Automation of the Pathology

A PROJECT REPORT

Submitted by

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Submitted in partial fulfilment of the Requirements for the Degree of

MASTER OF COMPUTER APPLICATION

Under the Supervision of Mr. Praveen Kumar Gupta Assistant Professor



Submitted to

DEPARTMENT OF COMPUTER APPLICATIONS KIET Group of Institutions, Ghaziabad Uttar Pradesh-201206 (JUNE 2023)

CERTIFICATE

Certified that **Prashant Gupta 2100290140104, Vinay Gupta 2100290140148, Shubham Dubey 2100290140132** has/have carried out the project work having "**Automation of the Pathology**" for Master of Computer Applications from Dr. A.P.J. Abdul Kalam Technical University (AKTU) (formerly UPTU), Technical University, Lucknow under my supervision. The project report embodies original work, and studies are carried out by the student himself / herself and the contents of the project report do not form the basis for the award of any other degree to the candidate or to anybody else from this or any other University/Institution.

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This is to certify that the above statement made by the candidate is correct to the best of my knowledge.

Date:

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Signature of External Examiner

Dr. Arun Tripathi Head, Department of Computer Applications KIET Group of Institutions, Ghaziabad

ABSTRACT

The main aim of this project is to develop a website that facilitates the user with an on-the-click functionality which is useful to find a patient's lab report. Users can get lab reports at any time through this website. The aim of this application is to reduce the manual effort and time needed to travel and collect the report of a test from the laboratory and this software will be helpful for the administrator also for the maintenance of the patient's history.

However, the patient will provide the test sample at the laboratory collection centre and will pay the relevant fee. The support staff will provide the receipt.

A significant part of the operation of any Pathology Lab involves the acquisition, management and timely retrieval of great volumes of information. This information typically involves patient personal information and medical history, staff information, room and ward scheduling, staff scheduling, operating theatre scheduling and various facilities waiting lists.

All of this information must be managed in an efficient and cost wise fashion so that an institution's resources may be effectively utilized system will automate the management of the pathology lab making it more efficient and error free. It aims at standardizing data, consolidating data ensuring data integrity and reducing inconsistencies.

ACKNOWLEDGEMENTS

Success in life is never attained single handedly. My deepest gratitude goes to my thesis supervisor, **Mr. Praveen Kumar Gupta** for her guidance, help and encouragement throughout my research work. Their enlightening ideas, comments, and suggestions.

Words are not enough to express my gratitude to **Dr. Arun Tripathi**, Professor and Head, Department of Computer Applications, for his insightful comments and administrative help at various occasions.

Fortunately, I have many understanding friends, who have helped me a lot on many critical conditions.

Finally, my sincere thanks go to my all-faculty members & also my family members and all those who have directly and indirectly provided me moral support and other kind of help. Without their support, completion of this work would not have been possible in time. They keep my life filled with enjoyment and happiness.

Prashant Gupta
Vinay Gupta
Shubham Dubey

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CHAPTER 1

INTRODUCTION

In the modern era of healthcare, pathology laboratories play a critical role in diagnosing diseases, monitoring treatment effectiveness, and providing crucial information for patient care. However, the management of vast amounts of patient data, test results, and laboratory workflows can be a complex and challenging task. To address these challenges and enhance efficiency, accuracy, and organization in pathology laboratories.

This project aims to develop a comprehensive and integrated software solution specifically designed for pathology laboratories. This software will streamline and automate various aspects of laboratory operations, including sample tracking, test ordering, result reporting, quality control, and inventory management.

By implementing a robust and user-friendly software system, the project seeks to transform manual and paper-based processes into efficient, digitized workflows. This will enable pathologists, laboratory technicians, and administrators to manage and track patient samples, laboratory tests, and associated data seamlessly. The software will also facilitate communication and collaboration among healthcare professionals, ensuring timely and accurate information exchange.

1.1 PROJECT SCOPE

The scope of the Automation of Pathology Project encompasses the development, implementation, and integration of a comprehensive software solution specifically designed for pathology laboratories. The software will cover various aspects of laboratory operations, including sample tracking, test ordering, result reporting, quality control, inventory management, and communication.

Sample Tracking: The software will provide functionality for tracking and managing patient samples throughout the laboratory workflow. It will enable the creation electronic sample records, barcode generation and scanning, and real-time sample tracking from collection to analysis.

Test Ordering and Result Reporting: The software will facilitate the electronic ordering of laboratory tests by healthcare professionals. It will also automate the generation and delivery of test results to the ordering physicians or designated recipients.

The system will allow for customizable report templates, result validation, and secure transmission of reports.

1.2 PROJECT DESCRIPTION

The Automation of Pathology project aims to develop and implement a comprehensive software solution tailored specifically for pathology laboratories. This project seeks to address the challenges faced by pathology laboratories in managing data, optimizing workflows, and enhancing communication and collaboration among healthcare professionals. By automating and streamlining laboratory operations, the software will improve efficiency, accuracy, and overall quality of diagnostic services.

The project will begin with a thorough analysis of the existing processes and workflows within the pathology laboratory. This assessment will help identify pain points, bottlenecks, and areas that can benefit from automation and software integration. The project team will collaborate closely with pathologists, laboratory technicians, and administrators to understand their requirements and ensure that the software solution meets their needs.

Upon successful development, the software will be implemented within the pathology laboratory, replacing manual and paper-based processes with streamlined, digitized workflows. The project team will provide comprehensive training and support during the implementation phase to ensure a smooth transition and successful adoption of the software.

The Automation of Pathology project aims to transform the way pathology laboratories operate, optimizing processes, improving accuracy, and enhancing collaboration. By leveraging technology and automation, this project will empower pathology laboratories to deliver high-quality diagnostic services, leading to improved patient care, efficiency, and overall laboratory performance.

1.3 TECHNOLOGIES USED

1.3.1 SOFTWARE SPECIFICATIONS

The software requirements are description of features and functionalities of the target system. Requirements convey the expectations of users from the software product. The requirements can be obvious or hidden, known or unknown, expected or unexpected from client's point of view.

- HTML, CSS
- PHP
- XAMPP Server
- JavaScript

1.3.2 HARDWARE SPECIFICATION

The hardware requirements are the requirements of a hardware device. Most hardware only has operating system requirements or compatibility. For example, a printer may be compatible with Windows XP but not compatible with newer versions of Windows like Windows 10, Linux, or the Apple macOS.

- 500GB HDD and above
- 4GB RAM and above
- Processor core i3 and above

CHAPTER 2

FEASIBILITY STUDY

The feasibility study for the Pathology Lab Software project aims to assess the viability and practicality of developing and implementing a comprehensive software solution for pathology laboratories. This study will evaluate the technical, economic, operational, and scheduling aspects of the project to determine its feasibility and potential benefits.

2.1 TECHNICAL FEASIBILITY

The technical feasibility will evaluate the technical requirements and capabilities needed to develop and implement the software. It will assess factors such as the availability of skilled developers, compatibility with existing laboratory systems, and the required infrastructure. The study will also analyze the software's scalability, security measures, and integration capabilities to ensure that it can meet the demands of different pathology laboratories.

2.2 OPERATIONAL FEASIBILITY

The operational feasibility study will assess the impact of the software on day-today operations within the pathology laboratory. It will evaluate how the software will integrate with existing processes, systems, and workflows. The study will consider the training needs of laboratory personnel and the ease of software adoption. Furthermore, it will analyze the potential operational benefits, such as improved efficiency, reduced turnaround times, and enhanced accuracy in test results.

2.3 BEHAVIORAL FEASIBILITY

Behavioral feasibility is an important aspect to consider when implementing a patient appointment system in a healthcare facility. It refers to the likelihood that the system will be accepted and used by its intended users, in this case, the healthcare staff and the patients. The following is a description of the behavioral feasibility of a patient appointment system.

2.4 ECONOMICAL FEASIBILITY

The economic feasibility study will assess the financial aspects of the project. It will evaluate the cost of software development, including personnel, technology, and infrastructure requirements. Additionally, the study will consider the potential return on investment (ROI) by analyzing the cost savings and efficiency gains resulting from automation, reduced errors, and improved laboratory workflows. A cost-benefit analysis will help determine whether the project is economically viable.

CHAPTER 3

DATABASE DESIGN

3.1 USE CASE DIAGRAM

Elicit requirement from users in meaningful chunks. Construction planning is built around delivering some use cases n each interaction basis for system testing.

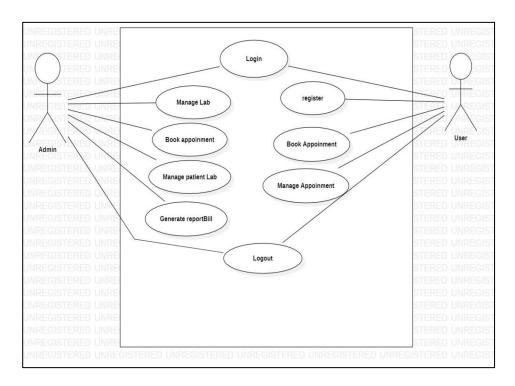


Fig. 3.1 Use Case Diagram Automation of the Pathology

3.2 ACTIVITY DIAGRAM

Activity diagram shows behavior with control structure. Can show many objects over many uses, many object in single use case, or implementations methods encourage parallel behavior, etc.

- Test Activity
- Schedule Activity
- Doctors Activity
- Appointment Activity
- Fees Activity

3.2.1 FEATURES OF THE ACTIVITY UML DIAGRAM

- Admin User can search Test view description of a selected Test add Test, update Test and delete Test
- Its shows the activity flow of editing: adding and updating of schedule User will be able to search and generate report of Appointment, Fees
- All objects such as (Test schedule, Fees) are interlinked Its snows the full description and now of Test Appointment Fees, schedule.

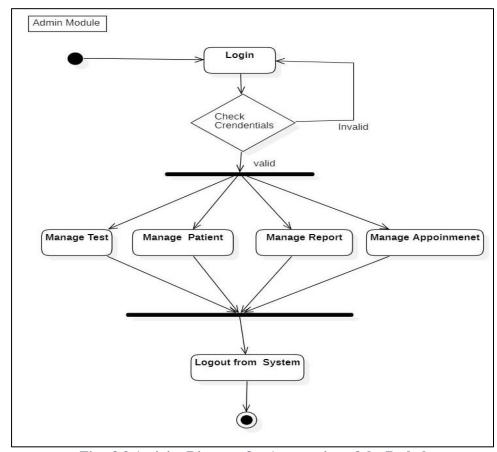


Fig. 3.2 Activity Diagram for Automation of the Pathology

3.3 CLASS DIAGRAM

It shows static structure of concepts, types and class. Concepts how users think about the world; type shows interfaces of software components; classes shows implementation of software components. Class Diagram describes the structure of a Automation of pathology classes, their attributes, operations (or methods) and the relationships among objects.

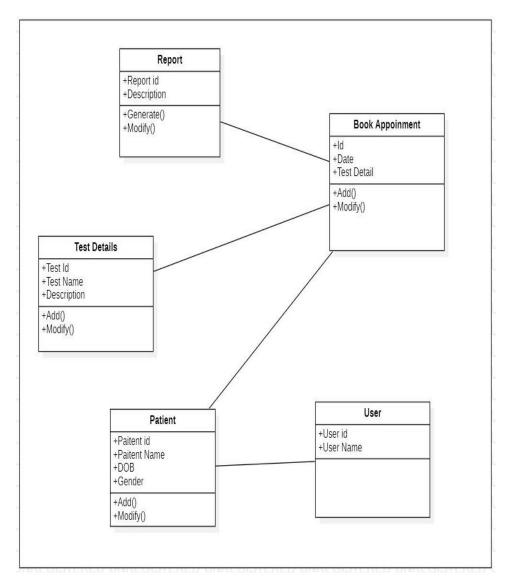


Fig. 3.3 Class Diagram for Automation of the Pathology

3.4 E-R DIAGRAM

This ER (Entity Relationship) Diagram represents the model of Automation of Pathology Entity The entity-relationship diagram of Automation of the Pathology shows all the visual instrument of database tables and the relations between Appointment, tests, patient, reports etc. It used structure data and to define the relationships between structured data groups of this project functionalities.

