

Dharmsinh Desai University, Nadiad Faculty of Technology Department of Computer Engineering

A PROJECT REPORT ON

Shah's Accretion

(An open Organization Management webappliation)

Ву

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Subject: (CE-515) Advance Technologies

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CERTIFICATE

This is to certify that the practical / term work carried out in the subject of (CE-515) Advance Technologies and recorded in this journal is the bonafide work of Jwalit Chiragbhai Shah (CE-118) (18CEUOS057) of B.Tech. semester V in the branch of Computer Engineering during the academic year 2019-2020.

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ABSTRACT

Managing an Organization for the Director or CEO is the most challenging and tedious work to do.

It is a Open Organization Management web application which provides management functionality to any third party Organization and their respective employees. Users can Register, Login & Logout. Organization user can add, view, remove employees, and can also update the profile of the employees. Users can also edit their own profile. Organization user can assign, update, view, delete todo's to the respective employee to their organization. Organization can manage the Salary-Roles of the employee by adding, updating the salary and roles. Organization and employees can have general announcements and discussion on Forum. Both user can give their Feedback to admin. Employee can view the details of Todos and can mark the task done. Both user can see their finished todos. If User forgets the password then password can be reset by OTP validation through registered email.

Admin will be managing all Organization and Employee.

Developer (Jwalit C. Shah)

INTRODUCTION

My project is all about managing the Company, and managing their employees by their respective Company owners. My project is an interface between the two users which are Organization and their Employee. As it is known that managing any firm or company is the challenging task to do.

Our main aim is to provide ease to the Organization who comes across our platform for managing their employees and task and manage Organization, and provide ease to the Employees who are associated with their respective firm.

Any Organization can come and register themselves to the web application and make login to their account. An Organization can Register or add the employees. They can view details of each employee. They can Update the existing employees and also can delete that employee when he/she is not longer the part of the organization. Organization can add, assign, update, mark done, delete the Todos. They can see the finished or marked done Todos list separately. Organizations can also manage the salary and role modules. They can add, update, delete and assign the role and salary structures to their employees. User can give feedback to the Admin. Organization can add, update, delete their highlights of the organization, growth, manpower or project progress on the main dashboard. Organization user can post some important announcements on the General Forum, and can view the responses of the same by their employees on General forum.

Employees can Login to their account which is registered by their Organization on behalf of them. Employees can mark the Todos assigned to them by their respective organization. Employees can also view the list of finished Todos by them. Employee can suggest their suggestion and give response on some announcements in the General Forum. Employees can give Feedback to the Admin.

Both users can View their respected profiles and can edit the profiles. Organization can delete their account too. It leads to delete all the data directly or indirectly related with them. Users can make logout after the task is over.

If any of the users forgot their password then it can be resolved by forgot password functionality. Password can be reset by the Real time Email Token Validation only. Other malicious user can't access the reset password page.

In the entire web application, Session Management is done. Also if a certain url is not the valid or if a certain resource is not belonging to the current logged in user then it shows the 404 Error page or 403 Access denied page respectively for the same events.

Tools & Technologies Used:

Technologies:

- **♦** HTML5
- **♦** CSS3
- **❖** Bootstrap4
- **❖** Javascript
- Typescript
- **❖** jQuery
- **❖** Angular
- ❖ Node.js
- **❖** MONGODB
- Express.js
- **❖** Nodemailer
- **❖** NPM

Tools:

- ❖ Visual Studio Code
- ❖ Git Version Control System
- **❖** Postman
- **❖** Git
- **❖** Github
- **❖** MongoDB Compass
- Browser and Console

Platforms:

Windows

Developer

(Jwalit C. Shah)

SOFTWARE REQUIREMENT SPECIFICATION

Users:

- ★ Admin
- ★ Organization Administrator
- **★** Employees

Requirement Analysis

Functional requirements:

- I. Manage Admin panel
- II. Manage Employee module
- III. Manage Salary-Role module
- IV. Manage To-Do module
- V. Manage Feedback and FAQ module
- VI. Manage General Discussion module
- VII. Manage statistical data

NonFunctional requirements:

- I. Cross platform accessibility
- II. Responsive Website for all device
- III. Web support
- IV. Scalability
- V. Portability
- VI. Compatibility
- VII. Free DBMS support

R.1) Admin user

R.2.2) Login

Description: Log in to the web app as an Administrator.

