King Abdullah || School of Information Technology

student medical services system

Project Team Member	
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1.0 Introduction:

1.1 Project Overview

Students of Jordan University going to the Jordan University Hospital are facing several problems regarding viewing the results Blood Laboratory and taking it to the concerned clinic that they want ,don't provide the doctor an online communication with the student ,and no service of rescheduling a new medical referrals date . And because of this situation, it was necessary to facilitate a website "Medical Student Services" that offers various kinds of medical services.

1.2 The purpose of the Project

problem definition: The problem with the current Jordan University Hospital website that they don't provide the student an online lab medical result and don't have a process of directly sending the clinic the result , no online chatting with the doctor , and they cant rescheduling a new medical referrals date .

Issues with exiting systems**:**

1. 1.wasting patients time checking whether the result came out or not
2. paying a lot of transportation costs
3. no direct connection between the hospital lab and the clinics in the hospital.
4. waste of paper

Objectives: The objective of this proposal is to design, develop, and implement a website that provides medical services for the patients giving them the access to view and download and show the lab online results online to help avoid the waste of the students time and to reduce the **paper use** in our everyday lives .

1.3 The Scope of the Work and Project Deliverables

business requirements: The system must be user-friendly , secure for students .The system must be easy and must provide the ability of dealing with accurate numbers and medical terms for people working in the laboratory section .

Constraints: The constraints are that we need to pay attention to that the development must not exceed 15,000JD, and the system must be ready before 14/12/2022.

solution alternatives and the proposed solution (i.e., new system, enhancing existing system): The website is an enhancement of the Jordan University Hospital existing system that instantly give the lab access to put the medical results for student when they enter the students id and send it all the way to the clinic , and access for the doctor side that have an online feature that allows them to communicate and answer the student questions .

1.4 Naming Conventions and Definitions

University ID= email of the student or doctor

Result = the pdf that is uploaded by the Blood Laboratory of the JORDAN University Hospital

Available dates =the new medical referrals dates of the hospital clinics

2.0 Project Management plan

2.1 Project Organization

Jordan university hospital and university of Jordan Clinic

2.2 Software Process Model

We will use Systems Development Life Cycle (SDLC) for the system development process because There are adequate resources and time to complete in addition, we will use extensive planning and diagramming.

2.3 Roles and Responsibilities

We will develop a plan for change that will make it easier for both the patient and the doctor to communicate with each other, and we will be interested in explaining the software to them to facilitate this change. We will also motivate them to use the new system by presenting its advantages in terms of ease of handling, the facilities it provides, and so on.

We will make sure to know and respect the real organizational culture.

In addition to the selection of hardware and computer software suitable for our idea

2.4 Tools and Techniques

We will use CASE tools to increase productivity and improve communication between us and the user such as system diagrams and models tools and project management tools.

Some cost-benefit comparison techniques will be used to calculate tangible costs such as:

- Break-even analysis
- Payback
- Cash-flow analysis
- Present value analysis

2.5.n Project Tasks

2.5.n.1 Task Description

Analysis phase: includes **data gathering**, it's tasks about conduct interviews, read company reports, introduce prototype, and observe; **data flow and decision analysis** its tasks about analyze data flow. The last **proposal preparation**; and the about perform cost-benefit analysis.

Design: design procedures for data entry and design the human-computer interface.

Implementation: design database, implement GUI and implement database

2.5.n.2 Deliverables and Milestones

T1: Conduct interview **(2 days)** **none**

T2: Administer questionnaire **(3 days)** **T1**

T3: Read company reports **(2 day)** **none**

T4: Introduce prototype **(4 days)** **T1, T2**

T5: Observe reactions of prototype **(2 days)**	**T4**
T6: analysis data flow **(6 days)**	**T2, T3**
T7: preform cost-benefit analysis **(2 days)**	**T6**
T8: Prepare proposal **(2 days)**	**T5, T7**
T9: present proposal **(1 day)**	**T8**
T10 design procedures for data entry. **(3 days)**	**T9**
T11: design the human-computer interface **(4 days)**	**T10**
T12: design database **(2 days)**	**T10**
T13: GUI Design**(2 days)**	**T11**
T14: implement GUI **(1 day)**	**T12**

2.5.n.3 Resources needed (Skills, HW and SW)

Skills:

- Good Web developer
- Good Web designer
- Database manager
- Improving skills

Hardware:

- Computer/PC with:
  - CPU: 4 cores
  - Memory (RAM): 8 GB RAM or more

Software:

- Operating system: Windows 10/11, MacOS 10.15+
- Program: notepad++ or any other program that supports languages(HTML, CSS, JavaScript)

2.5.n.4 Dependencies and Constraints

- The website must oblige to the local laws and regulations
- Development costs must not exceed 2000 JD.
- The website must be delivered by 14. Jan.2023

2.6 Assigning Team Members to Tasks & 2.7 Project Schedule (Gantt chart and PERT diagram)

Process Name			Duration Time (day)	Responsibility	Dependency
Analysis	Data gathering	Conduct interviews	2	Monia & Hiba	**none**
		Administer questionnaires	3	Monia & Hiba	**T1**
		Read company reports	2	Jumana	**none**
		Introduce prototype	4	Monia	**T1&T2**
		Observe reactions to prototype	2	Yara	**T4**
	Data flow and decision analysis	Analyze data flow	6	Yara	**T2&T3**
	Proposal preparation	Perform cost-benefit analysis	2	Yara & Jumana	**T6**
		Prepare proposal	2	Yara	**T5&T7**
		Present proposal	1	Monia & Hiba	**T8**
Design	Design procedures for data entry		3	Yara	**T9**
	Design the human-computer interface		4	Monia	**T10**
	Design database		2	Hiba	**T10**
Implementation	GUI Design		2	Monia	**T11**
	Implement GUI		1	Monia	**T12**

