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WEB INTEGRATED KNOW YOUR PATIENT

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ABSTRACT:

The proposed project entitled “**Web Integrated KYP (Know Your Patient)**” acts as a patient record tracking system which has been designed and developed specially to automate the patient’s medical history universally in order to give treatment to the patients anywhere. Nowadays people are migrating from one place to another place for their living or official purposes. Like how the KYC (Know your Customer) functioning to track the customer details before giving loan or for some other financial transaction purposes. Similarly the KYP (Know Your Patient) works in finding out the patient’s complete medical history details in a single screen to the doctor’s view for the better and emergency treatment support to the patient anywhere.

In the existing system, there is no common portal available to track the patient’s details anywhere. Due to security reasons, the database about individual patient details have not been maintained in the centralized database so far. Due to the absence of tracking patients details, the treatment process is sometimes is quite tedious in several hospitals. And also the patient has also to pay extra charges for repeated tests or scan reports to be taken even though it has been taken recently.

In order to avoid the existing problems, the proposed system model has been designed to maintain the patient details, hospital doctor details, diagnosis details and treatment details. All the patient records have been maintained in the patient details and similarly all the doctor records have been maintained in the doctor details which include the specialization such as illness, disease, attempt or suicide, psychiatric, ortho, gynecologist, pulmonologist etc. The diagnosis details include the Aadhaar id, insurance number, blood group, lab diagnosis such as Test, X-Ray, MRI, CT Scan etc.

The Hospital treatment details include the injections given, medicines and foods given; and also the status of the treatment will be maintained in the centralized database. The overall details maintained in this patient record tracking system will be more useful to the doctors to handle the patients easily and also more beneficial to the patients to approach any doctors anywhere with an easy mode of online medical history maintenance. For more security constraints, the system has been enabled with OTP (One Time Password) options through SMTP (Simple Mail Transfer Protocol) services.

Keywords: Track patient’s medical history, emergency treatment support, Web integrated KYP, Patient details, Doctor details, Diagnosis details, Treatment details, Patient record tracking system.

INTRODUCTION:

1. The main objective of the project is to find out the patient’s complete medical history details in a single screen to the doctor’s view for the better and emergency treatment support to the patient anywhere.
2. Centralized database should be designed to maintain the patient details, hospital doctor details, diagnosis details and treatment details.
3. To design a new system for patient record tracking system which will be more useful to the doctors to handle the patients easily and also more beneficial to the patients to approach any doctors anywhere with an easy mode of online medical history maintenance.

SYSTEM SPECIFICATION:**HARDWARE SPECIFICATION**

| | | |
|------------|---|---------------------------|
| Processor | : | Intel Dual Core Processor |
| Ram | : | 1 GB RAM |
| Hard Drive | : | 160 GB |
| Monitor | : | 17 INCHES |
| Keyboard | : | 104 keys |
| Mouse | : | Logitech Optical Mouse |

SOFTWARE SPECIFICATION

| | | |
|------------------|---|-------------------------|
| Operating System | : | Windows 8 |
| Front-end | : | Microsoft ASP .Net 2013 |
| Back-End | : | MS SQL SERVER 2012 |

EXISTING SYSTEM:

In the existing system, there is no common portal available to track the patient's details anywhere. Due to security reasons, the database about individual patient details have not been maintained in the centralized database so far. Due to the absence of tracking patients details, the treatment process is sometimes is quite tedious in several hospitals. And also the patient has also to pay extra charges for repeated tests or scan reports to be taken even though it has been taken recently.

DRAWBACKS OF EXISTING SYSTEM

1. Tedious to track the patient's details anywhere from the doctor's side.
2. There is no centralized database maintenance.
3. Less data security in maintaining the patient's records.
4. Lack of awareness about the diagnosis history of the particular patient.
5. Lack of attentiveness about the treatment details of the patient.