Input: User selection

Output: Success message with redirect to Login page

R.1.2) List all Organizations

Input: User selection

Output: List of all Organizations

R.1.3) List all Employees

Descriptions: Listing of all employees is done on basis of previously selected organization after organization listings.

Input: User selection

Output: List of all employees

R.1.4) Delete Organization user

Description: This is used to delete Organization and their belonging related employees and other data.

Input: User selection.

Output: Success message

R.1.5) Delete Employee

Input: User selection

Output: Success message

R.1.6) List Feedbacks

Input: User selection

Output: List of all Feedbacks given by all users.

R.2) Organization User (Organization Administrator)

R.2.1) Sign up

Description: Register to the web app as Organization administrator.

Input: User input for sign up

Output: Redirects to Login page with success message on success, displays error message otherwise.

R.2.2) Login

Description: Log in to the web app as an Organization Administrator.

Input: User selection

Output: Success message with redirect to Login page

R.2.3) Forgot Password

Description: User can reset password by token validation which is sent to registered username.

Input: User input of username

Output: Success message and redirect to Login page after success, displays error message otherwise.

R.2.4) Manage Employee module

Description: Organization administrator can add,update,lists,view,delete the employee's records.

R.2.4.1) Add Employee

Description: Sign up of an employee

Input: User input for registering employee

Output: Success message and Redirects to Details page

R.2.4.2) View Employee Details

Input: User selection of employee

Output: Details page of selected Employee

R.2.4.3) Update Employee Details

Input: User input for updating existing information of employee

Output: Success message and Redirects to Details page

R.2.4.4) List Employees

Input: User selection

Output: List of all employees belongs to only their organization

R.2.4.5) Delete Employee

Input: User selection

Output: Success message

R.2.5) Manage ToDo module

Description: Organization administrator can add,update,lists,view,delete & Mark the Todos records.

R.2.5.1) Add and Assign Todo

Description: Create and assign Todo to one of registered employee

Input: User input for creating Todo

Output: Success message and Redirects to Todo Details page

R.2.5.2) View Todo Details

Input: User selection

Output: Details page of selected Todo

R.2.5.3) Update Todo

Input: User input for updating existing information of todo

Output: Success message and Redirects to Details page

R.2.5.4) Delete Todo

Input: User selection

Output: Success message

R.2.5.5) Listing of pending Todos

Input: User selection

Output: Listing of all pending todos by all employees.

R.2.5.6) Listing of Finished Todos

Input: User Selection

Output: Listing of all finished todos by all employees.

R.2.6) Manage Salary-Role module

Description: Salary and Role structure of the respective organization defined, updated, deleted and assigned to their employees.

R.2.6.1) Add Salary-Role data

Description: Create Salary-Role record for registered employees

Input: User input for creating Salary-role

Output: Success message

R.2.6.2) Assign Salary-Role to Employee

Input: User selection

Output: success message

R.2.6.3) Update Salary-Role structure

Input: User input for updating existing information of salary and roles

Output: Success message and Redirects to listing page

R.2.6.4) List Salary-Roles structure

Input: User selection

Output: List of all Salary-Role structures belongs to only their organization

R.2.6.5) Delete Salary-Role

Input: User selection

Output: Success message

R.2.7) Manage General Forum/ FAQ module

Description: Organization administrator can post important announcements or meetings there.

R.2.7.1) Adding new Posts/Messages

Input: User Input

Output: Success message and redirects to list of all Posts.

R.2.7.2) Listing all Posts/Messages

Input: User selection

Output: Listing of all messages under the organization.

R.2.8) Give Feedback

Description: Feedback given to the admin of the web application.

Input: User input for feedback

Output: Success message and redirected to the Dashboard page.

R.2.9) View Profile Details

Input: User selection

Output: Profile details page of self.

R.2.10) Update Profile Details

Input: User input for updating the details of Organization administrator.

Output: Success message

R.2.11) Logout

Input: User Selection

Output: Success message with redirection to login page.

R.3) Employee User

R.3.1) Login

Description: Log in to the web app as an employee.

Input: User selection

Output: Success message with redirect to Login page

R.3.2) Logout

Input: User selection

Output: Success message with redirect to Login page

R.3.3) Forgot Password

Description: User can reset password by token validation which is sent to registered username.

