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Project : Cloud Kitchen Management

### Functional Requirements:

#### 1. User Registration :-

- allow user to create accounts on the platform
- Collect necessary information.
- Provide option for out third party reg. login.

#### 2. Restaurant Registration :-

- restaurant owners can create virtual profile.
- Collect necessary info. (???)

#### 3. Menu Management :-

- enable to add, edit, and delete food from their menus.
- Provide options for specifying item details, pricing and description.

#### 4. Restaurant Profiles :-

- a) display detailed information of individual restaurants (ratings, menus, reviews, location etc).

#### 5. Food Item Browsing :-

- a) allow user to search by category, cuisine or keyword
- b) filter option to narrow down based on location.

#### 6. Ordering System :-

- a) Online food ordering directly from the platform.
- b) payment gateways for secure transactions.
- c) options for delivery or pickup

#### 7. Customer Reviews and Ratings :-

- a) allow customers to rate and review restaurants and their food.
- b) display average ratings and reviews on restaurant profile.

## 8. Promotions and Discounts :

- a) enable restaurants to offer coupons, promotions discounts, loyalty programs etc.
- b) provide a platform to displaying and managing these offers.

## 9. Notifications :-

- a) notify for order status, promotions, new items for menu etc, reply.
- b) notify owners orders and inquiries.

## 10. Analytics and Reporting :-

- a) Provide analytics on restaurant performance popular food items, customer behavior.
- b) generate reports for restaurant owners to help them make data driven decisions.



## Non-Functional Requirements :-

### a) Response Time :-

#### 1. Response Time :-

a) Algorithm : efficient for queries, search, processing to minimize latency.

b) Technology : mem-cached, redis to store frequently accessed data.

#### 2. Scalability :

a) Architecture : Design the system to be horizontally scalable

b) Database : MySQL, PostgreSQL, MongoDB to ensure high transaction rate

#### 3. Maintainability :

a) Microservices : ~~For~~ Microservice architecture for smooth maintenance and scaling.

b) Load Balancing : To distribute traffic across multiple servers.

#### 4. Reliability:

a) Redundancy: To operate in if a failure occurs.

b) Monitoring: Monitoring tools to track performance.

c) Backup: Backup data to prevent data loss.

d) Disaster Recovery: disaster recovery plan in case major outage.

#### 5. Secure Authentication:

a) Password Hashing: bcrypt, Argon2 to protect password.

b) Two factor Authentication.

#### 6. Secure Authorization:

a) RBAC:

#### 7. Reliable Communication:

a) Encrypt sensitive data.

b) HTTPS to encrypt network traffic.

c) Regular Security audits.

d) deploy Web Application Firewall.

## 8. Usability:

a) Responsive and easy to use Interface

b) feedback to improve.

c) System accessible to users who is with dissabilities.

d)

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