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Patient Portal System

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Abstract: *In this project we are going to implement Online OR offline web design Patient Portal System. There are three parts of this system one is for patient and second is for doctor and another is for admin or host. Doctor register to patient once in the system and patient self-account open or fill up registration form add patient diseases record on portal, if patient shifted to another region or city and visit their any hospital for diseases their doctor can easily find out previous medicine or record of that patient on portal. This System can proof to be very useful in Accident and click cases where the Doctor is completely unknown with the injured person/coming patients and he need to operate him in emergency cases. Patient also have to access this portal but patient can change profile details only and view diseases record or history. Admin have permissions to approve or add doctor delete record, insert record hospitals in system. We can have access to patient record using his/her Unique 12-digit Aadaar card number or Mobile Number Aadhar card number recheck for using Adhaar API OTP base system that's using good security authorization of security elements.*

Keywords: Diabetes Mellitus; Electronic Health Records; Patient Portal; Personal Health Records, etc.

I. INTRODUCTION

1.1 Goals and Objectives

This project is all about implementing Online of Patient Portal System. There are three parts of this system one is for patient and second is for doctor and another is for admin /host. Doctor register to patient once in the system and add patient diseases record on portal, if patient shifted to another region/city and visit their hospital for diseases their doctor mainly advantages can easily access or find out previous record of that patient on portal. Patient also have to access this portal but patient can change profile details only and view diseases record or history. Admin have permissions to approve or add hospitals in system, subsystem is the user registration and the second subsystem is the authentication.

This System can proof to be very useful in Accident cases where the Doctor is completely unknown with the injured person and he need to operate him in emergency cases, admin host. Doctor register to patient once in the system and add patient diseases record on portal, if patient shifted to another region/city and visit their hospital for diseases their doctor can easily find out previous record of that patient on portal. Patient also have to access this portal but patient can change profile details only and view diseases record or history. Admin have permissions to approve or add hospitals in system.

Password provides more security as every time the session starts the new password is created. There are two methods for session password i.e., pair based textual authentication scheme and colour code-based authentication scheme. In a pair based textual scheme textual passwords are provided and in colour code-based scheme set of colours are provided.

1.2 Motivation

1. The design of e-Health portal is, however, particularly challenging due to its unique functionality and security requirements. First, a traditional design of portal systems will encounter difficulties in integrating heterogeneous e-Health services implemented with different technologies.
2. The complexity of such integration will make it difficult to extend an existing system with new services. Second, a general-purpose Web-based portal usually cannot meet the security requirements of an e-Health portal system because the consequence of a security breach is far more serious in the latter.

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3. For example, an inappropriate disclosure of patient data will lead to privacy breaches and legal issues, whereas an improper modification to diagnosis results or a denial of critical healthcare service may threaten a patient's health or even his/her life.

1.3 Contribution

1. My contributions concentrate on the system architecture design and access control of e-Health portal systems.
2. In the architecture design, I adopt Service-Oriented Architecture-based three-tier architecture, which includes portal server, portlet container, and service container.
3. In the design of access control, I design a two-tier access control mechanism, which combines traditional role-based access control with rule-based access control

1.4 Goals and Objectives

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4. Admin have permissions to approve or add hospitals in system. Password provides more security as every time the session starts the new password is created. There are two methods for session password i.e., pair based textual authentication scheme and color code-based authentication scheme. In a pair based textual scheme textual passwords are provided and in color code-based scheme set of colors are provided

1.5 Problem Definition

1. The aim of this project is to design and implementation and to overcome the drawbacks of the present password systems, we are presenting a robust password scheme, which is multi-platform and easily adaptable for traditional personal computers, smart phones and web applications.
2. Our proposed system has subsystems. The first subsystem is the user registration and the second subsystem is the authentication

II. Related Work

This section describes the background related to our e-Health portals. Related work of e-Health systems and access control model are also illustrated.

A) System is to design and implement an Online Patient Portal System that should accept Patient detail and his Disease details also Detail of the Doctor. The system should prepare related information about patient.

Architecture/ Design/ Algorithm of System

Algorithm for Doctor

1. Start.
2. Patients Registration.

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3. Add diseases details of patient.
4. View previous diseases details.
5. Delete/edit patient's details
6. End.