Input: User input of username

Output: Success message and redirect to Login page after success, displays error message otherwise.

R.3.4) Manage ToDo module

Description: Assigned Todos can be viewed and marked done.

R.3.4.1) Listing of pending assigned Todos

Input: User selection

Output: Listing of all pending todos for the employee.

R.3.4.2) Mark done the assigned Todo

Description: Mark the Todo done & adds it to the finished list of Todos.

Input: User selection

Output: Success message and redirect to Listing of finished todos.

R.3.4.3) View Details of Todo

Input: User selection

Output: Details page of selected Todo

R.3.5) Give Feedback

Input: User Input

Output: Success message

R3.6) List the previously given Feedbacks.

Input: User Selection

Output: List of all previously given Feedbacks.

R.3.6) Post a message or QA in the General Forum.

Input: User Input

Output: Success message and redirects to list of all Posts.

R.3.7) View Profile Details

Input: User Selection

Output: Redirect to the employee profile details page

R.3.8) Update Profile Details

Input: User Input for updating the employee details

Output: Success Message

R.3.9) View Organization Profile Details

Input: User Selection

Output: Redirect to the organization profile details page

DESIGN

DTD

1.1 Admin

```
<?xml version="1.0"?>
<!DOCTYPE Organization_Users [</pre>
      <!ELEMENT Organization_Users</pre>
      (org_id,organization_name,director_name,email,password,mobile
      ,website_link,facebook_link,linkedin_link,instagram_link,logo) >
      <!ELEMENT org_id (#PCDATA)>
      <!ELEMENT organization_name(#PCDATA)>
      <!ELEMENT director name(#PCDATA)>
      <!ELEMENT email(#PCDATA)>
      <!ELEMENT password(#PCDATA)>
      <!ELEMENT mobile(#PCDATA)>
      <!ELEMENT website_link(#PCDATA)>
      <!ELEMENT facebook_link(#PCDATA)>
      <!ELEMENT linkedin_link(#PCDATA)>
      <!ELEMENT instagram_link(#PCDATA)>
      <!ELEMENT logo(#PCDATA)>
]>
<Organization_Users>
      <org_id>2</org_id>
      <organization_name>Titan</organization_name>
      <director name>Ratan Tata</director name>
      <email>tata@umail.com</email>
```

<?xml version="1.0"?> <!DOCTYPE Employee_Users [<!ELEMENT Employee_Users</pre> (emp_id,org_id,first_name,last_name,email,password,mobile,addr ess,date_of_birth,date_of_join,blood_group,photo) > <!ELEMENT emp_id (#PCDATA)> <!ELEMENT org_id (#PCDATA)> <!ELEMENT first name(#PCDATA)> <!ELEMENT last name(#PCDATA)> <!ELEMENT email(#PCDATA)> <!ELEMENT password(#PCDATA)> <!ELEMENT mobile(#PCDATA)> <!ELEMENT address(#PCDATA)> <!ELEMENT date_of_birth(#PCDATA)> <!ELEMENT date_of_join(#PCDATA)> <!ELEMENT blood_group(#PCDATA)> <!ELEMENT photo(#PCDATA)>

