UNIVERSITY OF DELHI

SOFTWARE ENGINEERING REPORT

B.Sc. (Hons.) COMPUTER SCIENCE

(2020 - 23)

RECRUIT MANAGEMENT SYSTEM

Submitted By –

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(University of Delhi)

Department of Computer Science

RECUIT MANAGEMENT SYSTEM

(Software Engineering Project Report)

B.Sc.(Hons) Computer Science

(2020 - 23)

SUBMITTED BY -

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-Under the Supervision of:

(Dr. Vandana Gandotra)

CERTIFICATE

This is to certify that Software Engineering project report entitled **"RECRUIT MANAGEMENT SYSTEM"** is the work carried out by **Aditya Tomar, Anish Nagar, and Sahil Rana** student of B.Sc(H) Computer Science 4th Semester**, Ram Lal Anand College , University of Delhi** under the supervision of **Dr. Vandana Gandotra**

. This report has not been submitted to any other organization/institution for the award of any other degree/diploma.

Dr. Vandana Gandotra Gupta (Supervisor)

Dr. Rakesh Kumar (Principal)

ACKNOWLEDGEMENT

The success of any project depends largely on the encouragement and guidelines of many other people. we take this opportunity to express our gratitude to the people who have been instrumental in the successful completion of this project.

We would like to express our sincere gratitude to our project supervisor Dr. Vandana Gandotra for guiding us . We are highly indebted for her guidance and constant supervision as well as for providing necessary information regarding the project and also for her support in completing the project.

The guidance and support received from all staff members was vital for the success of the project.

We are grateful for their constant support and help. We would take this opportunity to express our gratitude towards principal Dr. Rakesh Kumar Gupta . Who was always a source of encouragement for us .We have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals. I would like to extend my sincere thanks to all of them.

ABSTRACT

In our society today, the issue of managing human resources in firms, companies or organizations is a great challenge to the management.
Hence the purpose of this project (recruitment management system).Hence the purpose of this project aimed at developing a recruitment management system called "RMS(Recruit Management System)" that manages the recruitment processes of organizations and reduces the cost used in the recruitment of staffs. In the development of this project a review of existing processes and systems was carried out, use case and sequence diagrams Database management system is used to create the database and using PhP for the backend, HTML and CSS for design, Visual Studio Code as the IDE for the implementation. The result and conclusion of this project is efficient management of recruitment processes and also provision of a medium in which people get to apply for jobs at their convenience.

CONTENTS

INTRODUCTION

A recruitment management system is a comprehensive instrument to manage the entire recruitment processes of an organization. It is one of the technological instruments facilitated by the information management systems to the Human Resource (HR) of the organizations. Just like performance management, pay roll and other systems. Recruitment Management System (RMS) helps to control the recruitment processes and effectively controlling the return on investment (ROI) on recruitment. Acquiring and retaining high quality talents is critical to an organization's success. As the job market becomes increasingly competitive and the available skills grow more diverse, recruiters need to be more selective in their choices, since poor recruiting decisions can produce long-term negative effects, among them high training and development costs to minimize the incidence of poor performance and high turnover which, in turn, impact staff morale, the production of high quality goods and services and the retention the organizational integrity. At worst, the organization can fail to achieve its objectives thereby losing its competitive edge and its share of the market. In Nigeria, public service organizations have had little need to worry about market share and increasing competition since they operate in a non-competitive environment. But in recent time, the emphasis on New Public Management (NPM)/Public Sector Management (PSM) approaches has forced public organizations to pay closer attention to their service delivery as consumers have begun to expect and demand more for their tax nairas.

Recruitment is described as "the set of activities and processes used to legally obtain a sufficient number of qualified people at

the right place and time so that the people and the organization can select each other in their own best short and long term interest". In other words, the recruitment process provides the organization with a pool of potentially qualified job candidates from which judicious selection can be made to fill vacancies. Successful recruitment begins with proper employment planning and forecasting. In this phase of the staffing process, an organization formulates plans to fill or eliminate future job openings based on an analysis of future needs, the talent available within and outside of the organization, and the current and anticipated resources that can be expended to attract and retain such talent. Also related to the success of a recruitment process are the strategies an organization is prepared to employ in order to identify and select the best candidates for its developing pool of human resources. Organizations seeking recruits for base level entry positions often require minimum qualifications and experience. These applicants are usually recent high school or university/technical college graduates, many of whom have not yet made clear decisions about future careers or are contemplating engaging in advanced academic activities. At the middle levels, senior administrative technical and junior executive positions are often filled internally. The push for scarce, high quality talents, often recruited from external sources, has usually been at the senior executive levels. Most organizations utilize both mechanisms to effect recruitment to all levels.

1.1 PROBLEM STATEMENT

In our society today, the issue of managing human resources in firms, companies or organizations is a great challenge to the management. Hence the purpose of this project aimed at developing a recruitment management system called RMS that manages the recruitment processes of organizations and reduces the cost used in the recruitment of staffs.

1.2 PROCESS MODEL

A process model for software engineering is chosen based on the nature of the project and application, the methods and tools to be used, and the controls and deliverables that are required.

The model is used to build the **"RECRUITMENT MANAGEMENT SYSTEM" Software is "The Prototype Model".**

Prototype is a working model of software with some limited functionality. The prototype does not always hold the exact logic used in the actual software application and is an extra effort to be considered under effort estimation.

Prototyping is used to allow the users evaluate developer proposals and try them out before implementation. It also helps understand the requirements which are user specific and may not have been considered by the developer during product design.

The phases which come under the prototype model are as follows:-

Step 1: Requirements gathering and analysis

A prototyping model starts with requirement analysis. In this phase, the requirements of the system are defined in detail. During the process, the users of the system are interviewed to know what is their expectation from the system.

Step 2: Quick design

The second phase is a preliminary design or a quick design. In this stage, a simple design of the system is created. However, it is not a complete design. It gives a brief idea of the system to the user. The quick design helps in developing the prototype.

Step 3: Build a Prototype

In this phase, an actual prototype is designed based on the information gathered from quick design. It is a small working model of the required system.

Step 4: user evaluation

In this stage, the proposed system is presented to the client for an initial evaluation. It helps to find out the strength and weakness of the working model. Comment and suggestion are collected from the customer and provided to the developer.

Step 5: Refining prototype

If the user is not happy with the current prototype, you need to refine the prototype according to the user's feedback and suggestions. This phase will not over until all the requirements specified by the user are met. Once the user is satisfied with the developed prototype, a final system is developed based on the approved final prototype.

Step 6: Implement Product and Maintain

Once the final system is developed based on the final prototype, it is thoroughly tested and deployed to production. The system undergoes routine maintenance for minimizing downtime and prevent large-scale failures.

1.3 AIM & OBJECTIVE:-

The aim of this work is to develop a recruitment management system. The following are the objectives that will be used to achieve this aim:-

- To perform critical investigation and analysis of the existing recruitment process.
- To design/model the recruitment management system
- To create database system for the applicants and companies record
- To implement the recruitment management system.

2. REQUIREMENT ANALYSIS

2.1 SCOPE

Without much emphasis, this work would aid users in obtaining jobs faster rather than utilizing the tedious method of going from one company to another in search for a particular job, as a result, would reduce the number of unemployed and also manage the recruitment process starting from the applicant, ending with a firm or an organization

2.1.1 Overall Description

The process in the Recruitment Management System begins with the user, who launch the site.

- First, this recruitment management system requires system user credentials to access the admin side of the system and this can be done by logging into the system.
- Second, the system admin or staff will populate the list of recruitment status categories to organize well the list of applicants according to their recruitment status.
- Third, the system admin/staff will populate also the list of vacancy positions for their company along with the description on availability of the position.

- Fourth, applicants will browse the recruitment website of the company and find their desired position to apply for. Then, when the applicant has already found her/his desired position to apply, she/ he will simply click the panel/card of the position to redirect to the complete details of the position and submit their application by clicking the Apply Now button below to display the application form. After that, the applicant will fill all the fields required and submit their application along with their resume. This process also can be done by admin/staff if the applicant will walk-in to their building to apply.
- Then, admin/staff can update/manage the recruitment status of each applicant for each step/process do their company requires for the recruitment.

2.1.2 User Interfaces

- The first screen is the Home Page.
- Detailed Information about the job.
- Details to be filled

2.2 Software and Hardware Requirements

2.2.1 (a)Server-Side Hardware Requirements.

Processor: Intel Core i5 2.0 Ghz and
Higher Ram: 6 GB or Higher
Architecture: x64 bits

(b)Client-Side Hardware Requirements.

Processor: Intel Pentium III
1.2 Ghz and Higher.
Ram: 1GB or Higher.

2.2.2. (a) Server-Side Software Requirement

Operating System: Microsoft Windows
XP/7/8/8.1/10 Internet Browser: Google, Internet
Explorer,

(b)Client-Side Software Requirement

Operating System:
Microsoft Windows 8/8.1/10 Database
Management System: SQL Programming
Languages: HTML, CSS, JS, PHP
Development IDE: Visual Studio Code

2.3 FLOW ORIENTED MODELING

The flow oriented modeling represents how data objects are transformed at they move through the system.
The flow oriented modeling takes an input-process-output view of a system. That is, data objects flow into the software, are transformed by processing elements, and resultant data objects flow out of the software.

2.3.1 Data Flow Diagram

Data flow diagram shows the flow of data from external entities into the system, and from one process to another within the system. It is a graphical representation of flow of data through a system.

CONTEXT LEVEL DIAGRAM (LEVEL 0)

It is also known as fundamental system model, or context diagram represents the entire software requirement as a single bubble with input and output data denoted by incoming and outgoing arrows.

