American International University-Bangladesh (AIUB)

Department of Computer Science

Faculty of Science &Technology (FST)

Fall 22_23

Section: G

Group No: 04

Centralized Blood Transfusion Information Application

A software Engineering project submitted
By

S/N	Student Name	Student ID	Contribution (%)	Individual Marks
02	FATMI, MD. TAMIM RAHMAN	17-35691-3		
03	ISLAM, MD. SHAHADUL	18-38816-3		
09	ISLAM, MOWMITA	20-43421-1		
10	EMAMUZZAMAN	20-43428-1		
12	RATIN, NURE YOUSUF	20-43794-2		

The project will be Evaluated for the following Course Outcomes

Your Project will be Evaluated based on the following marking criteria		Total Marks
Identify and Analyze Requirements (functional, quality, and project req.)	[5Marks]	
Design the System Interface (UI/UX design)	[5Marks]	
Prepare Test cases and Test plan	[5Marks]	
Prepare WBS and Project Schedule	[5Marks]	
Identify potential risks and Prepare a risk management plan	[5Marks]	
Submission, Completeness, Spelling, Grammar and Organization	[5Marks]	

Submission Date: December 12, 2022

1. PRODUCT AND PROJECT DESCRIPTION

1.1 System Features

1. Software Registration

Functional Requirements:

1.1 The registration process must begin each when a user hits "Register" on the homepage.
1.2 The user must fill out the Sign-Up form with their name, NID number, date of birth, location, cell phone number, gender, blood group, and mailing address in order to register.
1.3 In order to authenticate the password in the form, the user must also generate a safe password and re-enter it.
1.4 The user must click "Register" to start the registration validation and completion process after completing the necessary Manual Registration information.

Priority Level: High

Precondition: The user must accurately enter all required information and choose a secure password.

Cross-reference: 2.4, 3.1, 3.2, 3.3, 3.4.

2. Available Doctor's Appointment

Functional Requirements:

2.1 The system will propose a doctor to the user based on their estimated disease.
2.2 A user can also manually look for physicians by name.
2.3 The user may then view the doctor's name, educational background, area of expertise, and appointment time.
2.4 By clicking the "Book" button next to the doctor's name, the user can make an appointment with any doctor.
2.5 The user may learn more about other hospitals and their physicians here as well.

Priority Level: High

Precondition: The user must check in with a valid email address and password in order to make an appointment.

Cross-reference: 1.1, 1.2, 1.3, 1.4, 3.1, 3.2, 3.3, 3.4.

3. Custom Blood Donor Guide to Patients

Functional Requirements:

3.1 In this option, the doctor may recommend exercises to the patient.
3.2 The doctor can provide the required documents or videos for the patient.
3.3 The patients are able to download or view the documents or videos.
3.4 Additionally, the user is able to communicate with the doctor in real time through live chat, and the doctor is able to monitor the patient's progress.

Priority Level: High

Precondition: The user must log in with their valid email and password and must have doctor's consultation subscription.

Cross-reference: 1.1, 1.2, 1.3, 1.4, 2.3, 2.4, 2.5.

1.2 System Quality Attributes

QA 1- Availability: Between 8:00 a.m. and 8:00 p.m. local time, the system must be 99% accessible, and during the other hours, 97%.

Priority Level: High
Precondition: The users must have enough internet connection.
Cross-reference: N/A

QA 2- Testability: Software ought to have the ability to recognize when a system is at danger of failing. There shouldn't be any cyclomatic complexity greater than 15.

Priority Level: High
Precondition: N/A
Cross-reference: QA1**,** QA-4, QA-5

QA 3- Portability: The system must utilize a web-based platform to function. Any device with a web browser can be used by the user to access the system.

Priority Level: Medium
Precondition: N/A
Cross-reference: QA-2, QA-4, QA-5

QA 4 – Maintainability: A maintenance programmer should be able to make updates to an existing form in no more than two hours. Any system problem must be fixed effectively by the maintenance programmers in less than three hours of manual work.

Priority Level: High
Precondition: The system should detect any errors.
Cross-reference: QA-1, QA-2, QA-5

QA 5–Flexibility: It will be easy and simple to use this system. A maintenance programmer can work on the software and create a new version—complete with code changes and testing—in less than 3–4 hours if anything has to be added or altered.