Table 1 : project schedule

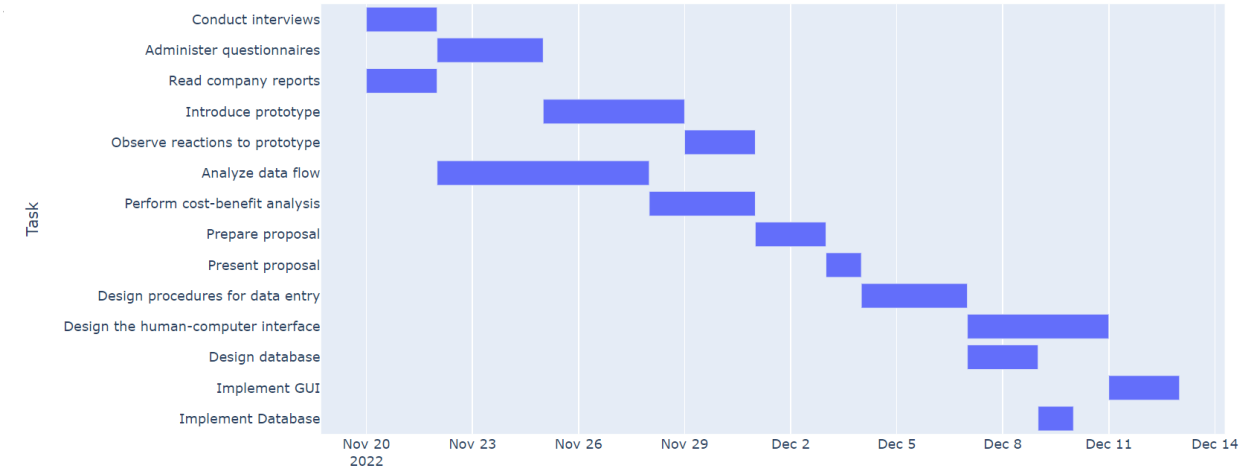


Figure 2: GANTT Chart

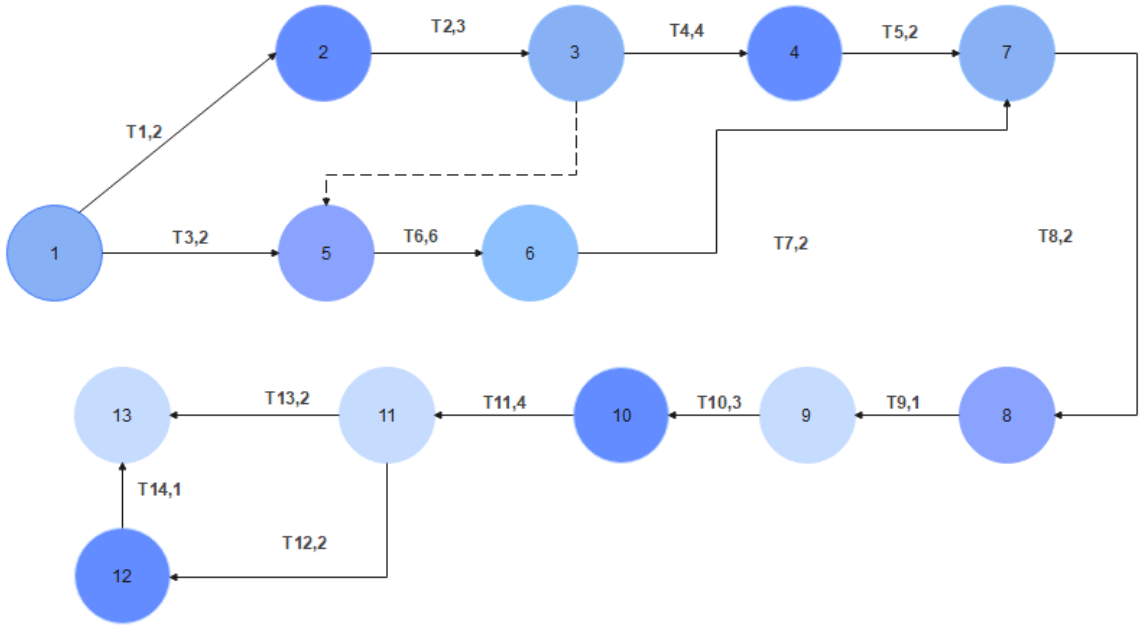


Figure 1 : PERT diagram

2.8 Monitoring and Controlling Mechanisms (EVM and Schedule Expediting)

Activity	Estimated Duration	Crash Time	Cost/Day ($)
T1	2	1	**800**
T2	3	1	**500**
T3	2	2	**400**
T4	4	2	**1000**
T5	2	1	**1000**
T6	6	4	**800**
T7	2	1	**700**
T8	2	1	**400**
T9	1	1	**600**
T10	3	2	**900**
T11	4	2	**600**
T12	2	2	**700**
T13	2	2	**800**
T14	1	1	**1000**

Table 2 :Schedule Expediting

Eligible Activates	Activity chosen	Time for Each Path (26) 25 23 23 23 22	Cost ($)	Cumulative Cost ($)
T1, T2, T6, T7, T8, T10 or T11	T8	(25) 24 22 22 22 21	400	**400**
T1, T2, T6, T7, T10 or T11	T2	(24) 23 21 21 22 21	500	**900**
T1, T2, T6, T7, T10 or T11	T2	(23) 22 20 20 22 21	500	**1400**
T1, T6, T7, T10 or T11	T11	(22) 21 19 19 21 20	600	**2000**
T1, T6, T7, T10 or T11	T11	(21) 20 18 18 20 19	600	**2600**
T1, T6, T7, T10 or T11	T11	(20) 19 17 17 19 18	600	**3200**
T1, T6, T7 orT10	T7	(19) 18 17 17 18 17	700	**3900**
T1, T6 orT10	T1	(18) 17 16 16 (18) 17	800	**4600**
T6 orT10	T6	(17) 16 16 16 (17) 16	800	**5400**
T6 orT10	T6	(16) 15 (16) (16) (16) 15	800	**6200**
Project time was speeded up to end with 16 days instead of 26 days and it was required 6200$				

Table 3: : Expediting to require project time

At the end of	Stage	Estimated cost	Cumulative estimate	Estimated duration	Stage completed	Actual cost of stage to date ($)	Actual cost of project to date ($)
Week 1	Stage 1	5000$	5000$	1 week	100%	5000	5000
Week 2	Stage 2	7000$	12000$	1 week	100%	7000	12000
Week 3	Stage 3	2000$	14000$	1 week	50%	1000	13000
Week 4	Stage 4	1000$	15000$	1 week	0%	Not yet begun	Not yet begun

Table 4:EVM

P = (100 + 100 + 50) / (100 + 100 + 100) = 0.833

EV = PV * P

14000$ * 0.83 = 11662$

In stage 3:

CV = EV – AC

11662$ - 13000 = -1338$

SV = EV – PV

11662$ - 14000 = - 2338$

CPI = EV / AC

11662$ / 13000 = 0.897

SPI = EV / PV

11662$ / 14000 = 0.833

ETC = (BAC – EV) / CPI

(1500$ - 11662$) / 0.897= 3721.29

EAC = AC + ETC

14000 + 3721.29= 17721.29

2.9 Risk Analysis and Plans (use Fishbone diagram)

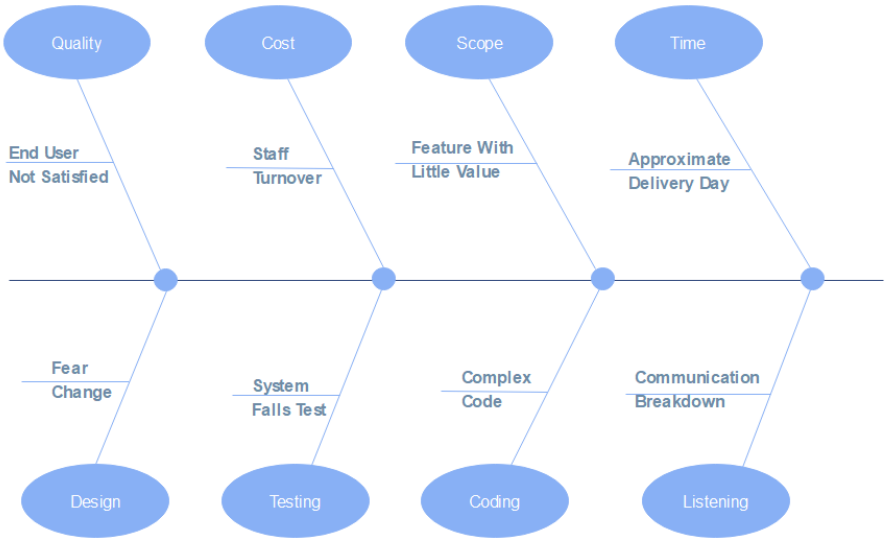


Figure 3: Fishbone

2.10 Local and Global Impact of the Proposed Solution

A local impact at the level of the university of Jordan and Jordan University Hospital, and the system may be sold to be used in other universities.

3.0 Feasibility Study

3.1 Technical Feasibility

Laboratory track system website is easy to develop, to maintain and to be updated by our staff in a way that meets the possible requests ever. The software and hardware needed for the development already exists and can benefit from existing tools.

3.2 Operational Feasibility

Laboratory track is operationally, well proposed feasible system that solves the problem patients face. The front-end content and design layouts on the website are straightforward and friendly to use to make patients and anyone else using the website satisfied with the system.

3.3 Economic Feasibility

Development costs

- **Personnel:**

Number	Employee	Cost per hour ($)	Total hour	Total cost per hour ($)
4	System Analysts	40	480	19200
3	designer	40	120	4800
4	programmer	50	240	12000
2	HCI specialist	25	96	2400
1	Database Specialist	25	24	600
	Total			39000

Table 5: Personnel Development Costs

- **Expenses:**

4	**Smalltalk Training registration**	**(1250$ /trainer)**	**5000 $**

Table 6 : Expense Development Costs

- **Hardware and Software:**

Number	Hardware & software	Cost ($)
1	Cloud services	1500/month
1	hardware	800
1	DBMS server software	2500
Total		4800/month

Table 7: Hardware and Software Development Costs

Total Development Cost: 38504$

Human resources: developer, programmer, software testing and analysts

- **Operating Costs:**

hosting serves	**100$**
Software maintenance	1000$
software testing	1000$
programmer	1500$
total	3600$

Table 8 :Cost-benefit Analysis - Hardware and Software Operating Costs

- **Tangible Benefits:** year (1-3)

Tangible Benefits (1-3) Years	**Cost ($)**
Cost avoidance	4000
Cost reduction (like transportation cost & paper reduction)	6000
Total	**10000**

Table 9: Project Tangible Benefits

- **Intangible Benefits:**

  - Good reputation and image.
  - User satisfaction.
  - Users recommending others to use the website.
  - Time efficiency.

- **Payback Analysis:**

Time	Development Cost	Operating Cost($)	Total
Year 0	28704	0	28704
Year 1	0	3600	3600
Year 2	0	3790	3790
Year 3	0	4000	4000

Table 10: Total of Development and Operating Cost

Year	Cost	Benefits	Discount Factor Discount Rate (10%)	Accumulated cost	Accumulated Benefits	NPV Total
Year 0	28704	0	1	28704	0	-28704
Year 1	3600	**10000**	0.9	32304	9000	-23304
Year 2	3790	20200	0.82	36094	16564	-19530
Year 3	4000	90000	0.75	40049	67500	27451

Table 11:Payback Analysis

Since the present value of accumulated benefits in the third year of operation (67500) exceeds the present value of the accumulated costs (40049), this project has payback period of slightly less than three (3) years.

- **Payback Year =** The third Year
- **Lifetime ROI** = (estimated lifetime benefits - estimated lifetime costs) / estimated lifetime cost

  = (120200 –40094) /40094

  = 1.997954
- **Annual ROI** = Lifetime ROI / Lifetime of The System

  = 1.997954/3

  = 0.66598
- **Net Present Value =** Total Present value of benefits – Total Present value of costs

  = 67500 - 40049 = 27451

3.4 Schedule Feasibility

*** has done in point 2.6&2.7

3.5 Legal Feasibility

This project is legally feasible, as the main issues of the project are within the applicable legal framework.

