Grill Fresh Inc

Background of the company

Grill Fresh is a Pizza company which is fairly new in India market. Currently, it has only two outlets in Mumbai and New Delhi. Both outlets have only dine-in option. Grill Fresh has aggressive growth plans and wants to become #1 in India within 5 years. It doesn’t have any IT infrastructure as of now.

Expansion of business

Grill Fresh wants to increase its presence in all major cities and then wants to aggressively enter in other cities by doubling up their outlets. It sees IT as an enabler to business and wants to leverage latest IT trends in the market to win customers over competitors. Following table depicts their expansion plan:

|  |  |
| --- | --- |
| **Year** | **# of cities** |
| 1st year | 5 cities |
| 2nd year | 10 cities |
| 3rd year | 20 cities |
| 4th year | 40 cities |
| 5th year | 80 cities |

Each city will have 3 outlets. Apart from expanding to cities, it wants to increase its reach to customers by introducing following options:

* Take away – Customers will have the option of placing order for take away
* Home delivery – Customer will have the option of placing order for home delivery

Users Concerns

* **Business Owner** 
  + I don’t want to invest in IT infrastructure upfront but rather spend incrementally as we expand the business.
  + I expect our customer base to grow to 80 lakhs in 5 years
  + I want to know profitability (Rajesh: Statistical metric) of our stores. Would like insights (Rajesh: Empirical metric) into our business that enables me to make decisions (Rajesh: No automated decisions required?).
  + Would be great to know the sentiments of the customer (Rajesh: Kind of reviews or ratings based?) about what they like about us and what do they don’t like.
  + I would like to be known as technology innovator/pioneer in the domain and attract the new tech savvy generation (Rajesh: assumption – using modern trending technology stack).
* **Store Manager** 
  + I should know how my store is doing in terms of profit (Rajesh: profitability appearing in two important stakeholders’ vision, so, it can form the backbone of the system?). I don’t want to be in position where we procure more raw material and we have wastages (Rajesh: Raw material and wastages are the inventory and expenses side) due to less customers (Rajesh: Customers is top-line number -> Revenue) (Rajesh: this feeds automatically to profit, which is the bottom-line number). At the same time, i don’t want any customer unserved due our supplies getting over (Rajesh: What is the threshold? Can the system suggest?).
* **Project Sponsor**
  + Grill Fresh learned from market survey that customers want flexibility. They should be able to place their orders from variety of devices - laptops, tablets, and smart phones (Rajesh: mode of operation or scope of work).
  + Customer onboarding experience should be easy and intuitive (Rajesh: user registration) (Rajesh: what are the suggested ways?).
* **Store Front Desk Operator**
  + To provide my customer least wait time and a smooth experience I should be able to capture the order in a fast and easy manner (Rajesh: latency and turnaround time).
* **Kitchen Manager**
  + Since we have delivery time commitments I would like the orders coming in a queue without much of time delay from the time order is accepted (Rajesh: Any priority system should be employed?).

Instructions for the candidates

* Cloud Architecture – Design a cloud infrastructure diagram along with a deployment strategy considering application non-functional requirements (security, latency, scalability, availability & uptime etc of application components)

99.9%

**Raw Requirements**

* 1. Expansion into more outlets and cities
     + Modeling / Simulation?
  2. Profitability
     + Definition?
  3. Insights & Decisions
     + Definition?
  4. Sentiments
     + Direct ratings
     + Ratings from external sources – Facebook, Twitter, Google
  5. Inventory & Wastages
     + Smart reorder levels – can be an idea?
  6. Scope of entry into system
     + Laptops, Tablets & Smartphones
  7. Customer onboarding – user registration
     + Direct email / mobile number based along with OTP
     + External sources based – Google, Facebook
  8. Possibility of pre-filled order form – based on recent orders, favorites, offer items, toppings, payment mode
  9. Payment mode – UPI, Credit card, Debit card, Wallets, Cash on Delivery
  10. Delivery time estimations & countdowns

User profiles:

Business Owner, Store Manager, Project Sponsor, Store Front-Desk Operator, Kitchen Manager

Pizza Toppings:

Extra Cheese, Leaves, Olives, Jalapeños

**Use case – 1**

Customer sees all dishes available for order

* Pizza
  + Size – Small, Medium, Large
  + Flavor – Veg, Non-Veg
  + Base – Wheat, Maida
  + Range – Value, Delicious, Exotic
  + Base – Hand tossed, Thin Crust, Thick Crust
  + Toppings – Extra Cheese, Leaves, Olives, Jalapeños
* Desserts
* Drinks
* Price for each

**Use case – 2**

A customer places an order

* Items – Prices
* Discounts & Offers Applied
* Delivery Charges
* Delivery mode – Dine-in, Take away, Home delivery
* Payment mode – UPI, Credit Card, Debit Card, Wallet, Cash on Delivery
* Payment status

**Use case – 3**

Business serves a customer through a store

* Branch name
* Address
* Contact Phone
* Manager
* Manager Contact Phone
* Business Hours
* Upcoming Holidays

**Use case – 4**

A store serves to certain locations

* Branch
* Pin codes of Service Locations

**Use case – 5**

A customer tries to locate a store for “Dine-in” or “Take away”.

A customer tries to place an order with the nearest store for “Home delivery”.

**Use case – 6**

A store tries to fulfill a customer order

* Order status
  + Placed
  + Accepted / Rejected
  + In Preparation
  + Ready
  + Out for Delivery – for “home delivery”
  + Delivered – for “home delivery”
  + Fulfilled – served to a customer in “dine-in”, handed over to a customer in “take away” and “home delivery”

**Use case – 7**

A customer provides rating for the fulfilled order

* Order
* Rating (0 – No Rating, 1 – Worst, 5 – Best)

**Use case – 8**

Business has employees

* Name
* Date of birth – age
* Contact number(s)
* Designation – Business Owner, Store Manager, Kitchen Manager, Store Front Desk Operator (for receiving orders, for delivering orders in take away), Bearer (for serving orders in dine-in), Delivery Person (for home delivery)
* Date of joining
* Salary

**Use case – 9**

A store has employees

* Branch
* Employee(s) – one or few are manager(s)

**Use case-10**