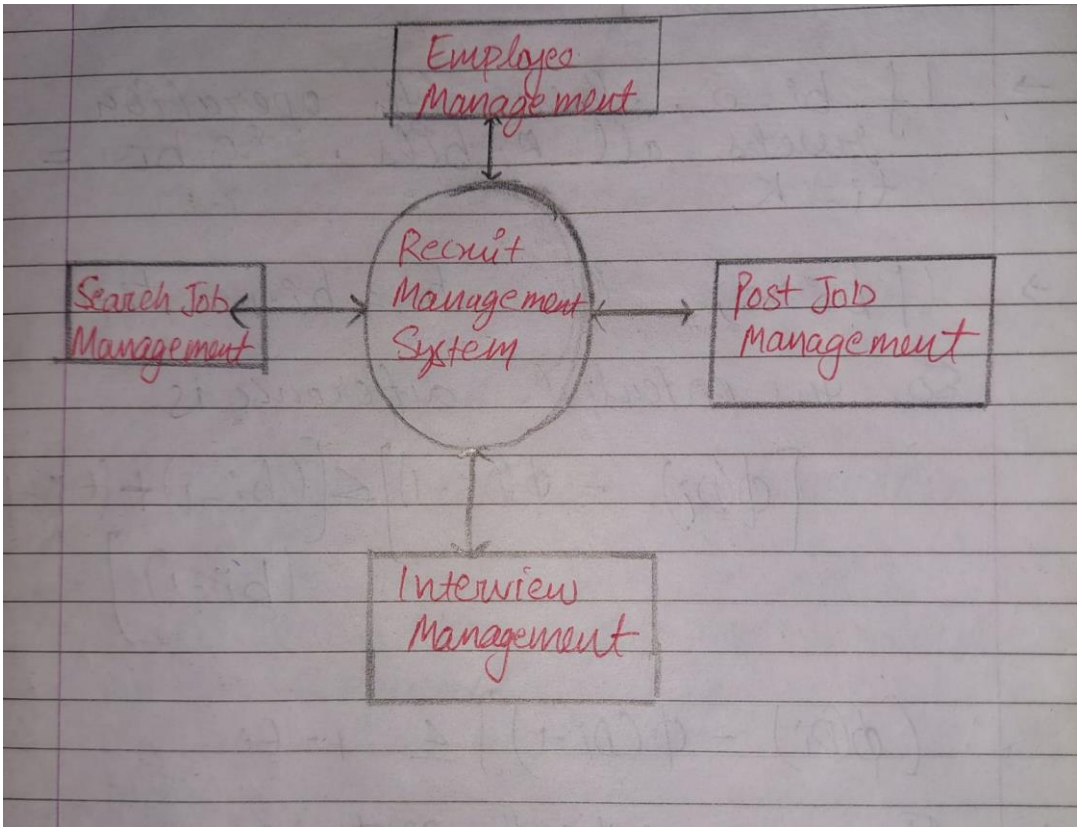


Fig: 1-LEVEL DFD

1-LEVEL DFD

In 1-level DFD, a context diagram is decomposed into multiple bubbles/processes. In this level, we highlight the main objectives of the system and breakdown the high-level process of 0-level DFD into sub-processes.

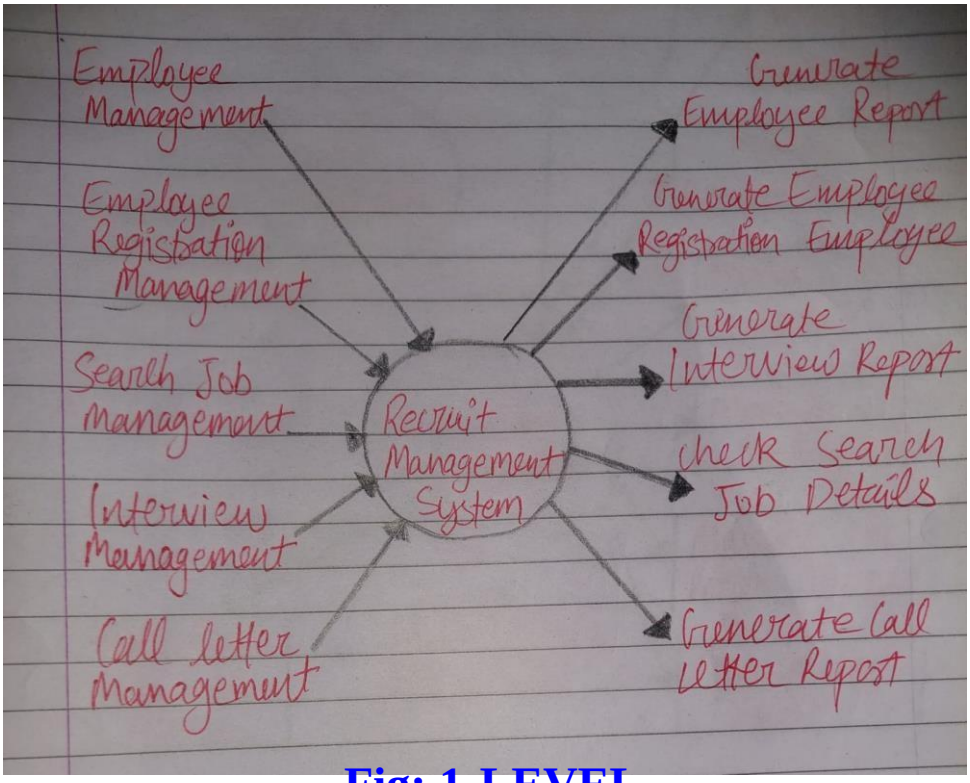


Fig: 1-LEVEL DFD

2-LEVEL DFD

2-level DFD goes one process deeper into parts of 1-level DFD. It can be used to project or record the specific/necessary detail about the system's functioning.

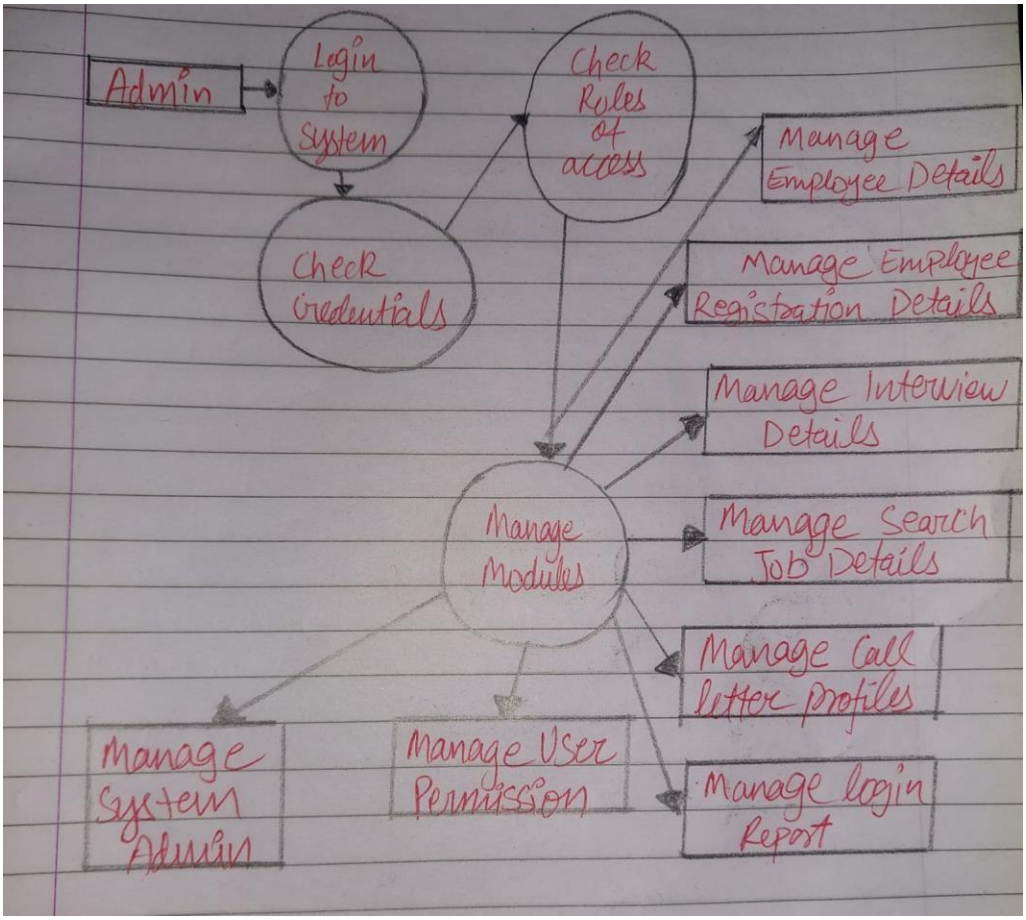


Fig: 2-LEVEL DFD

2.3 DATA DICTIONARY

A data dictionary is a collection of the names, definitions, and attributes for data elements and models. The data in a data dictionary is the metadata about the database. These elements are then used as part of a database, research project, or information system.

The data dictionary contains information about the following −

- Names of all the database tables and their schemas.
- Details about all the tables in the database, such as their owners,their security constraints, when they were created etc.

