MEAN Stack Developer

Capstone Project Problem Statement

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Grocers

Problem statement:

Create a website that deal with online purchase of groceries.

Background of the problem statement:

You work at XYZ solutions as a MEAN stack developer. Due to the Covid-19 situation every business is becoming online. You are asked by your management to lead and develop a dynamic website for online purchase of groceries.

Implementation Requirement:

1. Create a rich frontend.
2. Create admin and user portals.
3. Create functionalities for admin portal such as adding, updating, and deleting an item and user.
4. Create functionalities for user portal such as, registration, sign in, purchasing item, adding to the cart, and wish listing items.
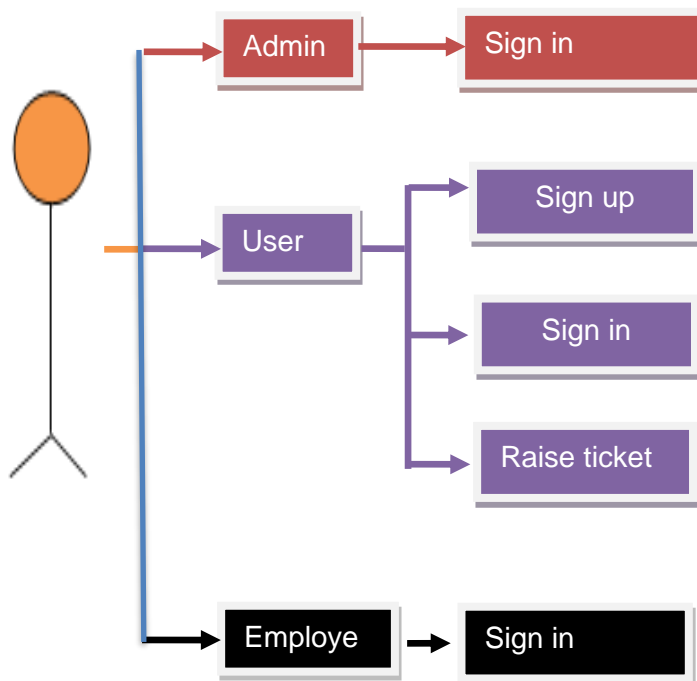5. Create database for storing all application related information.

Recommended Tools:

1. VS Code
2. Angular
3. NodeJS
4. MongoDB
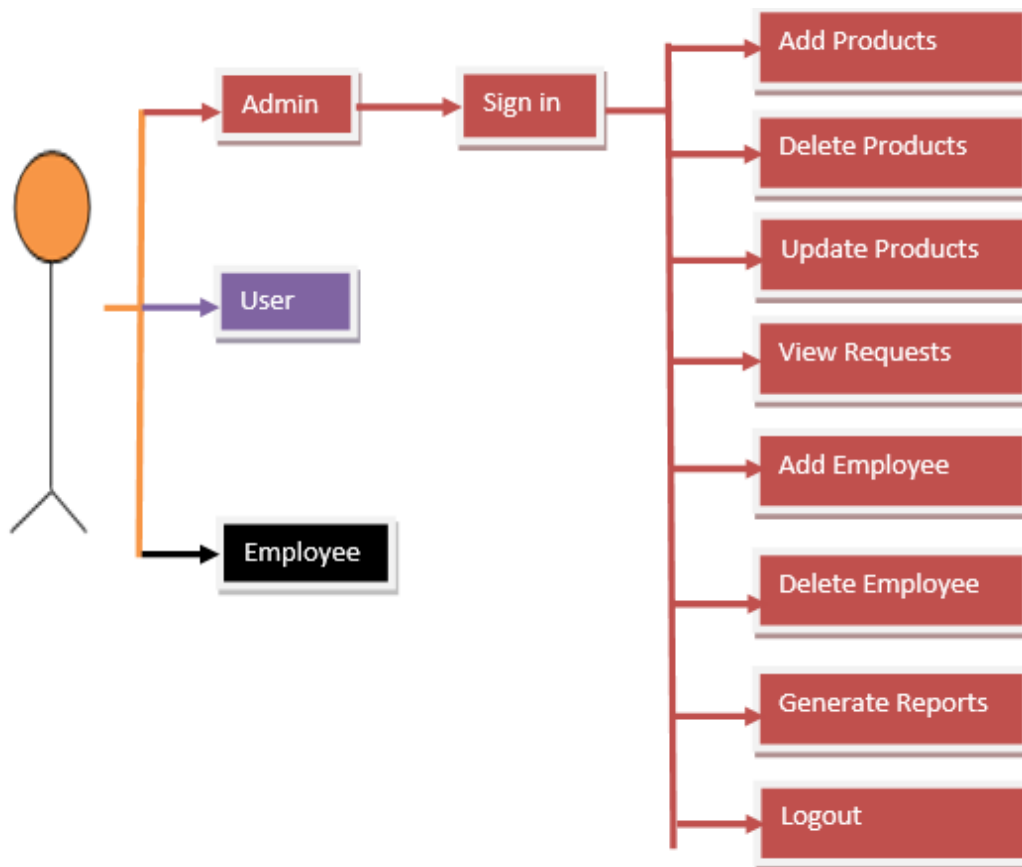5. AWS cloud services for deploying the application

