Medical Image Archiving System For Radiologist

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Introduction

This project is about archiving medical images that are concerned with radiology field.

It's a web-based application, easy to use for everyone who's familiar with internet. The system archives every single detail about the medical images and the patient, stores them into the database with the ability to access them, make modifications, update, and view patient details with images that have been stored in single-image view or multi-image view, all that in a manner of time, effort, and cost saving.

Proposed project

A web application that aims at building a software for archiving radiology images for patients of a specific doctor. Each doctor has an account that accepts the images of his patients to their profile and patient's history after they have been taken from the PACS. And any doctor can share cases he want to discuss online with other doctors for better analysis and decision making.
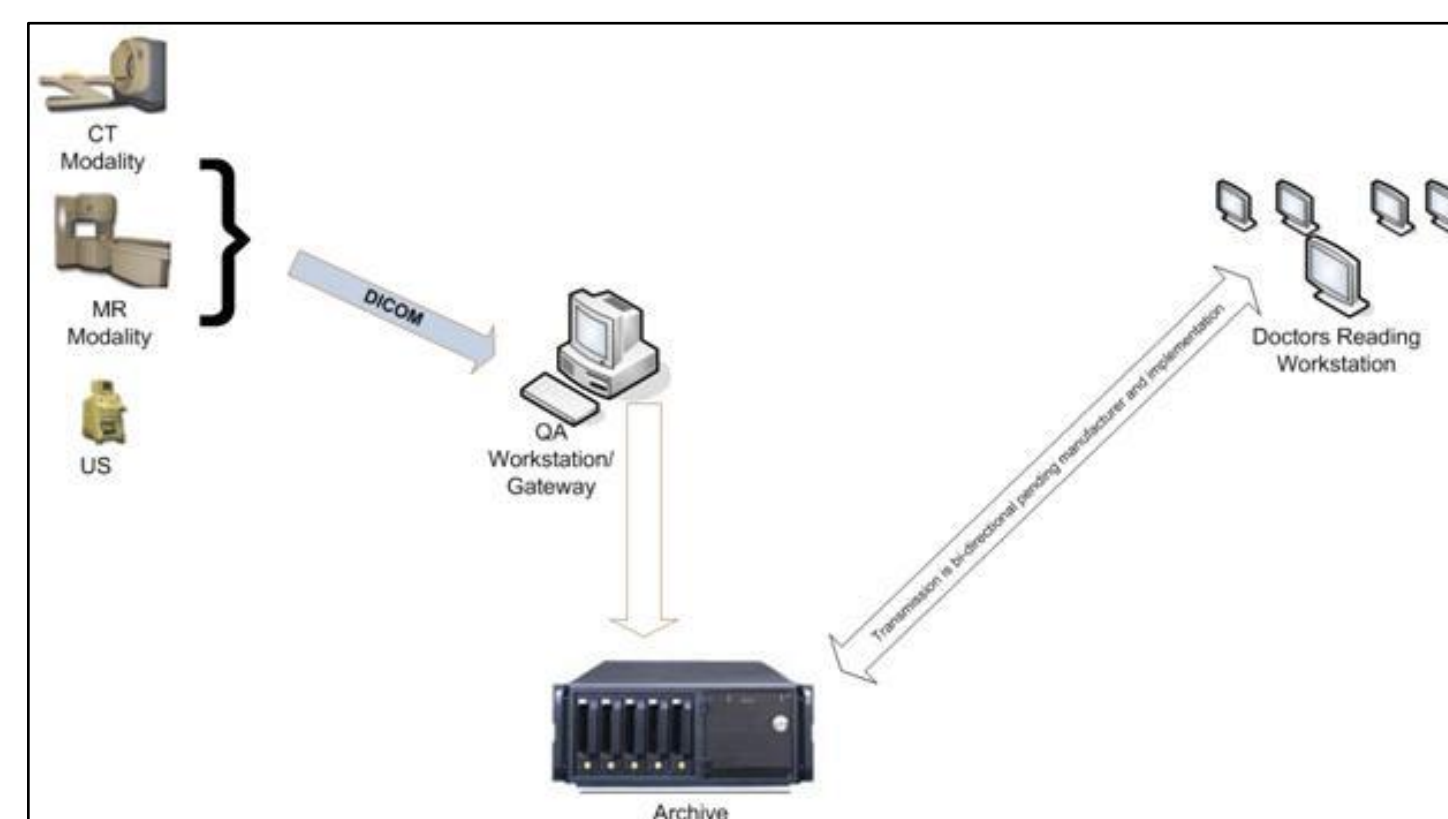