Figure Below shows the Database used in this project:-

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(30)			No	*None*		AUTO_INCREMENT	Change Drop More
2	firstname	varchar(100)	utf8mb4_general_ci		No	*None*			Change Drop More
3	middlename	varchar(100)	utf8mb4_general_ci		No	*None*			Change Drop More
4	lastname	varchar(100)	utf8mb4_general_ci		No	*None*			Change Drop More
5	gender	varchar(10)	utf8mb4_general_ci		No	*None*			Change Drop More
6	email	varchar(100)	utf8mb4_general_ci		No	*None*			Change Drop More
7	contact	varchar(50)	utf8mb4_general_ci		No	*None*			Change Drop More
8	address	text	utf8mb4_general_ci		No	*None*			Change Drop More
9	cover_letter	text	utf8mb4_general_ci		No	*None*			Change Drop More
10	position_id	int(30)			No	*None*			Change Drop More
11	resume_path	text	utf8mb4_general_ci		No	*None*			Change Drop More
12	process_id	tinyint(30)			No	0	0=for review		Change Drop More
13	date_created	datetime			No	current_timestamp()			Change Drop More

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	**id**	int(30)			No	*None*		AUTO_INCREMENT
2	**position**	varchar(200)	utf8mb4_general_ci		No	*None*		
3	**availability**	int(30)			No	*None*		
4	**description**	text	utf8mb4_general_ci		No	*None*		
5	**status**	tinyint(1)			No	1		
6	**date_created**	datetime			No	current_timestamp()		

3. PROJECT MANAGEMENT

3.1 COST AND EFFORT ESTIMATION

Cost estimation for this project comprises a small percentage of computer-based system cost. There are number of factors which are considered, that can affect the ultimate cost of the software such as-human, technical, hardware and software availability etc.

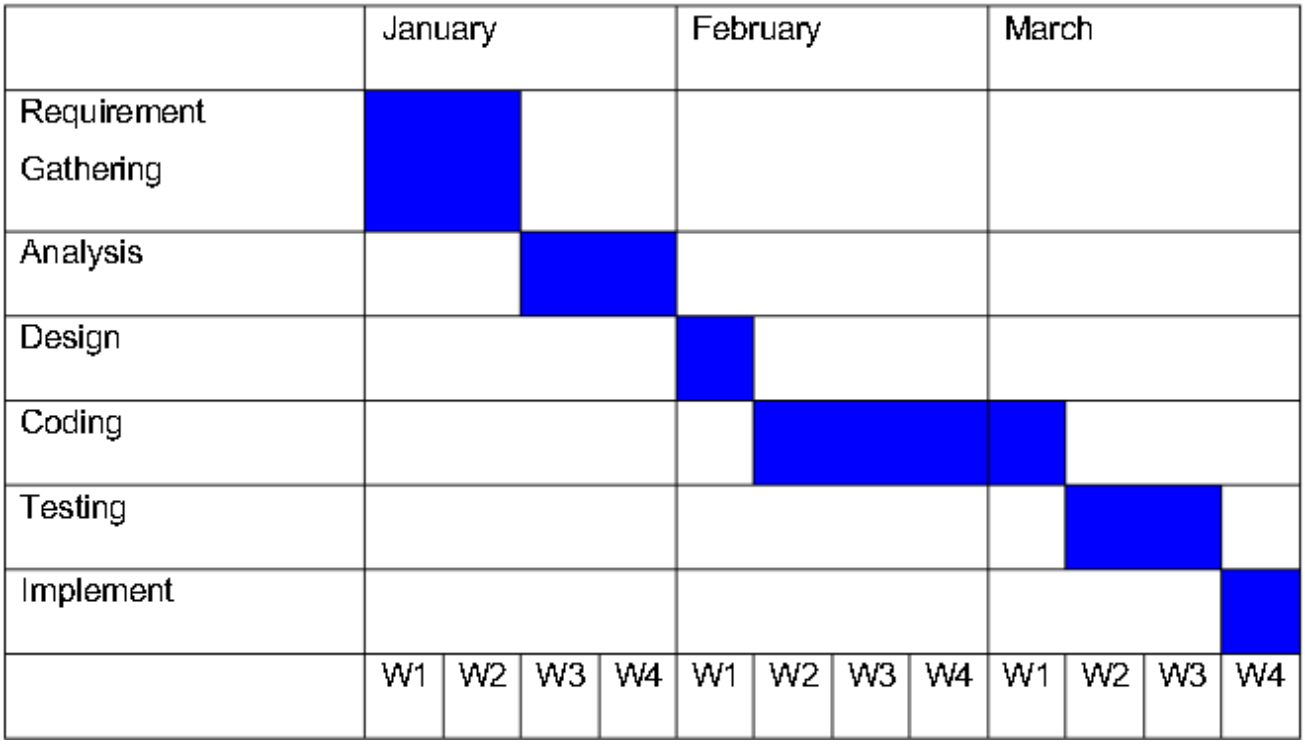
The main point that was considered during the cost estimation was its sizing. In spite of complete software sizing, function point and approximate lines of codes were also used to "size

The cost estimation done by us members for Project also depend upon the baseline metrics collected from past projects and these were used in conjunction with estimation variables to develop cost and efforts projections.

We have basically estimated this project mainly on two bases:-

1) **Effort Estimation-** This refers to the total man-hours required for the development of the project. It even includes the time required for doing documentation and user manual.
2) **Hardware Required Estimation:-** This includes the cost of the PC's and the hardware cost required for development of this project.

3.2 TIMELINE CHART


January
February
March
Requirement Gathering
Analysis
Design
Coding
Testing
Implement
W1
W2
W3
W4
W1
W2
W3
W4
W1
W2
W3
W4

4.DESIGN ENGINEERING

4.1 ARCHITECTURAL DESIGN

Architectural design is the specification of the major components of a system, their responsibilities, properties, interfaces, and the relationships and interactions between them. In architectural design, the overall structure of the system is chosen, but the internal details ofmajor components are ignored. The architectural design adds important details ignored during the interface design. Design of the internals of the major components isignored until the last phase of the design.

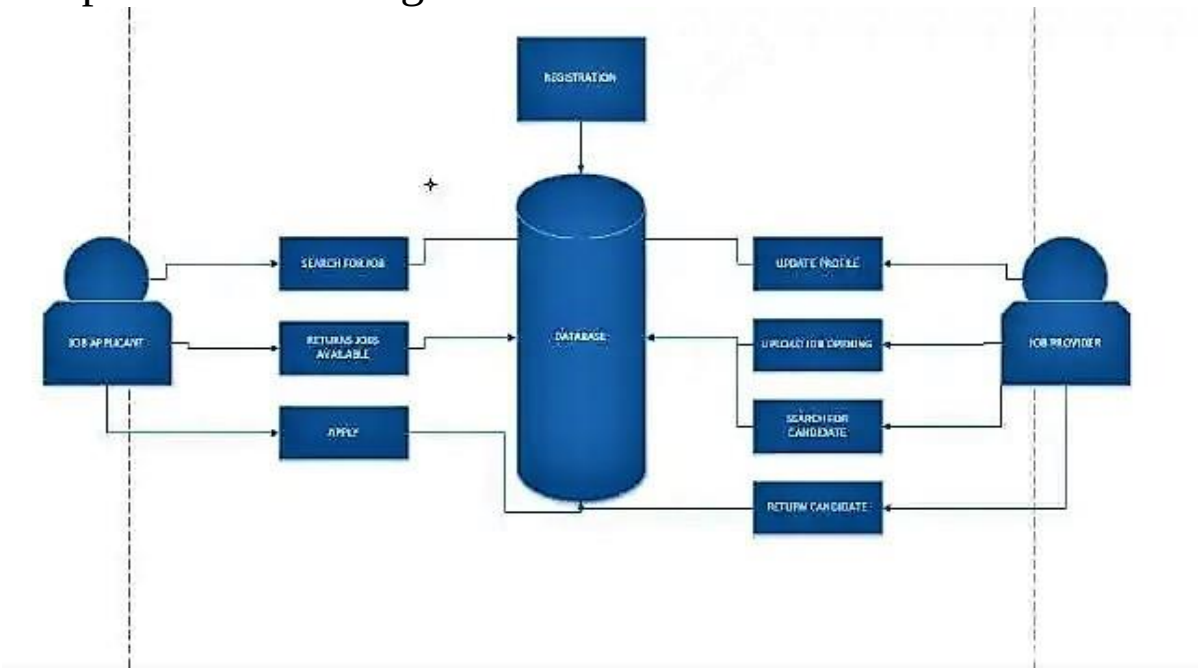


Fig-Architectural Design

4.2 PSUEDOCODE EXPLANATION FOR CODE

MODULE – Main Index Code that for website.

This is the main code for the website as it the homepage, applicants will browse the recruitment website of the company and find their desired position to apply for. Then, when the applicant has already found her/his desired position to apply, she/ he will simply click the panel/card of the position to redirect to the complete details of the position and submit their application by clicking the Apply Now button below to display the application form. After that, the applicant will fill all the fields required and submit their application along with their resume.