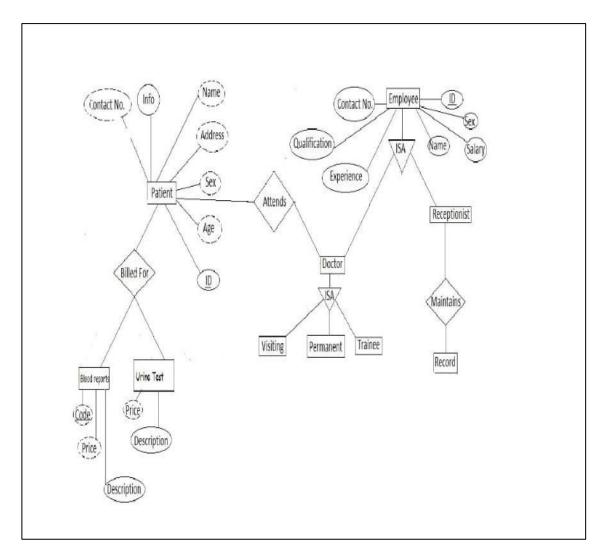


Fig. 3.4 ER-Diagram for Automation of the Pathology

3.5 DFD DIAGRAM

Data Flow Diagram (DFD) is a graphical representation that depicts the flow of data within a system or software application. In the context of the Automation of the Pathology Project, the DFD illustrates how data is input, processed, stored, and output within the software system. The following sections outline the DFD content for this Project.

3.5.1 ZERO LEVEL DATA FLOW DIAGRAM (0 LEVEL DFD)

The Zero Level Data Flow Diagram (DFD) provides an overview of the major processes and data flows within the Automation of the Pathology Project. It represents the highest level of abstraction and serves as a foundation for developing more detailed DFDs.

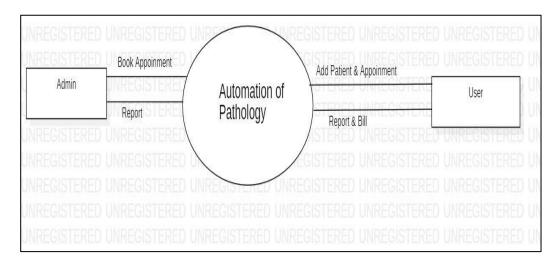


Fig. 3.5 Zero Level DFD for Automation of the Pathology

3.5.2 FIRST LEVEL DATA FLOW DIAGRAM(1ST LEVEL DFD)

The First Level Data Flow Diagram (DFD) provides a more detailed view of the processes and data flows within the sub-modules or sub-processes of the Automation of Pathology Project. It expands upon the Zero Level DFD by decomposing the central process into its major components.

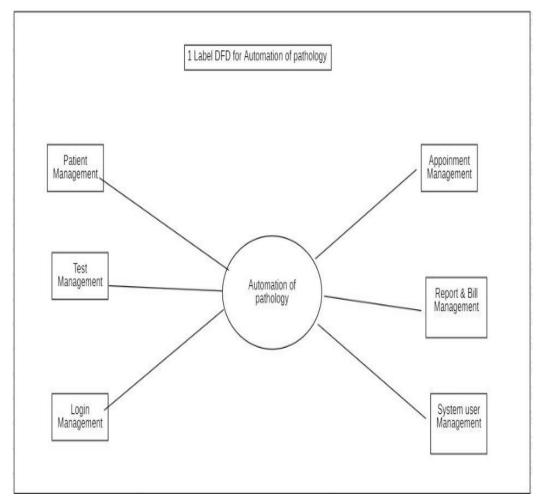


Fig. 3.6 First Level DFD for Automation of the Pathology

3.6 SEQUENCE DIAGRAM

Sequence Diagram is defined as a dynamic model for a use case which is used for showing the interaction between classes for particular time period. This diagram include message, time.

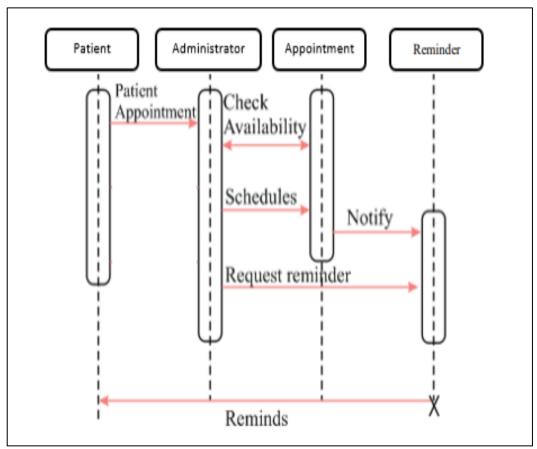


Fig. 3.7 Sequence Diagram for Automation of the Pathology

3.7 DATABASE TABLES

3.7.1 USER TABLE



Table. 3.7.1 User Table

3.7.2 PATIENT TABLE



Table. 3.7.2 Patient Table

3.7.3 TEST DETAILS TABLE

#	Name	Туре	Collation	Attributes	Null	Default	Comments	Extra
1	test_id 🔑	int(30)			No	None		AUTO_INCREMENT
2	name	varchar(50)	utf8mb4_general_ci		No	None		
3	description	varchar(200)	utf8mb4_general_ci		No	None		
4	ref.range	varchar(25)	utf8mb4_general_ci		No	None		
5	unit	varchar(10)	utf8mb4_general_ci		No	None		
6	price	varchar(5)	utf8mb4_general_ci		No	0		
7	status	tinyint(1)			No	1		
8	delete_flag	tinyint(1)			No	0		

Table 3.7.3 Test Details Table

3.7.4 Appointment Detail Table

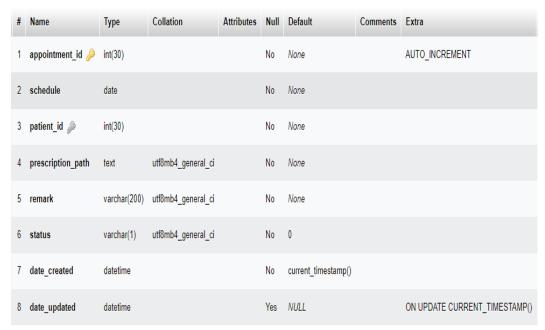


Table 3.7.4 Appointment Table

3.7.5 REPORT TABLE



Table 3.7.5 Report Table

3.7.6 VISITOR QUERY TABLE

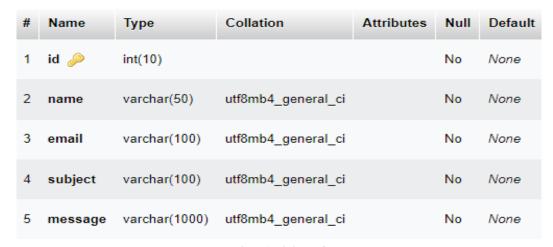
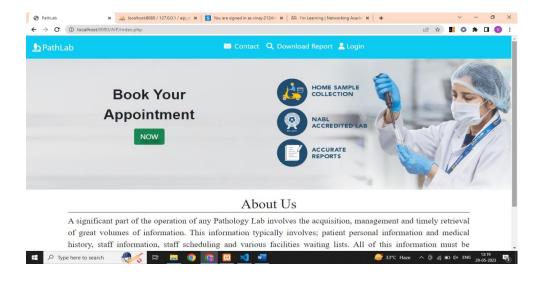