Priority Level: High

Precondition: System should identify an error.

Cross-reference: QA-2, QA-3

1.3 Project Requirements

Time: The entire project is anticipated to be completed in four months.

Budget: We will require a total cost of around 2.5 lakh BDT to create this system.

Human Resources: We require a group of nine individuals to work on the creation of this system: one administrator, four software engineers, one software taster, one domain specialist, and two members of the management team.

Internet Resources: The system needs a broadband connection with a minimum speed of 1 Mbps in order to function properly.

Device Resources: Laptop, Desktop, Smartphone, Tablet.

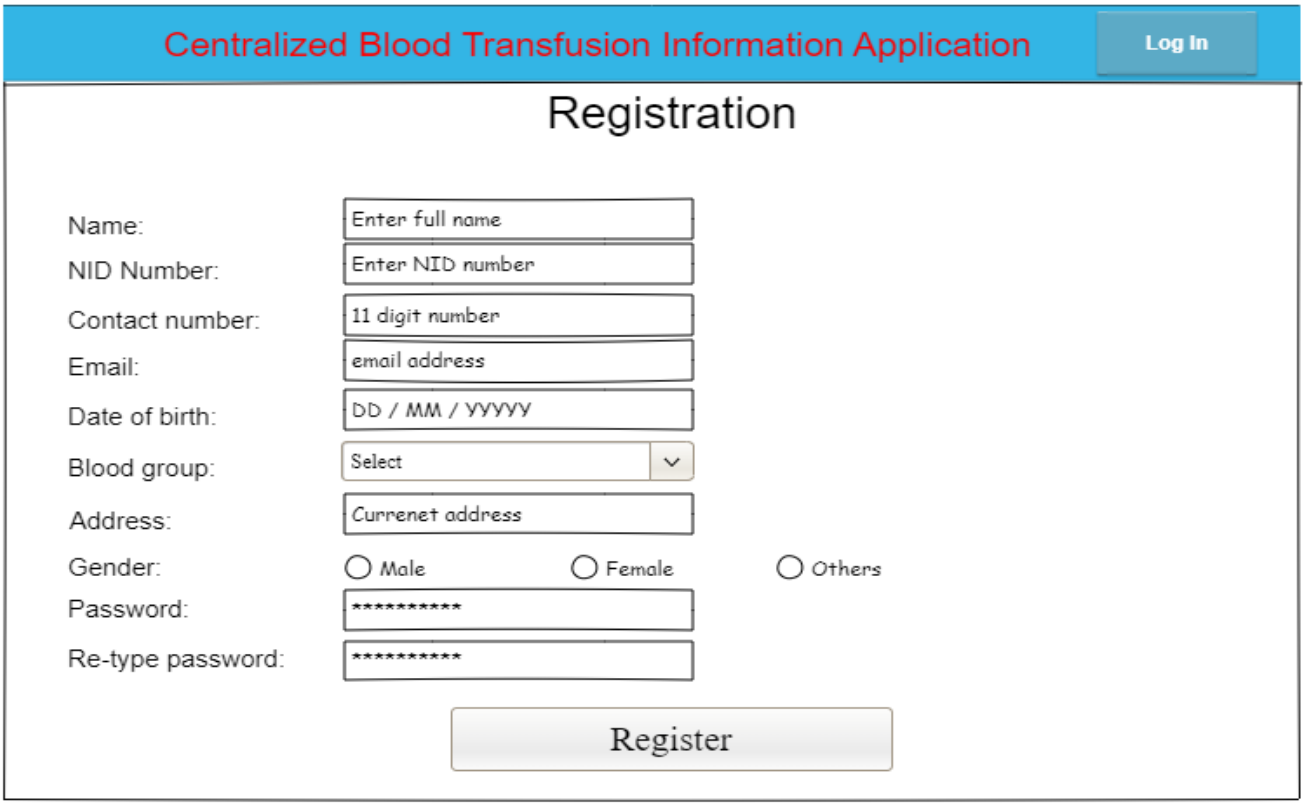
Software Resources: HTML, CSS, My Admin PHP, PHP, JavaScript.