Figure 1: MIASR idea

System Design and Implementation:

Figure 3 shows the flow of the data between processes in the system, starting with authentication of the user that's authorized to interact with our system. Leading the user to options that are the core main functions such as adding new patient archive or edit it, and share archives and images with other doctors online.
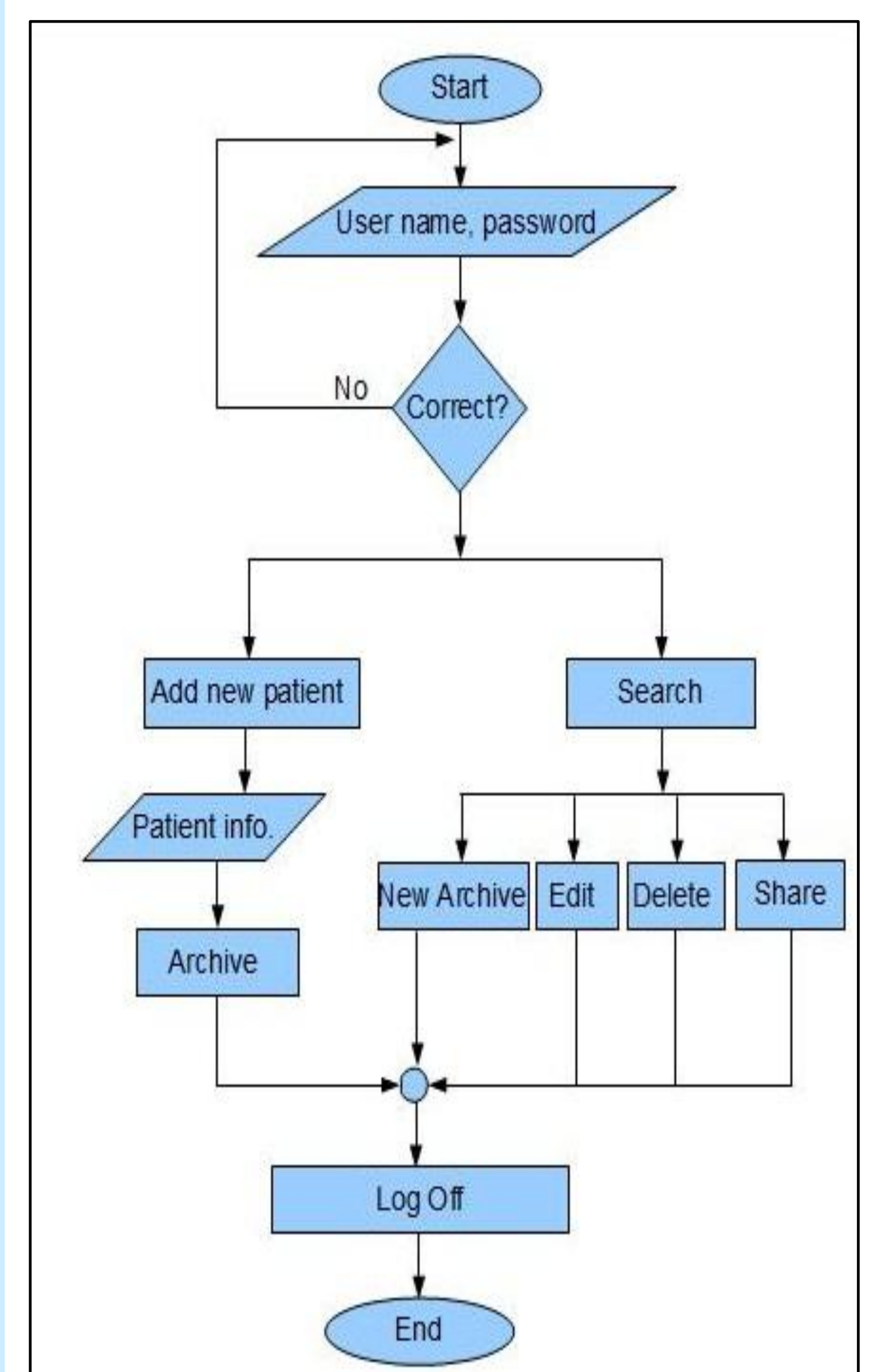

Figure 3: General Flow Chart Diagram

Project Objectives:

1. Reduce time for reaching data needed within the shortest time.
2. Reduce cost by replacing this system with some jobs.
3. Faster and more accurate decisions within needed time.