PROPOSED SYSTEM:

The proposed project acts as a patient record tracking system to automate the patients' medical history universally in order to give treatment to the patients anywhere. The proposed system model has been designed to maintain the patient details, hospital doctor details, diagnosis details and treatment details. All the patient records have been maintained in the patient details and similarly all the doctor records have been maintained in the doctor details which include the specialization such as illness, disease, attempt or suicide, psychiatric, ortho, gynecologist, pulmonologist etc. The diagnosis details includes the aadhaar id, insurance number, blood group, lab diagnosis such as Test, X-Ray, MRI, CT etc.

ADVANTAGES OF PROPOSED SYSTEM

1. KYP (Know Your Patient) works in finding out the patient's complete medical history details in a single screen to the doctor's view for the better and emergency treatment support to the patient anywhere.
2. Immediate tracking of injections given, medicines and foods given to the patients easily
3. Status of the treatment will be maintained in the centralized database.

4. The overall details maintained in this patient record tracking system will be more useful to the doctors to handle the patients easily and also more beneficial to the patients to approach any doctors anywhere with an easy mode of online medical history maintenance.

MODULE DESCRIPTION:

The modules in the Web integrated KYP are

Patient Details:

The patient details form acts as the main form to store all the new patient details as well as to alter the existing patient details. Each patient details includes the patient id, patient name, date of birth, age, address, father name, mother name, marital status, wife name, children's if any, mobile number, telephone number, email id, aadhaar id, insurance number, blood group, purpose of visit, treatment for such as illness, disease, attempt or murder, suicide attempt or suicide, psychiatric or others. In addition, the patient details stores the incoming condition such as normal or emergency.

Doctor Details:

The Doctor details form allows the user to store the hospital doctor details and each doctor details includes the doctor id, doctor name, date of birth, age, address, father name, mother name, marital status, wife name, children's if any, mobile number, telephone number, email id, aadhaar id, insurance number, blood group, purpose of visit, specialization, username and password. Each doctor will be allowed to get log into the application with their unique username and the corresponding password to access the main forms.

Diagnosis Details:

In the diagnosis details, the user has been allowed to enter each patient diagnosis details in a periodic wise. The diagnosis detail includes the diagnosis number, diagnosis date, doctor id, patient id, category name such as blood test, x-ray, mri scan, ct scan etc. Followed by sub-category details and the remarks of the diagnosis. These details will be allowed to view for the entire doctor for further treatment purposes.

Treatment Details:

In the treatment details form, the user has been allowed to enter the treatments given to the patients. Each treatment details entry includes the treatment number, treatment given date, doctor id, patient id, treatments, PRO of the doctor, injections given, medicines given, foods given, treatment status such as under treatment, not recovered and recovered.

Patient Record Tracking:

In the patient record tracking form, the doctor has been allowed to track the complete patient medical history between the respective periods with date wise filter. This form will be more useful to the doctor to analyze the patient's health condition easily. And as per the medical history and the treatment history, the doctor can move immediately to start giving treatment to the patients easily.

Disease Statistics:

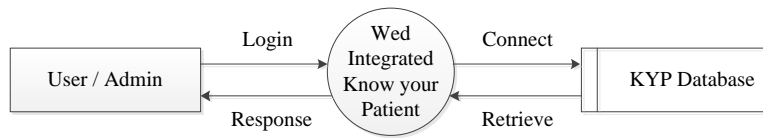
In the disease statistics form, the doctor can view the entire disease statistics by analyzing all the records entered in the system. The proposed system will be more helpful to the doctors in providing detailed statistics of disease wise with various parameters such as locality of living, type of family like nuclear or joint, work nature etc. With the help of this statistics, the medical research team will get an idea of discovering updated medicines for the diseases as well as to conduct the awareness camp to the public and also with various several activities.