]>

1.3 Todos

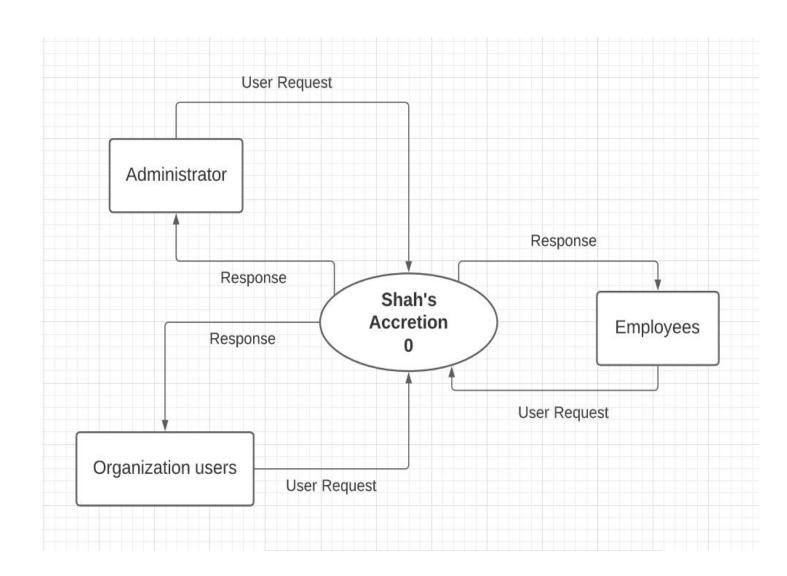
```
<!ELEMENT finished_date(#PCDATA)>
      ]>
      <Todos>
            <todo_id>2</todo_id>
            <emp_username>tata@umail.com</emp_username>
            <org_id>2</org_id>
            <title>Make PR</title>
            <task>make pr by updating all http to https</task>
            <date_of_issue>01/11/2020</date_of_issue>
            <date_of_due>04/11/2020</date_of_due>
            <finished>false</finished>
            <finished_date></finished_date>
      </Todos>
1.4 Salary-Roles
      <?xml version="1.0"?>
      <!DOCTYPE Salary-Roles[
            <!ELEMENT Salary-Roles</pre>
            (salary_role_id,salary,role) >
            <!ELEMENT salary_role_id (#PCDATA)>
            <!ELEMENT salary (#PCDATA)>
            <!ELEMENT role (#PCDATA)>
      ]>
      <Salary-Roles>
            <salary_role_id>1</salary_role_id>
            <salary>50000</salary>
            <role>SDE1</role>
      </Salary-Roles>
```

1.5 Feedbacks

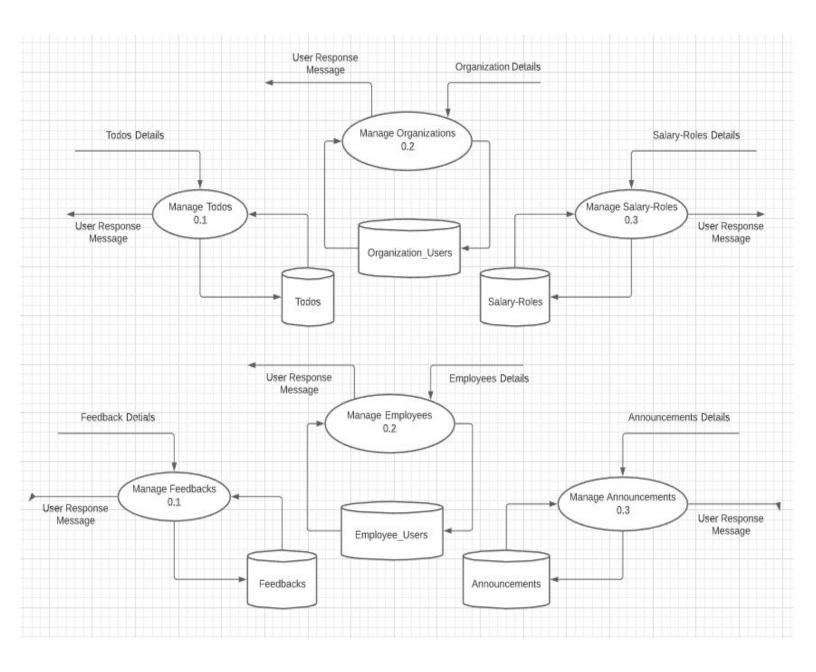
```
<?xml version="1.0"?>
      <!DOCTYPE Feedbacks[
            <!ELEMENT Feedbacks
            (id,feedback,is_employee,user_id) >
            <!ELEMENT id (#PCDATA)>
            <!ELEMENT feedback (#PCDATA)>
            <!ELEMENT is_employee (#PCDATA)>
            <!ELEMENT user_id (#PCDATA)>
     ]>
      <Feedbacks>
            <id>3</id>
            <feedback>Very good user friendly website</feedback>
            <is_employee>true</is_employee>
            <user_id>1</user_id>
      </Feedbacks>
1.6 Announcements
      <?xml version="1.0"?>
      <!DOCTYPE Announcements[
            <!ELEMENT Announcements</pre>
            (id,title,description,is_employee,user_id) >
            <!ELEMENT id (#PCDATA)>
            <!ELEMENT title (#PCDATA)>
            <!ELEMENT description (#PCDATA)>
```

