



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

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Advanced project Management

Dialysis Treatment Project

Introduction

Kidneys play a vital role in human body; they work hard to clean blood and create urine 24 hours a day. It is important to keep kidneys healthy so they can perform these important tasks in the body. When kidneys fail, they can no longer take care of the human body needs, then a dialysis treatment is needed to do some of the things that are done by healthy kidneys. In this case the patient has a concern about his kidney's health, and he needs some support and information to start his dialysis treatment. So, he must find dialysis center which could be far thus he needs to allocate it. Then he must take an appointment which may could not fit him so he will have an appointment slot issue and sometimes no clinic appointments are available for the patient in the current time, so the patient gets confused. My role in the project is a project manager that manage the whole project analysis and design flow and determine the methodology of the project. I will identify the problem and recommend a suitable solution I should also identify the measure deliverables and workgroups. In this research I will address the project in the initiation phase where the project objective or need is identified; the problem will be explained. A solution option will be recommended. The initiation phase is important to deliver the approved solution and complete the next phases of the project life cycle. [1]

Purpose

The project purpose is to create a mobile application that act as a smart solution for kidney failure patients to allocate nearest hospital to dialysis treatments and make an appointment, after choosing the suitable date and time the system will generate a code so the patient can use it to confirm his booking.

Scope

This scope of this project includes enabling patients who suffer kidney failure to allocate nearest hospital that offers dialysis treatment and make an

appointment for dialysis sessions. Furthermore, the patient can contact the doctors and take a consult about his medical situation. The project is intended to create a mobile application that can be used with kidney failure patient or their relatives and doctors. And it will be easy to patients to make an appointment for dialysis treatment without worrying especially the one in rural areas or who live far away from hospitals. Also, patients can get supported with their diagnosis, treatment decisions and care. However, it will not offer kidney transplant services such as finding a healthy kidney donor for kidney failure patient.

Objectives

This project has many objectives as following:

- Build an application that arranges appointments easily for kidney failure patients without the need to visit a hospital or standing in line to get an appointment.
- A patient or its related family can represent nearest hospitals or kidney dialysis centers and choose the date and time they like to get treatment
- Save time and effort for a patient to arrange treatment appointment.

Literature Review

There are some applications and studies that are related to the topic of the project, here are some of them:

1-Building Dialysis Workflows into EMRs

The system is used to model the workflows of a functional dialysis center and implemented using open-source software for the EMR components and workflow management system. And It aims to improve tracking of clinical hemodialysis outcomes, safety, and their relationship to the utilized workflows. [2]

2-Online Medical Appointment Scheduling System:

This project is about developing a website for a medical clinic to provide an efficient and economical way of making appointments and help in all the related tasks such as clinic and doctor timetable management, queue management, and patient appointments exportation. [3]

3- Developing an online patient appointment scheduling system based on web services architecture:

This project proposed an online patient appointment scheduled system built on the web services architecture in a heterogeneous health care environment. However, the system did not integrate a clinical application that allows patients to allocate near hospitals and book an appointment easily. [4]

4-Kidney Health:

A website that aims to create a healthier community through increased awareness and early detection of kidney disease. By connecting kidney patients to vital resources and services to help them manage their condition and achieve a better quality of life. The website is for supporting kidney disease patients in Australia. The website offers many services such as Locating a dialysis unit near a patient, but it does not arrange an appointment. [5]

5-D-track-Dialysis Tracker:

An application that tracks the patient treatments, fluids, weight, and blood. The application offers many services such as tracking heart rate, blood pressure and fluid gain or loss. However, it does not locate dialysis centers or arrange appointments.

6-Dialysis Management:

A mobile application that can help dialysis patients in making reports about their health status and treatment updates. The application enables a patient to record

his treatment information, but it does not allow him to allocate dialysis centers or make a treatment appointment.

7-Online Clinic Appointment Scheduling:

The system proposed a policy to minimize the number of patients to be seen in normal business hours, but it doesn't arrange appointments for dialysis patients, and it doesn't offer them the ability to allocate a near dialysis treatment hospital.

Methodology

This project is about building a software so it will be designed, managed, and planned by one of the designs and analysis strategies which is waterfall methodology. waterfall is a model used widely in system development life cycle. This approach has the following phases:

1- System Analysis

This includes gathering information about the functionalities of the proposed system and technologies that are required to design and build the system.

2- System Design

This phase includes planning how to design a system that meets the requirements', also it includes drawing diagrams based on system requirements and planning the technical details like planning the programming language to be used and database.

3- Implementation of the software.

This phase includes developing the system, coding the software and implementing the needed hardware.

4- Testing.

During this phase, the system will be tested, and its operations and functionalities will be validated, also if any errors occurred during the testing stage it will be corrected and removed.

In addition, scheduling strategy is also used where I set deadlines for each phase of development and this way the project can be delivered on time. [5]

Results and Discussion

At the end of this research, I concluded that I completed the first phase of the initiation phase successfully by determining the project problem, objectives, scope, related studies, methodology and finally proposed a solution which is a software that helps in managing and scheduling dialysis treatment.

In summary, I proposed a project about designing a mobile application for patients who want to make appointments for dialysis treatment. I discussed and analyzed previous related studies and their solutions, then I proposed my system solution. After that, the methodology of managing and designing the project was presented and supported by details.

References

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