The Project Plan for the Online Based Mobile System

(حَــيامً)

for Profiling COVID-19 Vaccinations in the Hashemite University

Faculty of Prince Al-Hussein Bin Abdallah II

for Information Technology

The Hashemite University

CORONA VIR 10

Presented to:
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1.1 An Overview

The Mobile Application (**Hayat**) is an application that can be installed in mobile devices such as smartphones and tablets. The project can only be installed in Android operating system. It is designed to automate the process of profiling COVID-19 vaccinations in the Hashemite University.

On March, 2020, the World Health organization declared COVID-19 a global pandemic. Following the speed with which COVID-19 spread to all parts of the world, and to contain the spread of this deadly and terrifying global infection, most governments around the world, including Jordan, authorized unprecedented containment preventive measures to face this disease, like social distancing, wearing face masks in public, etc.... (1) and lately one of the most effective ways to bring this pandemic to an end is getting vaccinated against COVID-19 because the vaccines have proven to be highly effective in preventing the infection or dramatically reducing its severity. Also, the risk of disease transmission by an infected person is significantly reduced if that individual is vaccinated. And once a large share of our community be immune to the virus, we can start resuming activities like before, therefore it is critically important that all the UH staff and students be vaccinated before returning back to university by the next semester.

1.2 Motivation:

Therefore, this project will highly benefit the Hashimite University Administration in organizing and managing the COVID-19 Vaccinations registration process so the students will safely return back to university by the next semester. Also it will benefit all the App's Users as we will discover later in next sections.

Project:

• Mobile Application (**Hayat**)

The plan project will be prepared by the following students:

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2-	Mohammad Hisham Saadat Al Kayali	1932562
3-	Ala'a Saed Fathi Moh'd Younis	1933981
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To present this document in an easy clear mode, we decided to divide the work among us based on project plan sections as mentioned below. We used in this document the **DrawIO UML Tool** in modeling the Work Breakdown Structure (WBS) and the Organization Structure, also we used the **Microsoft Office Excel Tool** in modeling the schedule of the project plus the other tables and charts.

As for the tasks among the students, they were distributed as follows:

▲ Mahmoud Ibrahim Mahmoud Abu Aqel, 1936150:

- 1- Write and design the Project Plan documentation.
- 2- Determine the name of the system Mobile Application (Hayat).
- 3- Responsible for doing the following tasks:
- Introduction
- Statement of work (SOW)
- Work Definition
- Risk Assessment
- Conclusion & References

Mohammad Hisham Saadat Al Kayali, 1932562

- 1- Responsible for doing the following tasks:
- Project Organization
- Methods, Tools and techniques
- Cost Estimation
- Participating in doing the Risk Assessments

Ala'a Saed Fathi Moh'd Younis, 1933981

- 1- Responsible for doing the following task:
- The Schedule of the Project

4 Abdel Rahman Mahmoud Abdallah Ziadeh, 1935103

- 1- Responsible for doing the following tasks:
- Monitoring and Control Mechanism
- Participating in doing the Cost Estimation

1.3 The Sigificances of the project:

- University Administration: The output of the project will benifit HU Admistration by organizing the vaccination registration process in the university by creating a database of all the students and the staff who took the vaccination by allowing them to upload thier vaccination documentations, plus filling a vaccine status servey which contains the following information:
- Numbers of doses taken
- Date of vaccination (1st & 2nd dose if its taken)
- Kind of vaccination (Pfizer, Oxford, ext...)
- Place of vaccination (If its niside Jordan or outside)
- If he/she got infected of COVID-19 virus
- Numbers of PCRs taken
- **App's Users:** Both HU staff members and the students will highly benefit to have an accessible platform to ask, find and report information related to COVID-19 and the latest vaccine requirements in the university. And by having the system, they can be assured that the records of their vaccinations information are safe and their personal information are confidential.

