingAppointments | 24/06/2022 12:34 pm | Text Document |
| 📄 requests | 24/06/2022 12:28 pm | Text Document |
| 📄 stock | 24/06/2022 12:15 pm | Text Document |
| 📄 usersLogin | 24/06/2022 12:34 pm | Text Document |

There are 4 txt files to help store info and data. bookingAppointments stores appoints made by donors or an admin can add an appointment. Requests is the blood hospitals requests to admin. Stock is how much current stock there is to give. Userlogin stores registrations and login usernames and passwords.

# usersLogin TXT File

This txt file stores users logins and permission level, each number represents what permission they're given, for example admin has 0: which means thats an admin pass, hospital has 1: which is a hospital pass and donors are assigned 2. Only an admin can register hospitals but register other admins, manually changing the numbers helps change their permission level, theoretically; only an admin should have access to this file.

```
admin
adminpass
na
0
test
pass
a+
2
mikkie
coolpass
na
2
hospital1
hosppass
na
1
```

# ADMIN LOGIN & MAIN MENU

As previously discussed, admin is already assigned a username and password and their permission level is set to 0. Upon logging in, you should be greeted with a welcome message and list of actions you can take below, such as viewing requests for hospitals, viewing appointments made by donors, being able to view all users and an option to log out.

```
                    Login


Please enter username: admin

Please enter password: adminpass
```

```
              Welcome to the Admin Homepage.


[a] View Requests
[b] View Appointments
[c] View All Users
[d] Log Out
```

# Option a, viewing requests

```
                    View All Requests

[0] hospital1   o+      10      Status: Accepted
[1] hospital2   a+      12      Status: Pending

To change the status of a request please enter the request number, otherwise [a] to go back to main menu.
```

Upon viewing requests, you can see which hospitals status is pending, admin has the power to accept or deny requests. Also have the option to go back to the main menu.

# CHANGING STATUS OF REQUESTS

```
hospital1          a+          10          Status: Pending


[a] To accept this request
[b] To deny this request
[c] Go back to main menu.
```

Choosing to chnage status of a request will bring you to this page, an admin can choose to either accept or deny a request

# STATUS ACCEPTED OR DENIED

```
                    View All Requests

[0] hospital1   o+      10      Status: Accepted
[1] hospital2   a+      12      Status: Pending
[2] hospital1   a+      10      Status: Accepted
[3] hospital1   a+      0       Status: Pending

To change the status of a request please enter the request number, otherwise [a] to go back to main menu.
```

Changing status to accepted for #2

```
                    View All Requests

[0] hospital1   o+      10      Status: Accepted
[1] hospital2   a+      12      Status: Pending
[2] hospital1   a+      10      Status: Accepted
[3] hospital1   a+      0       Status: Denied

To change the status of a request please enter the request number, otherwise [a] to go back to main menu.
```

Changing status to denied for #3

# OPTION B VIEWING APPOINTMENTS

```
                     View All Bookings

toto              a+                auckland              20221212

[a] To add a new booking
[b] To go back to the Menu
Otherwise enter the username of the booking to edit.
toto
To edit a booking, please login as the donor and go through the process as them.
[a] To login as the donor
[b] To go back to the Menu
```

As an admin, you can see all current appointments or manually add appointments(hypothetically if someone calls instead of booking online). Appointments display their name, blood type, location they'd like to donate and the date in a yyyy/mm/dd format.Also can edit an appointment, having admin powers means you can login into a donors page and edit their appointment if said donor called in to either edit or they forgot their password.

# OPTION C VIEWING ALL USERS

```
                          View All Users


toto                toto              a+              Donor
hospital1                  hosppass                   na                    Hospital
admin               adminpass               na               Admin


[a] To add a new donor user
[b] To add a new hospital user
[c] To go back to the Menu
```

OPTION C allows an admin to see every user, their username, password and status whether its a donor or admin or hospital. For donors; they can also see their blood type, since an admin/hospital doesn't need to display their blood type, they just put na in this field. Also have sub-options like adding new donors, adding new hospitals.