Table 3.7.6 Visitor Query Table

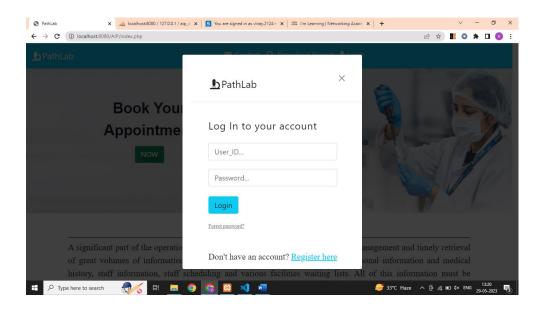
CHAPTER 4

FORM DESIGN

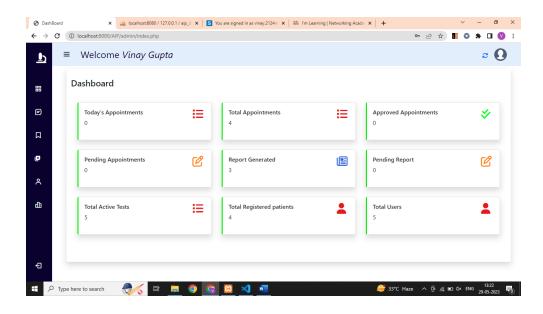
4.1 INDEX PAGE



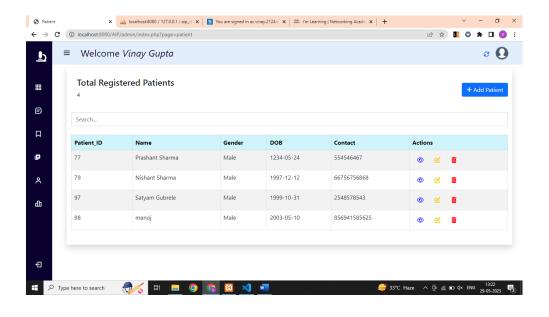
4.2 LOGIN FORM



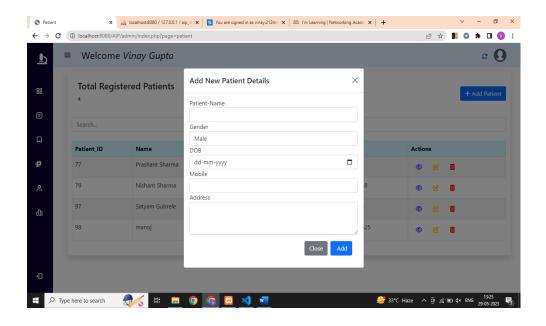
4.3 ADMIN DASHBOARD



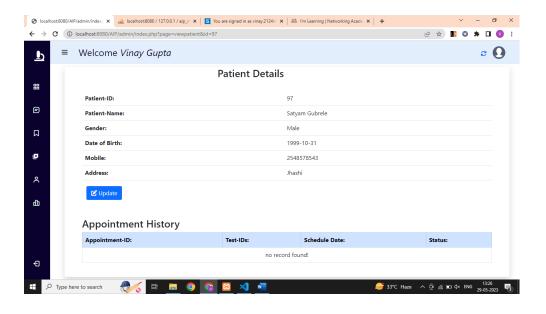
4.4 PATIENT DETAILS



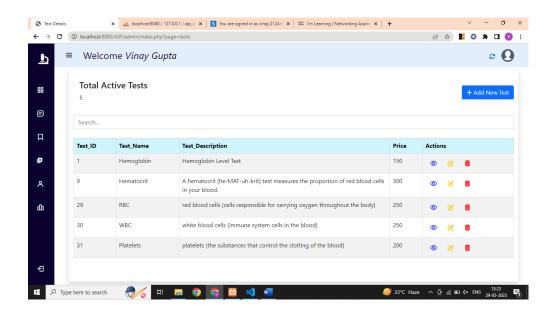
4.4.1 ADD PATIENT



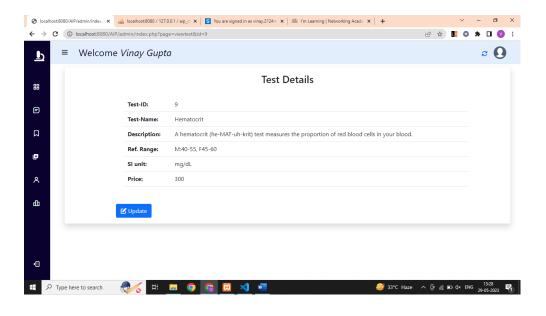
4.4.2 VIEW PATIENT DETAILS



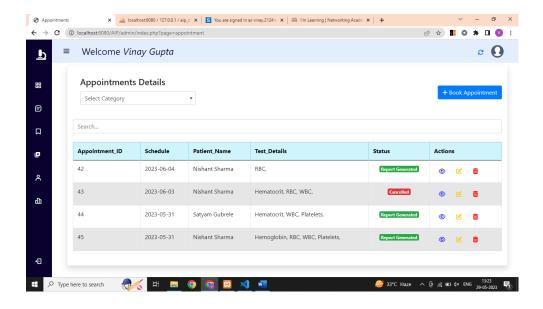
4.5 TEST DETAILS



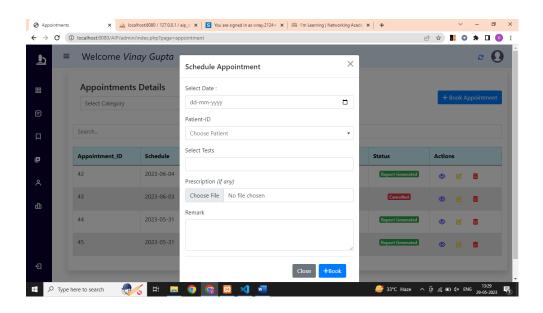
4.5.1 VIEW TEST DETAILS



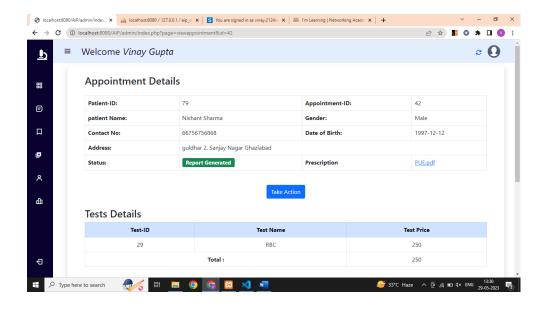
4.6 APPOINTMENT DETAILS



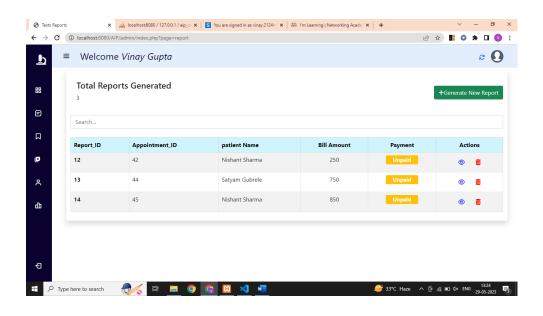
4.6.1 BOOK APPOINTMENT FORM



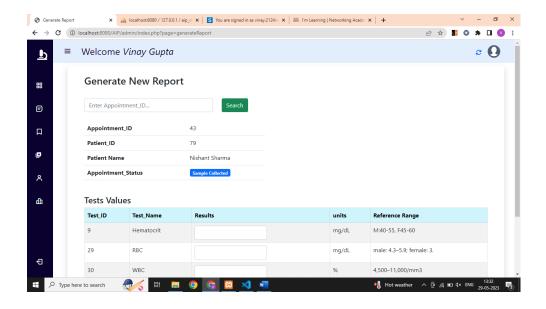
4.6.2 VIEW APPOINTMENT DETAILS



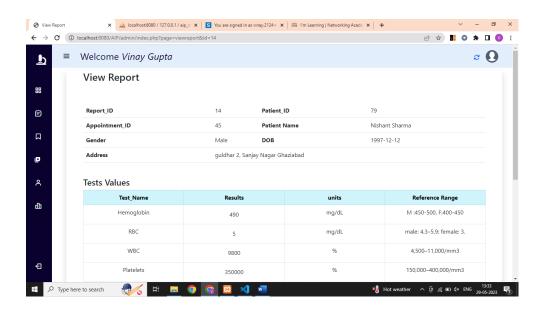
4.7 REPORT DETAILS



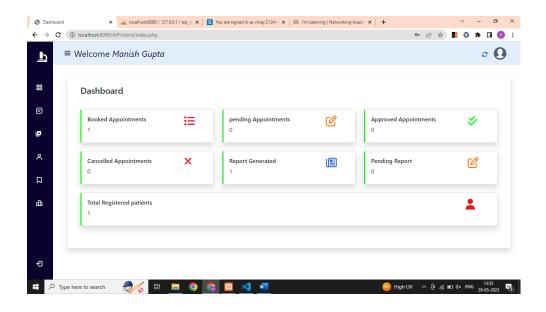
4.7.1 GENERATE REPORT



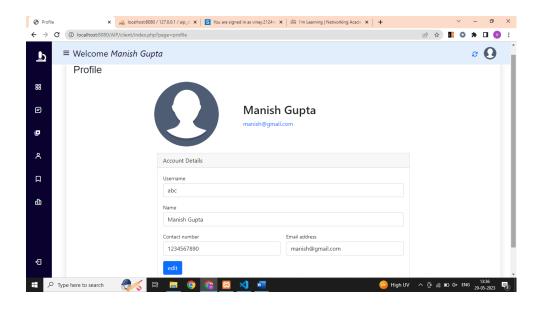
4.7.2 VIEW REPORT



4.8 USER DASHBOARD



4.8.1 PROFILE PAGE



CHAPTER 5

CODING

5.1 INDEX PAGE CODE

```
<?php
session start();
if(!isset($ SESSION['username']))
{header("location:http://localhost:8080/AIP/index.php");}
?>
<!DOCTYPE html>
<html lang="en" dir="ltr">
 <head>
  k rel="stylesheet" href="css/dashboard.css" type="text/css">
  <script type="text/javascript" src="js/index.js"></script>
  <script src="https://kit.fontawesome.com/f991540242.js"</pre>
  crossorigin="anonymous"></script>
  <!-- Boxicons CDN Link -->
  link href='https://unpkg.com/boxicons@2.0.7/css/boxicons.min.css'
  rel='stylesheet'>
  <script src="https://kit.fontawesome.com/f991540242.js"</pre>
  crossorigin="anonymous"></script>
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   link
  href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css"
  rel="stylesheet" integrity="sha384-
  EVSTQN3/azprG1Anm3QDgpJLIm9Nao0Yz1ztcQTwFspd3yD65VohhpuuCOm
  LASiC" crossorigin="anonymous">
   <script
  src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.bundle.min.js"
  integrity="sha384-
  MrcW6ZMFYlzcLA8Nl+NtUVF0sA7MsXsP1UyJoMp4YLEuNSfAP+JcXn/tWtI
  axVXM" crossorigin="anonymous"></script>
```

```
<script src="https://code.jquery.com/jquery-3.7.0.min.js" integrity="sha256-</p>
  2Pmvv0kuTBOenSvLm6bvfBSSHrUJ+3A7x6P5Ebd07/g="
  crossorigin="anonymous"></script>
   <script
  src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.12.3/umd/popper.min.js"
  integrity="sha384-
  vFJXuSJphROIrBnz7yo7oB41mKfc8JzQZiCq4NCceLEaO4IHwicKwpJf9c9IpFg
  h" crossorigin="anonymous"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0-</pre>
  beta.2/js/bootstrap.min.js" integrity="sha384-
  alpBpkh1PFOepccYVYDB4do5UnbKysX5WZXm3XxPqe5iKTfUKjNkCk9SaVu
  EZflJ" crossorigin="anonymous"></script>
 </head>
<body>
 <?php include 'connection.php'?>
 <?php include 'pages/home.php'?>
 <div class="container-fluid mt-4 pt-4">
   <div class="container-fluid shadow bg-body rounded mt-4">
       <!--php page load dynamically-->
    <?php $page = isset($_GET['page']) ? $_GET['page'] : 'dashboard'; ?>
    <?php
       if(!file exists('pages/'.$page.".php") && !is dir($page)){
        include 'pages/404.html';
       else {
        if(is dir($page))
         include $page.'/index.php';
         include 'pages/'.$page.'.php';
     ?>
   </div>
       </div>
 <script>
    var page;
  $(document).ready(function(){
  page = '<?php echo isset($ GET['page']) ? $ GET['page'] : 'home' ?>';
  if(window.history.replaceState){
  window.history.replaceState(null,null,location.href);}
 </script>
</body></html>
```

5.1.1 LOGIN PAGE

```
<style>
.navbar .navbar-nav > 1i > a:hover {
 border-bottom:1px solid #fff;
.nav-link{
  font-size:20px !important;
.navbar-brand{
  font-size: 25px !important;
@media (min-width: 1025px) {
.h-custom-2 {
height: 100%;
</style>
<?php
include 'connection.php';
session start();
if(isset($ POST['login'])){
  $username = $ POST['username'];
  $pass = $ POST['password'];
  $userid="SELECT * from users where username='$username'";
  $query=mysqli query($conn,$userid);
   $userid_count=mysqli_num_rows($query);
  if($userid count>0){
     $user data=mysqli fetch assoc($query);
     if($user data['password']==$pass){
       $ SESSION['username']=$user data['username'];
       if($username=='admin')
       header('location:admin/index.php');
       else
       header('location:client/index.php');
    else{
      echo" <script>
       alert('Invalid password');
      </script>";
  }
  else {
     echo" <script>
       alert('Invalid Username');
      </script>";
```

```
}
     <nav class="navbar sticky-top navbar-expand-lg bg-info navbar-dark">
       <!-- Container wrapper -->
       <div class="container-fluid">
          <!-- Navbar brand -->
          <a class="navbar-brand" href="./"><i class="fa fa-microscope mx-
1"></i>PathLab</a>
       <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-</pre>
target="#navbarSupportedContent" aria-controls="navbarSupportedContent" aria-
expanded="false" aria-label="Toggle navigation">
        <span class="navbar-toggler-icon"></span>
       </button>
         <!-- Icons -->
          <div class="collapse navbar-collapse "id="navbarSupportedContent" >
         <a class="nav-link text-white" href="?page=contact"><i class="fas fa-
envelope mx-1"></i> Contact</a>
            </1i>
            <a class="nav-link text-white" href="?page=downloadreport"><i
class="fas fa-search mx-1"></i> Download Report</a>
            </1i>
              <!-- Button trigger modal -->
            <!-- Button trigger modal -->
              <a href="" class="nav-link text-white" data-bs-toggle="modal" data-bs-
target="#loginform">
                <i class="fa fa-user"></i> Login</a>
                </u1>
       </div>
     </div>
       </nav>
      <!-- Modal -->
       <!-- Container wrapper -->
     <div class="modal fade" id="loginform" data-bs-backdrop="static" data-bs-</pre>
keyboard="false" tabindex="-1" aria-labelledby="formModalLabel" aria-hidden="true">
       <div class="modal-dialog modal-dialog-centered">
          <div class="modal-content">
             <div class="px-5 ms-xl-4 text-lg-1 modal-header">
                <h3 class="fw-normal mt-5 pb-2" ><i class="fa fa-microscope mx-
1"></i>PathLab</h3>
                <button type="button" class="btn-close" data-bs-dismiss="modal" aria-</p>
label="Close"></button>
```

```
</div>
               <div class="d-flex align-items-center h-custom-2 px-5 ms-xl-4 mt-5 pt-5</pre>
pt-xl-0 mt-xl-n5"> <form id="myform" method="post" class="needs-validation"
novalidate>
                          <h3 class="fw-normal mb-3 pb-3" style="letter-spacing:
    1px;">Log In to your account</h3><div class="row justify-content-center"><div
    class="col-12"><span class="bg-danger" id="error"></div></div>
                      <div class="form-outline mb-4">
                         <input type="text" id="id" name="username" class="form-
control form-control-lg" value="" placeholder="User ID..." required/>
                     <div class="invalid-feedback">
                           Please enter username.
                        </div>
                      </div> <div class="form-outline mb-4">
                              <input type="password" id="pass" name="password"
     class="form-control form-control-lg" placeholder="Password..." required />
                              <div class="invalid-feedback">
                                 Please enter password.
                              </div>
                            </div>
                            <div class="pt-1 mb-4">
                              <button class="btn btn-info btn-lg btn-block" name="login"</pre>
     id="login" type="submit">Login</button>
                            </div>
                            <a class="text-muted"</pre>
     href="?page=forgetpassword1">Forgot password?</a>
                            On't have an account? <a href="?page=register"</p>
     class="link-info">Register here</a>
                         </form>
                       </div>
                     </div>
                    </div>
           </div>
           <script>
            // Example starter JavaScript for disabling form submissions if there are
     invalid fields
           (function () {
            'use strict'
 // Fetch all the forms we want to apply custom Bootstrap validation styles to
 var forms = document.querySelectorAll('.needs-validation')
 // Loop over them and prevent submission
 Array.prototype.slice.call(forms)
        .forEach(function (form) {
         form.addEventListener('submit', function (event) {
          if (!form.checkValidity()) {
```

```
event.preventDefault()
    event.stopPropagation()
    }
    form.classList.add('was-validated')
    }, false)
    })
})()
</script>
```