1.4 The Structure of the project:

the project plan consists of the following Sections:

- Statment of Work (SOW)
- Work Definition
- Risk Assessment
- Project Organization
- Cost Estimation
- Schedualing
- Monitoring and Control Mechanism
- Methods, Tools and techniques
- Conclusion & References

2. Statement of Work (SOW):

2.1 The Purpose of the Project:

- 1- The main goal of the project is to develop an online Based Mobile System for registering and downloading COVID-19 Vaccinations for the Hashemite University (HU), to organize and automate the process of profiling COVID-19 vaccinations in the university among the professors, students, administrators, and all the employees of the HU university.
- 2- To develop an Android Application that will ease up tracking and monitoring of all the HU staff and students' vaccinations' records and their conditions status.
- 3- Provide a database for easy searching documents.
- 4- Provide a good quality printed output of documents.
- 5- Provide a data storage that will secure the documents from lost.

2.2 HW and SW Requirements:

- The following is the Hardware used for the online Based Mobile application:

Application server: To provide an environment where application can be run. (2)

- The following are the software used for the online Based Mobile application:

Operating system: We have chosen Android operating system for its best support and user-

friendliness.

Java: Android applications are officially developed in Java Language.

Java is freely available, secure and user-friendly. (3)

Database: To save the records we have chosen SQL+ database.

2.3 <u>Deliverable's Schedule:</u>

Phase	Output	Date
Requirements Elicitation	Functional ModelNon-Functional RequirementsProblem Statement	17/7/2021 18/7/2021 20/7/2021
Requirements Analysis	- SRS (System Requirements Specification Document)	25/7/2021
System Design	 Component Specification Interface Specification Database Specification System Architecture 	29/7/2021 4/8/2021 9/8/2021 16/8/2021
Implementation/ Coding	Tested units or Object ClassesSource Code	24/8/2021 28/8/2021
Integration & Testing	Test ReportsIntegrated System	2/9/2021 6/9/2021
Deployment of the system / Operation	- Complete System	15/9/2021
Maintenance	- Enhanced System	23/9/2021

2.4 Time & Budget:

This project will be started on **July 15, 2021** and estimated to be finished on **September 23, 2021**, before the students return back to university, so approximately we need 10 weeks to execute this project.

The Cost Estimation will be: 25000 JD

Resources: The Team contains of: 9 Members (12250 JD)

2.4 **Months time** approximately, **10 weeks time**, (from 15.07.2021 to 23.09.2021)

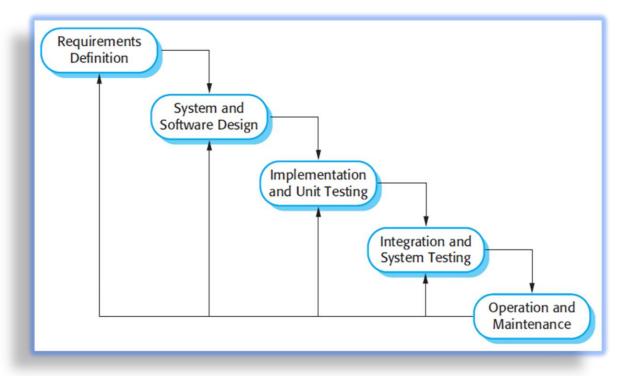
3. Work Definition

3.1 Process Model:

We chose the waterfall model because it's an easy model to understand and follow, easy to arrange tasks, less expensive and fit our budget, also because the requirements of this project are understood completely and unlikely to radically change.