Psuedocode:-

```
  <!DOCTYPE html>
<html lang="en">
    <?php
    session_start();
    include('admin/db_connect.php');
    ob_start();
    $query = $conn->query("SELECT * FROM system_settings
limit 1")->fetch_array();
     foreach ($query as $key => $value) {
      if(!is_numeric($key))
        $_SESSION['setting_'.$key] = $value;
    }
    ob_end_flush();
    include('header.php');
```

```
    ?>

    <style>
        header.masthead {
                background: url(admin/assets/img/<?php echo
$_SESSION['setting_cover_img'] ?>);
                background-repeat: no-repeat;
                background-size: cover;
              }
    </style>
    <body id="page-top">
        <div class="toast" id="alert_toast" role="alert" aria-
live="assertive" aria-atomic="true">
        <div class="toast-body text-white">



        </div>
      </div>
        <nav class="navbar navbar-expand-lg navbar-light fixed-top
py-3" id="mainNav">
            <div class="container">
                <a class="navbar-brand js-scroll-trigger"
href="./"><?php echo $_SESSION['setting_name'] ?></a>
                <button class="navbar-toggler navbar-toggler-right"
type="button" data-toggle="collapse" data-
target="#navbarResponsive" aria-controls="navbarResponsive"
aria-expanded="false" aria-label="Toggle navigation"><span
class="navbar-toggler-icon"></span></button>
                <div class="collapse navbar-collapse"
id="navbarResponsive">
                    <ul class="navbar-nav ml-auto my-2 my-lg-0">
                        <li class="nav-item"><a class="nav-link js-scroll-
trigger" href="index.php?page=home">Home</a></li>
```

```
                    <li class="nav-item"><a class="nav-link js-scroll-
trigger" href="index.php?page=about">About</a></li>


                </ul>
              </div>
            </div>
        </nav>

        <?php
        $page = isset($_GET['page']) ?$_GET['page'] : "home";
        include $page.'.php';
        ?>


<div class="modal fade" id="confirm_modal" role='dialog'>
    <div class="modal-dialog modal-md" role="document">
      <div class="modal-content">
        <div class="modal-header">
        <h5 class="modal-title">Confirmation</h5>
      </div>
      <div class="modal-body">
        <div id="delete_content"></div>
      </div>
      <div class="modal-footer">
        <button type="button" class="btn btn-primary" id='confirm'
onclick="">Continue</button>
        <button type="button" class="btn btn-secondary" data-
dismiss="modal">Close</button>
      </div>
      </div>
    </div>
  </div>
```

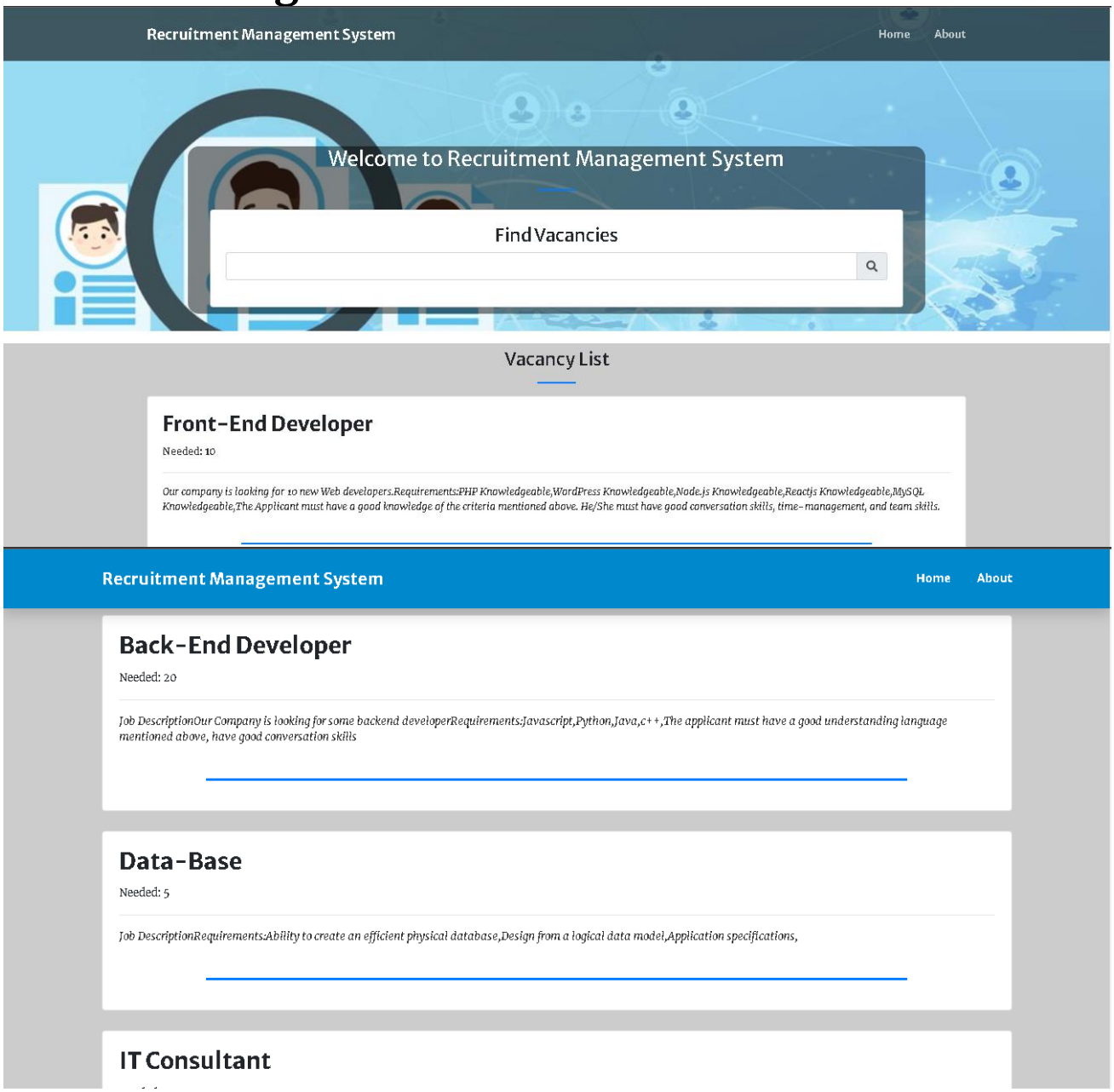
```
  <div class="modal fade" id="uni_modal" role='dialog'>
    <div class="modal-dialog modal-md" role="document">
      <div class="modal-content">
        <div class="modal-header">
        <h5 class="modal-title"></h5>

      </div>
      <div class="modal-body">
      </div>
      <div class="modal-footer">
        <button type="button" class="btn btn-primary" id='submit'
onclick="$('#uni_modal form').submit()">Save</button>
        <button type="button" class="btn btn-secondary" data-
dismiss="modal">Cancel</button>
      </div>
      </div>
    </div>
  </div>
  <div class="modal fade" id="uni_modal_right" role='dialog'>
    <div class="modal-dialog modal-full-height  modal-md"
role="document">
      <div class="modal-content">
        <div class="modal-header">
        <h5 class="modal-title"></h5>
        <button type="button" class="close" data-dismiss="modal"
aria-label="Close">          <span class="fa fa-arrow-right"></span>
        </button>
      </div>
<div class="modal-body">
      </div>
      </div>
</div>
  </div>
```

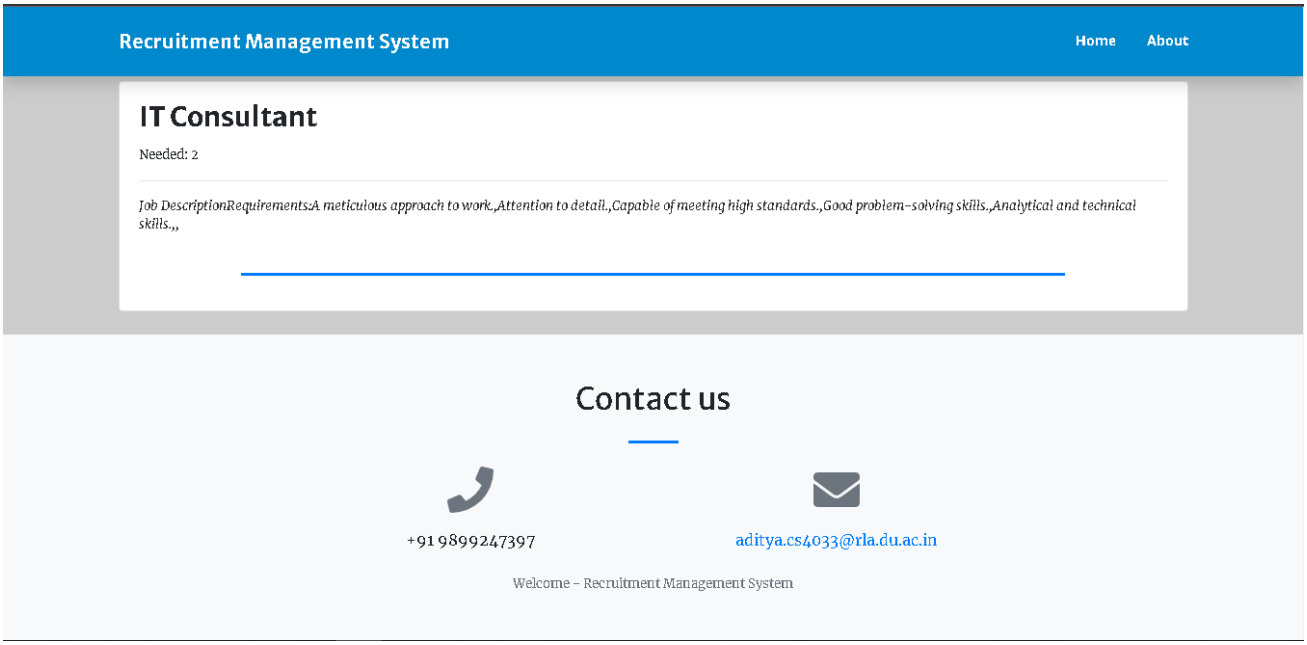
```
  <div id="preloader"></div>
      <footer class="bg-light py-5">
         <div class="container">
            <div class="row justify-content-center">
               <div class="col-lg-8 text-center">
                  <h2 class="mt-0">Contact us</h2>
                  <hr class="divider my-4" />
               </div>
            </div>
            <div class="row">
               <div class="col-lg-4 ml-auto text-center mb-5 mb-lg-
0">
                  <i class="fas fa-phone fa-3x mb-3 text-muted"></i>
                  <div><?php echo $_SESSION['setting_contact']
?></div>
</div>
               <div class="col-lg-4 mr-auto text-center">
                  <i class="fas fa-envelope fa-3x mb-3 text-
muted"></i>

         <a class="d-block" href="mailto:<?php echo
$_SESSION['setting_email'] ?>"><?php echo
$_SESSION['setting_email'] ?></a>
```

```
</div>
                </div>
            </div>
            <br>
            <div class="container"><div class="small text-center text-
muted">Welcome - <?php echo $_SESSION['setting_name'] ?>
        </footer>

       <?php include('footer.php') ?>
    </body>
    <?php $conn->close() ?>

</html>
```