5.2 ADMIN MODULE

```
<?php
session start();
if(!isset($ SESSION['username']))
{header("location:http://localhost:8080/AIP/index.php");}
?>
<!DOCTYPE html>
<html lang="en" dir="ltr">
 <head>
  <link rel="stylesheet" href="css/index.css" type="text/css">
  <script src="https://kit.fontawesome.com/f991540242.is"</pre>
crossorigin="anonymous"></script>
  <!-- Boxicons CDN Link -->
  link href='https://unpkg.com/boxicons@2.0.7/css/boxicons.min.css'
rel='stylesheet'>
  <script src="https://kit.fontawesome.com/f991540242.js"</p>
crossorigin="anonymous"></script>
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
EVSTQN3/azprG1Anm3QDgpJLIm9Nao0Yz1ztcQTwFspd3yD65VohhpuuCOm
LASiC" crossorigin="anonymous">
   <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.bundle.min.js
" integrity="sha384-
MrcW6ZMFYlzcLA8Nl+NtUVF0sA7MsXsP1UyJoMp4YLEuNSfAP+JcXn/tW
tIaxVXM" crossorigin="anonymous"></script>
   <script type="text/javascript" src="js/index.js"></script>
   <script src="https://code.jquery.com/jquery-3.2.1.slim.min.js"</pre>
integrity="sha384-
KJ3o2DKtlkvYIK3UENzmM7KCkRr/rE9/Qpg6aAZGJwFDMVNA/GpGFF93h
XpG5KkN" crossorigin="anonymous"></script>
```

```
<script
src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.12.3/umd/popper.min.js"
integrity="sha384-
vFJXuSJphROIrBnz7yo7oB41mKfc8JzQZiCq4NCceLEaO4IHwicKwpJf9c9IpF
gh" crossorigin="anonymous"></script>
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0-</pre>
beta.2/js/bootstrap.min.js" integrity="sha384-
alpBpkh1PFOepccYVYDB4do5UnbKysX5WZXm3XxPqe5iKTfUKjNkCk9Sa
VuEZflJ" crossorigin="anonymous"></script>
 </head>
<body>
 <?php include 'connection.php'?>
 <?php include once 'pages/navigation.php'?>
 <div class="container-fluid mt-5 pt-4">
 <div class="container-fluid shadow bg-body rounded">
       <!--php page load dynamically-->
    <?php $page = isset($ GET['page']) ? $ GET['page'] : 'dashboard'; ?>
    <?php
       if(!file exists('pages/'.$page.".php") && !is dir($page)){
        include 'pages/404.html';
        }
      else{
        if(is dir($page))
         include $page.'/index.php';
         include 'pages/'.$page.'.php';
     ?>
   </div>
   </div>
 <script>
   var page;
  $(document).ready(function(){
  page = '<?php echo isset($ GET['page']) ? $_GET['page'] : 'home' ?>';
  })
  if(window.history.replaceState){
window.history.replaceState(null,null,location.href);}
 </script>
</body>
</html>
```

5.2.1 ADMIN DASHBOARD

```
<head><style>
.card{
  margin:10px 0 20px 0;
  border-left:3px solid rgb(5, 238, 5);
  height:80%;
</style>
<title>Dashboard</title>
</head>
<div class="container-fluid-0 mt-4 pt-4 pb-5 p-4">
<div class="container-fluid-0">
   <h4>Dashboard</h4>
</div>
<div class="container-fluid-0 grids">
<div class="row">
 <div class="col-lg-4 col-md-6">
  <div class="card shadow bg-body rounded ">
   <div class="card-body">
    <div class="row">
     <div class="col-9">
        <div><h6 class="card-title">Booked Appointments</h6>
        </div>
        <div>
         <?php
          $insertQuery = "SELECT * from 'appointment list' A INNER JOIN
'patient' P on P.patient id=A.patient id where
P.username='$ SESSION[username]'";
          $result = $conn->query($insertQuery);
          $rowcount=mysqli num rows($result);
          echo $rowcount;
          ?></div>
     </div>
       <div class="col-2">
        <i class="fa-solid fa-list" style="color: #e61919;font-size:30px"></i>
       </div>
    </div>
   </div>
  </div>
 </div>
 <div class="col-lg-4 col-md-6">
  <div class="card shadow bg-body rounded">
  <div class="card-body">
```

```
<div class="row">
     <div class="col-9">
        <div><h6 class="card-title">pending Appointments</h6>
        <div>
        <?php
          $insertQuery = "SELECT * from `appointment list` A INNER JOIN
'patient' P on P.patient id=A.patient id where
P.username='$ SESSION[username]' and A.status='0'";
          $result = $conn->query($insertQuery);
          $rowcount=mysqli num rows($result);
          echo $rowcount;
          ?>
        </div>
     </div>
      <div class="col-2">
      <i class="fa-regular fa-pen-to-square" style="color: #ff7b00;font-
size:30px"></i>
      </div>
    </div>
   </div>
  </div>
 </div>
 <div class="col-lg-4 col-md-6">
  <div class="card shadow bg-body rounded">
   <div class="card-body">
     <div class="row">
      <div class="col-9">
        <div>
         <h6 class="card-title">Approved Appointments</h6>
        </div>
        <div> 
        <?php
          $insertQuery = "SELECT * from `appointment list` A INNER JOIN
'patient' P on P.patient id=A.patient id where
P.username='$ SESSION[username]' and A.status='1'";
          $result = $conn->query($insertQuery);
          $rowcount=mysqli num rows($result);
          echo $rowcount;
        </div>
      </div>
        <div class="col-2">
         <i class="fa-solid fa-check-double" style="color: #00ff11;font-</pre>
size:30px"></i>
```

```
</div>
     </div>
   </div>
  </div>
 </div>
</div>
 <div class="row">
 <div class="col-lg-4 col-md-6">
  <div class="card shadow bg-body rounded">
  <div class="card-body">
    <div class="row">
     <div class="col-9">
        <div><h6 class="card-title">Cancelled Appointments</h6>
        </div>
        <div>
        <?php
          $insertQuery = "SELECT * from `appointment list` A INNER JOIN
'patient' P on P.patient id=A.patient id where
P.username='$ SESSION[username]' and A.status='4'";
          $result = $conn->query($insertQuery);
          $rowcount=mysqli num rows($result);
          echo $rowcount;
          ?>
        </div>
     </div>
      <div class="col-2">
      <i class="fa-solid fa-xmark fa-xl" style="color: #e61919;font-
size:30px"></i>
      </div>
    </div>
   </div>
  </div>
 </div>
 <div class="col-lg-4 col-md-6">
  <div class="card shadow bg-body rounded">
  <div class="card-body">
    <div class="row">
     <div class="col-9">
        <div><h6 class="card-title">Report Generated</h6>
        </div>
        <div>
        <?php
          $insertQuery = "SELECT * from `appointment list` A INNER JOIN
'patient' P on P.patient id=A.patient id where
P.username='$ SESSION[username]' and A.status='3'";
          $result = $conn->query($insertQuery);
```

```
$rowcount=mysqli num rows($result);
          echo $rowcount;
          ?>
        </div>
     </div>
      <div class="col-2">
      <i class="fa-regular fa-newspaper" style="color: #286adb;font-</pre>
size:30px"></i>
      </div>
    </div>
   </div>
  </div>
 </div>
 <div class="col-lg-4 col-md-6">
  <div class="card shadow bg-body rounded">
  <div class="card-body">
    <div class="row">
     <div class="col-9">
        <div><h6 class="card-title">Pending Report</h6>
        </div>
        <div>
        <?php
          $insertQuery = "SELECT * from `appointment list` A INNER JOIN
'patient' P on P.patient id=A.patient id where
P.username='$ SESSION[username]' and A.status='2'";
          $result = $conn->query($insertQuery);
          $rowcount=mysqli num rows($result);
          echo $rowcount;
          ?>
        </div>
     </div>
      <div class="col-2">
      <i class="fa-regular fa-pen-to-square" style="color: #ff7b00;font-
size:30px"></i>
      </div>
    </div>
   </div>
  </div>
 </div>
</div>
<div class="row">
 <div class="col-lg-12 col-md-12">
  <div class="card shadow bg-body rounded">
  <div class="card-body ">
    <div class="row">
```

```
<div class="col-11">
        <div><h6 class="card-title">Total Registered patients</h6>
        </div>
        <div>
        <?php
          $insertQuery = "SELECT * from `patient` where
username='$ SESSION[username]'";
          $result = $conn->query($insertQuery);
          $rowcount=mysqli num rows($result);
          echo $rowcount;
          ?>
        </div>
     </div>
      <div class="col-1">
       <i class="fa fa-user" style="color: #e61919;font-size:30px"></i>
    </div>
   </div>
  </div>
 </div>
</div>
</div>
</div>
```