Patient Feedback:

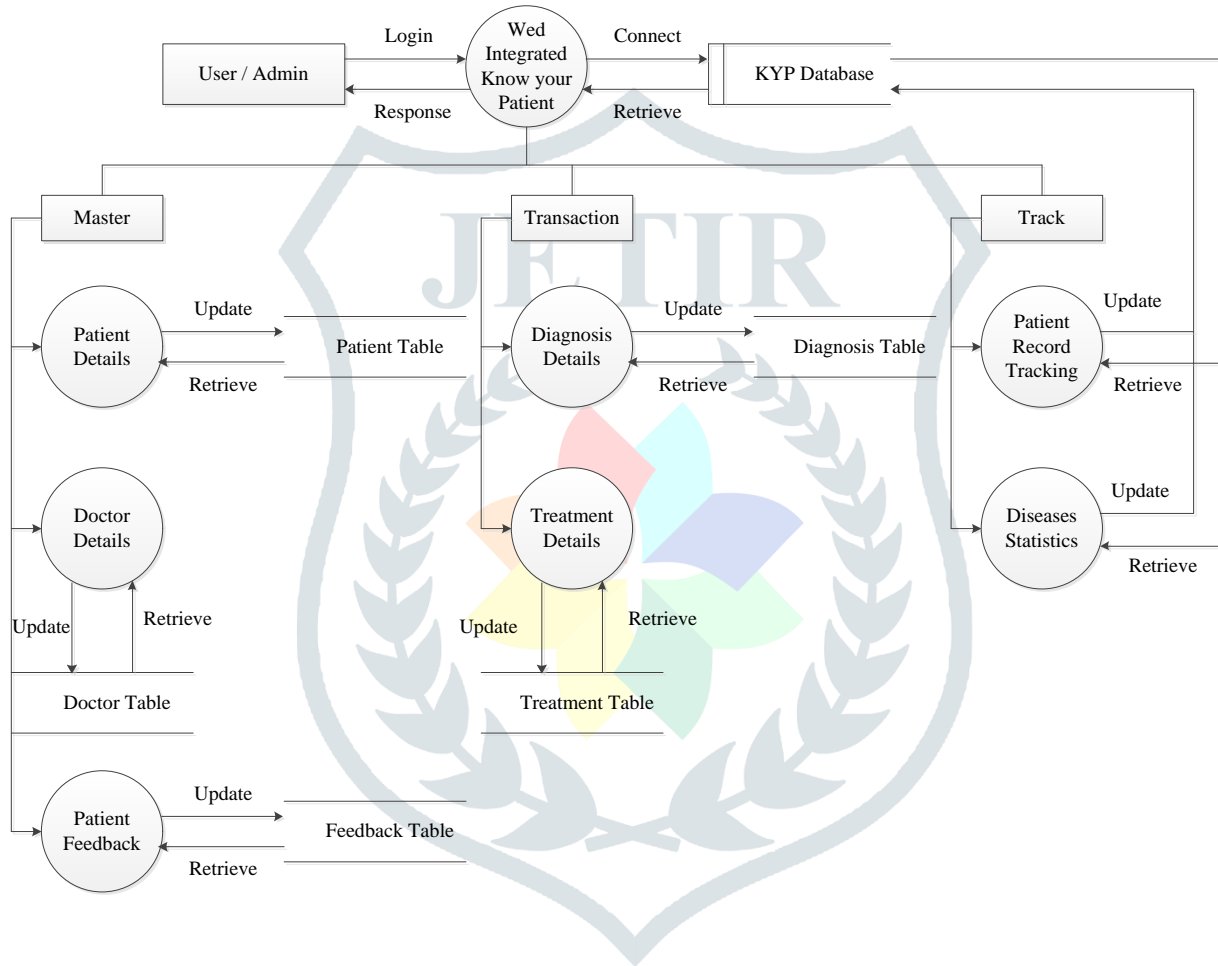
In the welcome page screen, the patient can have the option to post the feedbacks regarding the treatment taken from the doctor side. The feedback is about the doctor or the treatment. These details will be updated to the administrator and also to the concern doctor.