It is a sequential, plan driven-process where all the activities must be planned and scheduled before starting the project. Each activity in the waterfall model is represented as a separate phase arranged as following: (4)

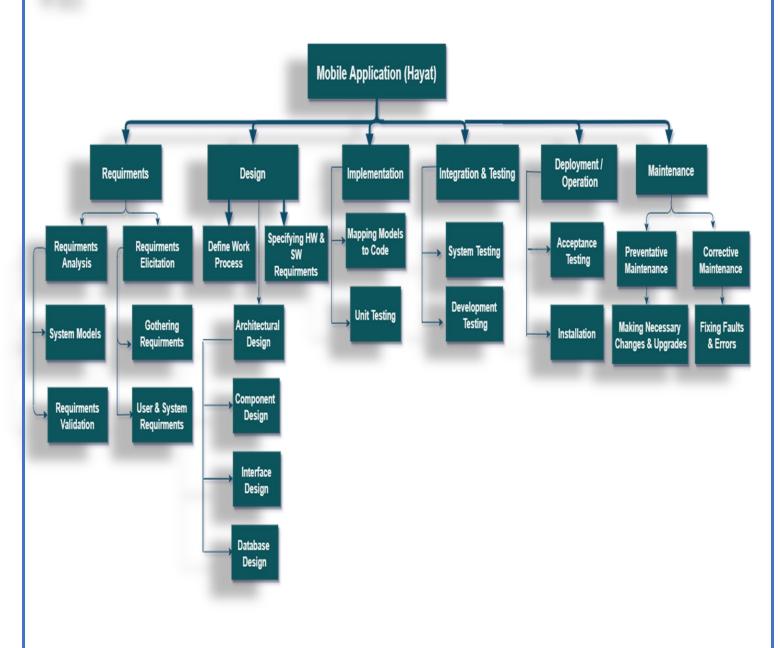
- Requirements
- Design
- Implementation
- Integration & Testing
- Deployment / Operation
- Maintenance



Software waterfall Model Chart. (5)

3.2 Work Breakdown Structure (WBS)





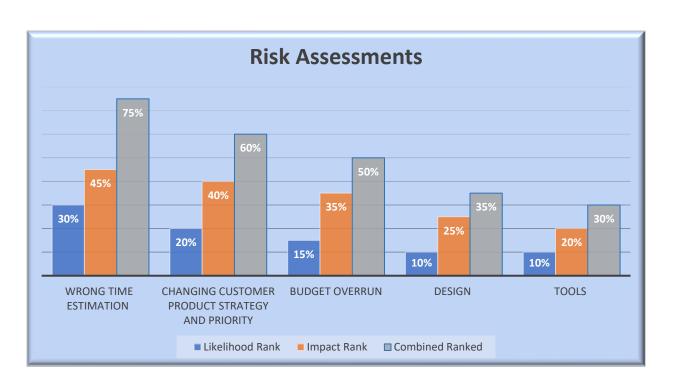
3.3 Detailed Task List (DTL)

Task	Subtask	Predesossors	Resources required
A	Requirments		
A1	Requirments Elicitation		
A11	Gothering Reuirments	None	Developer/ System Analyst
A12	User & System Requirments	A11	Manager/ System Analyst/
A2	Requirments Analysis		Developer
A21	System Models	A12	Developer/ System Analyst
A22	Requirments Validation	A21/12	System Analyst
A0	Requirments Milestone	A21/12	System Analyst
B	Design		
B1	Specifying Hw & Sw Requirments	A22	Manager/ System Analyst / System Designer
B2	Define Work Process	B1	Manager/ System Designer
B3	Architectural Design		
B31	Component Designe	B2	System designer
B32	Interfacee Design	B2/B31	System designer
B33	Database Design	B32/B31	Database designer
В0	Design Milestone		
С	Implementation		
C1	Mapping Models to Code	B33/B32/B31	Programmer
C2	Unit Testing	C1	Tester/ Programer
C0	Implementation Milestone		
D	Integration & Testing		
D1	System Testing	C2	Tester
D2	Development Testing	D1	Tester/ Programmer
D0	Integration & Testing Milestone		
E	Deployment/Operation		
E1	Acceptanse Testing	D1/D2	Tester / Manager
E2	Installation	E1	Tester / Manager
E0	Integration & Testing Milestone		
F	Maintanance		
F1	Corrective Maintanance		
F11	Fixing faults and errors	E2	Maintanance/ Tester
F2	Preventative Maintenance		
F21	Making necessary changes & upgrades	F11	Manager/ Maintanance
F0	Maintenance Milestone		