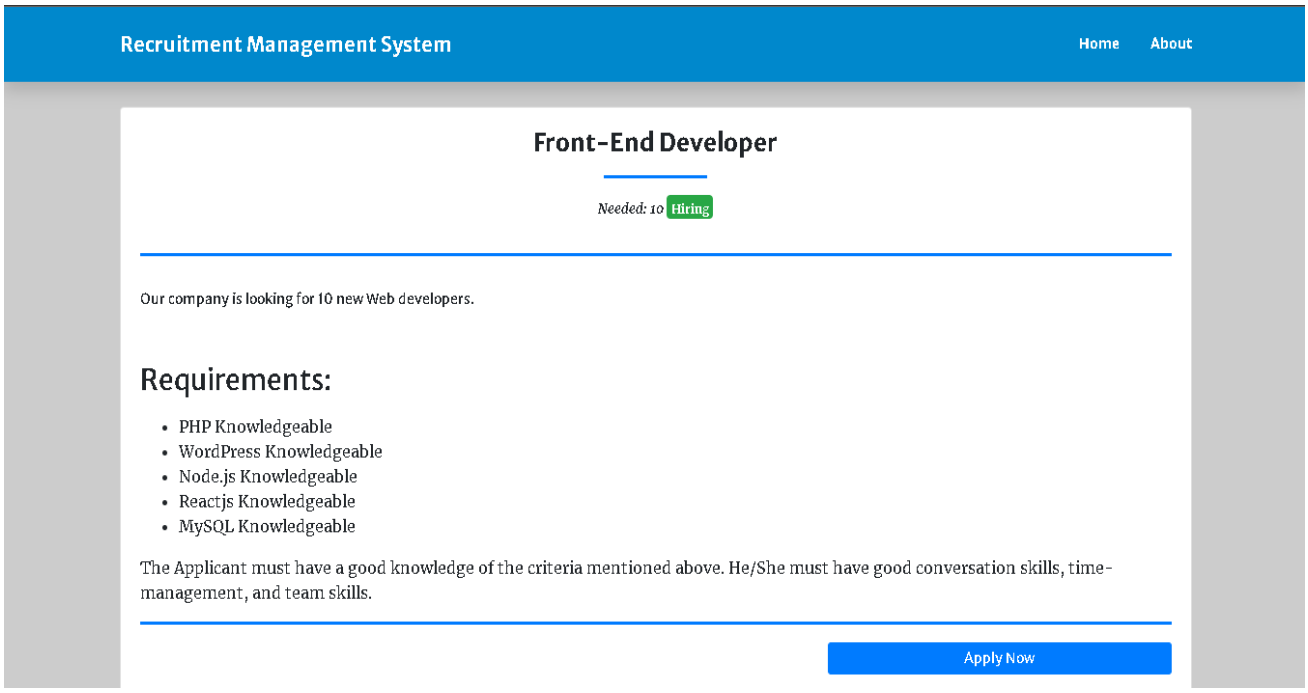
5.WEBPAGES DESIGN

5.1 Home Page



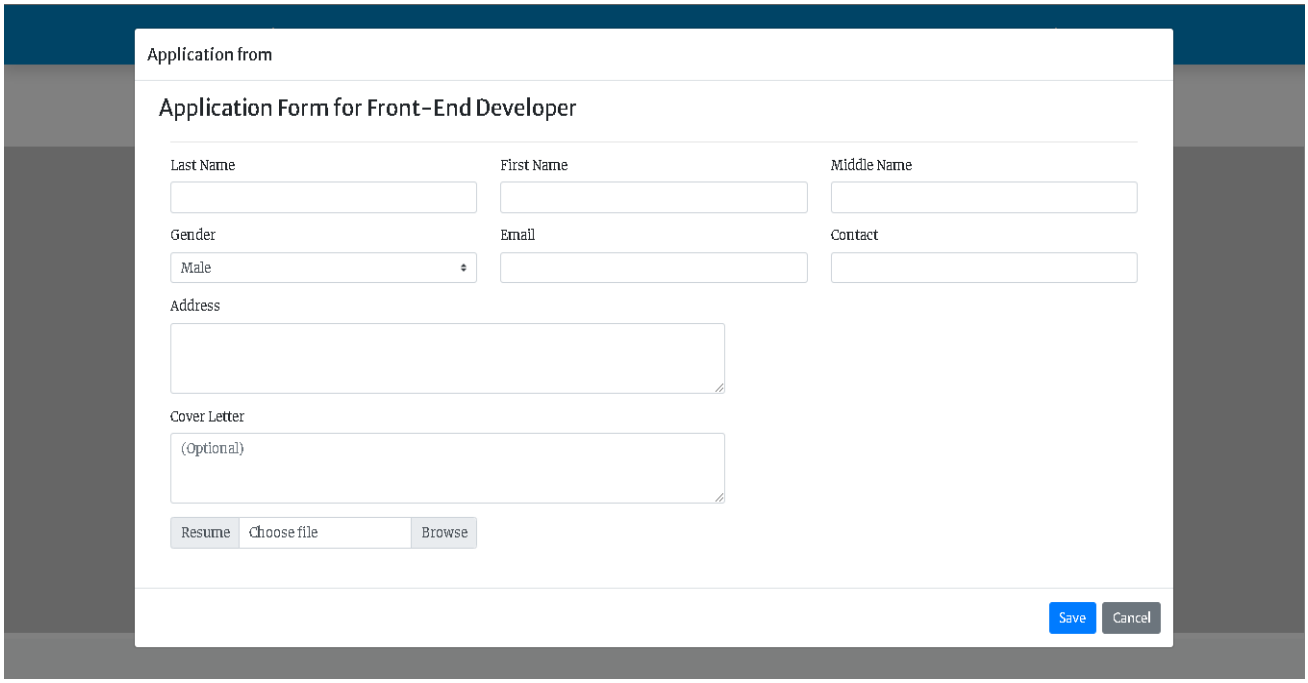


5. Job Description