DATA FLOW DIAGRAM

LEVEL-0



LEVEL-1



INPUT DESIGN

Input Design considered the following things:

- What data should be given as input?
- How the data should be arranged or coded?
- The dialog to guide the operating personnel in providing input.
- Methods for preparing input validations and steps to follow when error occur.

1. Input Design is the process of converting a user-oriented description of the input into a computer-based system. This design is important to avoid errors in the data input process and show the correct direction to the management for getting correct information from the computerized system.

2. It is achieved by creating user-friendly screens for the data entry to handle large volume of data. The goal of designing input is to make data entry easier and to be free from errors. The data entry screen is designed in such a way that all the data manipulates can be performed. It also provides record viewing facilities.

3. When the data is entered it will check for its validity. Data can be entered with the help of screens. Appropriate messages are provided as when needed so that the user will not be in maize of instant. Thus the objective of input design is to create an input layout that is easy to follow. The input design in the Web Integrated Know your Patients are as follows,

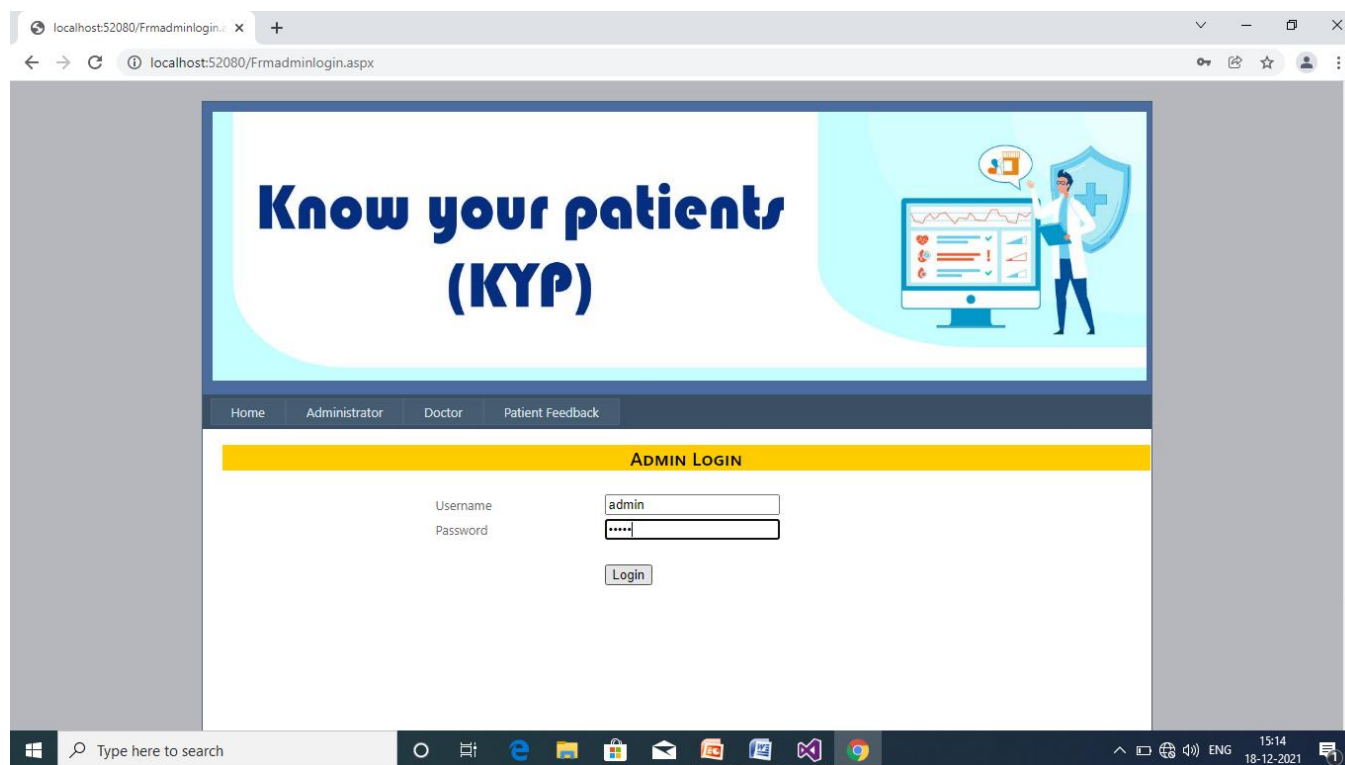
- Login form
- Patient Details Form
- Doctor Details Form
- Treatment Details Form
- Diagnosis Details Form
- Patient Record Tracking