5.2.2 TESTS SECTION

```
<head><title>Test Details</title></head>
<div class="container-fluid-0 mt-4 pb-5">
 <div class="row align-items-center justify-content-between">
  <div class="col-auto mr-auto col-lg-5">
  <div class="card border-0">
   <div class="card-body">
    <div class="row">
     <div class="col-9">
        <div><h4 class="card-title">Total Active Tests</h4>
        </div>
        <div>
        <?php
          $insertQuery = "SELECT * from `test list`";
          $result = $conn->query($insertQuery);
          $rowcount=mysqli num rows($result);
          echo $rowcount;
          ?>
        </div>
     </div>
```

```
</div>
  </div>
 </div>
</div>
  <div class="form-outline mb-4">
   <input type="search" class="form-control" id="search-input"</pre>
placeholder="Search...">
  </div>
 <div class="container-fluid-0">
 400px; overflow: scroll;">
   <thead class="table-info">
    >
      Test ID
      Test Name
      Test Description
      Price
      Actions
    </thead>
   <?php
   if (\$rowcount > 0) {
    // output data of each row
     while($row = $result->fetch assoc()) {
      ?>
    >
     <?php echo $row["test id"]?>
     <?php echo $row["name"]?>
     <?php echo
$row["description"]?>
     <?php echo $row["price"]?>
     <a class="btn" href="?page=viewtest&id=<?php echo
$row["test_id"]?>"><i class="fa-regular fa-eye" style="color: blue;"></i></a>
     <?php
    }
    } else {
    echo "no record found!";
    ?>
```

```
</div>
</div>
</div>
<?php
       $id1=$ GET['id'];
        $insertQuery = "SELECT * from `test list` where test id='$id1'";
        $result = $conn->query($insertQuery);
        $rowcount=mysqli num rows($result);
        $row = $result->fetch assoc();
        ?>
<div class="container-fluid p-3" style="max-width:1000px;">
 <div class="container">
   <h3 class="text-center">Test Details</h3>
 </div>
 <div class="container-fluid pb-4" style="float:left;">
   Test-ID:<?php echo $row['test id']?>
     Test-Name:<?php echo $row['name']?>
     Description:?php echo
$row['description']?>
     Ref. Range:<?php echo $row['ref.range']?>
     SI unit:<?php echo $row['unit']?>
     Price:<?php echo $row['price']?>
   </div>
 <div class="container">
  <div class="row">
   <div class="col-2">
   </div>
    <!-- Button trigger modal -->
  </div>
 </div>
</div>
```

5.2.3 PATIENT SECTION

```
<head>
<title>Patient</title>
</head>
<div class="container-fluid-0 mt-4 pb-4">
<div class="row align-items-center justify-content-between">
<div class="col-auto mr-auto col-lg-5">
<div class="card border-0 ">
<div class="card-body">
```

```
<div class="row">
    <div class="col-9">
      <div><h4 class="card-title">Total Registered Patients</h4>
      </div>
      <div>
      <?php
        $insertQuery = "SELECT * from `patient` where
username='$ SESSION[username]'";
        $result = $conn->query($insertQuery);
        $rowcount=mysqli num rows($result);
        echo $rowcount;
        ?>
      </div>
    </div>
   </div>
  </div>
  </div>
 </div>
   <div class="col-auto">
     <button class="btn btn-primary" data-bs-toggle="modal" data-bs-
target="#addpatient"><i class="fa-solid fa-plus"></i> Add Patient</button>
    </div>
 </div>
 <div class="conainer-fluid-0">
  <div class="form-outline mb-4">
    <input type="search" class="form-control" id="search-input"</pre>
placeholder="Search...">
  </div>
  <thead class="table-info">
     Patient ID
       Name
       Gender
       DOB
       Contact
       Actions
     </thead>
   <?php
     if (\$rowcount > 0) {
    // output data of each row
      while($row = $result->fetch assoc()) {
       ?>
```

```
>
       <?php echo $row["patient id"]?>
       <?php echo $row["name"]?>
       <?php echo $row["gender"]?>
       <?php echo $row["dob"]?>
       <?php echo $row["contact"]?>
        <a class="btn" href="?page=viewpatient&id=<?php echo
$row["patient id"]?>"><i class="fa-regular fa-eye" style="color: blue;"></i></a>
        <a href="" class="btn update" ><i class="fa-solid fa-pen-to-square"
style="color: #fad000;"></i>>/a>
        <a href="" class="btn delete" ><i class="fa fa-trash-alt" style="color:
red;"></i></a>
       <?php
     } else {
      echo "no record found!";
     ?>
    </div>
</div>
<!--Add Pateint Details-->
<div class="modal fade" id="addpatient" data-bs-backdrop="static" data-bs-
keyboard="false" tabindex="-1" aria-labelledby="staticBackdropLabel" aria-
hidden="true">
 <div class="modal-dialog modal-dialog-centered">
  <div class="modal-content">
   <div class="modal-header">
    <h5 class="modal-title" id="staticBackdropLabel">Add New Patient
Details</h5>
    <button type="button" class="btn-close" data-bs-dismiss="modal" aria-
label="Close"></button>
   </div>
   <div class="modal-body">
   <form action="" method="post" class="needs-validation" novalidate>
 <div class="form-group">
  <label for="exampleFormControlInput1">Patient-Name</label>
  <input type="text" class="form-control" name="name" required>
 </div>
 <div class="form-group">
  <label for="exampleFormControlInput1">Gender</label>
  <select class="form-control" name="gender" required>
```

```
<option disabled>select</option>
   <option>Male</option>
   <option>Female
   <option>Others
  </select>
 </div>
 <div class="form-group">
  <label for="exampleFormControlInput1">DOB</label>
  <input type="date" class="form-control" name="dob" required>
 </div>
 <div class="form-group">
  <label for="exampleFormControlSelect1">Mobile</label>
  <input type="number" class="form-control" name="contact" required>
 </div>
 <div class="form-group">
  <label for="exampleFormControlInput1">Address</label>
  <textarea class="form-control" name="adds" rows="3" required></textarea>
 </div>
   <div class="modal-footer">
    <button type="button" class="btn btn-secondary" data-bs-
dismiss="modal">Close</button>
    <button type="submit" name="add" class="btn btn-primary"><i class="fa-
solid fa-pen-to-plus" style="color: #FFF;"></i> Add</button>
   </div>
   </form>
   </div>
  </div>
 </div>
</div>
<?php
if(isset($ POST['add']))
$user=$ SESSION['username'];
$name = $ POST['name'];
$gender = $ POST['gender'];
dob = POST['dob'];
$cont = $ POST['contact'];
add = POST['adds'];
det{date} = date('Y-m-d H:i:s');
  $insertQuery = "INSERT INTO 'patient' ('username', 'name', 'gender',
'contact', 'dob', 'address', 'date created') VALUES
('$user', '$name', '$gender', '$cont', '$dob', '$add', '$date')";
  $result = mysqli query($conn,$insertQuery);
```

```
if ($result) {
   echo "<script>alert('Patient Added Successfully');</script>";
    } else {
   echo "<script>alert('Error Occured!')</script>";
  }
  ?>
   <?php $conn -> close();
?>
<!--Delete data form-->
<!-- Modal -->
<div class="modal fade" id="delete" data-bs-backdrop="static" data-bs-
keyboard="false" tabindex="-1" aria-labelledby="staticBackdropLabel" aria-
hidden="true">
 <div class="modal-dialog modal-dialog-centered">
  <div class="modal-content">
   <div class="modal-header">
    <h6 class="modal-title" id="staticBackdropLabel">Delete Record</h6>
    <button type="button" class="btn-close" data-bs-dismiss="modal" aria-
label="Close"></button>
   </div>
   <div class="modal-body">
    <h4>Are you sure to delete the record ?</h4>
   </div>
   <form action="" method="POST">
   <input type="hidden" id="pid" name="id">
   <div class="modal-footer">
    <button type="button" class="btn btn-secondary" data-bs-
dismiss="modal">Close</button>
    <button type="submit" class="btn btn-danger"</pre>
name="delete">Delete</button>
   </div>
</form>
  </div>
 </div>
</div>
<?php
if(isset($ POST['delete'])){
 id2 = POST['id'];
 $deleteQuery = "DELETE FROM 'patient' WHERE 'patient id' = '$id2'";
 $result = mysqli query($conn,$deleteQuery);
 if ($result) {
  echo "<script>alert('data deleted!')</script>";
```

```
} else {
   echo "Error: " . $sql . "<br>" . mysqli_error($connectQuery);
}
}
```