DATA FLOW DIAGRAM

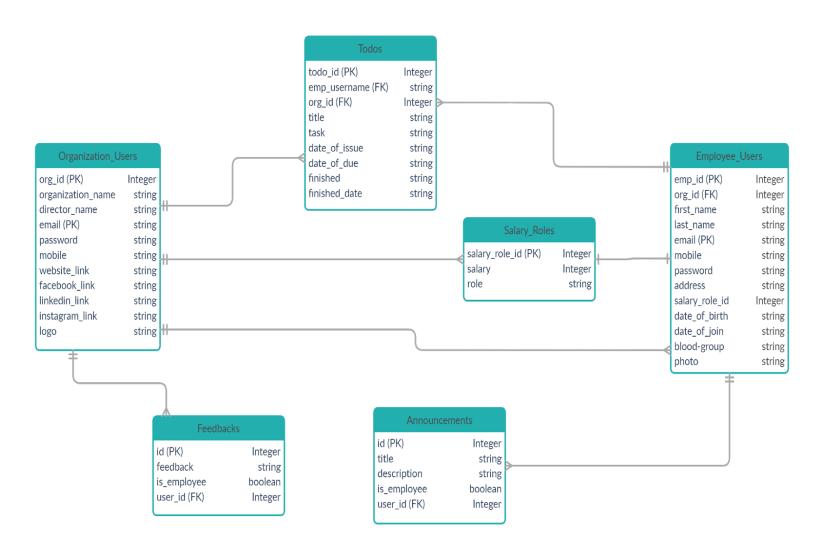
Level 0 (Context Diagram)



Level 1



E-R DIAGRAM



DATA DICTIONARY

1). Organization_Users

Sr. No.	Field	Datatype	required	unique	PK/FK	Referenced table
1	org_id	number	yes	yes	PK	
2	organization_name	string	yes	no		
3	director_name	string	yes	no		
4	email		yes	yes	PK	
5	password	string	yes	no		
6	mobile	string	yes	no		
7	website_link	string	no	no		
8	facebook_link	string	no	no		
9	linkedin_link	string	no	no		
10	instagram_link	string	no	no		
11	logo	string	no	no		

2). Employee_Users

Sr. No.	Field	Datatype	required	unique	PK/FK	Referenced table
1	emp_id	number	yes	yes	PK	
2	org_id	number	yes	no	FK	Organization_Users
3	first_name	string	yes	no		
4	last_name	string	yes	no		

5	email	string	yes	yes	PK	
6	mobile	string	yes	no		
7	password	string	yes	no		
8	salary_role_id	number	yes	yes	FK	Salary_Roles
9	address	string	yes	no		
10	date_of_birth	string	yes	no		
11	date_of_join	string	yes	no		
12	blood_group	string	yes	no		
13	photo	string	no	no		

3). Salary_Roles

Sr. No.	Field	Datatype	required	unique	PK/FK	Referenced table
1	salary_role_id	number	yes	yes	PK	
2	salary	number	yes	no		
3	role	string	yes	no		

4). Todos

Sr. No.	Field	Datatype	required	unique	PK/FK	Referenced table
1	todo_id	number	yes	yes	PK	
2	emp_username	string	yes	no	FK	Employee_Users
3	org_id	number	yes	no	FK	Organization_Users
4	title	string	yes	no		
5	task	string	yes	no		
6	date_of_issue	string	yes	no		

7	date_of_due	string	yes	no	
8	finished	boolean	yes	no	
9	finished_date	string	yes	no	

5). Feedbacks

Sr. No.	Field	Datatype	required	unique	PK/FK	Referenced table
1	feedback	string	yes	no		
2	id	number	yes	yes	PK	
3	is_employee	boolean	yes	no		
4	user_id	number	yes	yes	FK	Organization/Employee_Users

6). Announcements

Sr. No.	Field	Datatype	required	unique	PK/FK	Referenced table
1	title	string	yes	no		
2	id	number	yes	yes	PK	
3	description	string	yes	no		
4	is_employee	boolean	yes	no		
5	user_id	number	yes	yes	FK	Organization/Employee_Users

IMPLEMENTATION DETAILS

Modules:

• Login Module:

There are three types of users in the system and hence a login module is needed. Organization user can signup and login. Employee is registered by their Company. Employee can log in only by themselves. Admin can login. If user forgot the password then by forgot password functionality password can be reset by token validation on registered email ID.