4.0 Software Requirements Specifications (SRS)

4.1 System Stakeholders and Requirements Sources

Stakeholder	Description
Student clinic	**Save the student's medical history, send a medical referral to Blood Laboratory.**
Blood Laboratory	**Enter the Blood test results**
User	**Is the end-user of our system; Any students or the doctors who wants to access e-service**
System Developer	**Update, maintain and develop programs for the system**

Table 12:Stakeholders

Requirements sources are students, student clinic and Blood Laboratory

4.2 Information Gathering Techniques

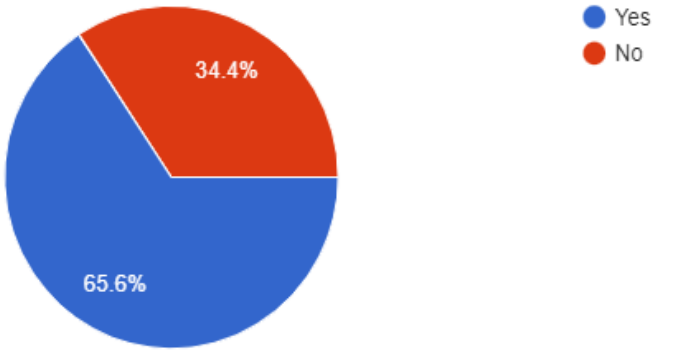
Questionnaire

We asked students if they have ever benefited from the student clinic, and if they are faced any problems with it, so we suggested If There is system includes solutions for all the problems, they are going to use it.

Have you ever benefited from the student clinic?

Copy

32 responses



Would you like a online medical consultation?(e.x Iron dose time)

Copy

32 responses

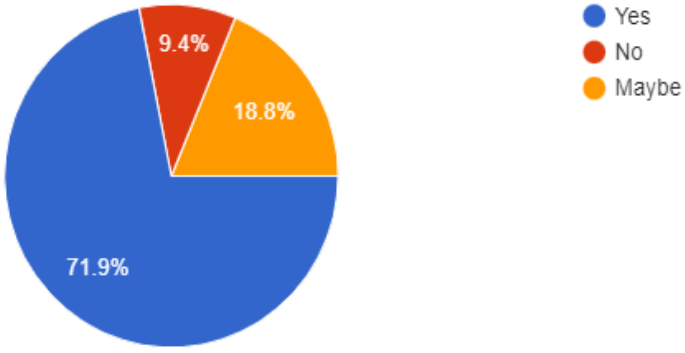
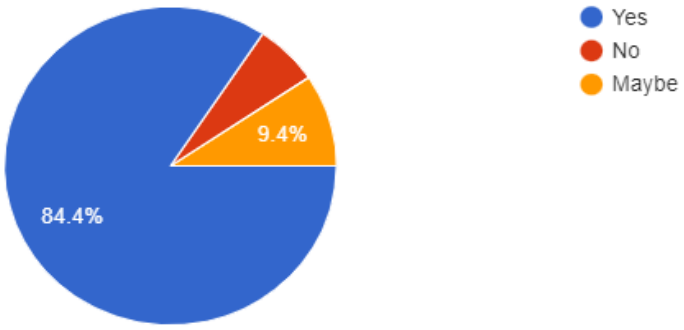


Figure 4: Questionnaire1

Do you need to reschedule your Medical referrals or cancel it without contacting the clinic ?

Copy

32 responses



What is the problems which you are facing when do you go to receive your lab results :

Copy

32 responses

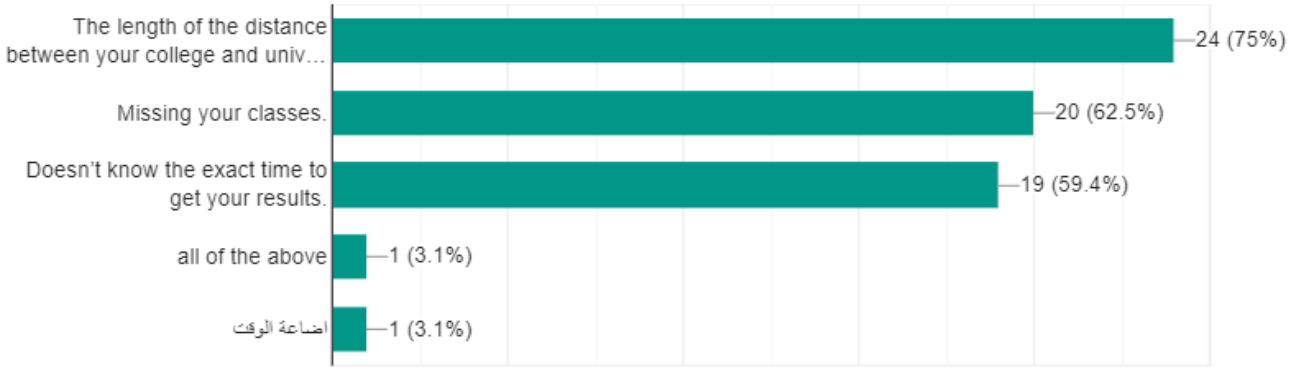


Figure 5:Questionnaire2

If you faced another problems with students clinic please mention it.

4 responses

ورقة التحويل من العيادة الى المستشفى امر مرهق لأنه في تاريخ وبخلص وقتها
وبعض المعاملات بالمستشفى ما بتزبط الا اذا كان عندك الورقه الاصليه فلازم ترجع من المستشفى لعيادة وموعد جديد عشان بس تطلع ورقة تحويل مره تانيه

rarely finding an open reservation hour that fits my breaks

Long wait for my appointment

Waiting long time ,
Not able to meet the physician

If There is system includes solutions for all the problems do you like to use it ?

Copy

32 responses

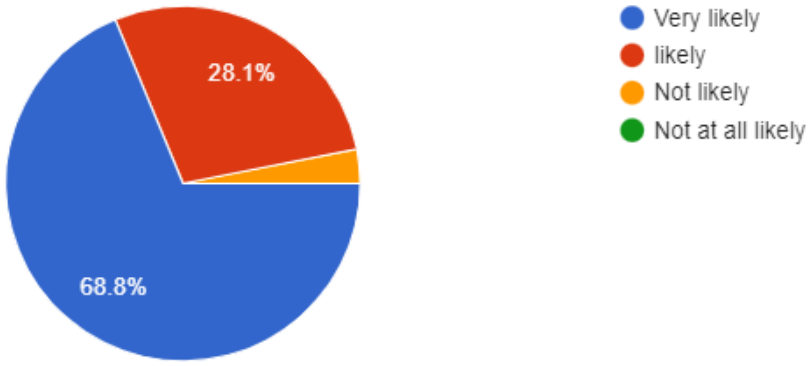


Figure 6: Questionnaire3

Interviews

To increase our information about how the system is supposed to work and how it works currently, we interviewed a medical Doctor, the student clinic's secretary, as well as we interviewed who is responsible about blood test result in the hospital laboratory. After reviewing the whole idea of the system for them and showing the main objectives, these were the answers we got from them:

Q1) What is your opinion of having a platform that allows communication between physicians and the patients students? (Question for the doctor)

I think this useful and saving doctors and student time.

Q2) Do you think that online services for rescheduling appointments and medical referrals is important and effective? (Question for the student clinic's secretary)

Yes, Save the time of students and Secretary and medical staff even the other patients, so its Provide flexibility, and time management.

Q3) Can you allow the students to access the hospital system to be able to view the lab results and medical reports? (Question for IT management Staff)

Yes, I could do that if I got an approval from hospital administration and medical director.

