

Free Burger Campaign

Problem Statement:

You are the owner of a burger company, and you want to launch a **"Free Burger Campaign."** Users can book **one free burger per person**, and you have **6 million (6M) burgers** to distribute. The system should handle a high number of users trying to claim their free burger as quickly as possible.

Additionally, the campaign should be **configurable**, allowing modifications such as:

- Charging **₹1 per burger** instead of free.
- Allowing users to book **a number of burgers** instead of just one.

Requirements:

Functional Requirements (FRs):

1. Users can book burgers through a website or mobile app.
2. Each user can claim **one free burger** per account.
3. The campaign should be configurable for:
 - Allowing **n burgers per user** (instead of just one).
 - Charging **₹1 per burger** (instead of free).
4. There should be **real-time availability tracking** for burgers.
5. A **unique booking ID** should be generated for each successful booking.
6. The system should prevent bots and duplicate bookings using **email/phone-based verification**.

Non-Functional Requirements (NFRs):

1. **Scalability** – Handle high concurrent traffic (millions of users).

2. **Low Latency** – Ensure fast booking process (~sub-second response time).
3. **Data Consistency** – Maintain correct burger inventory count.
4. **High Availability** – No downtime, campaign should run smoothly.
5. **Concurrency Handling** – Avoid overbooking race conditions.

Constraints & Assumptions:

- **6M burgers** available initially.
- Users can **only book if inventory is available**.
- Booking should be **first-come, first-served**.
- Payments (if enabled) must be processed instantly.

NOTES:

- Configurability → (charge, threshold_on_number_of_burger)
- We can start N campaigns at same time, with different configurations. But once we started we cannot modify the configuration.

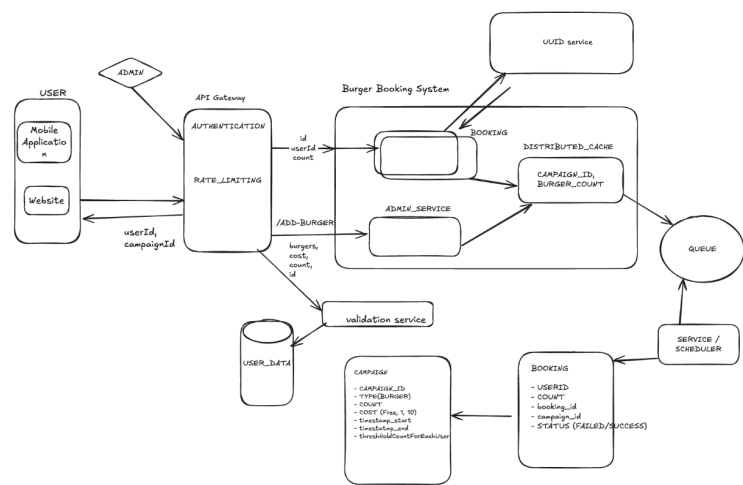
API Specifications:

Admin :

User :

- POST Register / Login
- POST Book burgers
 - countOfBurgers,
 - configurability_id
 - userId
- GET Available Burger Count , Sold burger count !

DESIGN



HOW MANY BURGERS ARE ALLOWED IN A PARTICULAR CAMPAIGN