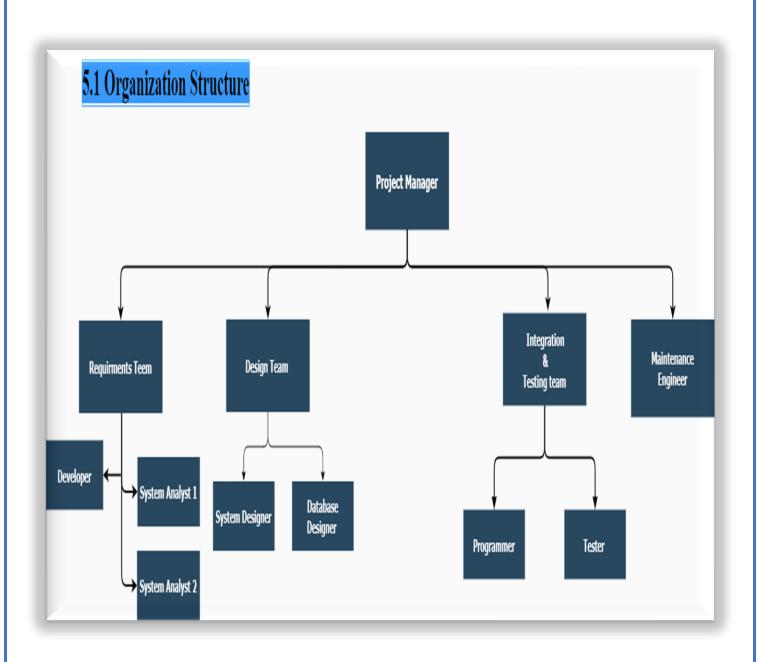
Package	Resources required	Deliverables	Estimated Duration
A11	Developer/ System Analyst	Problem Statment, Functionl Model (Usecase Diagram)	4 days
A12	Manager/ System Analyst/ Developer	Determine the functional,nonfunctional & the Constraints of the system	3 days
A21	Developer/ System Analyst	UML Models (Class Diagram)	3 days
A22	System Analyst	SRS (System Requirements Specification Document)	5 days
B1	Manager/ System Analyst / System Designer	List of required Software & Hardware	1 days
B2	Manager/ System Designer	Document describe the work process	3 days
B31	System Designer	Componant specification	4 days
B32	System Designer	Interface specification/designed secreens	5 days
В33	Database Designer	Database specification	5 days
C1	Programmer	Source Code	7 days
C2	Tester/ Programer	Tested units or Object Classes	5 days
D1	Tester	Test Reports/ Intgrated System	5 days
D2	Tester/ Programer	Discover bugs and Defects	4 days
E1	Tester / Manager	Decide if the software is good enough to be deployed	4 days
E2	Tester / Manager	Complete System	4 days
F11	Maintanance/ Tester	Fault Repaired	5 days
F21	Manager/ Maintanance	System enhancement	4 days

4. Combined Assessments

Risk	Description	Likelihood Rank	Impact Rank	Combined Ranked
Wrong time estimation	Some stages like design and implementation need more time than expected to be executed.	30%	45%	75%
Changing customer product strategy and priority	This is an external risk outside the control of the system, (6) and maybe it occurs if the COVID-19 Pandemic comes to an end, and therefore, no need for the vaccination itself.	20%	40%	60%
Budget overrun The budget estimation was incorrect due to lack of experience and other reasons.		15%	35%	50%
Design	The team has little experience with the deployment platform.		25%	35%
Tools	The teem must learn new configuration tools to support the project.	10%	20%	30%