SCREENSHOTS

HOME PAGE



ADMIN LOGIN



OUTPUT DESIGN:

A quality output is one, which meets the requirements of the end user and presents the information clearly. In any system results of processing are communicated to the users and to other system through outputs. In output design it is determined how the information is to be displaced for immediate need and also the hard copy output. It is the most important and direct source information to the user. Efficient and intelligent output design improves the system's relationship to help user decision-making.

1. Designing computer output should proceed in an organized, well thought out manner; the right output must be developed while ensuring that each output element is designed so that people will find the system can use easily and effectively. When analysis design computer output, they should Identify the specific output that is needed to meet the requirements.
2. Select methods for presenting information.
3. Create document, report, or other formats that contain information produced by the system.

The output form of an information system should accomplish one or more of the following objectives.

- ❖ Convey information about past activities, current status or projections of the Future.
- ❖ Signal important events, opportunities, problems, or warnings.
- ❖ Trigger an action.
- ❖ Confirm an action.

The output design in the Web Integrated Know your Patients are as follows,

- Patient Details List
- Doctor Details List
- View Patient Track Details
- View Statistics

- View Feedback
- Patient Record Tracking

SCREENSHOTS

PATIENT DETAILS LIST

The screenshot shows a web browser window with the URL localhost:52080/frmpatient.aspx. The page contains a registration form with the following fields: Mobile Number, Telephone Number, Email ID, Aadhar ID, Insurance Number, Blood Group (dropdown), Purpose of Visit (text area), Treatment Details (dropdown), and Incoming Condition (dropdown). A 'Create' button is located below the form. Below the form is a table with the following data:

| Patient ID | Patient Name | Blood Group | Purpose of Visit | Treatment Details | Incoming Condition |
|------------|--------------|-------------|------------------|-------------------|--------------------|
| 1 | seena | AB+ | illness | illness | Normal |
| 2 | amirtha | A+ | treatment | Disease | Emergency |
| 3 | siva | O- | illness | illness | Normal |
| 4 | lakshmi | O+ | illness | Disease | Emergency |
| 5 | nirupama sen | O+ | illness | illness | Normal |
| 6 | meena | B+ | illness | Psychartic | Normal |

DOCTOR DETAILS LIST

The screenshot shows a web browser window with the URL localhost:52080/frmdoctor.aspx. The page contains a registration form with the following fields: Date of Birth (dd-mm-yyyy) with a 'Calculate Age' button, Address (text area), Specilization (dropdown menu showing 'Aerospace Medicine'), Blood Group (dropdown), Username, and Password. A 'Create' button is located below the form. Below the form is a table with the following data:

| Doctor_id | Doctor_name | Specialization |
|-----------|-------------|--------------------|
| 1 | raju | Anaesthesia |
| 2 | sanjeev | Aerospace Medicine |
| 3 | savitha | Anaesthesia |
| 4 | tharani | Aerospace Medicine |

VIEW PATIENT TRACK DETAILS

Know your patients (KYP)

Home | Diagnosis | Treatment | Track | Statistics | Feedback | Change Password | Log out

PATIENT RECORD TRACKING

Enter the Patient ID Here:

Diagnosis Details History

| Diagnosis_no | Diagnosis_date | doctor_id | Patient_id | Category_name | Subcategory_name | Remarks |
|--------------|---------------------|-----------|------------|---------------|------------------|---------|
| 3 | 18-12-2021 00:00:00 | 4 | 6 | tests | Eye test | nil |