# HOSPITAL LOGIN AND MAIN MENU

As previously mentioned, a hospital will come with an assigned username and password. Admins can choose to add more hospitals.

The hospital main menu only has 2 options, displaying stock and logging out.

```
                        Login


Please enter username: hospital1

Please enter password: hosppass
```

```
                Welcome to the Hospital Homepage.



[a] Display Stock
[b] Logout
```

# OPTION A DISPLAYING STOCK

```
                     View All Stock

a+                        21
a-                        25
b+                        35
b-                        12
ab+                       5
ab-                       21
o+                        52
o-                        8

[a] To go back to the menu
Otherwise to request stock please enter the Blood Group : a+
Please enter how much of the stock you want: 5
```

Displaying stock shows the amount of stock currently available, hospitals can request a certain blood type and the quantity they'd like (as long as its within the current range). This information will get to the admin and an admin can either accept their request or deny it as previously shown.

# DONORS MAIN MENU PAGE

```
-----Welcome-----
Before booking an appointment, you must first under-go an eligibility test
to see if you're eligible to donate!

Press 1 to see if youre eligible to donate
Press 2 to book an appointment
Press 3 to view, update or cancel an appointment
Press 4 to view, update or delete your account
Press 5 to logout
```

There are 5 options a donor can choose from, 1 being an eligibility test, 2 - booking an appointment (a donor cannot book if they haven't under-gone an eligility test), 3 - view, update or cancelling an appointment (same as option 2, a donor cannot access this without booking an appointment), 4 - view, update or deleting their account, a donor can do this at any moment. and 5 - logging out.

# OPTION 1
# ELIGIBILITY TEST

A series of 7 questions will be asked to the donor, they must answer n(no) for all of them otherwise they'd be deemed in-eligible to donate. Out of 16 questions, I chose the ones that were most gender-neutral, so ended up with 7. If they manage to pass every question then it would let them know they're eligible. This info isn't stored anywhere because in our research, we gathered the emphasis how important an eligilibility test is.

```
Press 4 to view, update or delete your account
Press 5 to logout
1

Answer the following questions with y = yes, or n = no

Are you younger than 16 years and older than 71
n
Success

Do you weigh less than 50kgs
n
Success

Have you used drugs such as meth and cocaine before
n
Success

Have you had any new tattoos or piercings within the last 3months??
n
Success

Have you had a cold, sore throat or influenza within the last 28 days
n
Success

Have you taken any antibiotics within the last 7 days
n
Success

Have you or anyone in your household tested positive for covid-19 in the last 14 days
n
Success

You are eligible to donate blood
```

Being eligible to donate then allows a donor to book an appointment. In this section, a donor can choose from 3 locations to donate and a date. After booking, they can always view their appointment, edit or cancel.

```
What location would you like to donate, please type it in lower case, choose from the following
Auckland
Wellington
Christchurch
auckland

What date would you like to donate, please type in this order: year - month - day: 20221212

To view your details please type y, or type n to go back to the main menu: y

Thank you for choosing to book an appointment


toto
a+
auckland
20221212

If you're happy with this and like to donate then type y,

If you want to edit your info press e

or if you want to cancel your appointment then press n:
```

Once a donor has booked an appointment, then they can choose to view, edit or cancel their appointment. In this instance, a donor has chose to edit their appointment's location from auckland to wellington. Choosing to cancel will mean they must under-go another eligility test if they want to book again.

```
Press 4 to view, update or delete your account
Press 5 to logout
3


toto
a+
auckland
20221212

If you're happy with this and like to donate then type y,

If you want to edit your info press e

or if you want to cancel your appointment then press n: e

You chose edit an appointment

What location would you like to donate, please type it in lower case, choose from the following
Auckland
Wellington
Christchurch
wellington

What date would you like to donate, please type in this order: year - month - day: 20230101
 ** Info updated !!!!

If you're happy with this and like to donate then type y,
Or if you want to cancel your appointment then press n:
```