5. Project Organization

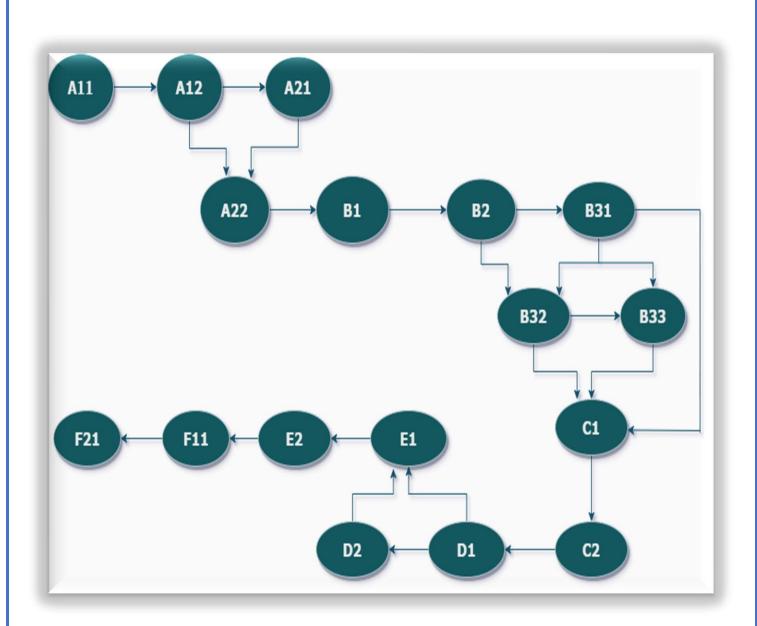


5.2 Responsibility Matrix:

Package	Manager	Developer	System Analyst	System Designer	Database Designer	Tester	Programmer	Maintenance
A11		X	X					
A12	X	X	X					
A21		X	X					
A22			X					
B1	X		X	X				
B2	X			X				
B31				X				
B32				X				
B33					X			
C1							X	
C2						X	X	
D1						X		
D2						X	X	
E1	X					X		
E2	X					X		
F11						X		X
F21	X							X