Results:

1. Save all images, data and information about the patients accurately.

2. Keep track of the patient history.

3. Better decision making about any case between doctors using the sharing feature.

4. Reach data anytime anywhere, and extract needed information from it for research or post-processing manners.

Project Block Diagram:

Figure 2 is the general block diagram for a project, as illustrated below, the PACS(picture archiving and communication system) takes the image from the modality that produces it such as X-Ray, then send it to the server to processing if needed and saves it, after that the workstation uses the image to add information needed by its user and make post-processing to it if needed.
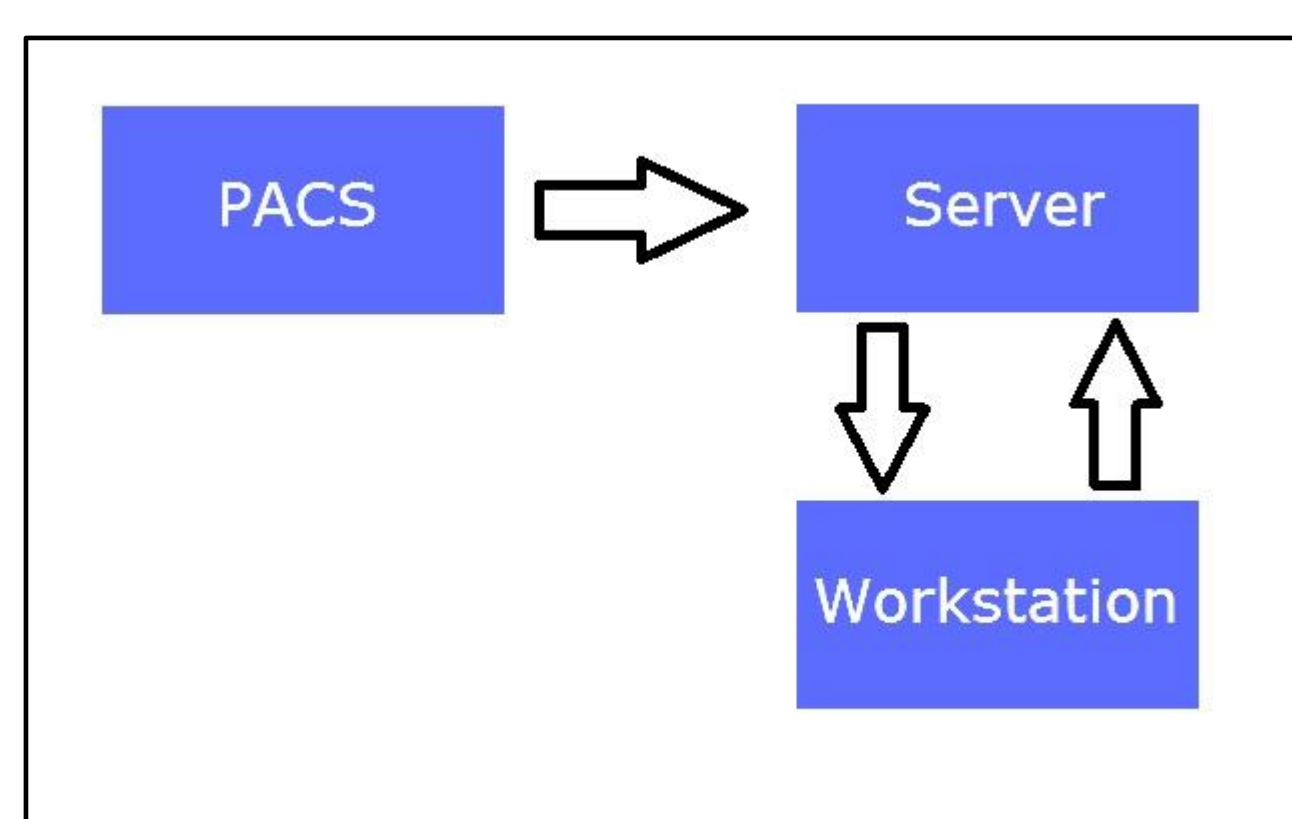

Figure 2 : System General Block Diagram.