5.2.4 APPOINTMENT SECTION

```
<?php
include 'connection.php';
 $patientquery="SELECT * FROM `patient` where
username='$ SESSION[username]'";
 $patientresult=mysqli query($conn,$patientquery);
 $query1="SELECT * FROM `test list`";
 $result1=mysqli query($conn,$query1);
?>
<head>
<title>Appointments</title>
<link rel="stylesheet"</pre>
href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css"
integrity="sha384-
ggOyR0iXCbMQv3Xipma34MD+dH/1fQ784/j6cY/iJTQUOhcWr7x9JvoRxT2M
Zw1T" crossorigin="anonymous">
 <!-- select2 -->
 link href="https://cdnjs.cloudflare.com/ajax/libs/select2/4.0.6-
rc.0/css/select2.min.css" rel="stylesheet" />
 <!-- select2-bootstrap4-theme -->
 <link href="https://raw.githack.com/ttskch/select2-bootstrap4-</pre>
theme/master/dist/select2-bootstrap4.css" rel="stylesheet">
<link rel="stylesheet" href="css/index1.css">
</head>
<div class="container-fluid-0 pb-4">
 <div class="row align-items-center justify-content-between">
  <div class="col-auto mr-auto col-lg-5">
  <div class="card border-0">
   <div class="card-body">
    <div class="row">
     <div class="col-9">
        <div><h4 class="card-title">Appointments Details</h4>
        </div>
        <div><select class="category"><option>Select Category
         <option>Approved</option>
```

```
<option>Cancelled</option>
       <option>Pending Approval
       <option>pending Report
       <option>Report generated
       </select>
      </div>
    </div>
   </div>
  </div>
 </div>
</div>
   <div class="col-auto">
     <button class="btn btn-primary" data-bs-toggle="modal" data-bs-
target="#add"><i class="fa-solid fa-plus"></i> Book Appointment</button>
   </div>
 </div>
 <div class="form-outline mb-4">
   <input type="search" class="form-control" id="search-input"</pre>
placeholder="Search...">
 </div>
 <thead class="table-info">
     Appointment ID
       Schedule
       Patient Name
       Test Details
       Status
       Actions
     </thead>
   >
       <?php
       $fetchq="SELECT * from 'patient' INNER JOIN 'appointment list' on
patient.patient id=appointment list.patient id where
patient.username='$ SESSION[username]'";
       $result=mysqli query($conn,$fetchq);
       if(mysqli num rows($result)){
         while($row=$result->fetch assoc()){
```

```
$q2="SELECT * from appointment test list where
appointment id='$row[appointment id]'";
            $r2=mysqli query($conn,$q2);
           ?>
           <?php echo $row["appointment id"]?>
           <?php echo $row["schedule"]?>
           <?php echo $row["name"]?>
           <?php
              while($row2=$r2->fetch assoc()){
               $q3="SELECT * from test list where test id='$row2[test id]'";
               $r3=mysqli query($conn,$q3);
               $row3=$r3->fetch assoc();
               echo $row3["name"].", ";
             ?>
           <?php switch($row['status']){
               case '0':echo "<span class='badge bg-secondary'> Pending
</span>";break;
               case '1':echo "<span class='badge bg-warning'> Approved
</span>";break;
               case '2':echo "<span class='badge bg-primary'> Sample Collected
</span>";break;
               case '3':echo "<span class='badge bg-success'> Report Generated
</span>";break;
               case '4':echo "<span class='badge bg-danger'> Cancelled
</span>";break;
          <a class="btn" href="?page=viewappointment&id=<?php echo
$row["appointment id"]?>"><i class="fa-regular fa-eye" style="color:
blue; "></i>/i></a>
             <a href="" class="btn update" ><i class="fa-solid fa-pen-to-square"
style="color: #fad000;"></i></a>
             <a href="" class="btn delete" ><i class="fa fa-trash-alt"
style="color: red;"></i></a>
           <?php
        else {
         echo "No Data
Found";
        }
```

```
?>
    </div>
<script>
</script>
<!--Appointment Schedule Detail-->
<div class="modal fade" id="add" data-bs-backdrop="static" data-bs-
keyboard="false" tabindex="-1" aria-labelledby="staticBackdropLabel" aria-
hidden="true">
 <div class="modal-dialog modal-dialog-centered">
  <div class="modal-content">
   <div class="modal-header">
    <h5 class="modal-title" id="staticBackdropLabel">Schedule
Appointment</h5>
    <button type="button" class="btn-close" data-bs-dismiss="modal" aria-</pre>
label="Close"></button>
   </div>
   <div class="modal-body">
    <form action="" method="post" class="needs-validation"
enctype="multipart/form-data" novalidate>
       <div class="form-group">
        <label for="dates" required>Select Date :</label>
        <input type="date" name="date" id="date" class="dates form-control"</pre>
placeholder="dd-mm-yyyy" value="" min="" max="2025-12-31" required>
       </div>
       <div class="form-group">
        <label for="patientoption">Patient-ID</label>
         <select id="patientoption" name="patientid" placeholder="Choose</pre>
Patient" class="form-control select2" required>
            <option value=""></option>
            <?php if(mysqli num rows($patientresult)>0){
              while($row = $patientresult->fetch assoc()) {
           <option value="<?php echo $row["patient id"]?>"><?php echo</pre>
$row["patient id"]?> - <?php echo $row["name"]?></option>
           <?php
            }}
            echo "<option disabled>No Data Found</option>";
            }?>
         </select>
```

```
</div>
        <div class="form-group">
          <label for="multiple">Select Tests</label>
          <select name="tests[]" multiple placeholder="Choose Tests" data-allow-</pre>
clear="1" required>
            <?php if(mysqli num rows($result1)>0){
            while($row = $result1->fetch assoc()) {
             ?>
            <option class="testlist" value="<?php echo</pre>
$row["test id"]?>"><?php echo $row["name"]?></option>
           <?php
             }}
             else {
              echo "<option disabled>No Data Found</option>";
            ?>
           </select>
        </div>
        <div class="form-group">
           <label for="exampleFormControlInput1">Prescription <i>(if
any)</i></label>
           <input type="file" name="pres" accept="application/msword, .doc,</pre>
.docx, .txt, application/pdf" id="prescription" class="form-control" >
        </div>
       <div class="form-group">
          <label for="remark">Remark</label>
          <textarea class="form-control" name="remark" rows="3"></textarea>
       </div>
        <div class="modal-footer">
          <button type="button" class="btn btn-secondary" data-bs-</pre>
dismiss="modal">Close</button>
         <button type="submit" name="book" class="btn btn-primary"><i
class="fa-solid fa-plus"></i>Book</button>
        </div>
     </form>
   </div>
  </div>
 </div>
</div>
      <?php
       if(isset($_POST['book'])){
        $date=$ POST['date'];
        $p id=$ POST['patientid'];
        $testarray=$ POST['tests'];
        $remark=$ POST['remark'];
        $pres=$ POST['pres'];
        d1 = date('Y-m-d H:i:s');
```

```
$sql="INSERT INTO 'appointment list' ('schedule', 'patient id',
'prescription path', 'remark', 'date created')
         VALUES ('$date', '$p id', '$pres', '$remark', '$d1')";
         $result=mysqli query($conn,$sql);
         $id = mysqli insert id($conn);
         if($result){
          foreach($testarray as $data){
           $sql1="INSERT INTO 'appointment test list' ('appointment id',
'test id', 'date created') VALUES ('$id', '$data', '$d1')";
           $result1=mysqli query($conn,$sql1);
         if($result1){
          echo "<script>alert('Appointment Booked!')</script>";}
       else{
        echo"<script>alert('Error Occured')</script>";
       }}
      ?>
<!--end Schedule appointment-->
  <!--Reschedule Appointment Detail-->
  <div class="modal fade" id="update" data-bs-backdrop="static" data-bs-</pre>
keyboard="false" tabindex="-1" aria-labelledby="staticBackdropLabel" aria-
hidden="true">
   <div class="modal-dialog modal-dialog-centered">
     <div class="modal-content">
      <div class="modal-header">
       <h5 class="modal-title" id="staticBackdropLabel">Reschedule
Appointment</h5>
       <button type="button" class="btn-close" data-bs-dismiss="modal" aria-</pre>
label="Close"></button>
      </div>
      <div class="modal-body">
      <form action="" method="post" class="needs-validation"</pre>
enctype="multipart/form-data" novalidate>
       <div class="form-group">
          <input type="hidden" id="id" name="a id">
        <label for="dates" required>Select Date :</label>
        <input type="date" name="date" id="date1" class="dates form-control"</pre>
placeholder="dd-mm-yyyy" value="" min="" max="2025-12-31" required>
       </div>
       <div class="form-group">
        <label for="patientoption">Patient-ID</label>
        <input type="text" id="pname" class="form-control" disabled>
```

```
</div>
        <div class="form-group">
          <label for="multiple">Select Tests</label>
          <select name="tests[]" multiple placeholder="Choose Tests" data-allow-</pre>
clear="1" id="t id" required>
            <?php
              $query1="SELECT * FROM `test list`";
              $result1=mysqli query($conn,$query1);
              if(mysqli num rows($result1)>0){
              while($row = $result1->fetch assoc()) {
            <option class="testlist" value="<?php echo</pre>
$row["test id"]?>"><?php echo $row["name"]?></option>
           <?php
             }}
             else {
              echo "<option disabled>No Data Found</option>";
            ?>
           </select>
        </div>
        <div class="form-group">
           <label for="exampleFormControlInput1">Prescription <i>(if
any)</i></label>
           <input type="file" name="pres" accept="application/msword, .doc,</pre>
.docx, .txt, .pdf, application/pdf" id="prescription" class="form-control" >
        </div>
       <div class="form-group">
          <label for="remark">Remark</label>
          <textarea class="form-control" name="remark" rows="3"></textarea>
       </div>
        <div class="modal-footer">
          <button type="button" class="btn btn-secondary" data-bs-</pre>
dismiss="modal">Close</button>
          <button type="submit" name="updatebooking" class="btn btn-</pre>
primary"><i class="fa-solid fa-plus"></i>Update</button>
        </div>
     </form>
   </div>
  </div>
 </div>
</div>
      <?php
       if(isset($ POST['updatebooking'])){
        $id=$ POST['a id'];
        $date=$ POST['date'];
        $testarray=$ POST['tests'];
```

```
$remark=$ POST['remark'];
        d1 = date('Y-m-d H:i:s');
        if (isset($ FILES['pres']['name']))
           $file name = $ FILES['pres']['name'];
           $file tmp = $ FILES['pres']['tmp name'];
          move uploaded file($file tmp,"./docs/".$file name);
         else
          echo "<script>alert('Prescription file not uploaded!')</script>";
        $sql="UPDATE 'appointment list' SET
`schedule`='$date',`prescription path`='$file name',`remark`='$remark',`date upd
ated'='$d1' where appointment id='$id'";
         $result=mysqli query($conn,$sql);
         if($result){
         $deleteQu = "DELETE FROM `appointment test list` WHERE
'appointment id' = '$id'";
         $resul = mysqli query($conn,$deleteQu);
         foreach($testarray as $data){
           $sql1="INSERT INTO 'appointment test list' ('appointment id',
'test id', 'date created') VALUES ('$id', '$data', '$d1')";
           $result1=mysqli query($conn,$sql1);
         if($result1){
         echo "<script>alert('Appointment Rescheduled!')</script>";}
       else{
        echo"<script>alert('Error Occured')</script>";
       }}
      ?>
<!--Delete data form-->
<!-- Modal -->
<div class="modal fade" id="delete" data-bs-backdrop="static" data-bs-</pre>
keyboard="false" tabindex="-1" aria-labelledby="staticBackdropLabel" aria-
hidden="true">
 <div class="modal-dialog modal-dialog-centered">
  <div class="modal-content">
   <div class="modal-header">
    <h6 class="modal-title" id="staticBackdropLabel">Delete Record</h6>
```

```
<button type="button" class="btn-close" data-bs-dismiss="modal" aria-
label="Close"></button>
   </div>
   <div class="modal-body">
     <h4>Are you sure to delete the record ?</h4>
   </div>
   <form action="" method="POST">
      <input type="hidden" id="pid" name="id">
      <div class="modal-footer">
       <button type="button" class="btn btn-secondary" data-bs-</pre>
dismiss="modal">Close</button>
       <button type="submit" class="btn btn-danger"</pre>
name="delete">Delete</button>
      </div>
   </form>
  </div>
 </div>
</div>
   <?php
   if(isset($_POST['delete'])){
     id2 = POST['id'];
     $deleteQuery = "DELETE FROM 'appointment list' WHERE
'appointment id' = '$id2'";
     $result = mysqli query($conn,$deleteQuery);
     $deleteQuery = "DELETE FROM `appointment test list` WHERE
'appointment id' = '$id2'";
     $result = mysqli query($conn,$deleteQuery);
     if ($result) {
      echo "<script>alert('data deleted!')</script>";
      } else {
       echo "Error: " . $sql . " < br > " . mysqli error($connectQuery);
   ?>
<script>
 $(document).ready(function(){
// <!--update data-->
  $('.update').click(function(e){
   e.preventDefault();
   $('#update').modal('show');
   $pid = $(this).closest('tr');
   var data=$pid.children("td").map(function(){
     return $(this).text();
   }).get();
```

```
console.log(data);
   $('#id').val(data[0]);
   $('#date1').val(data[1]);
   $('#pname').val(data[2]);
  });
 });
 // <!--Delete data-->
 $('.delete').click(function(e){
   e.preventDefault();
   $pid = $(this).closest('tr');
   var data=$pid.children("td").map(function(){
    return $(this).text();
   }).get();
   console.log(data);
   $('#delete').modal('show');
   $('#pid').val(data[0]);
   });
      // date format of appointment form
    var today = new Date();
   var dd = today.getDate();
   var mm = today.getMonth() + 1; //January is 0!
   var yyyy = today.getFullYear();
   if (dd < 10) {
     dd = '0' + dd;
   if (mm < 10) {
     mm = '0' + mm;
   today = yyyy + '-' + mm + '-' + dd;
   document.getElementById("date").setAttribute("min", today);
</script>
```

5.2.5 REPORT SECTION

```
<?php
$query="SELECT * FROM report where appointment_id=(SELECT
appointment_list.appointment_id from `patient` INNER JOIN `appointment_list`
on patient.patient_id=appointment_list.patient_id where
patient.username='$_SESSION[username]')";
$result=mysqli_query($conn,$query);
if($result)
{$row=mysqli_num_rows($result);}</pre>
```

```
else{ $row=0;}
?>
<head>
<title>Tests Reports</title>
<style>
 .t1 {
 text-align: center;
 .b1{
 min-width:90px;
 height: 25px;
 font-size:15px;
</style>
</head>
<div class="container-fluid-0 mt-4 pb-2">
 <div class="row align-items-center justify-content-between">
 <div class="col-auto mr-auto col-lg-5">
 <div class="card border-0">
  <div class="card-body">
   <div class="row">
    <div class="col-9">
      <div><h4 class="card-title">Total Reports Generated</h4>
      </div>
      <div><?php echo $row?></div>
    </div>
   </div>
  </div>
 </div>
 </div>
 </div>
 <div class="form-outline mb-4">
   <input type="search" class="form-control" id="search-input"</pre>
placeholder="Search...">
 </div>
 <thead class="table-info">
     Report ID
       Appointment_ID
       patient Name
       Bill Amount
       Payment
       Actions
     </thead>
```

```
 <!php
         if(mysqli num rows($result)>0){
           while($row=$result->fetch assoc()){
            $fetchq="SELECT * from `patient` INNER JOIN
'appointment list' on patient.patient id=appointment list.patient id where
appointment list.appointment id='$row[appointment id]'";
            $result1=mysqli query($conn,$fetchq);
            $row1=$result1->fetch assoc();
          ?>
        <?php echo $row['report id']?>
        <?php echo $row['appointment id']?>
        <?php echo $row1['name']?>
        <?php echo $row['bill amount']?>
        <?php switch($row['payment']){
             case '1':echo "<span class='badge b1 bg-success'> Paid
</span>";break;
             case '0':echo "<span class='badge b1 bg-warning'> Unpaid
</span>";break;
             }?>
        <a class="btn" href="?page=viewreport&id=<?php echo
$row['report id']?>"><i class="fa-regular fa-eye" style="color: blue;"></i></a>
         <?php } }
     else{ echo " No Data
Found";}?>
    </div>
```