4.2 User Requirement Definition (draw context and use case diagrams)

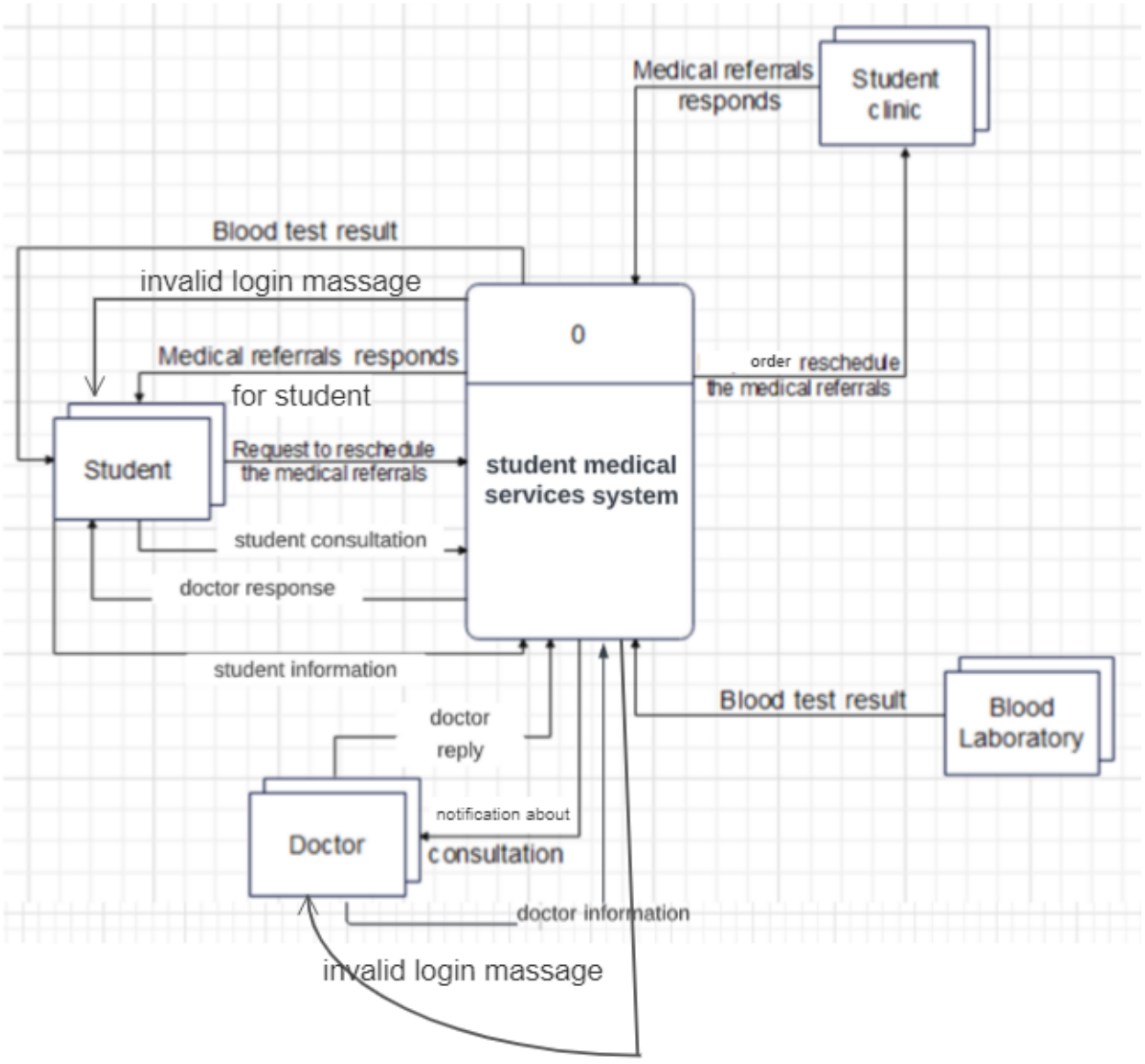


Figure 7: context diagram

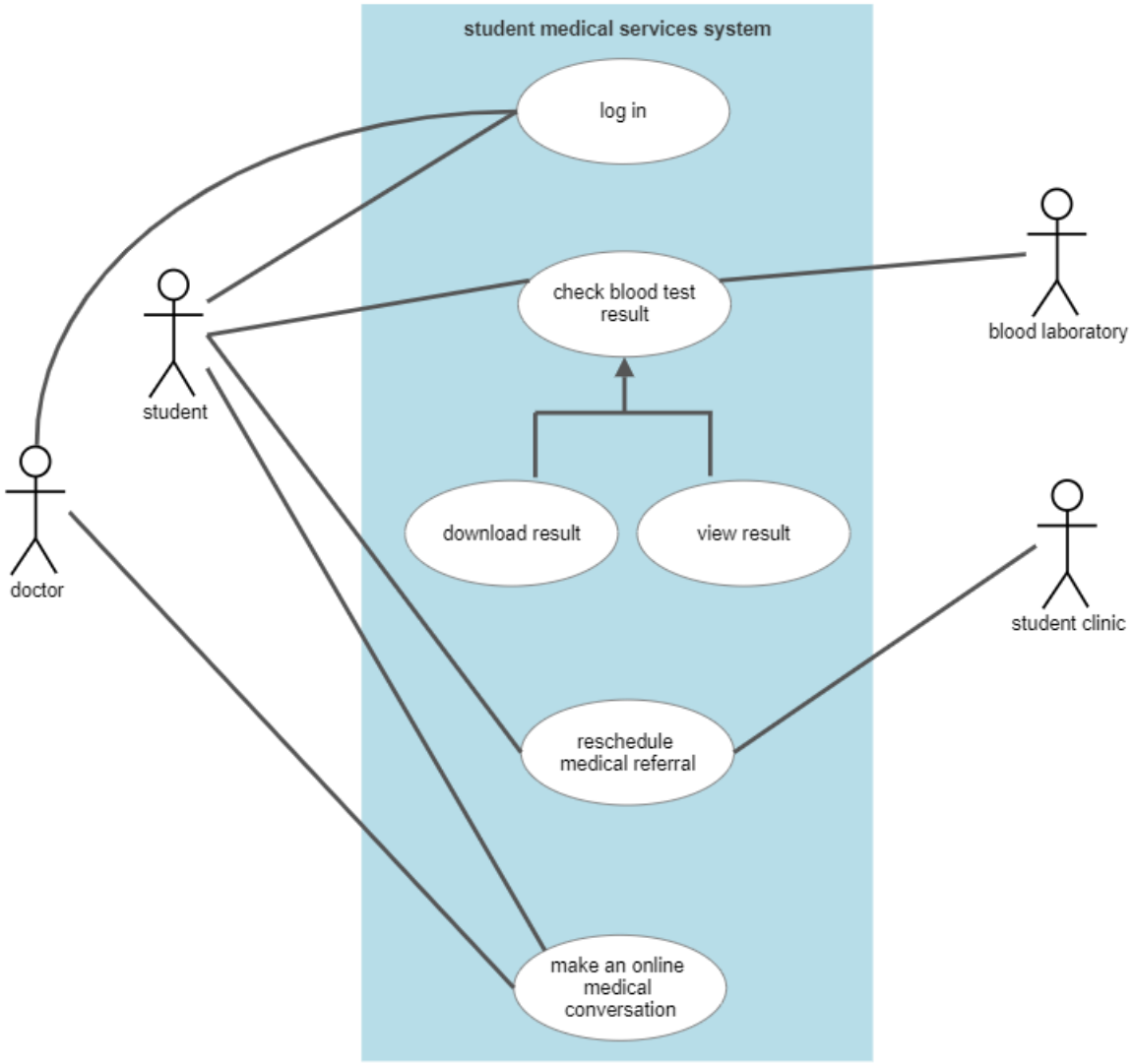


Figure 8: use case diagram

4.3 System Functional Requirement Specifications

Requirement. No	functional requirements	Description
1	Log in	**Student: Log in to the system by the university account** **Doctor: Log in to the system by the university account**
2	Display/view Data	**Student: can see the test blood result, new medical referral data**
3	Upload	**Blood Laboratory: upload the test blood result**
4	Chat	**Student: Doctor consultation** **Doctor: Doctor's response**
5	Improvement	**Developer: Make some changes on the system automated results if its needed. Maintain and upgrade the system.**

4.4 Non-Functional Requirements

Requirement. No	Non-functional requirements	Description
1	Availability	**Stake holders can use it in any time once there is an internet connection and a device.**

2	User friendly	**Clear and understandable buttons, fewer steps, and an easy and simple design**
3	Security	**Only registered students and doctors, Student clinic and Blood Laboratory have access to view info and do actions.**
4	Privacy	**Each student can see only his/her into. All conversions are private**
5	Integrity	**Keeping data contents and structures safe, especially when there are failures.**
6	Reliability	**It works only on the extent of its functions and when requested.**
7	Capacity	**The number of records or data quantities are all factors to consider and can be managed by universities servers.**
8	Efficiency	**Producing or operating the sort with the least amount of time, effort, or biases.**
9	Scalability	**It must be utilized by many students and with a large amount of data.**
10	Robustness	**the system should be able to endure as many errors and defects as feasible without failing.**

4.5 Data Requirements

1. Only University of Jordan students are allowed to use the system (an active university number).
2. Doctors who will use the system must be university employees.
3. The system requires saving files of blood test results in the database, in addition to medical referrals to the University of Jordan Hospital for each student
4. You need to take part of the data base from the University of Jordan to deal with student data and their university accounts