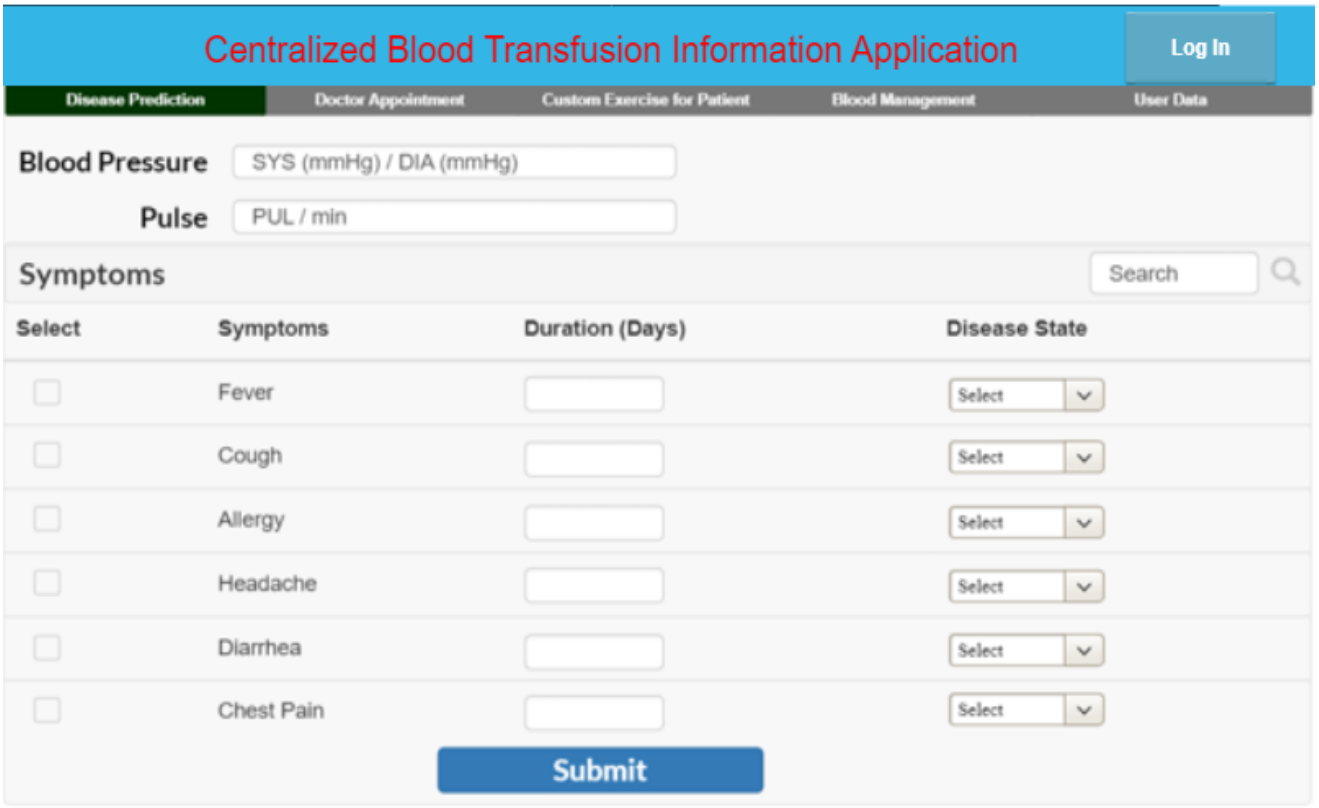
User Interface Design: Pencil Desktop Application.