• Manage Organization Module:

An Organization can be created, viewed, updated, and deleted. Administrator can list all organizations. by deleting organization, all dependent data (ex. employees, feedbacks, todos, announcements) are deleted subsequently.

• Manage Employee Module:

Organization users can add, view, update, delete, list the employees registered to their organization.

• Manage Todo Module:

Organization users can add & assign,update,view,delete,list,mark done the todos. While the employees can list and mark done the assigned todos.

• Manage Salary-Roles Module:

Organization users can add & assign,update,delete,list the salary-roles structure. While employees can only list and view their own salary-role structure.

• Manage Feedback Module:

Organization or Employee can give, lists the feedback to the web application admin. Administrator can list and view the feedback.

• Manage Announcement/General Forum/Message Module:

Organization Users can post announcements or important messages with regards to all. Employees can also post/reply to the messages for the same.

Major Functionalities:

- Login-signup
- Forgot password (Via real time email token validation)
- Manage employees
- Manage Todos
- Manage Salary and role structures of the organization
- Give feedback
- Interact with the employees via General Forum
- Manage Announcements
- Access denied-404 error handled
- Session management

TESTING

Black Box Testing of the Functions:

Function1: Login or Register

Case1: MongoDb is not connected

O/P: Login or registration can't be done

Case2: MongoDb is connected

O/P: Login or registration can done

Function2: Login

Case1: With wrong credentials

O/P: Login can't performed

Case2: With correct credentials

O/P: Login is performed and redirected to dashboard.

Function3: Register, add any module

Case1: with wrong validated data

O/P: submit of form can't be done

Case2: with correct validated data

O/P: submit of form is enabled

Function4: Reset password

Case1: Token is Invalid.

O/P: Password will not be reseted

Case2: Token is valid.

O/P: Password will reset to new password

Function5: Display Employee Details

Case1: Employee not exists

O/P: Employee details not displayed

Case2: Employee do exists

O/P: Employee details are displayed

Function6: List all finished Todos

Case1: No Todos are finished yet

O/P: List of finished todos is empty

Case2: Some Todos are finished yet

O/P: List of that finished todos is displayed

Function7: Add employee

Case1: Another Employee do exists with same username

O/P: Employee not registered

Case2: Another Employee do not exists with same username

O/P: Employee is registered

Function8: Access Dashboard page

Case1: User logged out previously or didn't even logged in yet

O/P: Dashboard page isn't accessed

Case2: User already logged in

O/P: Dashboard page is accessed

Function9: Display details of Todo

Case1: Organization is a logged user

O/P: Update and delete button appears

Case2: Employee is a logged user

O/P: Update and delete button not appears and Done button appears.

Function 10: Display details of Employee

Case 1: employee is not part of current logged in organization user

O/P: Access denied page shown

Case1: employee is part of current logged in organization user

O/P: Employee Details page is shown

Function11: Access URL

Case1: URL is not matching with routes

O/P: 404 Page not found page is shown

Case2: URL is matching with routes

O/P: Page is rendered successfully

Function12: Add Todos

Case1: Organization have no employees yet registered

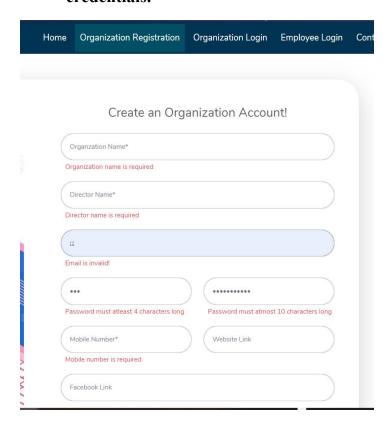
O/P: Todo creation not allowed

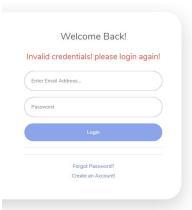
Case2: Employees are already added

O/P: Todo is created successfully

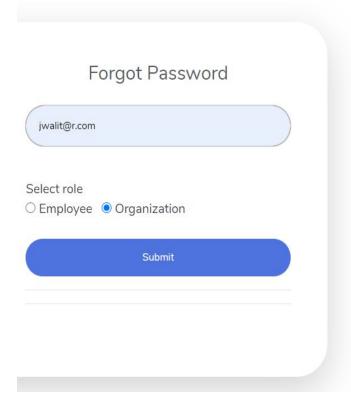
SCREENSHOTS

• Login and registration to the employee, organization with incorrect credentials.