5.0 System Analysis

5.1 DFDs (at least level 1 DFD)

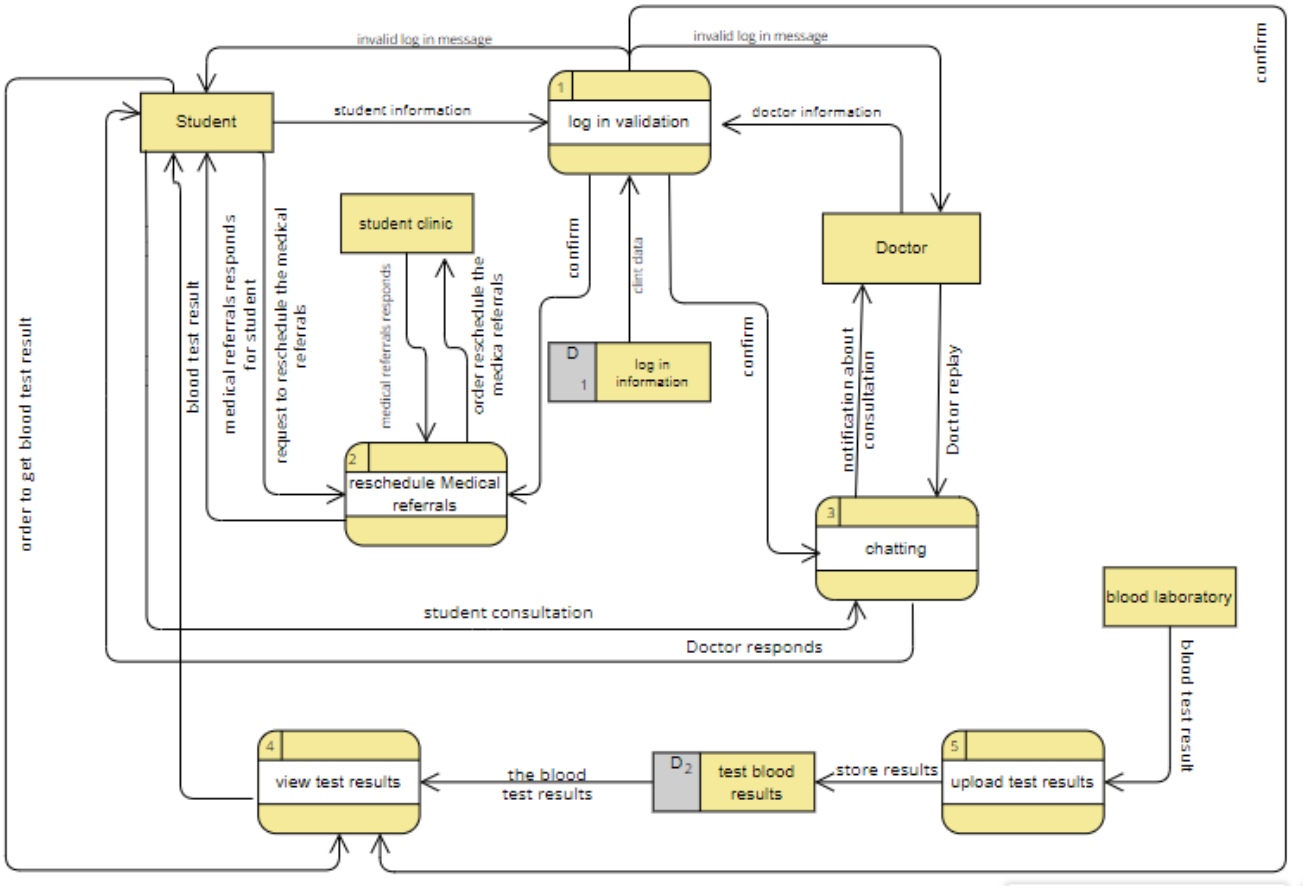


Figure 9: DFD

5.2 Data Dictionaries

ID	DF1
Label	Student information
Name	Log in
Description	Contains student information and it's used to enter to the student clinic system.
Source	Student External Entity
Destination	Process 1, log in validation
Type	Record Entering
Data Structure	student information
Volume/Time	1/life time

Table 13: data flow1

ID	DF2
Label	Requests to reschedule the medical referrals
Name	Medical referrals
Description	Request order to student clinic to reschedule the medical referrals
Source	Student External Entity
Destination	Process 2, reschedule medical referrals
Type	Record Entering
Data Structure	student information
Volume/Time	1/life time

Table 14: DFD 2

ID	DF3
Label	order get blood test results
Name	Display data
Description	The student requests the results of his or her blood tests
Source	Student External Entity
Destination	Process 4, view test result
Type	Record Entering
Data Structure	student information
Volume/Time	1/life time

Table 15: DFD3

ID	DF4
Label	student consultation
Name	chatting
Description	Conversation between the student and his doctor from the clinic, for possible medical consultation and follow-up
Source	Student External Entity
Destination	Process 3, chatting
Type	Record Entering
Data Structure	student information and doctor consultation
Volume/Time	Any time

Table 16: DFD4

ID	DF5
Label	order reschedule the medical referrals
Name	Medical referrals
Description	Request to extend the medical referrals
Source	Process 2, medical referrals
Destination	Student clinic External entity
Type	Report
Data Structure	Approval or rejection
Volume/Time	1/lifetime

Table 17: DFD 5

ID	DF6
Label	Doctor replay
Name	chatting
Description	Conversation between the student and his doctor from the clinic, for possible medical consultation and follow-up
Source	Doctor External Entity
Destination	Process 3, chatting
Type	Record Entering
Volume/Time	Any time

Table 18: DFD6

ID	DF7
Label	Blood test results
Name	Test results
Description	Blood testing laboratories upload and store the results for each student
Source	Blood laboratories External Entity
Destination	Process 5, upload test results
Type	Reports
Data Structure	Test results information

Volume/Time	Any time

Table 19: DFD7

ID	**DF8**
Label	Medical referrals respond
Name	respond
Description	Send approval or rejection of the increase in the period of medical referrals
Source	Process 2, reschedule medical referrals
Destination	student External Entity
Type	Approval or rejection
Data Structure	Report
Volume/Time	1/lifetime

Table 20: DFD 8

ID	**DF9**
Label	Medical referrals respond
Name	respond
Description	Send approval or rejection of the increase in the period of medical referrals
Source	Student clinic External Entity
Destination	Process 2, reschedule medical referrals
Type	Approval or rejection
Data Structure	Report
Volume/Time	1/lifetime

Table 21: DFD9

ID	**DF10**
Label	Doctor responds
Name	chatting
Description	The doctor's response to the student
Source	Process 3, chatting
Destination	student External Entity
Type	Conversation
Data Structure	Doctor consultation
Volume/Time	Any time

Table 22: DFD10

ID	DF11
Label	Blood test results
Name	Display data
Description	The required student examination results appear
Source	Process 4, view test results
Destination	Student External Entity
Type	Report
Data Structure	Test results information
Volume/Time	-

Table 23: DFD11

ID	DF12
Label	Notification about consultation
Name	chatting
Description	Alert that there is a message from the student to conduct the conversation
Source	Process 3, chatting
Destination	Doctor External Entity
Type	Alert/ notification
Data Structure	Short message
Volume/Time	Any time

Table 24:DFD12

ID	DF13
Label	Confirm
Name	Confirm
Description	Log in correctly
Source	Process 1, log in validation
Destination	Process 3, chatting
Type	Internal
Data Structure	Enter system
Volume/Time	---

Table 25:DFD13

ID	DF14
Label	Confirm
Name	Confirm
Description	Log in correctly
Source	Process 1, log in validation
Destination	Process 2, reschedule medical referrals
Type	Internal
Data Structure	Enter system
Volume/Time	---

Table 26: DFD14

ID	DF15
Label	Confirm
Name	Confirm
Description	Log in correctly
Source	Process 1, log in validation
Destination	Process 4, view test results
Type	Internal
Data Structure	Enter system
Volume/Time	---

Table 27: DFD15

ID	DF16
Label	The blood test results
Name	Results
Description	It includes fetching the results from their saved location and displaying them upon request
Source	Data store, test blood results
Destination	Process 4, view test results
Type	report
Data Structure	information
Volume/Time	..

Table 28:DFD 16

ID	DF17
Label	Clint data
Name	data
Description	Information about who enter system
Source	Data store, log in information
Destination	Process 1, log in validation
Type	record entering
Data Structure	data
Volume/Time	--

Table 29: DFD 17

ID	DF18
Label	Store results
Name	storing
Description	Store results from the laboratory after uploading them to the system
Source	Process 5, upload test blood results
Destination	Data store, test blood results
Type	Report
Data Structure	information
Volume/Time	---

Table 30: DFD 18

ID	DF19
Label	Doctor information
Name	Log in
Description	Contains doctor information and it's used to enter to the student clinic system.
Source	doctor External Entity
Destination	Process 1, log in validation
Type	Record Entering
Data Structure	student information

Volume/Time	1/lifetime

Table 31: DFD19

ID	**DF20**
Label	Invalid log in message
Name	Log in message
Description	A message to the student in case the data does not match and the inability to enter the system
Source	Process 1, log in validation
Destination	Student external entity
Type	Record Entering
Data Structure	information
Volume/Time	---

Table 32: DFD 20

ID	**DF21**
Label	Invalid log in message
Name	Log in message
Description	A message to the student in case the data does not match and the inability to enter the system
Source	Process 1, log in validation
Destination	Doctor external entity
Type	Record Entering
Data Structure	information
Volume/Time	---

Table 33: DFD 21

Data structure:

student information =
student Name +
student university number +
The date of the clinic visit

Doctor information = Doctor university number +
The date of student clinic visit +
The date of student test blood

Structural records:

student university number = student id

student Name = first name + (middle name) + last name

The date of the clinic visit = day + month + year

The date of test blood = = day + month + year

Element:

Element	Length	Data Type
First Name	12	Text
Last Name	15	Text
Email	20	varchar
id	7	int
Date	20	varchar

Table 34:element

Data element:

ID	E1
Name	Student university Number
Alias	Student ID
Alias	Id_no.
Description	University student number
Length	7
Input format	9(7)
output format	9(7)
Default value	
Continues / Discrete	Continues
Type	Int
Base or derived	Base
Upper Limit	7

Lower Limit	
Discreet	Meaning

Table 35: data element

Data store:

ID	**D1**
Name	Test blood result
Alias	Test results Database
Description	It includes all the tests that the student conducted in the blood test laboratory, so that the results are downloaded/stored on an up-to-date basis
File type	computer
File format	Database
Record size	100
Maximum records	45,000
Average records	40,000
Percent Growth/year	14%
Data set/Table name	student
Copy member	student
Data Structure	student Information
Primary key	Student university Number

Table 36: data store1

ID	**D2**
Name	Log in information
Alias	Log in - Database
Description	It includes all the information entered by the student, through which the doctor can access the rest of his information
File type	Computer
File format	Database
Record size	100
Maximum records	45,000
Average records	40,000
Percent Growth/year	14%
Data set/Table name	student
Copy member	student
Data Structure	student Information
Primary key	Student university Number
Secondary key	Student university email

Table 37: data store 2

5.3 Process Specification and Structured Decision Analysis

Log-in (return-confirm-or-deny, doctor-information, student-information) invalid-log-in, confirm

IF student and doctor student-information, return-confirm-or-deny, doctor-information are available

PRODUCE confirms

Else GENERATE invalid-log-in to both student and to the doctor;

Upload-test-results(blood-test-result) store-results

If blood tests results blood-test-result from the Blood Laboratory

are ready and available

then PRODUCE store-results to the test blood results;

reschedule-Medical-referrals (request-to-reschedule-the-medical-referrals,medical-referrals-responds ,confirm)medical-referrals-responds-to-the-student,requested-order-reschedule

If the student confirms and request-to-reschedule-the-medical-referrals

then PRODUCE request-to- reschedule-the-medical-referrals,

and if medicals-referrals-responds came from the student clinic

then GENERATE medical-referrals-responds-to-the-student;

View-test-results(the-blood-test-results, order-to-get-blood-test-result, confirm)blood-test-result

If the student who is confirmed from the log in confirm and the student order-to-get-blood-test-result asked to view the results and the results the-blood-test-results was uploaded

then PRODUCE blood-test-result to the student;

chatting(student-consultation ,doctor-replay)notification-about-consultation ,doctor-responds

If the student student-consultation wanted

to chat with a specific doctor

then GENERATE notification-about-consultation to the doctor,

and if the doctor doctor-replay responded

then PRODUCE doctor-responds and send it to the student;

- **If students information is not available:**

  Can’t log in

- **If Doctor’s information is not available:**

  Can’t log in

- **If there is no medical referrals in the Student clinic**

  Student can’t reschedule

- **If Blood Laboratory don’t have the result ready**

  Student can’t download or view the result

5.4 ERD analysis

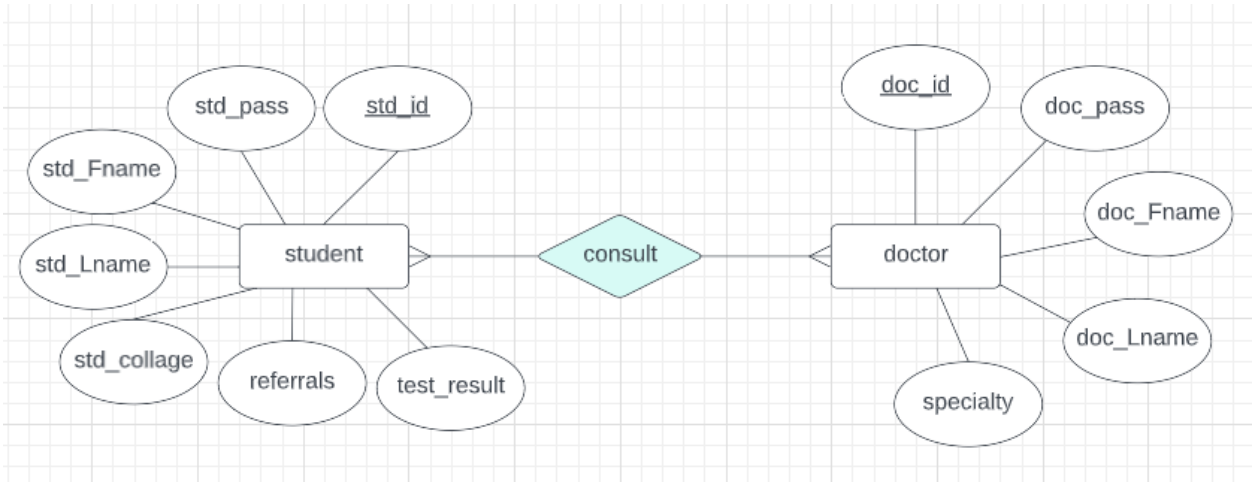
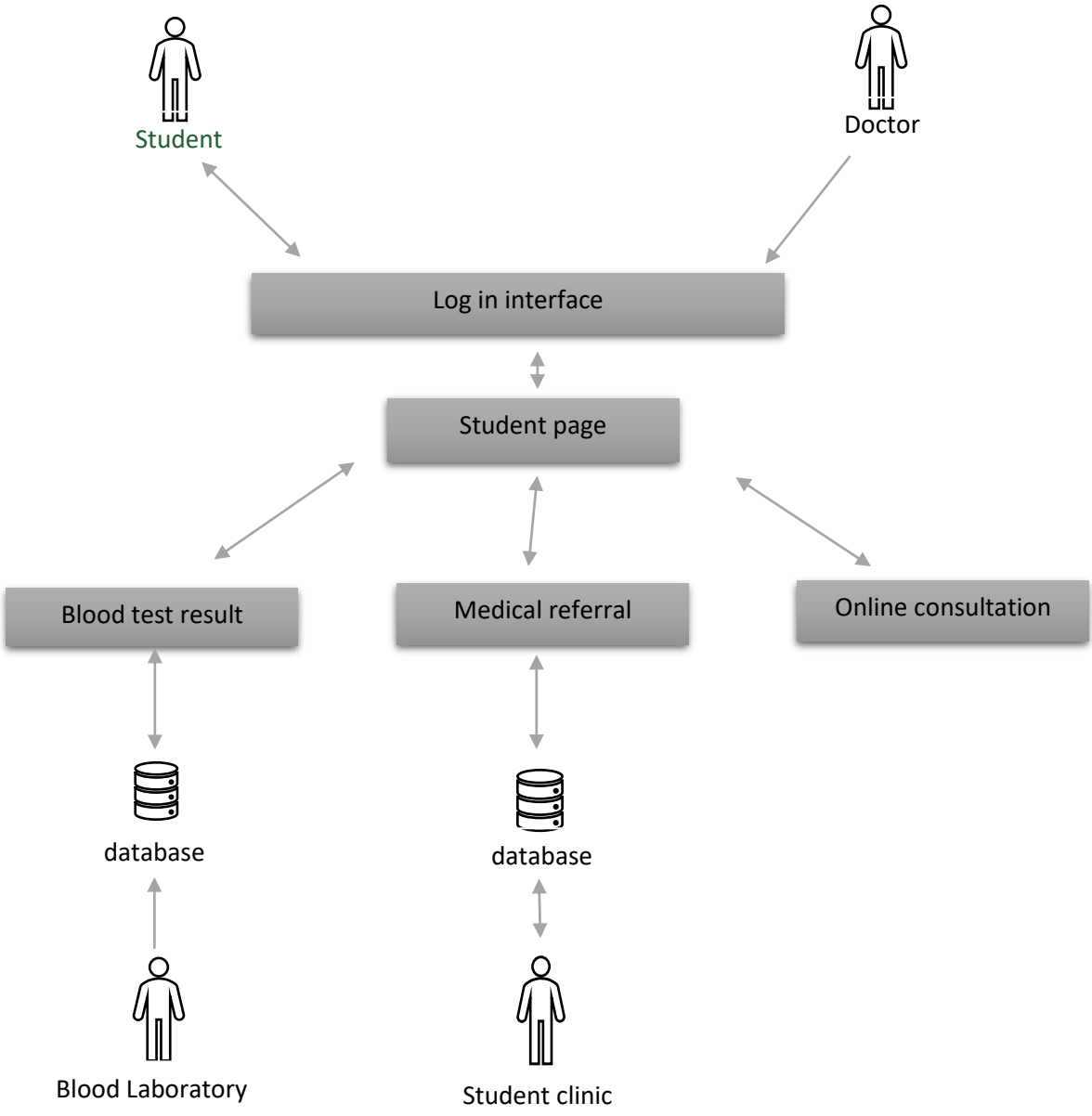