Treatment Details History

| Treatment_no | Treatment_date | Doctor_id | Patient_id | treatments | PRO_name | Injections_given | Medicines_given | Foods_given | Treatment_status |
|--------------|---------------------|-----------|------------|------------|----------|-------------------------|-----------------|----------------------------------|------------------|
| 4 | 18-12-2021 00:00:00 | 4 | 6 | nil | atheetha | intra dermal injections | nil | whole grains,seafood and poultry | ongoing |

VIEW STATISTICS

(KYP)

Home | Patient | Doctor | Track | Statistics | Log out

STATISTICS

Locality of Living:

Type of Family:

Work Nature:

Treatment:

| Patient_id | Patient_name | Gender | Date_Birth | age | address | locality_living | type_family | work_nature | Father_name | mother_name | marital_status | wife_name |
|------------|--------------|--------|---------------------|-----|---|-----------------|-------------|-------------|---------------|-------------|----------------|-----------|
| 1 | seena | Female | 10-04-1999 00:00:00 | 22 | krishnarayapuram,avarampalayam,cbe | Rural | Nuclear | Student | senthil kumar | revathy | Married | priya |
| 3 | siva | Male | 05-12-1978 00:00:00 | 42 | podanur | Urban | Joint | Business | ganesh | sakthi | Single | tharani |
| 5 | nirupama sen | Female | 20-05-1999 00:00:00 | 22 | siddhapudur,balasundaram layout,b.k.r.nagar,tamil nadu. | Rural | Joint | Student | sri krishna | kavitha | Single | nil |

CONCLUSION

The project entitled “**Web Integrated KYP (Know Your Patient)**” has been implemented successfully and supports the doctor to find out the patient’s complete medical history details in a single screen to the doctor’s view for the better and emergency treatment support to the patient anywhere. The proposed online computerized system whose main aim is to aid in automating the process of capturing, storing and retrieval of patient’s medical records and have those records available at any other site (hospital) that has subscribed to the framework. It is also aimed at enabling doctors and records managers keep track of patient medical records regardless of the hospital they attend and to enable them make good informed decisions regarding their patients based on their medical history. Through this system, patient records are saved in a professional way and space for storing the physical files is significantly reduced. The records are also stored remotely in a secure place away from the actual physical hospital where they are prone to various types of damages. From this remote location, anyone in need of the records can access them provided they have the right credentials, they have been authenticated by the system and they have the required authorization.

The system successfully automates the patients’ medical history universally in order to give treatment to the patients anywhere. The traditional system is poor in maintaining individual patient details due to absence of centralized database. Due to the absence of tracking patients details, the treatment process is sometimes is quite tedious in several hospitals. And also the patient has also to pay extra charges for repeated tests or scan reports to be taken even though it has been taken recently.

Patient and doctor details have been connected to the centralized database. The proposed system while some of these facilities might be fully equipped with all the required facilities, others are not fully equipped to handle all the medical issues that may be presented to them. This brings a need for patients to move from one hospital to another in order to seek better medical services. Others just end up being referred to these bigger hospitals that can handle more complicated medical cases. Not all patients have the capabilities to maintain their personal medical records regarding all the medical institutions that they have attended in their lifetime, what they were diagnosed with or the medication they were given. Some of these records might be stolen, lost, misplaced, damaged or tampered with. All this information is important to the doctor who might want to use the medical history of the patient to make informed and better decisions on future diagnosis of these patients.

SCOPE FOR FUTURE ENHANCEMENT

1. Prescription of medicines for the patients will be separately added.
2. Mobile Application will be designed and integrate with the web application.
3. The symptoms of the patient including snapshot will be posted to the hospital for emergency rescue.
4. Alert system will be created in order to enable the public to connect to the preferred hospital immediately.
5. Patient periodic behaviour report will be maintained.

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