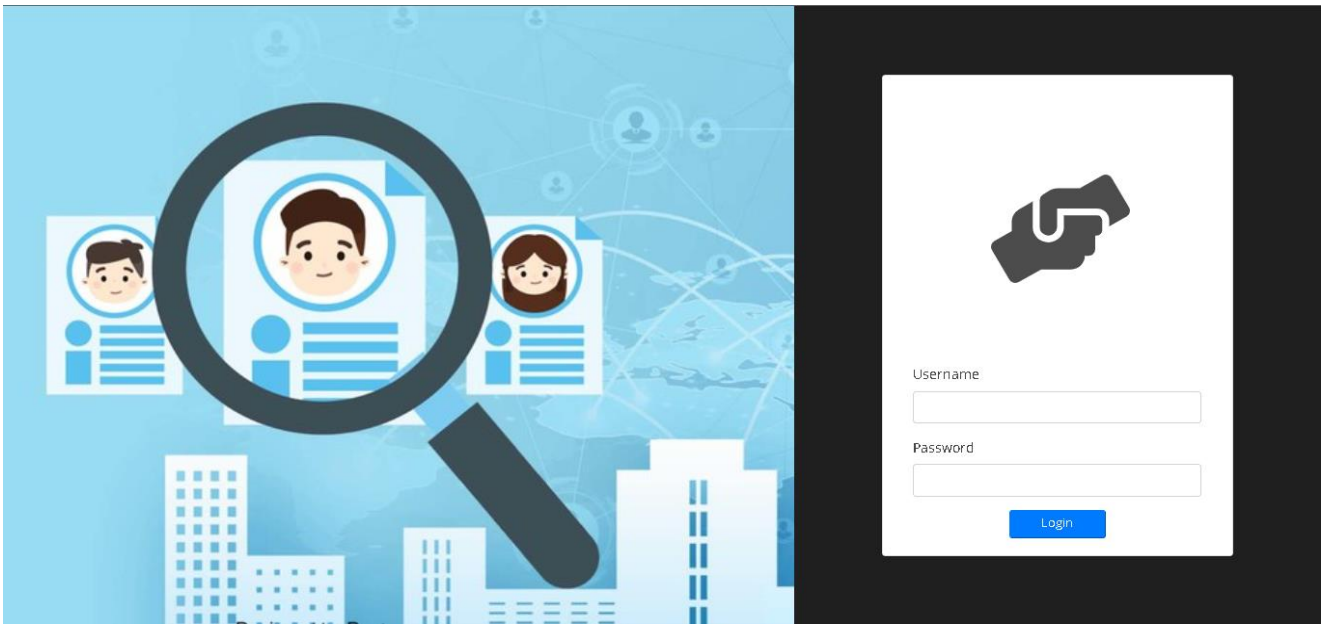


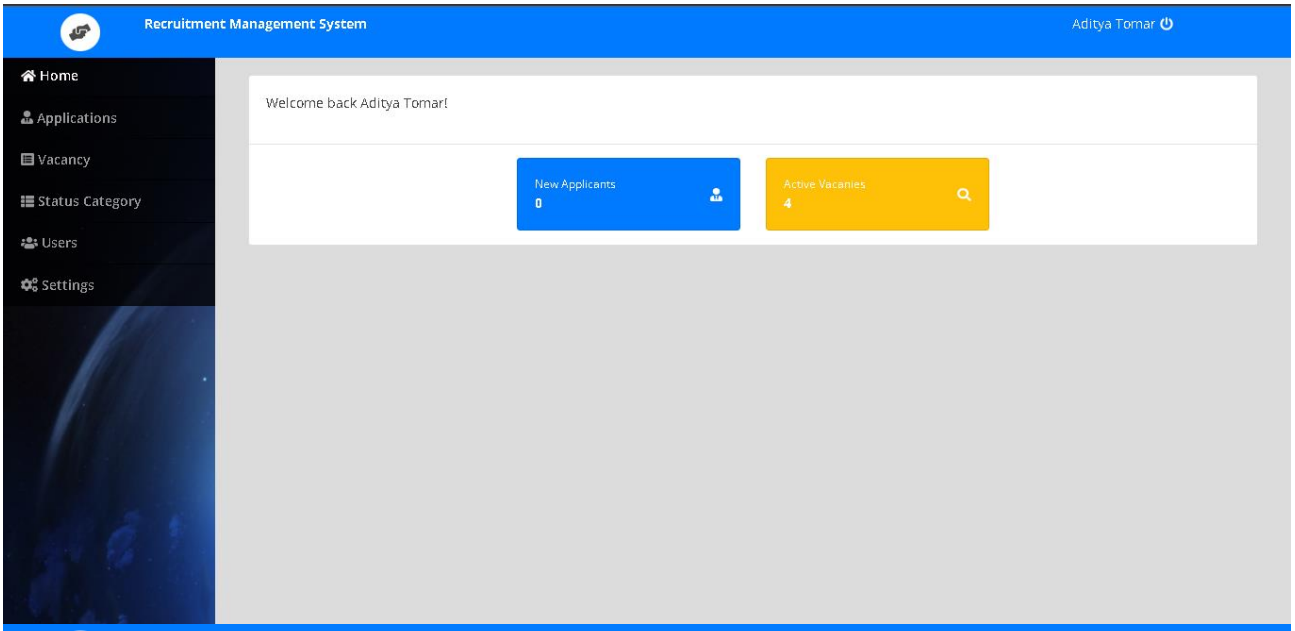
6. Applying for Job by Filling up Personal

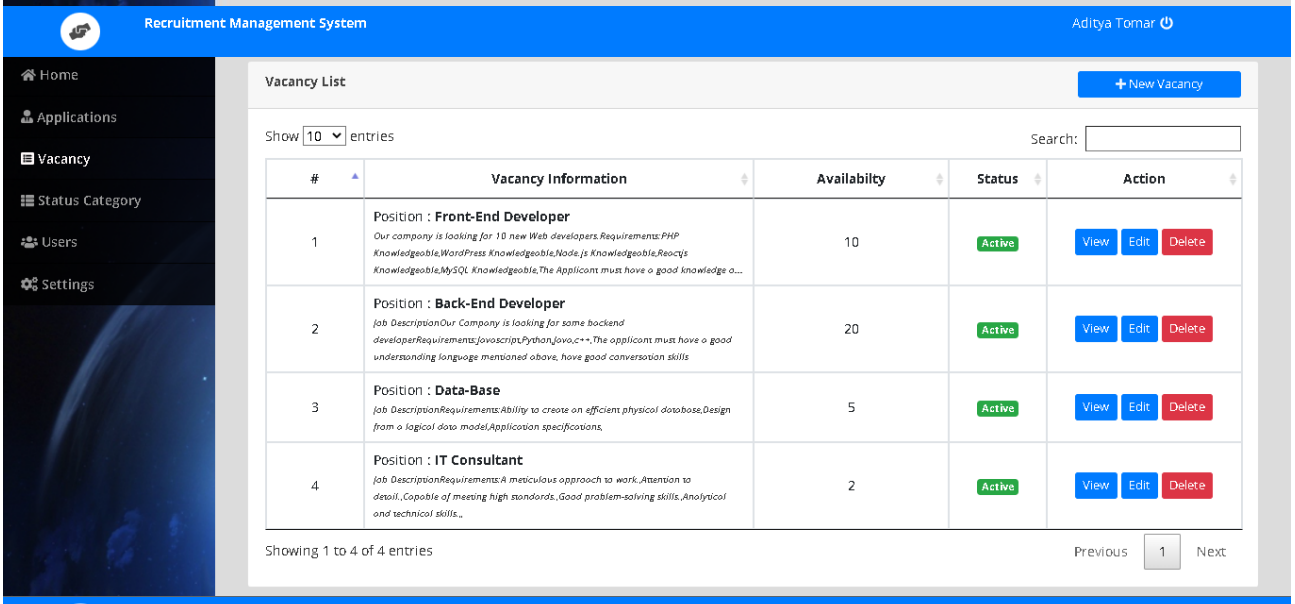
Info.