The following things to be kept in check:

1. You need to document the steps and write the algorithms in them.
2. The submission of your GitHub repository link is mandatory. In order to track your tasks, you need to share the link of the repository.
3. Document the step-by-step process starting from creating test cases, then executing them, and recording the results.
4. You need to submit the final specification document, which includes:
   a. Project and tester details.
   b. Concepts used in the project.
   c. Links to the GitHub repository to verify the project completion.
   d. Your conclusion on enhancing the application and defining the USPs (Unique Selling Points)

Use Case Diagram:

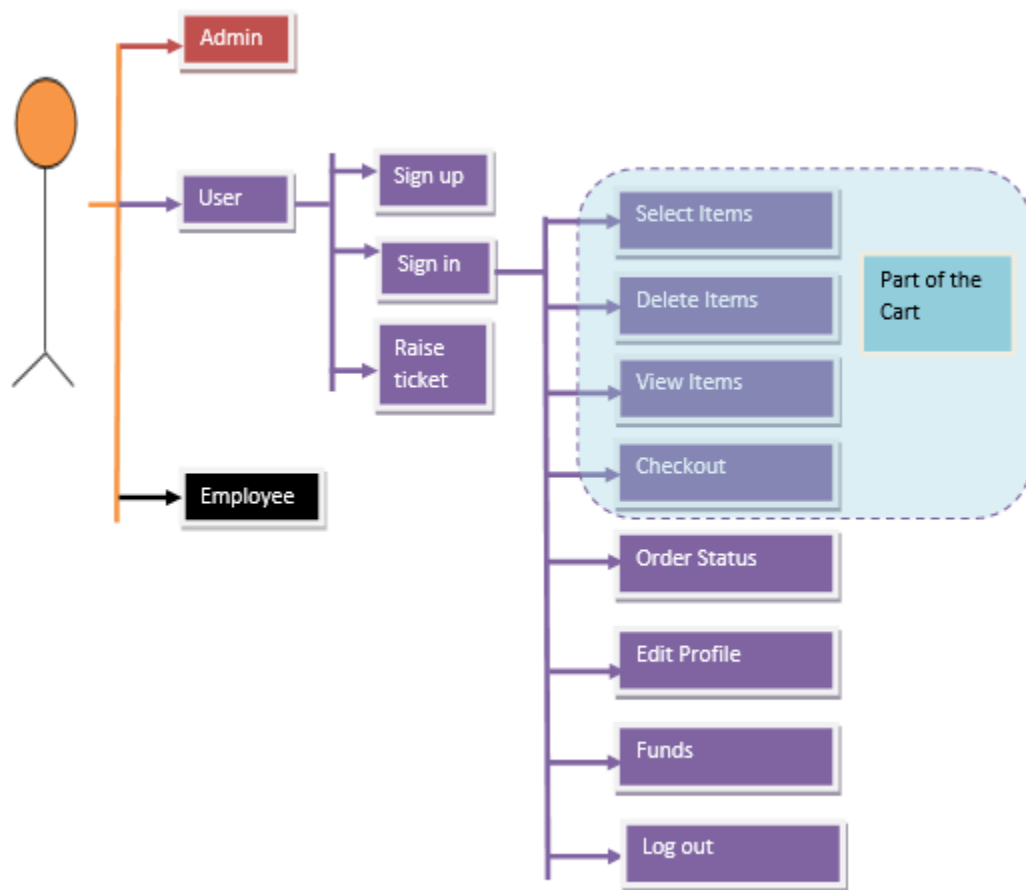<u>**Use Case Diagram for Admin:**</u>

<u>**Note:**</u>
1. Once anyone signs in all the operations should happen in one single page
2. Validate the form wherever required for invalid inputs