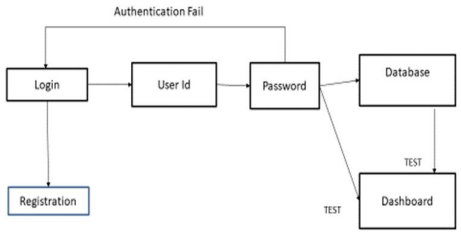
Algorithm For Admin

1. Start.
2. Admin Login.
3. Add hospitals and doctors
4. View hospitals and patients reports.
5. Delete, update hospital details
6. End.

Algorithm For End User

1. Start.
2. Login.
3. Update profile details.
4. View diseases record / history.
5. End.

During registration. Doctor Enters Patient Id and then enters his password in the second method. During login phase, the doctor has to put the password based on the interface displayed on the screen. The entered password verifies by the system by comparing with content of the password generated during registration.
During recovery phase, if user forgets his password, he may recover the password by answering security questions which user had selected during registration phase.



SYSTEM ARCHITECTURE

III. DATA FLOW DIAGRAM

- Before attempting to construct an initial DFD it is necessary to gather and digest information that helps us to understand how data is processed in the current system.
- Fact-finding techniques are used for this purpose and are discussed in another Unit as the DFD is constructed a systems analyst will often come across areas of doubt where the precise way to model the system is unclear.
- This is a natural part of the development and should not be regarded with alarm. In fact, it is expected and it is a consequence of attempting to model the current situation that questions will be asked to clarify the exact processes which are taking place.

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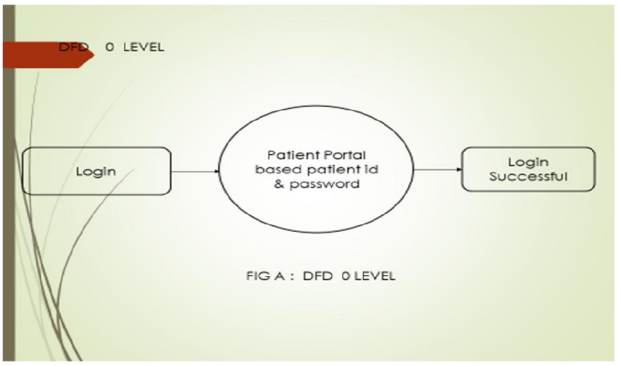
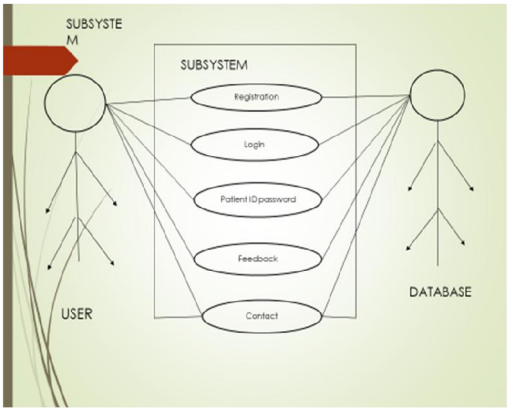


- UML sequence diagrams are used to represent or model the flow of Online Patient Portal System actions between the objects or components of a system.
- Time is represented in the vertical direction showing the sequence of interactions of the header elements, which are displayed horizontally at the top of the diagram.
- Sequence Diagrams are used primarily to design, document and validate the architecture, interfaces and logic of the system by describing the sequence of actions that need to be performed to complete a task or scenario.
- UML sequence diagrams are useful design tools because they provide a dynamic view of the system behavior which can be difficult to extract from static diagrams or specifications.
- The use case diagram shows on the multiple character system work on the Online Patient Portal system.



A Simple Portal Platform

A simple portal platform and a single browser window can contain one or multiple portlets. It is a collection of resources in an enterprise application that can be displayed in customizable, personalized, and audience-specific views called desktops [11]. As the basic unit of portal, portlets are pluggable user interface components that are managed and displayed in a portal. Portlets produce markup fragments and then these fragments are aggregated into a portal page, a portal page contains a collection of portlet windows, where each of them displays a portlet. Thus, a portlet resembles a Web-based application (such as a JSP, HTML page, Java Page Flow or Web services etc.) that is hosted in local or remote portal servers. The Java Portlet Specification (JSR168) is a standard that enables interoperability for portlets between different portals.