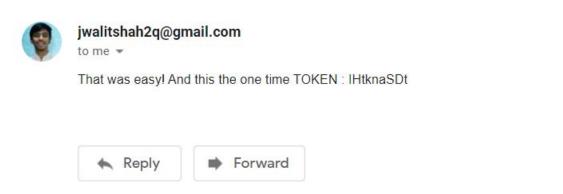




• Reset and Forgot password with email validation

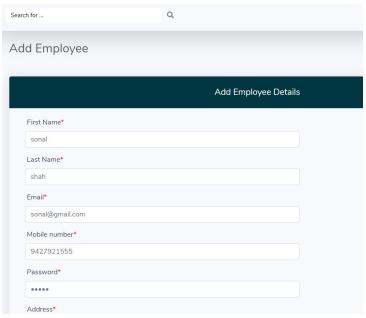


Shah Accretion Reset password Token validation Inbox ×



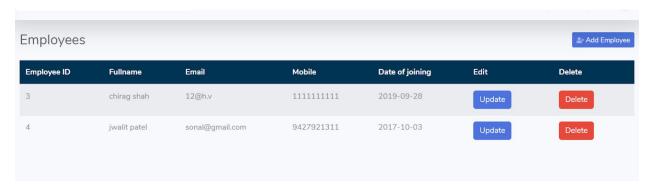
Employee module functionalities

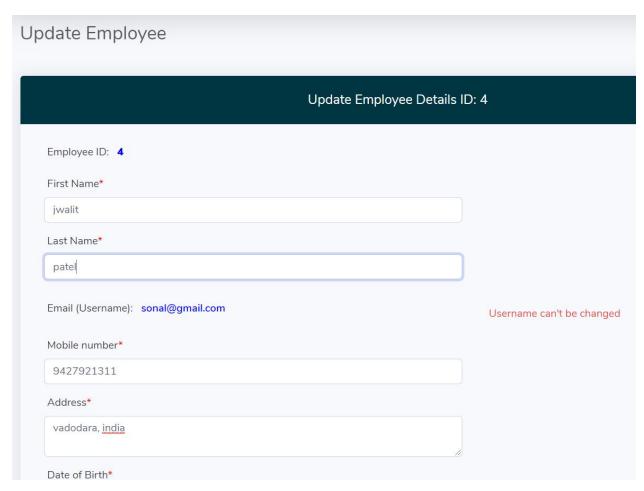
• Insert details and Profile details of employees.



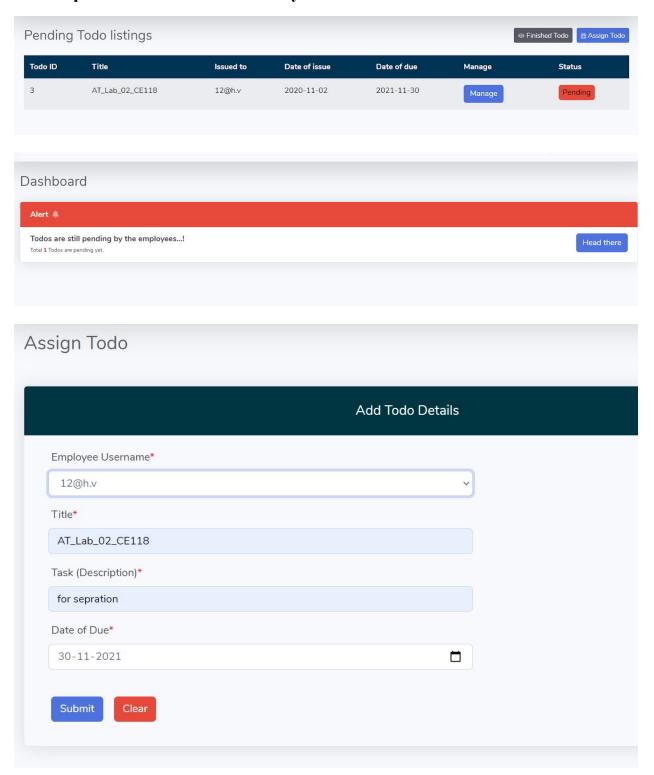


• Update details and list of employees.