<u>**Admin Panel**</u>
- Admin will sign in with the already pre-entered credentials present in the database, if the credentials wrong show the error messages and allow admin to re-login
- After the successful login admin must able to see the Dashboard with the following operations
  ❍ Add products
  ❍ Update products
  ❍ Delete products
  ❍ View Requests

- ❍ Add employee
- ❍ Delete Employee
- ❍ Generate Reports
- ❍ Logout
- **Add Products**
  - ❍ Admin can add the new products with details like product name, product price, product quantity with the auto-generated product id and etc if necessary
- **Update Products**
  - ❍ Admin can update the products price & quantities
  - ❍ Discounts for the particular product if required
- **Delete Products**
  - ❍ Admin can delete the products which has no demands (zero demand in the market)
- **View Requests**
  - ❍ Admin will get the request from the employees if any products has to be updated i.e., if certain products needs to be added/deleted/updated
- **Add Employee**
  - ❍ Admin must able to add employees who takes care of managing the inventory
  - ❍ Employee details can be like firstname, lastname, emailid and auto-generate the employee id with some generic password (like welcome123) which must be modified on the first login of the employee.
- **Delete Employee**
  - ❍ Admin can delete the employee
- **Generate Reports**
  - ❍ Admin can view the reports that are ordered by users
  - ❍ Admin must able to customize the reports like
    - ▪ Daily reports
    - ▪ Weekly reports
    - ▪ Monthly reports
    - ▪ Particular product reports
    - ▪ Particular customer reports
- **Logout**
  - ❍ Log out from the application

Use Case Diagram for User:

User Panel

Sign up:

- User can signup entering details like firstname, lastname, email, password, dob, phone no, address and user id should be auto-generated
- Once user registers, user should able to see the auto-generated id using that user can sign in
- Once user registers there should be some default amount to purchase items

Sign in:

- Sign in will take user id and password, on successful authentication go to the dashboard of the user else show the error messages and allow user to re-login
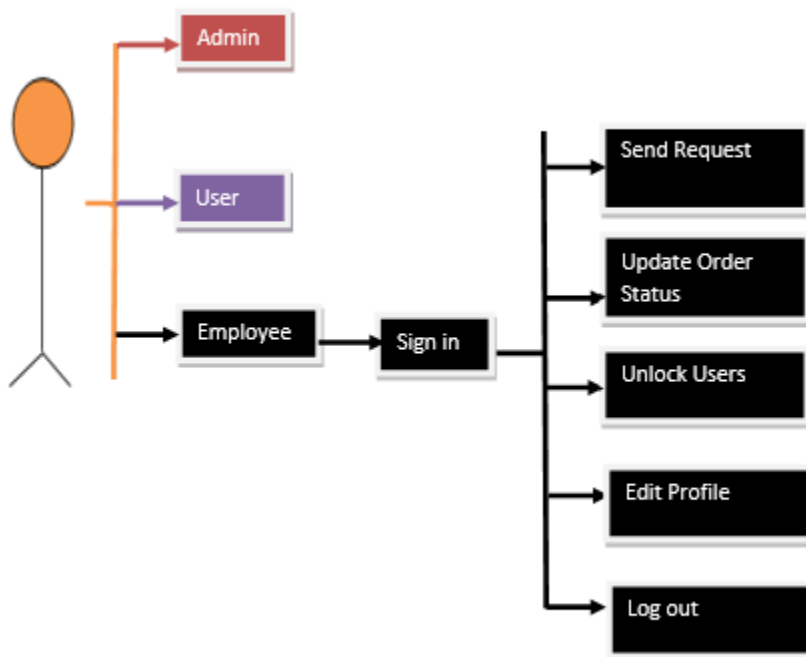
- Account of the user should be locked after 3 unsuccessful login attempts, he will raise the ticket to the employee to unlock the account with valid reasons
- If the user logs in successfully the application takes to the dashboard where the user can do the following operations:
  - ❍ Select items to the cart
  - ❍ Delete items from the cart
  - ❍ Update items quantity
  - ❍ View items in the cart
  - ❍ Checkout
  - ❍ Order Status
  - ❍ Edit Profile
  - ❍ Funds
  - ❍ Logout
- **Select Items:**
  - ❍ Use must able to add items to the cart
- **Delete items:**
  - ❍ User must able to delete items from the cart
- **Update items:**
  - ❍ User can update the quantities
- **View items in the cart:**
  - ❍ User could able to see all the items added in the cart
- **Checkout:**
  - ❍ Once all the items are selected user can checkout to order the items, which will deduct the amount if the money is present in the funds else user gets the error message insufficient amount, if the sufficient money is present in the funds, order must be placed successfully
- **Order Status:**
  - ❍ User can see the history of orders and their status like delivered, shipped, out for delivery and etc
- **Edit Profile:**
  - ❍ User must able to edit the profile like password, address, phone number, email id and etc
- **Funds:**
  - ❍ Funds will show the available amount to purchase the items
  - ❍ User can add money by entering the account number and amount, all the users will have some account number with balance in their dummy bank account.