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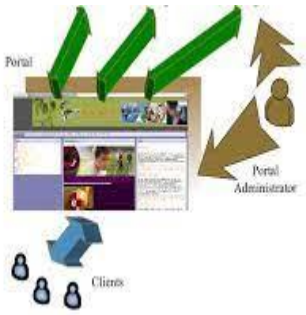


As shown in Figure 3, it is a simple portal platform in which the portal integrates multiple backend medical systems. The interfaces of these systems are represented in a single browser window to clients. Administrators resided in the portal assemble, configure and manage the portal via portal administration tools. Some characteristics and benefits of portal solution are listed as follow Intelligent resources integration: Integration of various enterprise applications, services and processes together is key to developing an environment that fully supports business processes content on different devices:

By using portal technology, content can be delivered to and displayed on multiple devices (such as PC, PDAs, smart phones etc.). • Personalization: The ability to serve dynamic response to the user based on personal profiles. • Rapid, easy management of Web content: Portal administrator may easily modify,

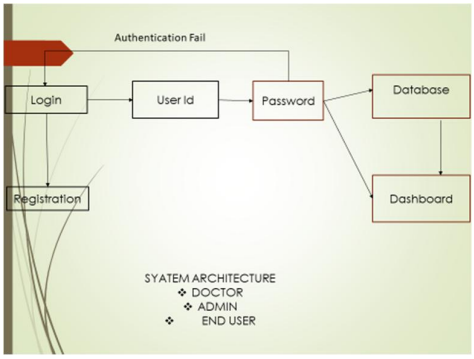
IV. SYSTEM ARCHITECTURE

We adopt the Service-Oriented Architecture (SOA) for the eHealth portal.

Traditional designs of software systems usually have difficulties in meeting the aforementioned functional 23 requirements.

The interoperability among heterogeneous components requires a complicated integration process, which then implies unacceptable downtime and efforts for the integration. In contrast, the SOA exposes resources of each software component as standard-conforming services that can be accessed without understanding the underlying implementation details. The main components of our design are e-Health portals interconnected via the Web Services for Remote Portlets (WSRP) protocol. The portals constitute an eHealth portals federation (in the reality, portal federation can also include systems with WSRP-enabled components).

Each eHealth portal is a Web-based application that provides users a unified interface to all the services provided by these medical organizations. The portal allows its users to personalize desired content through creating customized Web page, namely, portal interface. Each portal interface also plays the role of a content aggregator by including a collection.



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An Example Deployment of e-Health Portals Federation of related services. Navigation elements inside each portal interface allow users to easily navigate among different collections of services just like surfing the Web. In our design.

V. RESULT AND DISCUSSION

REGISTRATION & LOGIN

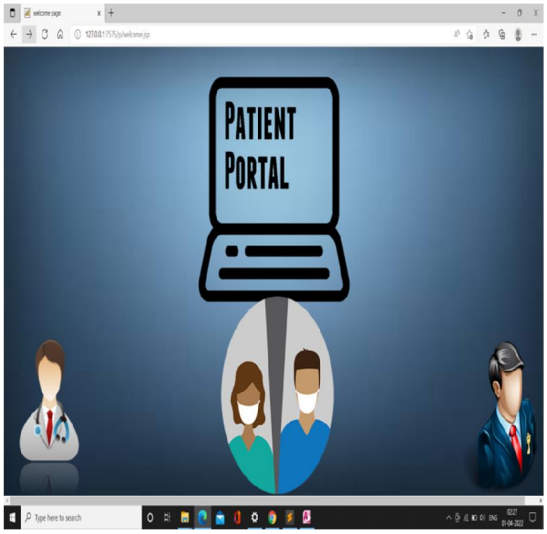
Online patient portal provides first page or welcome page this page gives only check which login id provide patient click on patient icon and doctor click on only doctor icon but all doctor has same patient id provide or compulsory because as a same time one person doctor or patient possible and finally admin same page entry but this password id provide only developer but only patient registration possible doctor id only admin provide.

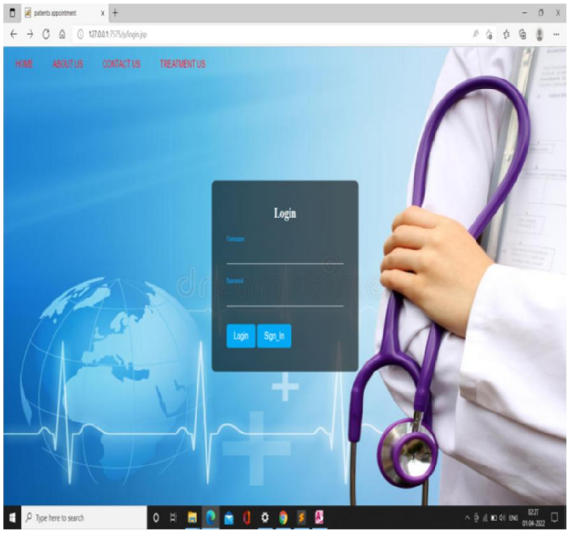
When we run the application, a login form turns up, allowing the doctor to enter the patient id. The form appeared consists of three buttons-register, login, close. If the user is already a registered one, then clicking on the "login" button would advance him to the second phase of the application. If the user is not a registered member, then on doing the above action would generate a message box conveying "username does not exist".