5.3 USER MODULE

5.3.1 USER DASHBOARD

```
<head><style>
.card{
   margin:10px 0 20px 0;
   border-left:3px solid rgb(5, 238, 5);
   height:80%;
}

</style>
<title>Dashboard</title>
</head>
<div class="container-fluid-0 mt-4 pt-4 pb-5 p-4">
```

```
<div class="container-fluid-0">
   <h4>Dashboard</h4>
</div>
<div class="container-fluid-0 grids">
<div class="row">
 <div class="col-lg-4 col-md-6">
  <div class="card shadow bg-body rounded">
   <div class="card-body">
    <div class="row">
     <div class="col-9">
        <div><h6 class="card-title">Booked Appointments</h6>
        <div>
         <?php
          $insertQuery = "SELECT * from `appointment_list` A INNER JOIN
'patient' P on P.patient id=A.patient id where
P.username='$ SESSION[username]'";
          $result = $conn->query($insertQuery);
          $rowcount=mysqli num rows($result);
          echo $rowcount;
          ?></div>
     </div>
      <div class="col-2">
        <i class="fa-solid fa-list" style="color: #e61919;font-size:30px"></i>
      </div>
    </div>
   </div>
  </div>
 </div>
 <div class="col-lg-4 col-md-6">
  <div class="card shadow bg-body rounded">
  <div class="card-body">
    <div class="row">
     <div class="col-9">
        <div><h6 class="card-title">pending Appointments</h6>
        </div>
        <div>
        <?php
          $insertQuery = "SELECT * from `appointment list` A INNER JOIN
'patient' P on P.patient id=A.patient id where
P.username='$ SESSION[username]' and A.status='0'";
          $result = $conn->query($insertQuery);
          $rowcount=mysqli num rows($result);
          echo $rowcount;
          ?>
```

```
</div>
      </div>
       <div class="col-2">
       <i class="fa-regular fa-pen-to-square" style="color: #ff7b00;font-</pre>
size:30px"></i>
       </div>
    </div>
   </div>
  </div>
 </div>
 <div class="col-lg-4 col-md-6">
  <div class="card shadow bg-body rounded">
   <div class="card-body">
      <div class="row">
      <div class="col-9">
        < div >
         <h6 class="card-title">Approved Appointments</h6>
        </div>
        <div> 
        <?php
          $insertQuery = "SELECT * from `appointment list` A INNER JOIN
'patient' P on P.patient id=A.patient id where
P.username='$ SESSION[username]' and A.status='1'";
          $result = $conn->query($insertQuery);
          $rowcount=mysqli num rows($result);
          echo $rowcount;
          ?>
        </div>
       </div>
        <div class="col-2">
         <i class="fa-solid fa-check-double" style="color: #00ff11;font-</pre>
size:30px"></i>
        </div>
      </div>
   </div>
  </div>
 </div>
</div>
 <div class="row">
 <div class="col-lg-4 col-md-6">
  <div class="card shadow bg-body rounded">
  <div class="card-body">
    <div class="row">
      <div class="col-9">
        <div><h6 class="card-title">Cancelled Appointments</h6>
        </div>
```

```
<div>
        <?php
          $insertQuery = "SELECT * from `appointment list` A INNER JOIN
'patient' P on P.patient id=A.patient id where
P.username='$ SESSION[username]' and A.status='4'";
          $result = $conn->query($insertQuery);
          $rowcount=mysqli num rows($result);
          echo $rowcount;
          ?>
        </div>
     </div>
      <div class="col-2">
      <i class="fa-solid fa-xmark fa-xl" style="color: #e61919;font-
size:30px"></i>
      </div>
    </div>
   </div>
  </div>
 </div>
 <div class="col-lg-4 col-md-6">
  <div class="card shadow bg-body rounded">
  <div class="card-body">
    <div class="row">
     <div class="col-9">
        <div><h6 class="card-title">Report Generated</h6>
        </div>
        <div>
        <?php
          $insertQuery = "SELECT * from `appointment list` A INNER JOIN
'patient' P on P.patient id=A.patient id where
P.username='$ SESSION[username]' and A.status='3'";
          $result = $conn->query($insertQuery);
          $rowcount=mysqli num rows($result);
          echo $rowcount;
          ?>
        </div>
     </div>
      <div class="col-2">
      < i class="fa-regular fa-newspaper" style="color: #286adb; font-
size:30px"></i>
      </div>
    </div>
   </div>
  </div>
 </div>
```

```
<div class="col-lg-4 col-md-6">
  <div class="card shadow bg-body rounded">
  <div class="card-body">
    <div class="row">
     <div class="col-9">
        <div><h6 class="card-title">Pending Report</h6>
        <div>
        <?php
          $insertQuery = "SELECT * from `appointment list` A INNER JOIN
'patient' P on P.patient id=A.patient id where
P.username='$ SESSION[username]' and A.status='2'";
          $result = $conn->query($insertQuery);
          $rowcount=mysqli num rows($result);
          echo $rowcount;
          ?>
        </div>
     </div>
      <div class="col-2">
      <i class="fa-regular fa-pen-to-square" style="color: #ff7b00; font-
size:30px"></i>
      </div>
    </div>
   </div>
  </div>
 </div>
</div>
<div class="row">
 <div class="col-lg-12 col-md-12">
  <div class="card shadow bg-body rounded">
  <div class="card-body">
    <div class="row">
     <div class="col-11">
        <div><h6 class="card-title">Total Registered patients</h6>
        </div>
        <div>
        <?php
          $insertQuery = "SELECT * from `patient` where
username='$ SESSION[username]'";
          $result = $conn->query($insertQuery);
          $rowcount=mysqli num rows($result);
          echo $rowcount;
          ?>
        </div>
     </div>
      <div class="col-1">
```

```
<i class="fa fa-user" style="color: #e61919;font-size:30px"></i>
</div>
</div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div>
```

5.3.2 PROFILE SECTION

```
<head>
  <title>Profile</title>
</head>
<?php
$query="SELECT * from users where username='$ SESSION[username]'";
$result=mysqli query($conn,$query);
$row=mysqli fetch assoc($result);
?>
<section class="section profile mb-5">
  <div class="mt-2">
  <h3 class="p-2" style="font-family:arial">Profile</h3></div>
<div class="container-x1 px-4">
<div class="row justify-content-center">
  <div class="col-xl-8">
  <div class="row align-items-center">
    <!-- Profile picture image-->
    <div class="col-md-4">
       <img class="img-account-profile rounded-circle mb-2"</pre>
src="img/login.png" alt="" width="180px" >
                <?php
                if (isset($ POST['upload'])) {
                   $filename = $ FILES["uploadfile"]["name"];
                   // Get all the submitted data from the form
                   $sql = "UPDATE 'users' SET 'avatar'='$filename' WHERE
username='$ SESSION[username]'";
                   // Execute query
```

```
$query=mysqli query($conn, $sql);
                   // Now let's move the uploaded image into the folder: image
                   // if ($query) {
                       echo "<script>alert('<h3> Image uploaded
successfully!</h3>');</script>";
                   // } else {
                       echo "<script>alert('<h3> Fail to uploaded
successfully!</h3>');</script>";
                 ?>
     </div>
     <div class="col-md-8">
       <div class="name1">
          <h2><?php echo $row['name'];?></h2>
          <span class="text-primary"><?php echo $row['email'];?> </span>
     </div>
  </div>
  </div>
  </div>
  <div class="row justify-content-center">
     <div class="col-xl-8">
       <!-- Account details card-->
       <div class="card mb-4">
          <div class="card-header">Account Details</div>
          <div class="card-body">
              <!-- Form Group (username)-->
              <div class="mb-3">
                 <label class="small mb-1"</pre>
for="inputUsername">Username</label>
                 <input class="form-control bg-white" id="inputUsername"</pre>
type="text" placeholder="Enter your username" value="<?php echo
$row['username']?>" disabled>
              </div>
              <!-- Row-->
              <div class="row gx-3 mb-3">
                 <!-- (name)-->
                 <div class="col-md-12">
                   <label class="small mb-1"</pre>
for="inputFirstName">Name</label>
                   <input class="form-control bg-white" id="inputFirstName"</pre>
type="text" placeholder="Enter yourname" value="<?php echo $row['name']?>"
disabled>
                 </div>
              </div>
```

```
<div class="row gx-3 mb-3">
                 <!-- (phone number)-->
                 <div class="col-md-6">
                   <label class="small mb-1" for="inputPhone">Contact
number</label>
                   <input class="form-control bg-white" id="inputPhone"</pre>
type="tel" placeholder="Enter your phone number" value="<?php echo
$row['contact']?>" disabled>
                 </div>
                 <!-- (email)-->
                 <div class="col-md-6">
                 <label class="small mb-1" for="inputEmailAddress">Email
address</label>
                 <input class="form-control bg-white" id="inputEmailAddress"</pre>
type="email" placeholder="Enter your email address" value="<?php echo
$row['email']?>" disabled>
                 </div>
              </div>
              <div class="row">
                 <div class="col-sm-2">
                 <button type="submit" class="btn btn-primary" data-bs-
toggle="modal" data-bs-target="#editprofile">edit</button>
                 </div>
              </div>
         </div>
       </div>
    </div>
  </div>
</div>
</section>
```