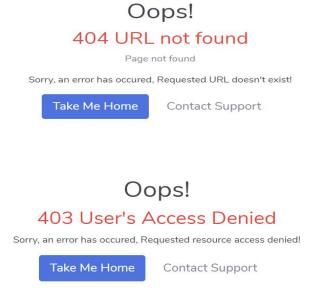
• Operation on Todo functionality.



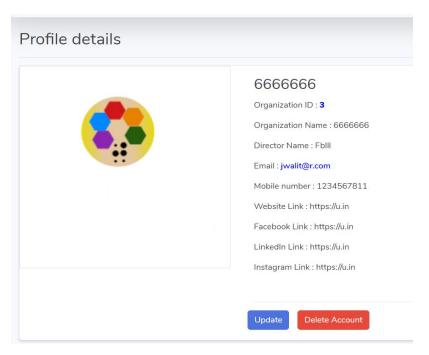


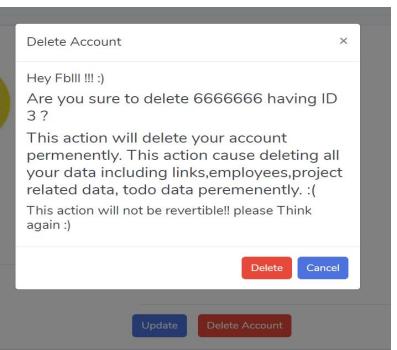
Todo Details AT_Lab_03_CE118 AT_Lab_03_CE118 is the task assigned to you on 2020-11-02 by your Manager. Employee Assignee Username: 12@h.v Title: AT_Lab_03_CE118 Task: ee Date of Issue: 2020-11-02 Date of Due: 2021-10-03

• 404 and 403 access denied and URL not found exception



Organization profile updation





CONCLUSION

It is to be conclude that,

My project is open for all the third party Organization users who want to manage their Firm.

In this project Administratorcan list, delete the organization and employee's data.

Each user can sign in and can be registered successfully. In case of the time where password is forgotten then by real time Email token validation, password can be reseted.

Organization User can add,update,view,list,delete the employee,todo and salary-roles module.

Employee User can view Employee details, update it, view salary-roles structure and can mark the todos as finished and can list the finished todos.

Both users can view and update their profiles.Both can give Feedback and can interact with the other persons in the same organization via General Forum discussion.

LIMITATIONS & FUTURE EXTENSION

• Limitations:

- Todos can't be assigned to multiple users at the same time by the organization administrator.
- Username or email of Users to this website can't be changed once they have registered themselves.
- o If Due date of ToDo which is assigned by the organization to the employee gets over then it doesn't alert the User or Organization about it.

• Not Implemented Functionalities

- Salary-Role module: Employees are not assigned to their respective Salary structure scheme and their Roles or Positions.
- General Forum: In this director of respective organization can make the announcements and each employee can post the questionnaires and they can interact with each other.
- Feedback: Satisfied or Unsatisfied users can directly give feedback to the admin of the Website.
- Admin module: Admin can delete malicious or pirated users if they found, and admin can have feedback from the end users.

• Future Extension

- Todos can be assigned to multiple users at the same time by the organization administrator.
- If Due date of ToDo which is assigned by the organization to the employee gets due then it alerts the User and Organization about it
- Employees can be assigned to their respective Salary structure scheme and their Roles or Positions.
- Director of the respective organization can make the announcements and each employee can post the questionnaires and they can interact with each other.
- Satisfied or Unsatisfied users can directly give feedback to the admin of the Website.
- Admin can delete malicious or pirated users if they found, and admin can have feedback from the end users.

BIBLIOGRAPHY

To build this project I have taken references from following websites,

• W3schools - https://www.w3schools.com/

• Angular – https://angular.io/docs

https://www.positronx.io/

StackOverflow – https://stackoverflow.com/

Node JS – https://nodejs.org/en/docs/

MongoDB – https://docs.mongodb.com/

• Tutorialspoint – https://www.tutorialspoint.com

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THANK YOU