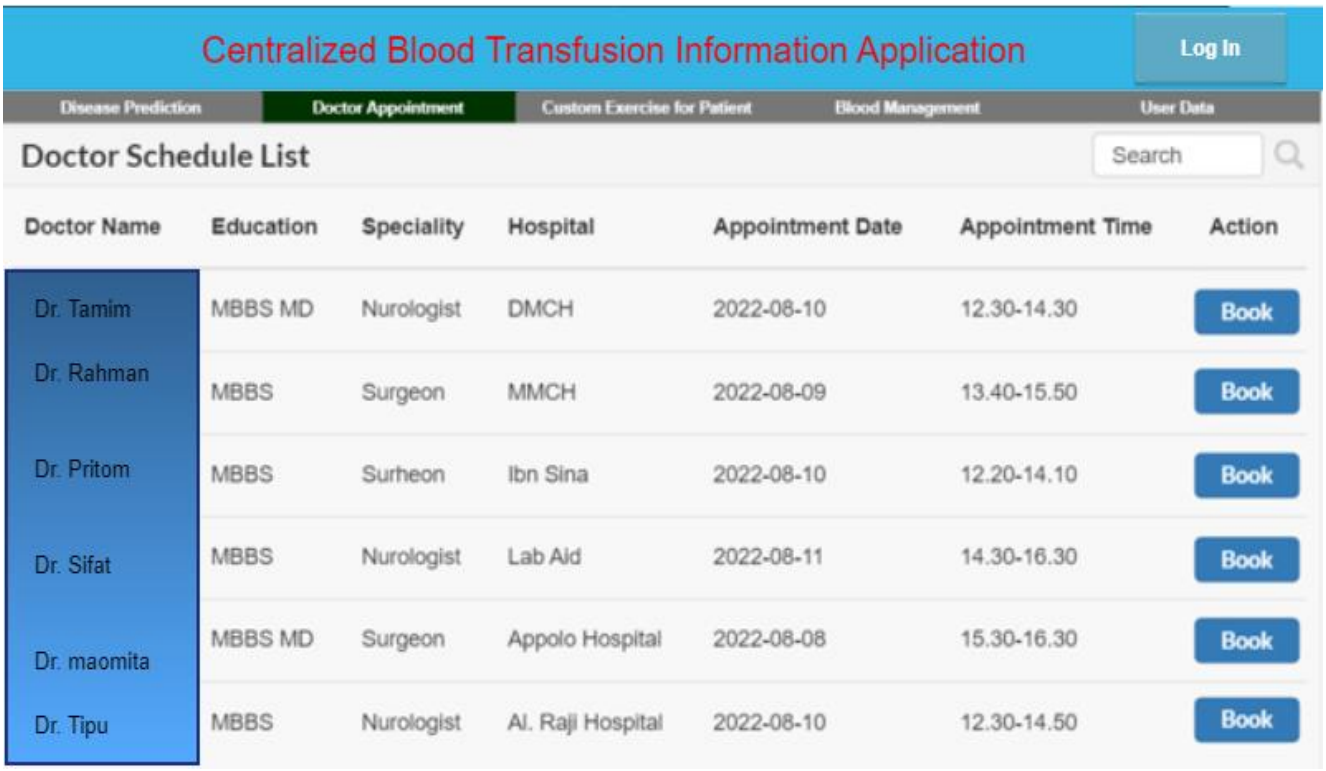
Environment: Adaptive Environment.