○ The amount user adds will be added to the profile funds which is utilized at the time of ordering the items
- **Logout:**
  ○ Logout from the application

Raise Ticket:
- User can raise the ticket to the employee if the user account is locked

Use Case Diagram for Employee:

Employee Panel:

Sign In:
- Employee will enter the valid credentials like employee id and password to login
- Display the appropriate error messages for wrong credentials
- Employee must change their passwords on their first login
- Once Employee logs in successfully a dashboard would show following operations
  ○ Send Request

- ❍ Update Order Status
- ❍ Unlock Users
- ❍ Edit Profile
- ❍ Log out
- **Send Request:**
  - ❍ Employee must able to send request to the admin to increase product quantities whenever necessary
- **Update Order Status:**
  - ❍ Employee can view the orders & change the order status of the user to
    - ▪ Shipped
    - ▪ Out for delivery
    - ▪ Delivered
    - ▪ Cancelled
  - ❍ If the order is cancelled, the amount must refund to the particular user funds, user must see the reason for the cancellation
- **Unlock Users:**
  - ❍ Employee can view the list of users whose account is locked and unlock the users account who has raised the ticked with valid reasons
- **Edit Profile:**
  - ❍ Employee must able to edit the password
- **Log out:**
  - ❍ Log out from the application

Important Notes:
1. Validate the forms and display the appropriate error messages
2. Style the components to have a good look & feel
3. Generate the primary key's where ever is necessary
4. After the successful login all the operations must happen in a single page mandatorily
5. Create one dummy account that will have account number and amount so that users can add money to the funds
6. All the requirements in the use case must be met, however adding additional features after meeting all the requirements is welcome

Team Size:
- ❏ In a team there should be maximum 5 members.
- ❏ Each participant would concentrate on certain specific features in the project
- ❏ Below are features each participant should implement and at the end each all the features must be integrated to make the project work
  - **Participant 1:** Amelia Breithaupt
    - ❍ All kinds of tables required for the whole project
    - ❍ Some of the features of Admin like

- Admin Panel
- Sign in
- Add Products
- Delete Products
- Update Products
- View Requests

- Participant 2   Zainab Alibhai
  - Other features of Admin like
    - Add Employee
    - Delete Employee
    - Generate Reports
    - Logout
  - Some of the features of User like
    - User Panel
    - Sign in
    - Sign Up
- Participant 3   Andrew Nwalie
  - Some of the features of User like
    - Raise ticket
    - Select items
    - Delete items
    - View items
    - Checkout
- Participant 4   Liam Andrews-Bancroft
  - Other features of User like
    - Order Status
    - Edit Profile
    - Funds
    - Logout
  - Some of the features of Employee like
    - Employee Panel
    - Sign in
- Participant 5   Chester Ortega
  - Other features of Employee like
    - Send request
    - Update order status
    - Unlock users
    - Edit Profile
    - Logout

- All participants would communicate and integrate their respective features to make the project work