# OPTION 4 VIEW, UPDATE OR DELETE ACCOUNT

A donor can choose to update their password and blood type or delete their account, deleting their account will delete their userLogin info in the txt file, which won't let them login unless a donor registers a new account.
In this stance, a user has chose to update their password in the top picture and the info has updated in the bottom picture, it means they will have to login with the new password because its now replaced the previous one in the txt file.

```
                        Edit User delear

                delear
                12345
                a+
                2

To change password please enter [a]
To go back to the MainMenu plese enter [b]
To change users blood group please enter [c]
To delete user please enter [d]a

Please enter new password:
del123
                        Edit User delear

                delear
                del123
                a+
                2

To change password please enter [a]
To go back to the MainMenu plese enter [b]
To change users blood group please enter [c]
To delete user please enter [d]
```

```cpp
// CS103.2_Group-Project.cpp : This file contains the 'main' function. Program execution begins and ends there.
// Blood Bank Management System
// By Michaela, Delear, and Sese


#include <iostream>
#include <string>
#include <vector>
#include <fstream> // Read from File
#include <cstdio> // EOF

using namespace std;

//PersonalInfo struct by Michaela
//Will store all the users personal and relevant medical information
//To be accessed via the User struct.
struct BookingInformation
{
    string location;
    int date;
    int d, e;
};
```

```cpp
//User struct by Michaela
 //Will store the users login and permission information
 //And points to the users personal information.
struct User
 {
     string username, password;
     int permission;
     string bloodGroup;
     BookingInformation booking;

 }; User* loggedinUser;

//Stock struct by Michaela
 //Will store the stocks blood type and amount information
struct Stock
 {
     string bloodGroup;
     int available;
 };

//Request struct by Michaela
 //Will store the requests by referencing stock, and users that ordered it
 //Status variable for admin to change.
struct Request
 {
     User user;
     Stock stock;
     int status;
 };
```

```cpp
vector<User> users;// Vector of User struct
vector<Stock> totals; // Vector of Stock struct
vector<Request>requests; // Vector of Request struct

/* Global Variables */
string filepathUsersLogin = "Files/usersLogin.txt";
string filepathBookings = "Files/bookingAppointments.txt";
string filepathStock = "Files/stock.txt";
string filepathRequests = "Files/requests.txt";
string message = "", line;
int d, e;  //global variables to identify if user already has appointment and has passed the eligibilty test
bool toApprove; //variable for if there are requests to be checked
```

```cpp
/* Function Initialisations */
//Michaela's functions
bool login(int tries);
void loginRedirection();
void adminMenu();
void getAllLogins();
void viewAllLogins();
void editUser(string user);
bool checkIfUsernameExists(string tempName);
bool checkIfBloodGroupExists(string tempBlood);
void getAllBookings(); //for admin
void viewAllBookings(); //for admin
void hospitalMenu();
void getAllStock();
void viewAllStock();
void requestStock();
void viewAllRequests();
void getAllRequests();

//Rego is function for registration and Log and Hospital and Donor is Login Info - Sese
void rego();
void hospital();
void donor();
```

```cpp
 91        //Donor functions by Delear Goolmorade
 92        void welcome();
 93        void eligibilityTest();
 94        void bookAppt();
 95        void viewAppt();
 96        void editAppt();
 97        void deletefile(string user);
 98
 99        // Program execution begins and ends here.
100        int main()
101        {
102            rego();
103        }
104
105        //rego code is the switch case for the main menu //Sese Code
106        void rego() { ... }
137
138        //File Handling for Donor registration part //Sese Code
139        void donor() { ... }
177
178        //registerhospital within admin perimeters // Sese Code
179        void hospital() { ... }
206
207        // CheckIfUsernameExists() by Michaela
208        // Checks if the username passed already exists in the usersLogin file.