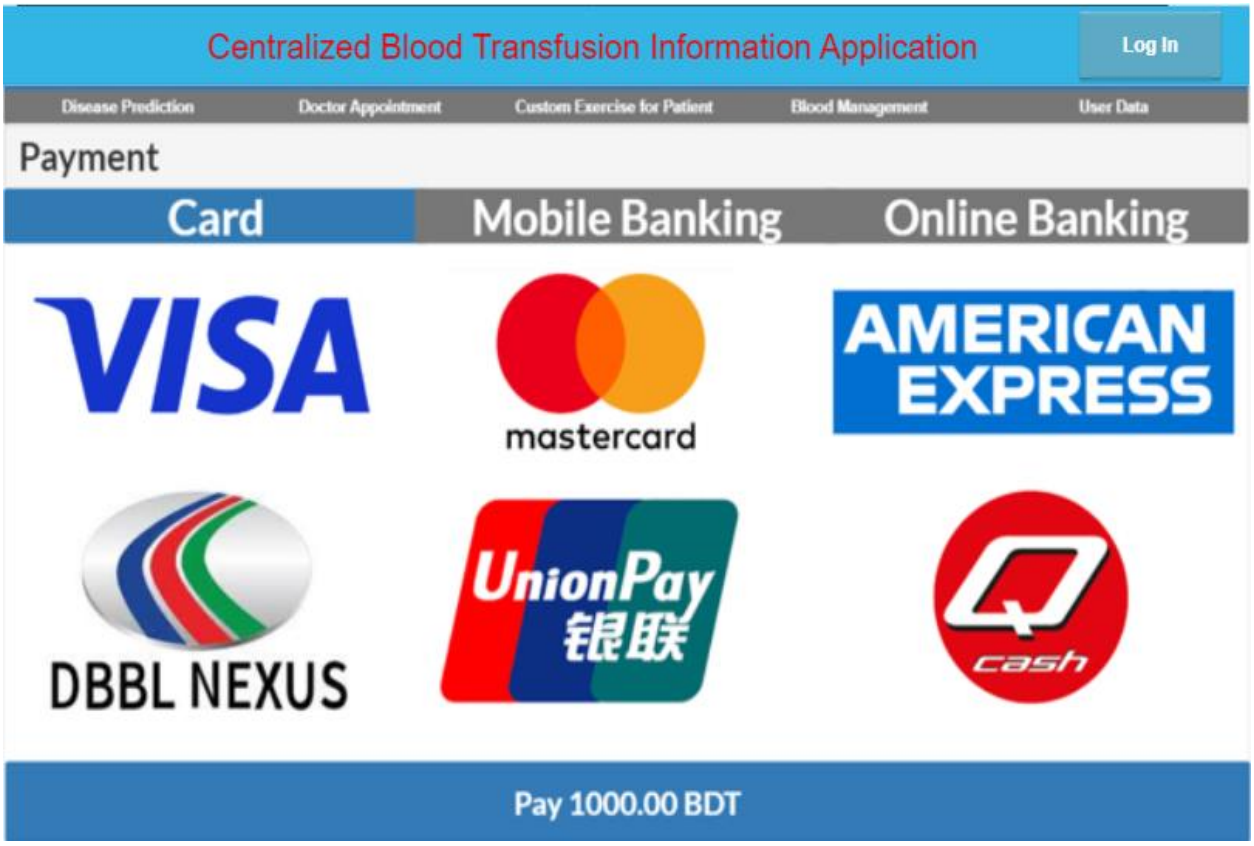
2. SYSTEM DESIGN SPECIFICATION

2.1 UI/UX Design




Centralized Blood Transfusion Information Application
Log In
Disease Prediction
Doctor Appointment
Custom Exercise for Patient
Blood Management
User Data
Blood Pressure
SYS (mmHg) / DIA (mmHg)
Pulse
PUL / min
Symptoms
Search
Select
Symptoms
Duration (Days)
Disease State
Fever
Cough
Allergy
Headache
Diarrhea
Chest Pain
Select
Submit


Centralized Blood Transfusion Information Application
Log In
Disease Prediction
Doctor Appointment
Custom Exercise for Patient
Blood Management
User Data
Doctor Schedule List
Search
Doctor Name
Education
Speciality
Hospital
Appointment Date
Appointment Time
Action
Dr. Tamim
MBBS MD
Nurologist
DMCH
2022-08-10
12.30-14.30
Book
Dr. Rahman
MBBS
Surgeon
MMCH
2022-08-09
13.40-15.50
Book
Dr. Pritom
MBBS
Surheon
Ibn Sina
2022-08-10
12.20-14.10
Book
Dr. Sifat
MBBS
Nurologist
Lab Aid
2022-08-11
14.30-16.30
Book
Dr. maomita
MBBS MD
Surgeon
Appolo Hospital
2022-08-08
15.30-16.30
Book
Dr. Tipu
MBBS
Nurologist
Al. Raji Hospital
2022-08-10
12.30-14.50
Book


Centralized Blood Transfusion Information Application
Log In
Disease Prediction
Doctor Appointment
Custom Exercise for Patient
Blood Management
User Data
Payment
Card
Mobile Banking
Online Banking
VISA
mastercard
AMERICAN EXPRESS
DBBL NEXUS
UnionPay 银联
Q cash
Pay 1000.00 BDT