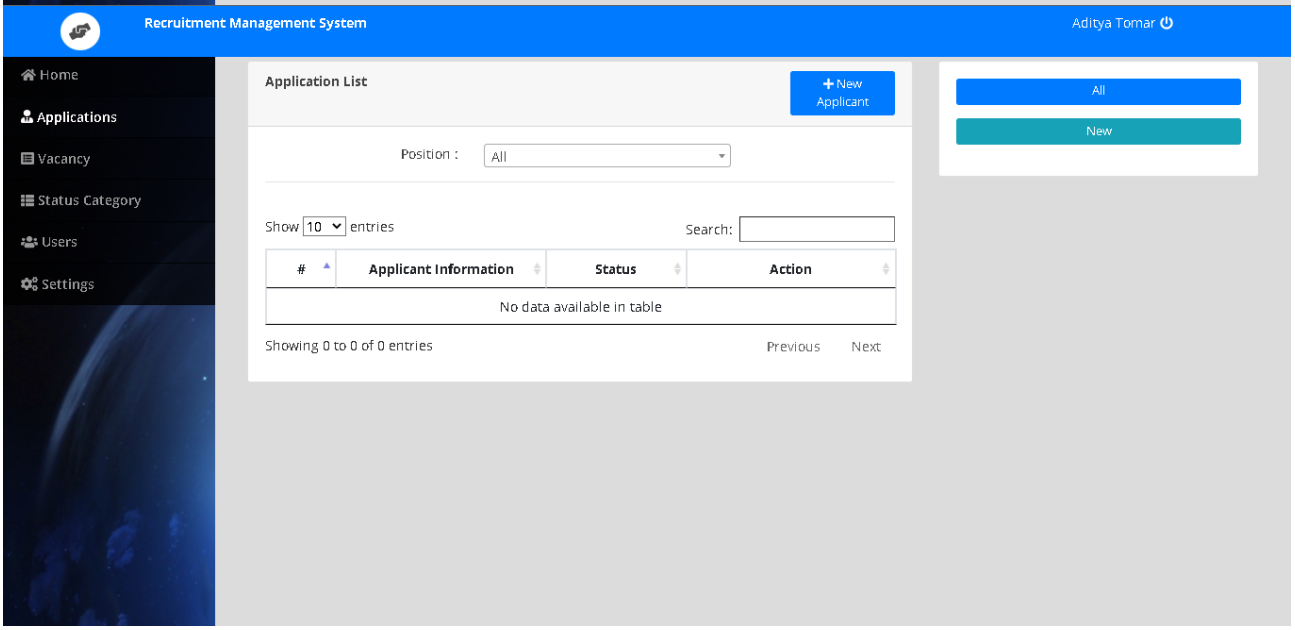


5.2 ADMIN SIDE INTERFACE

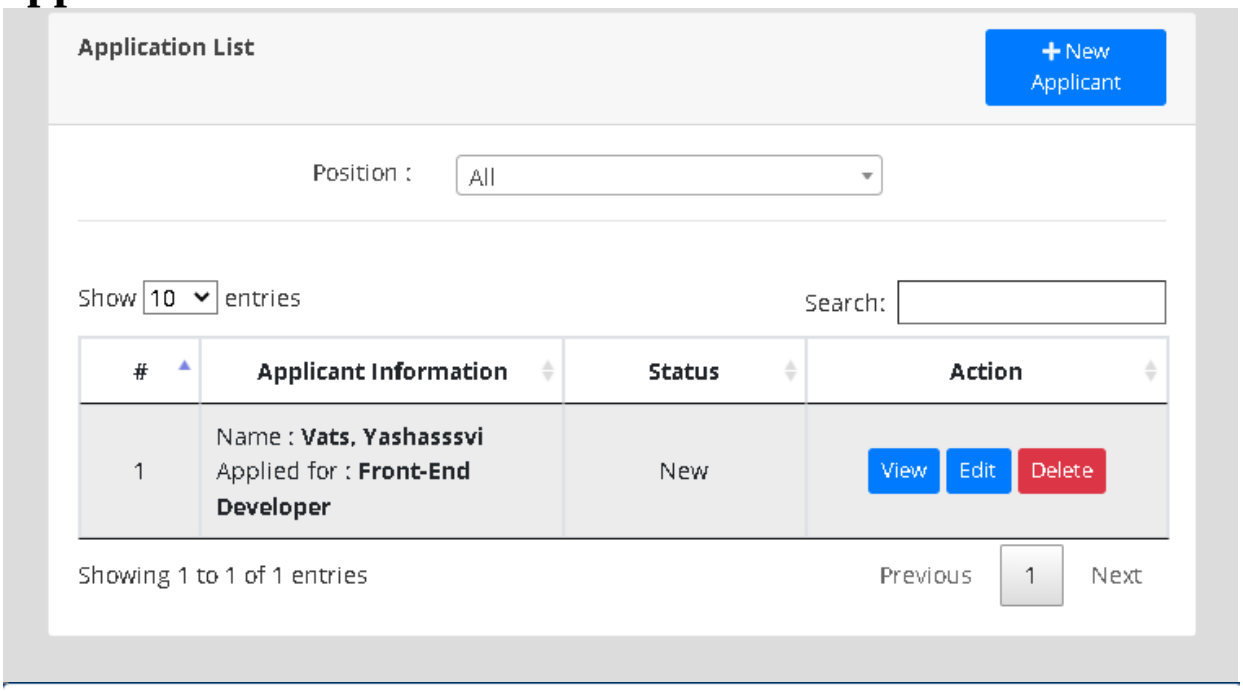


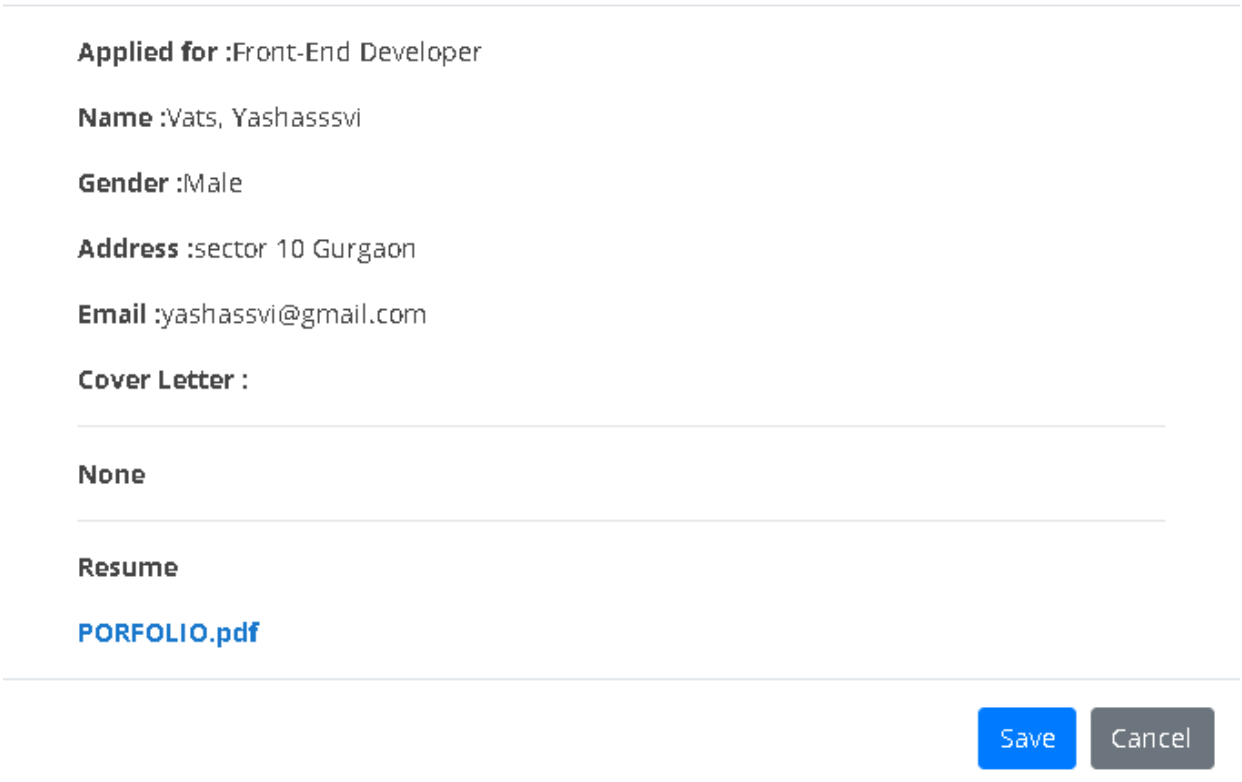

Recruitment Management System
Aditya Tomar
Home
Applications
Vacancy
Status Category
Users
Settings
Welcome back Aditya Tomar!
New Applicants
0
Active Vacancies
4


Recruitment Management System
Aditya Tomar
Home
Applications
Vacancy
Status Category
Users
Settings
Vacancy List
+ New Vacancy
Show 10 entries
Search:
| Vacancy Information | Availability | Status | Action
1 | Position : Front-End Developer | Our company is looking for 10 new Web developers.Requirements:PHP Knowledgeable,WordPress Knowledgeable,Node.js Knowledgeable,Reactjs Knowledgeable,MySQL Knowledgeable,The Applicant must have a good knowledge a... | 10 | Active | View Edit Delete
2 | Position : Back-End Developer | Job DescriptionOur Company is looking for some backend developerRequirements:Javascript,Python,Java,c++,The applicant must have a good understanding language mentioned above, have good conversation skills | 20 | Active | View Edit Delete
3 | Position : Data-Base | Job DescriptionRequirements:Ability to create an efficient physical database,Design from a logical data model,Application specifications, | 5 | Active | View Edit Delete
4 | Position : IT Consultant | Job DescriptionRequirements:A meticulous approach to work.,Attention to detail.,Capable of meeting high standards.,Good problem-solving skills.,Analytical and technical skills.,, | 2 | Active | View Edit Delete
Showing 1 to 4 of 4 entries
Previous 1 Next

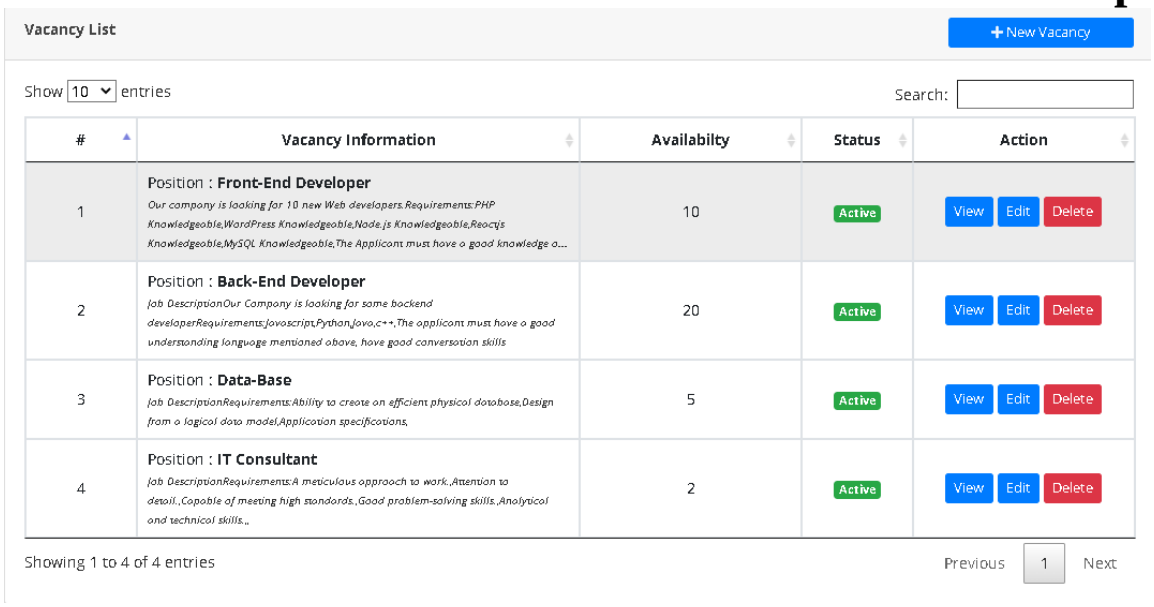

Recruitment Management System
Aditya Tomar
Home
Applications
Vacancy
Status Category
Users
Settings
Application List
+ New Applicant
All
New
Position : All
Show 10 entries
Search:
| Applicant Information | Status | Action
No data available in table
Showing 0 to 0 of 0 entries
Previous Next