209        // Returns true if the username already exists,
210        // Returns false if the username doesn't exist.
211        bool checkIfUsernameExists(string tempName) { ... }
230
```

```
231    ⊞  // ...
235    ⊞bool checkIfBloodGroupExists(string tempBlood) { ... }
258

259    ⊟// Login function by Michaela
260     │  // Returns true if the username and password entered match.
261     │  // Returns false after 3 wrong attempts.
262     └  // References users information with loggedinUser pointer
263    ⊞bool login(int tries) { ... }
321

322    ⊟// LoginRedirection function by Michaela
323     │  // Depending on the logged in users permission level: 0 - Admin, 1 - Hospital, 2 - Donor;
324     │  // Redirects the user to pages they are allowed to access,
325     └  // Or boots user out of system if they dont have permission
326    ⊞void loginRedirection() { ... }
352

353    ⊟// AdminMenu function by Michaela
354     │  // Alerts Admin if there is any requests to review
355     │  // Allows Admin to view stock and stock requests
356     │  // Allows Admin to view, edit and delete appointments
357     └  // Allows Admin to view, edit and delete users
358    ⊞void adminMenu() { ... }
413

414    ⊟// GetAllLogins function by Michaela
415     │  // Gets all the logins from the filepathUsersLogin
416     └  // Sets them all to be a users[] vector
417    ⊞void getAllLogins() { ... }
417
```

```
448   // GetAllBookings function by Michaela
449    // Gets all the bookings from the filepathBookings
450    // Checks if the name in the booking matches a users name
451    // If it matches, adds booking details to users[] vector
452   void getAllBookings() { ... }

491

492   // GetAllStock function by Michaela
493    // Gets all the stock from the filepathStock
494    // Sets them all to be a totals[] vector
495   void getAllStock() { ... }

522

523   // GetAllRequests function by Michaela
524    // Gets all the requests from the filepathRequests
525    // Sets them all to be a requests[] vector
526   void getAllRequests() { ... }

560

561   // ViewAllStock function by Michaela
562    // Displays all stock in the system
563    // Directs hospitals to requestStock
564    // Directs admin to viewAllRequests
565   void viewAllStock() { ... }

584

585   // ViewAllRequests function by Michaela
586    // Allows an Admin to View all requests in the system
587    // Admin can then edit the status of any request
588   void viewAllRequests() { ... }

674
```

```
675   // RequestStock function by Michaela
676   // Allows a hospital to enter a new request for stock in the system
677   void requestStock() { ... }
713
714   // ViewAllBookings function by Michaela
715   // Allows an Admin to View all bookings in the system
716   // Admin can then add new bookings, or edit bookings
717   void viewAllBookings() { ... }
769
770   // ViewAllLogins function by Michaela
771   // Allows an Admin to View all logins in the system
772   // Admin can enter a username to edit the login
773   void viewAllLogins() { ... }
821
822   // EditUser function by Michaela
823   // Gets username from input parameter
824   // Finds the vector struct with that username and allows user to change password, or delete the user
825   // Rewrites file with all users
826   void editUser(string user) { ... }
925
926   // HospitalMenu function by Michaela
927   // Allows hospital user to view and request stock
928   void hospitalMenu() { ... }
953
```

```cpp
//Welcome Function by Delear for the donor user
//Main screen donor sees when logged in
//users have 5 options to choose from
void welcome() { ... }

//eligibility function by Delear
//all donors must do this by mandatory if they want to book an appt
void eligibilityTest() { ... }

//booking appt function by Delear & Michaela
//users can book an appt if they have passed the eligibility test
void bookAppt() { ... }

//viewing appt function by Delear & Michaela
//users can view appts or edit,
//using local variables, structs and vectors
void viewAppt() { ... }

//editing appt by Delear and Michaela
//users can edit their appt
//file sharing to update txt file
void editAppt() { ... }

//Cancelling appts by Delear and Michaela
//users can cancel an appt
//overwrites txt file and deletes the appt
void deletefile(string user) { ... }
```