6. Schedule

6.1 Network Model:

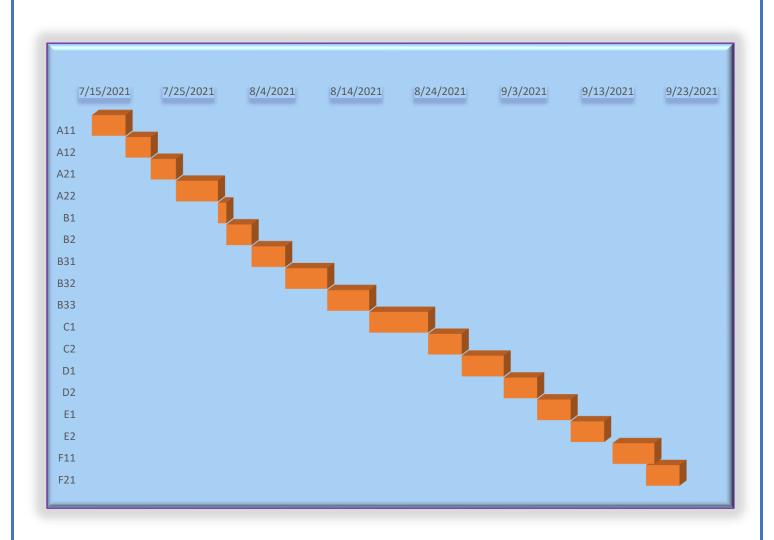


6.2 Early Schedule & Late Schedule

Task	Estimated	Predesossors	ES	EF	LS	LF	Slack	Critical
	Duration							
A11	4 days	None	0	4	0	4	0	Critical
A12	3 days	A11	4	7	4	7	0	Critical
A21	3 days	A12	7	10	7	10	0	Critical
A22	5 days	A21/12	10	15	10	15	0	Critical
B1	1 days	A22	15	16	15	16	0	Critical
B2	3 days	B1	16	19	16	19	0	Critical
B31	4 days	B2	19	23	19	23	0	Critical
B32	5 days	B2/B31	23	28	23	28	0	Critical
B33	5 days	B32/B31	28	33	28	33	0	Critical
C1	7 days	B33/B32/B31	33	40	33	40	0	Critical
C2	4 days	C1	40	44	40	44	0	Critical
D1	5 days	C2	44	49	44	49	0	Critical
D2	4 days	D1	49	53	49	53	0	Critical
E1	4 days	D1/D2	53	57	53	57	0	Critical
E2	4 days	E1	57	61	57	61	0	Critical
F11	5 days	E2	61	66	61	66	0	Critical
F21	4 days	F11	66	70	66	70	0	Critical

[→] All the paths are critical, we don't have any slacks in the project, so we need to work on time to guarantee that we will deliver it on time.

6.3 Gantt Chart



7. Methods, Tools and Techniques

Methods & Tools	Description
Microsoft Project	It is designed to help in developing plans, managing budgets and workloads.
DRAW.IO	Helping in making UML Diagrams and Charts.
Android Studio	Android Studio: is the official Integrated Development Environment (IDE) for Android app development.
Oracle Database	A database is an organized collection of structured data stored electronically in a computer system.
NDoc (.NET)	Generates documentation from source code
Water fall technique	The Waterfall methodology is sequential that means one task has to be completed before the next starts

8. Cost Estimation

Staff & Other Expenses	Cost	Total
Manger	1000 JD	2500 JD
Developer (1)	300 JD	750 JD
System Analyst (2)	600 JD /person	3000 JD
System Designer (1)	500 JD	1250 JD
Database Designer (1)	500 JD	1250 JD
Tester (1)	500 JD	1250 JD
Programmer (1)	400 JD	1000 JD
Maintenance (1)	500 JD	1250 JD
Hardware	5000 JD	5000 JD
Software	2000 JD	2000 JD
Others	5750 JD	5750 JD
Total		25000 JD

9. Monitoring & Control Mechanism

9.1 Milestones:

Phase	Date
Requirements Elicitation	20/7/2021
Requirements Analysis	25/7/2021
System Design	14/8/2021
Implementation/ Coding	25/8/2021
Integration & Testing	4/9/2021
Deployment of the system / Operation	12/9/2021
Maintenance	20/9/2021

9.2 Reviews Dates:

- We will have a checkpoint review after finishing each stage of the project in order to make sure that it's the same as required and if there are any changes to be done to stabilize the checked stage.
- There will be a status review meeting after finishing the following packages:
- Package A22
- Package B32
- Package C2
- Package E2
- Package F2



10. Conclusion and References

10.1 Conclusion:

In conclusion, this Android Application is a great option for storing the COVID-19 vaccination status, digital versions of vaccine cards and the COVID-19 test results for HU staff and students. It will ease up tracking and monitoring of all the HU staff and students' vaccination status. Moreover, this app allows users to prove their safe health status and to confirm whether he/she has been vaccinated, tested negative for COVID-19, or recovered from it. Users can use it for easy access when coming to university, traveling, attending sporting events, or visiting any place that requires proof of a COVID-19 vaccine, and of course, using this app is far easier than having to carry around your physical vaccine card wherever you go

10.2 References:

- 1- COVID-19 pandemic Wikipedia
- 2- https://www.intuz.com/android-app-development-guide
- 3- Application server Wikipedia
- 4- Waterfall Model/ Different Phases with Advantages & Disadvantages (educba.com)
- 5- https://www.bing.com/images/search?view_detailV2&ccid
- 6- Types of Risks in Software Projects (softwaretestinghelp.com



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