3. SYSTEM TEST PLAN

Project Name: Centralized Blood Transfusion Information Application		Test Designed by: Dr. Tipu.		
Test Case ID: FR_1		Test Designed date: 06-Dec-2022		
Test Priority: High		Test Executed by:		
Module Name: Disease prediction		Test Execution date:		
Test Title: Verify diseases prediction by suggesting doctor.				
Description: Blood test Before donation.				
Precondition: The user must accurately enter all required information in the disease prediction page.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the Donor Suggestion option. 2. Enter Blood pressure and pulse. 3. Check option of symptoms. 4. Check required data of medical background. 5. Select on chosen Blood donor. 6. Click on submit.	Blood pressure:120/80 Pulse: 70 Platelets: **High** White Blood cell: **High.** Other Diseases: **No**.	The interface should suggest some donors According to the requirement.		

Project Name: Centralized Blood Transfusion Information Application		Test Designed by: Md. Tamim Rahman		
Test Case ID: FR_2		Test Designed date: 06-Dec-22		
Test Priority: Medium		Test Executed by:		
Module Name: Doctor Appointment		Test Execution date:		
Test Title: Verified Doctor Appointment				
Description: Test web Doctor Appointment				
Precondition: The user needs to log in to the system.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to website and click on doctor appointment. 2. Click on search option. 3. Type a doctor's name or select from suggested doctors list. 4. Check doctors name, specialty, appointment date, hospital name, available time. 5. Click on book option.	**For search option-** Doctor's name: Dr. Tamim, Neurologist Action: **Click on Book**	Go to payment option successfully.		
Post Condition: This user's time slot will be reserved on database.				

Project Name: Centralized Blood Transfusion Information Application		Test Designed by: Nuri		
Test Case ID: NFR_1		Test Designed date: 06-Dec-22		
Test Priority: High		Test Executed by:		
Module Name: Maintainability		Test Execution date:		
Test Title: Verify the responsiveness of System to solve problem within 3 hours				
Description: Test if system can solve the problem within 3 hours.				
Precondition: User must Login with valid username and password.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to the application and login. 2.Click on Doctor's appointment. 3. click on Book for taking appointment of a doctor.	**For search option-** Doctor's name: Dr. Tipu Action: **Click on Book**	Doctor's appoinment problem should be solved within 2 hours or less.		
Postcondition: N/A				

Project Name: Centralized Blood Transfusion Information Application		Test Designed by: Abu Shaleh Md. Kaium		
Test Case ID: NFR_2		Test Designed date: 06-Apr-2022		
Test Priority: High		Test Executed by:		
Module Name: Availability		Test Execution date:		
Test Title: Verify the availability of the system				
Description: Test the availability of the system between 8:00 a.m. to 8:00 p.m.				
Precondition: User must login to the system				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website and click on Donor Suggestion option. 2. Use the system from 8:00 a.m. to 8:00 p.m. For 10000 times with automated software.	Blood pressure:120/80mmHg Pulse: 70 Platelets: **High** White Blood cell: **High.** Other Diseases: **No**.	The system must be 99% available between 8.00 a.m. and 8:00 p.m. local time		

4. PROJECT MANAGEMENT PLAN

4.1 Project Scheduling

Weeks / Person	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A. Tamim																
B. Shahadul																
C. Mowmita																
D. Emamuzzaman																
E. Nuri																
F. Tamim																
G. Shahadul																
H. Mowmita																
I. Emamuzzaman																

Activity Key:

A. Overall design.
B. Specify login and registration module.
C. Specify doctor's appointment module.
D. Specify Blood donor suggestion module.
E. Code login and registration module.
F. Code blood donor appointment module.
G. Integration testing.
H. System testing.

4.2 Risk Analysis

Risks	**Category**	**Probability**	**Impact**
Size estimates could be significantly off	PS	40%	2
The delivery deadline will be pushed back	BU	60%	3
Inadequate tools	DE	30%	3
Inexperienced employees	ST	31%	4
Less reuse than expected	TE	50%	1
Changes in specifications	PS	20%	3

Impact Values

1. Critical.
2. Catastrophic.
3. Marginal.
4. Negligible.