5.3.3 APPOINTMENT SECTION

```
<?php
    $id=$_GET['id'];
    $total=0;
$insertQuery = "SELECT * from `patient` RIGHT JOIN `appointment_list` on
patient.patient_id=appointment_list.patient_id where
appointment_list.appointment_id='$id'";
$result = $conn->query($insertQuery);
$date=date('y-m-d H:m:s');
?>
<div class="container-fluid pb-4" >
    <div class="container-fluid p-4" >
    <div class="history mb-4">Appointment Details</hd></rr>
```

```
<?php
      if(mysqli num rows($result)>0){
       $row=$result->fetch assoc();?>
     Patient-ID:<?php echo $row['patient id']?>
Appointment-ID:<?php echo $row['appointment id']?> 
     patient Name:<?php echo $row['name']?>
Gender:<?php echo $row['gender']?>
     Contact No:?php echo
$row['contact']?>Date of Birth:?php echo
$row['dob']?>
     Address:colspan="3"><?php echo
$row['address']?> 
     Status:<span id="status"><?php echo
$row['status']?></span> Prescription <a href="<?php echo
"docs/".$row['prescription path']?>" download><?php echo
$row['prescription path']?></a>
     <?php $ SESSION['status']=$row['status']; }
      echo "<h3>No Data Found</h3>";
     ?>
   </div>
     <div class="container text-center">
      <?php if($row['status']<3 && mysqli num rows($result)>0) {?>
       <button class="btn btn-primary " data-bs-toggle="modal" data-bs-</pre>
target="#action">Cancel Appointment</button>
       <?php }
       else if($row['status']==4 && mysqli num rows($result)>0){?>
       <button class="btn btn-danger" >Appointment Cancelled/button>
       <?php } ?>
      </div>
 <div class="container-fluid p-4">
 <h3 class="history">Tests Details</h3>
   Test-ID
     Test Name
     Test Price 
     <?php
      $query="SELECT * FROM `test list` RIGHT JOIN
'appointment test list' on test list.test id=appointment test list.test id where
appointment test list.appointment id='$ GET[id]'";
      $result = $conn->query($query);
```

```
if(mysqli num rows($result)>0){
       while($row=$result->fetch assoc()){
        ?><?php echo $row['test id']?><?php echo
$row['name']?><?php echo $row['price']?>
        <?php
        $total=$total+$row['price'];
      else {
       echo " no record
found!";
      ?>
      Total :<?php echo $total?>
   </div>
 <div class="container-fluid p-4">
   <h3 class="history">Update History</h3>
   Date
     Status
     Remark
     <?php
      $query5="SELECT * FROM `update history` where
appointment id='$ GET[id]'";
      $result5 = $conn->query($query5);
      if(mysqli num rows($result5)>0){
       while($row5=$result5->fetch assoc()){
        ?>
         <?php echo $row5['date created']?>
         <?php switch($row5['status']){
            case '0':echo "<span class='badge bg-secondary'> Pending
</span>";break;
            case '1':echo "<span class='badge bg-warning'> Approved
</span>";break;
            case '2':echo "<span class='badge bg-primary'> sample Collected
</span>";break;
            case '3':echo "<span class='badge bg-success'> Report Generated
</span>";break;
            case '4':echo "<span class='badge bg-danger'> Cancelled
</span>";break;
         <?php echo $row5['remarks']?>
```

```
<?php
        else{
         echo " no record
found!";
       ?>
    </div>
  <div class="container">
  <?php if($ SESSION['status']==3) {?>
    <div class="row">
      <div class="col-lg-2 col-md-2 col-sm-4">
         <button class="btn btn-success">Download Bill</button>
      </div>
      <div class="col-lg-3 col-md-3 col-sm-4">
         <button class="btn btn-success">Download Report/button>
      </div>
    </div><?php }?>
  </div>
  <!--Modal for take action-->
  <div class="modal fade" id="action" data-bs-backdrop="static" data-bs-</pre>
keyboard="false" tabindex="-1" aria-labelledby="staticBackdropLabel" aria-
hidden="true">
  <div class="modal-dialog modal-dialog-centered">
  <div class="modal-content">
   <div class="modal-header">
    <h5 class="modal-title" id="staticBackdropLabel">Appointment</h5>
    <button type="button" class="btn-close" data-bs-dismiss="modal" aria-
label="Close"></button>
   </div>
  <div class="modal-body">
   <form action="" method="post">
     <div class="form-group">
        <label for="dates" required>Status:</label>
        <select class="category form-control" style="border-radius:20px;"</pre>
name="status" placeholder="Select Catogery">
            <option value="4">Cancel Appointment
         </select>
     </div>
     <div class="form-group">
      <label for="exampleFormControlInput1">Remark</label>
      <textarea class="form-control" name="remark" rows="3"></textarea>
     </div>
```

```
<div class="modal-footer">
         <button type="button" class="btn btn-secondary" data-bs-</pre>
dismiss="modal">Close</button>
         <button type="submit" class="btn btn-primary" name="updatestatus"</pre>
data-bs-dismiss="modal">Submit</button>
      </div>
    </form>
   </div>
  </div>
 </div>
</div>
  <?php
  if(isset($ POST['updatestatus'])){
   $id=$ GET['id'];
   $remark=$ POST['remark'];
   $status=$ POST['status'];
   $date=date('y-m-d H:i:s');
   $q1="INSERT INTO update history
('appointment id', 'status', 'remarks', 'date created') VALUES
('$id','$status','$remark','$date')";
   $r1=mysqli query($conn,$q1);
   if($r1){
    $q2="UPDATE appointment list SET `status`='$status' WHERE
appointment id='$id'";
    $r2=mysqli query($conn,$q2);
```

5.3.4 REPORT SECTION

```
$fetchq="SELECT * from 'patient' RIGHT JOIN 'appointment list' on
patient.patient id=appointment list.patient id where
appointment list.appointment id='$row[appointment id]'";
     $result1=mysqli query($conn,$fetchq);
     $row1=$result1->fetch assoc();?>
     Report ID?php echo
$row['report id']?>Patient ID<?php echo</pre>
$row1['patient id']?>
     Appointment ID?php echo
$row['appointment id']?>Patient Name<?php echo
$row1['name']?>
     Gender?php echo
$row1['gender']?>DOB<?php echo $row1['dob']?>
     Addresscolspan="3"><?php echo
$row1['address']?>
    </thead><?php }?>
  <br>
  <h4>Tests Values</h4>
 <form action="#" method="post">
  <thead class="table-info">
     <!-- <th scope="col">Test ID -->
      Test Name
      Results
      units
      Reference Range
     </thead>
   <?php
      $qry1="SELECT * FROM report result R right join test list T on
T.test id=R.test id where R.appointment id='$row[appointment id]'";
      $res1=mysqli query($conn,$qry1);
      while($r=mysqli fetch assoc($res1)){
      ?>
      <input type="hidden" name="tid[]" value="<?php echo $r['test id']?>">
      <input type="hidden" name="aid" value="<?php echo
$r['appointment id']?>">
      <?php echo $r['name']?>
       <?php echo $r['result']?>
       <?php echo $r['unit']?>
```

```
<?php echo $r['ref.range']?>
       <?php }?>
    <div class="row">
   <div class="col-md-1"><input type="submit" class="btn btn-primary"</pre>
value="Download"></div>
  </div>
 </form>
  <div class="container-fluid-0">
     <thead class="table-info">
     Test Detailed Price
        Test Namescope="col">Price
   </thead>
   <?php
         $testquery="SELECT * from appointment test list A right join
test list T on T.test id=A.test id where
A.appointment id='$row[appointment id]'";
         $testresult=mysqli query($conn,$testquery);
         $ro=mysqli fetch assoc($testresult);
      <?php echo $ro['name']?>
      <?php echo $ro['price']?>
     Bill Amount?php echo
$row['bill amount']?>
      <form action="" method="post">
    <div class="row">
     <div class="col-md-1"><button class="btn btn-primary" id="PrintButton"</pre>
onclick="printDiv()">Print</button></div>
     <div class="col-md-1"><a href="" type="submit" id="b1" name="paid"</pre>
class="btn b1 btn-primary">Payment</a></div>
    </div></form>
    </div>
 </div>
 <iframe name="print frame" width="0" height="0" frameborder="0"
src="about:blank"></iframe>
</div>
```

TESTING

Testing is the act of examining the artifacts and the behaviour of the software under test by validation and verification. Software testing can also provide an objective, independent view of the software to allow the business to appreciate and understand the risks of software implementation.

6.1 TEST CASE 1: USER REGISTRATION

- **1. Description:** Verify that a user can register successfully in the pathology software.
- **2. Preconditions:** The software is running, and the user registration feature is accessible.

3. Test Steps:

- Open the software and navigate to the user registration page.
- Enter valid user information (name, email, password, etc.).
- Click on the "Register" button.
- **4. Expected Result:** The user should be registered successfully, and a confirmation message should be displayed.

6.2 TEST CASE 2: USER LOGIN

- **1. Description:** Ensure that registered users can log in to the pathology software.
- **2. Preconditions:** The software is running, and the user login feature is accessible.
- 3. Test Steps:
 - Open the software and navigate to the user login page.
 - Enter valid login credentials (email and password) for an existing user.
 - Click on the "Login" button.
- **4. Expected Result:** The user should be logged in successfully and redirected to the software's main dashboard.

6.3 TEST CASE 3: PATIENT CREATION

- **1. Description:** Verify that a new patient can be added to the system.
- **2. Preconditions:** The user is logged into the pathology software, and the patient creation feature is accessible.

3. Test Steps:

- Navigate to the patient creation page.
- Fill in the required patient information (name, age, gender, contact details, etc.).
- Click on the "Save" button.
- **4. Expected Result:** The patient should be created and saved successfully in the system, and a confirmation message should be displayed.

6.4 TEST CASE 4: APPOINTMENT BOOKING

- **1. Description:** Test the functionality to place a appointment for a patient.
- **2. Preconditions:** The user is logged into the pathology software, and the appointment booking feature is accessible.

3. Test Steps:

- Select a patient from the existing patient list.
- Choose the desired tests to be included in the appointment.
- Set the necessary test parameters (date, time, priority, etc.).
- Click on the "Book" button.
- **4. Expected Result:** The appointment should be created and associated with the selected patient, and a confirmation message should be displayed.

6.5 TEST CASE 5: REPORT GENERATION

- **1. Description:** Test the functionality to generate reports for test orders.
- **2. Preconditions:** The user is logged into the pathology software, and the report generation feature is accessible.

3. Test Steps:

- Search for the desired test order by patient name or order number.
- Open the test order details.
- Click on the "Generate Report" button.
- **4. Expected Result:** A report should be generated for the selected test order, containing all relevant information and test results.

6.6 TEST CASE 6: DATA VALIDATION

- **1. Description**: Validate the input data for various fields in the software.
- **2. Preconditions**: The user is logged into the pathology management software.
- 3. Test Steps:
 - Attempt to save a patient or test order with invalid or missing information in the required fields.
 - Verify if appropriate error messages are displayed.
- **4. Expected Result:** The software should validate the input data and display relevant error messages for any invalid or missing fields.

FUTURE SCOPE

7.1 FUTURE SCOPE OF AUTOMATION OF THE PATHOLOGY

The Automation of Pathology Software project has laid a strong foundation for the automation and optimization of processes within the pathology laboratory. Building upon the project's success, there are several potential future scopes and enhancements that can further improve the software's functionality and impact. These include:

1. Integration of Advanced Analytical Tools:

Explore the integration of advanced analytical tools and algorithms to enhance the interpretation and analysis of test results. This can include features such as automated identification of patterns, correlations, and abnormalities, providing valuable insights to doctors and laboratory technicians.

2. Implementation of Artificial Intelligence (AI):

Explore the potential use of artificial intelligence techniques, such as machine learning and natural language processing, to automate certain decision-making processes within the software. This can include automated test result validation, error detection, and intelligent report generation.

3. Enhanced Data Analytics and Reporting:

Strengthen the software's data analytics capabilities to generate meaningful insights and performance reports for laboratory administrators. This would enable better monitoring of key performance indicators, resource utilization, and quality control measures.

By pursuing these future scopes and enhancements, the Automation of Pathology Software can continue to evolve and adapt to the changing needs and advancements in the field of pathology. This would ensure the software remains at the forefront of technology, delivering optimal value to the pathology laboratory and contributing to improved patient care.

CONCLUSION

The project has provided a user-friendly web interface for doctors, laboratory technicians, and patients, enabling them to interact seamlessly with the software system. Through automation, the project has significantly improved the efficiency and accuracy of critical processes such as patient registration, test ordering, sample collection, test result entry, and report generation.

Throughout the project, rigorous methodologies were employed, including requirement analysis, system design, development, deployment, and user training. These methodologies ensured that the project team met the pathology laboratory's specific requirements and delivered a software solution that aligned with stakeholders' needs.

The Automation of the Pathology project's outcomes have had a significant positive impact on the pathology laboratory. The automation of processes has led to improved efficiency, reduced turnaround time, and minimized errors. Additionally, the software solution has enhanced the overall quality of patient care by providing faster access to test results and generating comprehensive and accurate reports.

In summary, the Automation of the Pathology project has been instrumental in automating and enhancing the pathology laboratory's operations. It has provided a user-friendly, efficient, and secure software solution that improves accuracy, reduces turnaround time, and ultimately enhances patient care.

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