Thus, in order to make use of the application, the person must get registered by the admin. Consequently, on clicking the "register" button on the login form would display a window allowing the user to enter his mobile number. On submitting the mobile number, a password is directed to his mobile by the admin.

Then, the user has to write down the password in the interface shown subsequently, and has to click on the "register" button below that interface. On doing so, registration form appears.

Thereafter, the user enters textual password whose minimum length is 8 and it contains even number of characters. If the user violates this protocol, then a message box expressing the fault with the textual password is displayed. This password is to be remembered as pair-based password, also known as secret pass. Along with these, graphical password (draw-a-secret) using the 3X3 grid is sketched. Moreover, basic details like first name, last name, and more info.





PATIENT DASHBORD

In patient portal system provide Feature for patient and display patient requirement example patient report and more information give or access to easy for user or patient and reduce stress and money for paper work and time patient dashboard provide only see a report not changes patient have change only profile.

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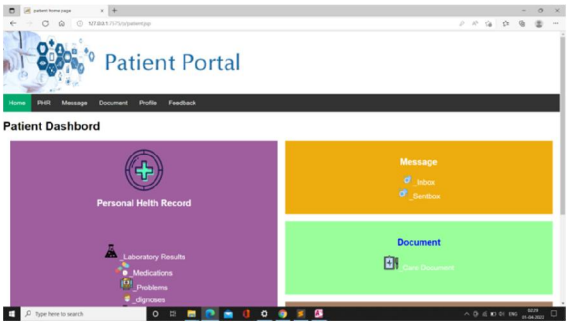


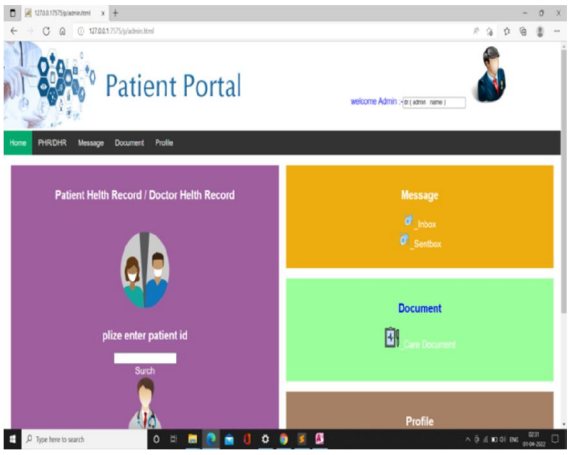
Patient report display in table format this is very advantage is doctor and patient display information in back time or past check report.
Patient report page only see report as a patient or user level but his only fill doctor and lab assistant or admin.

DOCTOR DASHBOARD

Doctor and lab assistant provide and fill information of patient health report because physically information share is very difficult and give more time and money this portal provide online and offline service.
Doctor fills the report of patient then patient portal this platform provide pay a money for doctor as a same of YouTube platform. Doctor first check patient id and after fill info.

ADMIN/HOST

Admin are full authority of change online service of report and add more operation example add doctor add lab assistant and admin check database and more.



SMS Service

SMS service provide good reliability of patient and user. This service provides external API services example (tawk.to) etc.

VI. FUTURE WORK

Future researches are listed below:
Extend rule-based access control engine to enforce authorization of workflow-based services.

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VII. RESULT

This external study of experiences patient using their patient portal access the lab report results in portal The patient representatives did not participate in the workgroup from the beginning and the less timing of patient involvement in the process.

VIII. CONCLUSION

1. In this project we are going to implement Patient Portal System in this project mainly three-part user, doctor, admin.
2. The review of result patient portal is currently immature and standardized operation perform and more high-quality study. And fully under stable format of such portal.
3. It appears from the overwhelming proportion of patient portal evaluations coming from integrated health service networks, that these networks provide more fertile contexts for patient.
4. Portals to be effective.
5. To improve the understanding of how patient portals should capture information about mechanism and context.

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