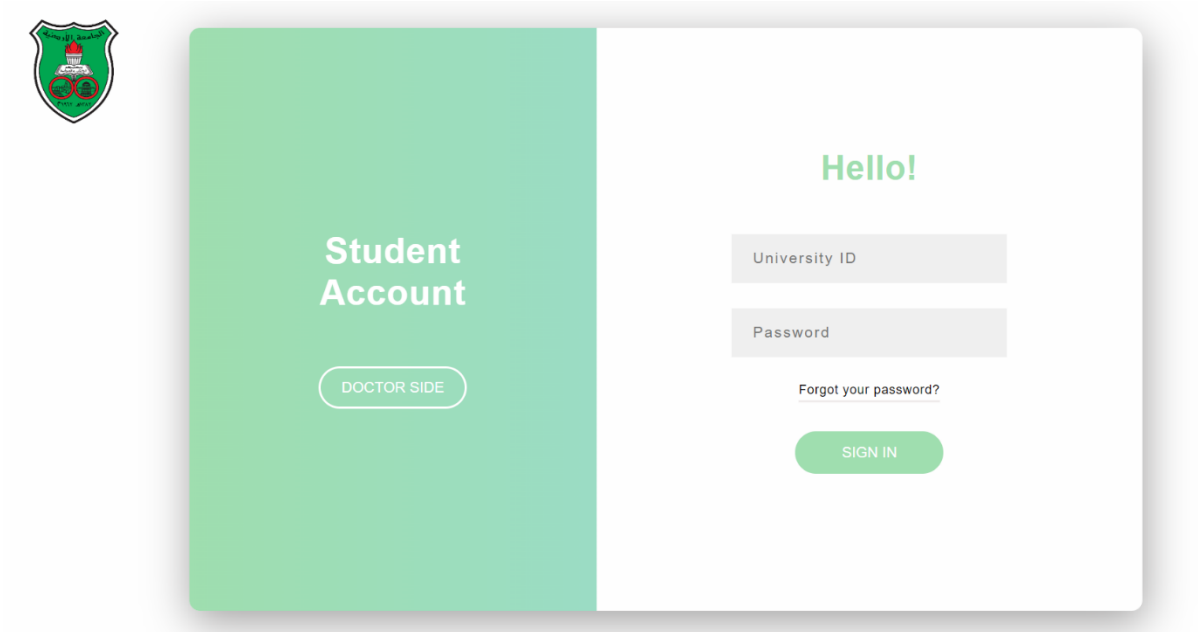
Figure 10: ERD

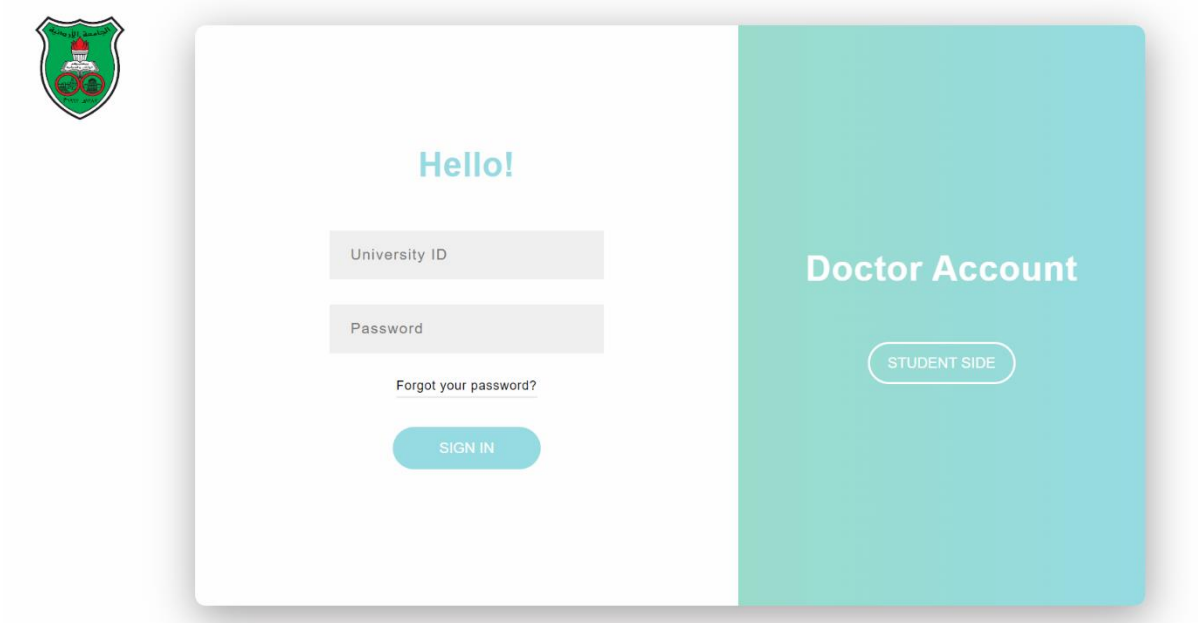
6.0 System Design

6.1 Architecture Design

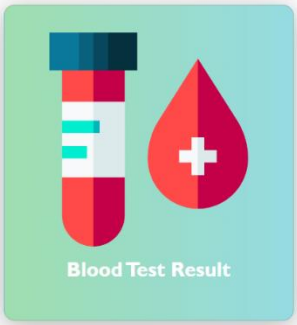


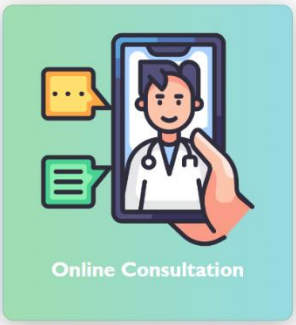
6.2 Graphical User Interface Design (input and output design including forms and reports)





Services





Reach at..

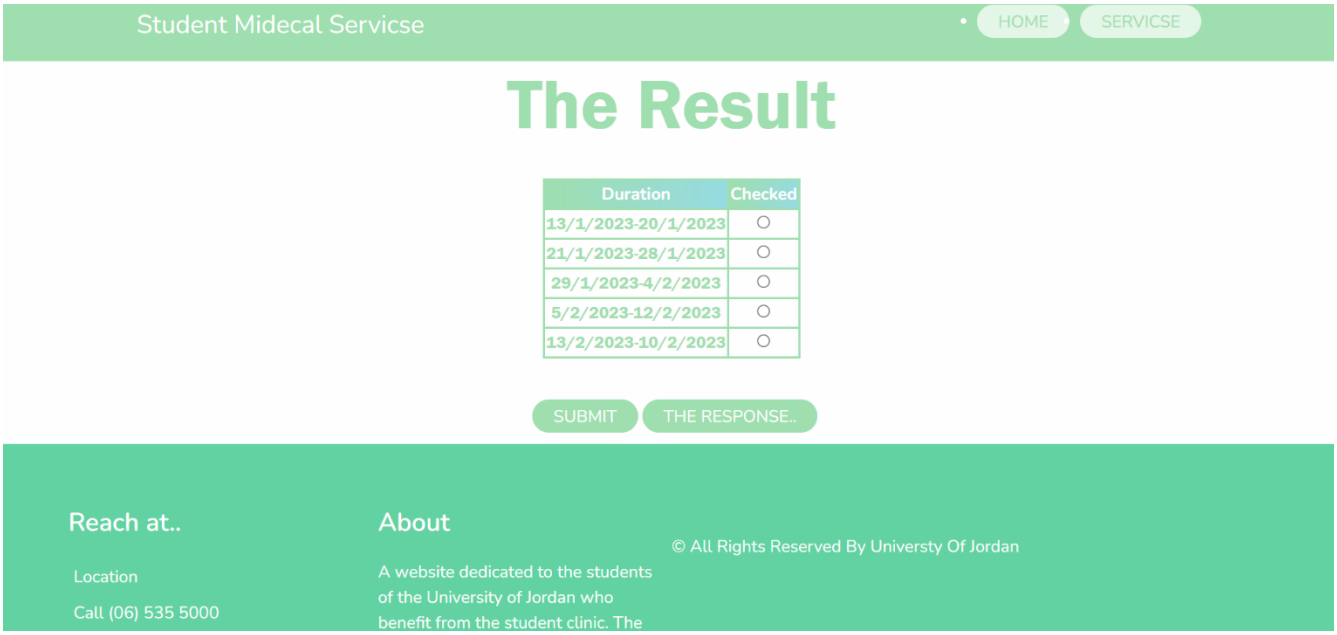
Location

Call (06) 535 5000

About

A website dedicated to the students of the University of Jordan who benefit from the student clinic. The site makes it easy to deal with the clinic without visiting it and viewing the results of laboratory blood tests.