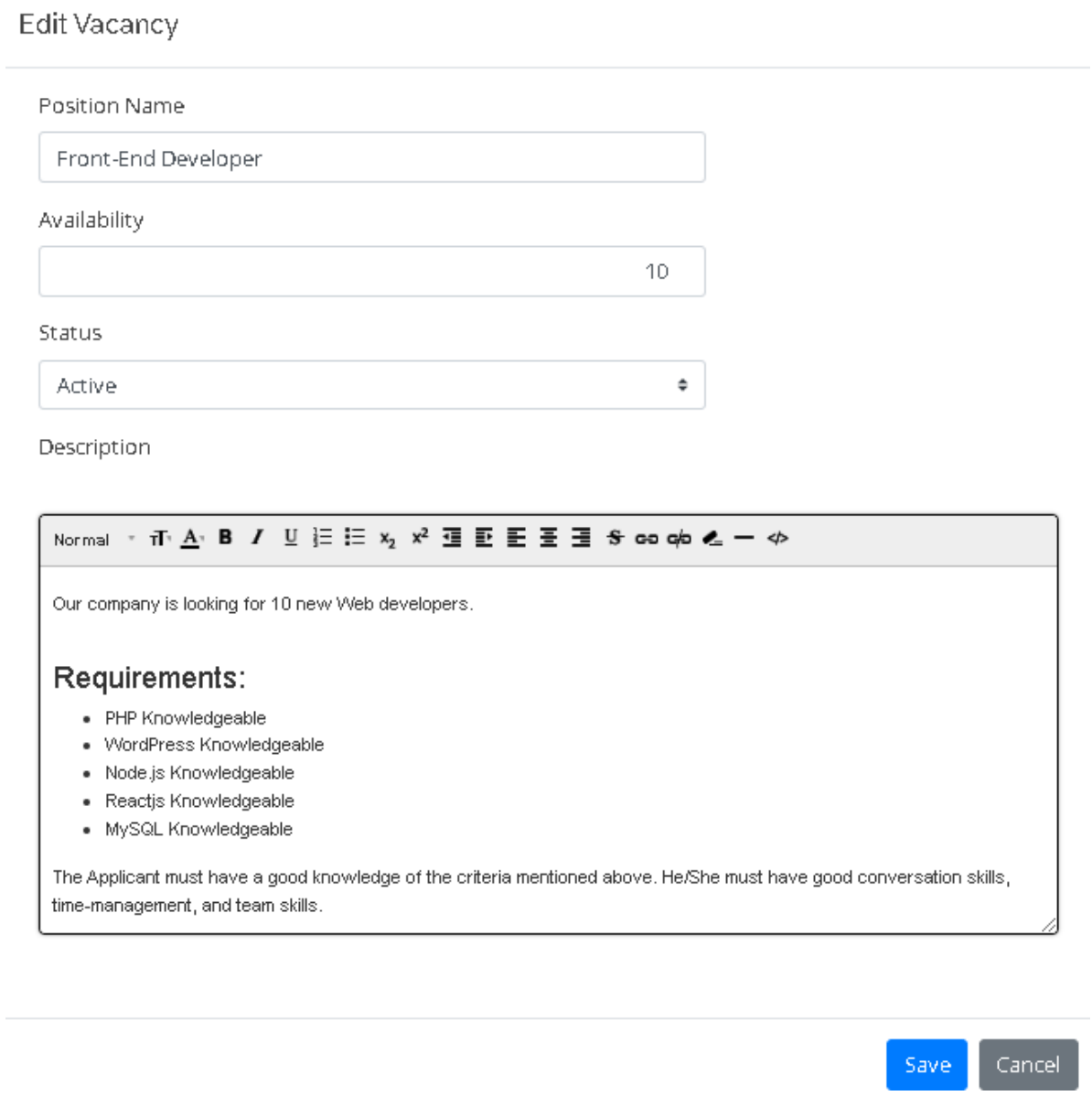
5.2.1 How's Admin will See the People those who have applied:-





5.2.2 How Admin Can Edit Vacancies For the Company:-




Edit Vacancy
Position Name
Front-End Developer
Availability
10
Status
Active
Description
Normal
Our company is looking for 10 new Web developers.
Requirements:
PHP Knowledgeable
WordPress Knowledgeable
Node.js Knowledgeable
Reactjs Knowledgeable
MySQL Knowledgeable
The Applicant must have a good knowledge of the criteria mentioned above. He/She must have good conversation skills, time-management, and team skills.
Save
Cancel

6. SOFTWARE TESTING

"Testing is the process of executing the program with the intent offinding errors."

Software testing is a critical element of software quality assurance andrepresents the ultimate review of specification, design, and code generation. Once source code has been generated, software must be tested to uncover as many tests as possible before delivery to the customer.

6.1 SOFTWARE TESTING FUNDAMENTALS

A strategy for software testing provides a road map that describes the steps to be conducted as part of testing, when these steps are planned and then undertaken, and how much effort, time, and resources will berequired. Therefore, any testing strategy must incorporate test planning, test case design, test execution, and resultant data collection and evaluation. At the same time, it must be rigid enough to encouragereasonable planning and management tracking as the project progresses. It must accommodate low-level tests that are necessary to verify that a small source code segment has been correctly implemented as well as high-level tests that validate major system functions against customer requirements.

The terms verification & validation are often confused and used interchangeably but have different meanings. Verification is the process of evaluating a system or component to determine whether the products of a given development phase satisfy the

condition imposed at the start of that phase. Hence verification activities are applied to early phases in SDLC such as requirements, design, planning etc. We check and review the documents generated after completion of every phase in order to ensure that what comes out of that phase is what we expected to get. Whereas validation is the process of evaluating a system or component during or at the end of the development process to determine whether it satisfies the specific requirements. Therefore, validation requires actual execution of the program and is also known as computer based testing. We experience failures and identify the causes of the failure. Hence testing includes both validation and verification.

The terms **alpha** and **beta** testing are used when the software is developed as a product for anonymous customers. Hence formal acceptance testing is not possible in such cases. However, some potential customers are identified to get their views about the product.The alpha tests are conducted at the developer's site by a customer.
These tests are conducted in a controlled environment.
The beta tests are conducted by the customers/end users at their sites.Unlike alpha testing, developer is not present here. Beta testing is conducted in a real environment that cannot be controlled by the developer. Customers are expected to report failures, if any, to the company. After receiving such failure reports, developers modify the code and fix the bug and compare the product after the final release.

6.2 TEST CASE DESIGN

6.2.1Test case -1

Test No.	Description	Test Data	Expected Result	Actual Result
1.	Detecting the Database is connected	No data required	No Error	Pass
2.	Checking The Home Page Loads	No data required	It loads	Pass
3.	Checking That the Applying Process And data entered get saves successfully	Data Required From the Client	It loads	Pass
4.	Checking that the resume file uploads successfully	No data required	Data Saved Successfully	Pass

6.2.2Test case -2

Test No.	Description	Test Data	Expected Result	Actual Result
1.	Checking That Application Section of Admin Side Gets Proper Details of Applicants.	Nil	It Shows The Details Of Applicant.	Pass
2.	Admin Can Download the resume and the edit the vacancies as per requirements	Nil	It downloads and Vacancies edit successfully	Pass

6.3 BLACK-BOX TESTING

The technique of testing without having any knowledge of the interiorworkings of the application is called black-box testing. The tester is oblivious to the system architecture and does not have access to the source code. Typically, while performing a black-box test, a tester will interact with the system's user interface by providing inputs and examining outputs without knowing how and where the inputs are worked upon.

Advantages:

- Well suited and efficient for large code segments.

- Code access is not required.
- Clearly separates the user's perspective from the developer'sperspective through visibly defined roles.
- Large numbers of moderately skilled testers can test the application with no knowledge of implementation, programminglanguage, or operating systems.

6.4 WHITE-BOX TESTING

White-box testing is the detailed investigation of internal logic and structure of the code. White-box testing is also called glass testing oropen-box testing. In order to perform white-box testing on an application, a tester needs to know the internal workings of the code. The tester needs to have a look inside the source code and findout which unit/chunk of the code is behaving inappropriately.

Advantages:

- As the tester has knowledge of the source code, it becomes veryeasy to find out which type of data can help in testing the application effectively.

- It helps in optimizing the code .

7. MAINTENANCE

With the term System Maintenance it actually refers to the changes need to be made to a system after it has been implemented. Changes may be required to fix bugs or to make enhancements to the system inorder to accommodate new user requirements or adapt to new hardware or software.
Users may notice an error in certain type of files which are not compatible with the software. Maintenance would be required to fix this bug. Whenever a user notices an error in the software or an enhancement is required, he passes on the finding and requirementsto the software maintenance department. The analyst in the department identifies the impacted items (problem areas), corrects them, tests the package and requests the user to check if the requesthas been serviced properly.

Software maintenance can be defined as the process of changing asystem after it has been delivered and is in use.
It is basically the process of changing a system to maintain its ability to survive.
Software Maintenance is the process of modifying a software productafter it has been delivered to the customer. The main purpose of software maintenance is to modify and update software application after delivery to correct faults and to improve performance.

7.1 Need for Maintenance

Software Maintenance must be performed in order to:

- Correct faults.
- Improve the design.
- Implement enhancements.
  Interface with other systems.
- Accommodate programs so that different hardware, software, system features, and telecommunications facilities can be used.
- Migrate legacy software.
- Retire software.

7.2 Categories of Software Maintenance

Maintenance can be divided into the following:

- **Corrective maintenance:**
  Corrective maintenance of a software product may be essential either to rectify some bugs observed while the system is in use, orto enhance the performance of the system.

- **Adaptive maintenance:**
  This includes modifications and updations when the customersneed the product to run on new platforms, on new operating systems, or when they need the product to interface with newhardware and software.

- **Perfective maintenance:**
  A software product needs maintenance to support the new features that the users want or to change different types of

functionalities of the system according to the customer demands.

- **Preventive maintenance:**
  This type of maintenance includes modifications and updations to prevent future problems of the software. It goals to attend problems, which are not significant at this moment but may causeserious issues in future.

8. LIMITATIONS OF PROJECT

Recruitment management system is a segment of human resource management system, but has many sub-modules, this study will be restricted to the fundamental recruitment processes without some in-depth explication of some segments due to the time factor. The activities that will be involved in recruitment process will involve the sourcing for prospective candidates and sending of mail to qualified applicant, matching job profile with the applicants' profile. This recruitment management system will not be constrained to an organization or firm. Additionally, the authentic provision for a computerized test will not be implemented as its scope is beyond that of the research work

8.1 FUTURE IMPROVEMENTS

- **We can add Printer in future.**
- **Latest technology and IOT devices can be used to enhance userexperience.**
- **Create the Master and Slave database to reduce the overload of the database queries.**
- **A well-defined systematic approach needs to be used to collect thefeedback from our users from time to time and to constantly put efforts to remove problems and improve efficiency.**

9. CONCLUSION

"**RMS**" otherwise known as **Recruitment Management System** is a time and money saving platform which companies can use in order to reduce cost of recruitment for themselves. Through this research project, the stress of job search can be eradicated and reduced to a minimal level. This project is targeted towards the easy and efficient job search. Online Recruitment can be improved further by creating modules or functionalities which support the testing of candidate and also referral of such candidates to companies based on their scores and their ranking on the recruitment platform.

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