Student Midecal Servicse
HOME
SERVICSE
The Result
PDF
Blood Test Result pdf
VIEW
DOWNLOAD


Student Midecal Servicse
HOME
SERVICSE
The Result
Duration
Checked
13/1/2023-20/1/2023
21/1/2023-28/1/2023
29/1/2023-4/2/2023
5/2/2023-12/2/2023
13/2/2023-10/2/2023
SUBMIT
THE RESPONSE..
Reach at..
Location
Call (06) 535 5000
About
A website dedicated to the students of the University of Jordan who benefit from the student clinic. The
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6.3 Database Design (DB normalization)

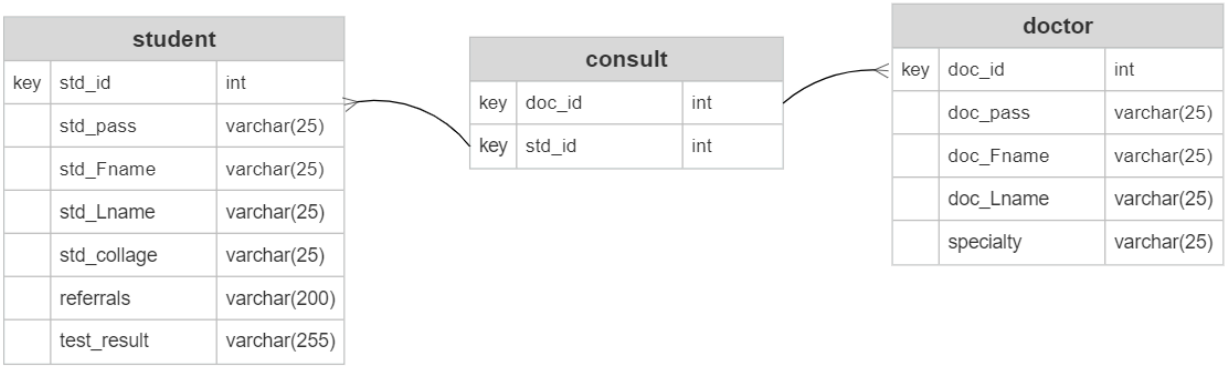


Figure 11: database design

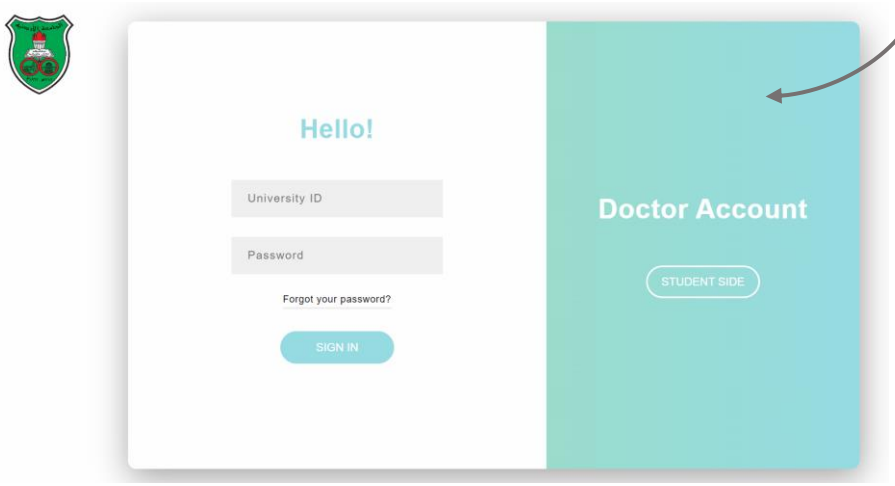
7.0 Implementation

7.1 Graphical User Interface Implementation (Required)

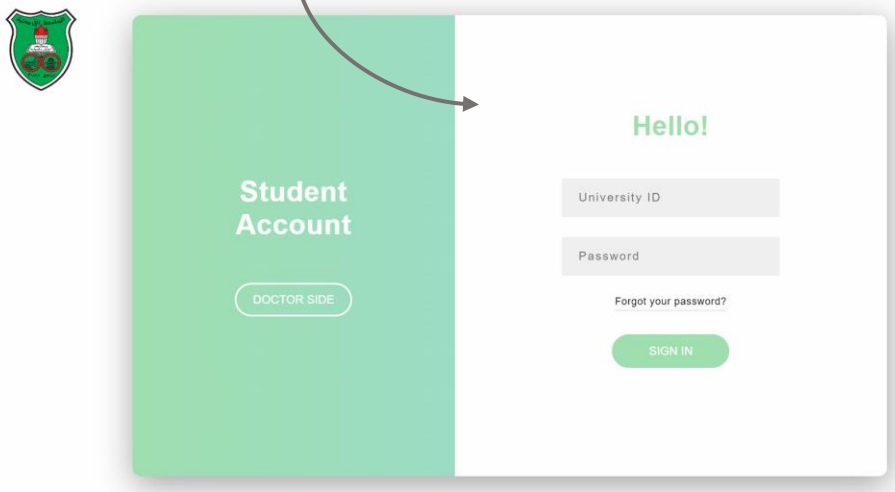
https://github.com/Moniadahnoon/SystemProject

8.0 User Manual

If you want to login as a doctor



If you want to login as a student

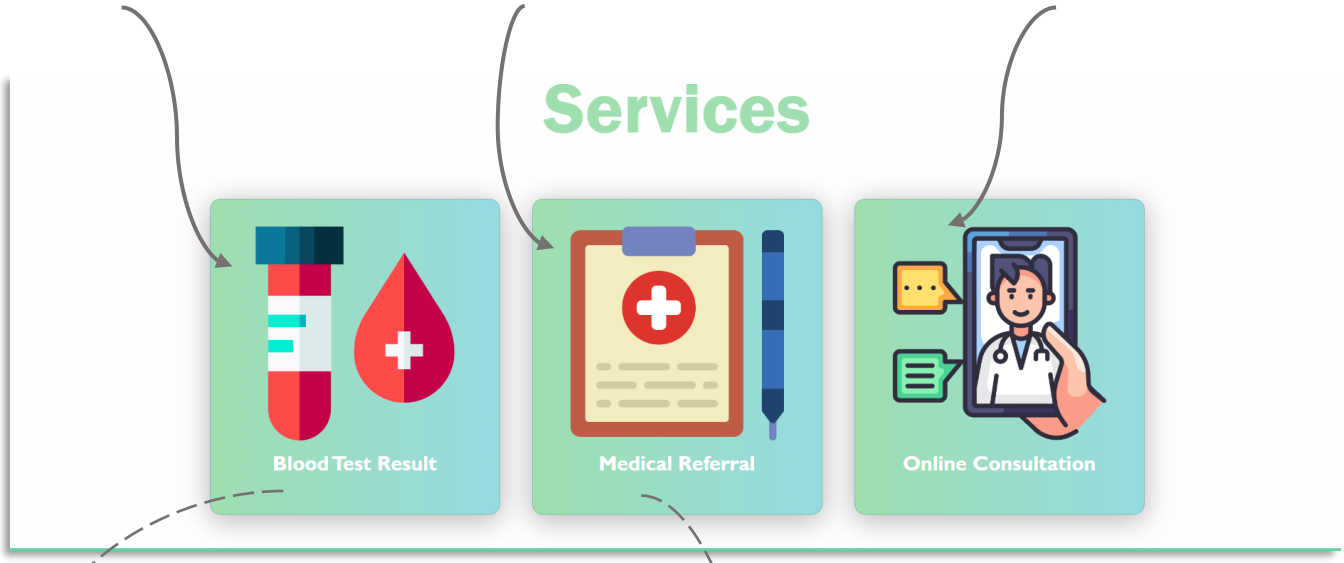


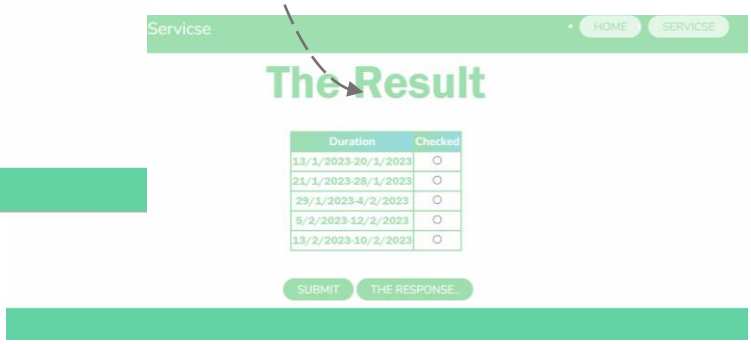
If you are a student:

Click here to check your blood test result

Click here if you wont to Extension of the medical referral date

Click here for a medical consultation from a specialist





9.0 References: books and tools

- https://www.smartdraw.com/entity-relationship-diagram/er-diagram-tool.htm
- https://lucid.app/lucidchart/af9e46e0-638e-4fd4-bf27-615f2241896f/edit?invitationId=inv_cd8e243e-c352-43e1-8176-ec572a6a578e&page=0_0#
- https://learn.microsoft.com/en-us/sql/t-sql/data-types/int-bigint-smallint-and-tinyint-transact-sql?view=sql-server-ver16
- https://www.drupal.org/docs/7/api/schema-api/data-types
- https://lucid.app/documents#/dashboard?folder_id=home
- https://www.youtube.com/watch?v=zid-MVo7M-E
- https://online.visual-paradigm.com/diagrams/features/dfd-maker/