# Team Code Racers

**Title of the problem statement : PS-8 Real-time Order status Bot**

**Title of the prototype : Racing Bots**

**Team members :**

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# Problem statement & Solution :-

## Problem Statement :-

Create a real-time order status bot that allows customers to inquire about the status of their orders. The bot should access the company's order management system to provide accurate updates on shipping, delivery times, and tracking information, ensuring customers have easy access to information without needing to contact support.

# Solution:

- To improve customer support and streamline order tracking, we will develop a real-time order status bot that provides customers with up-to-date information on their orders, including shipping status, estimated delivery times, and tracking information.

- The bot will integrate with the company's Order Management System (OMS) and third-party shipping APIs, allowing it to fetch the latest order details and delivery updates instantly. This self-service tool will enable customers to quickly check order status without needing to contact support.

- The bot will also support notifications services, sending updates on order status changes through SMS or email. A secure backend will handle sensitive order data and integrate efficiently with existing systems.

**Motivation:-**

**Why this problem statement?**

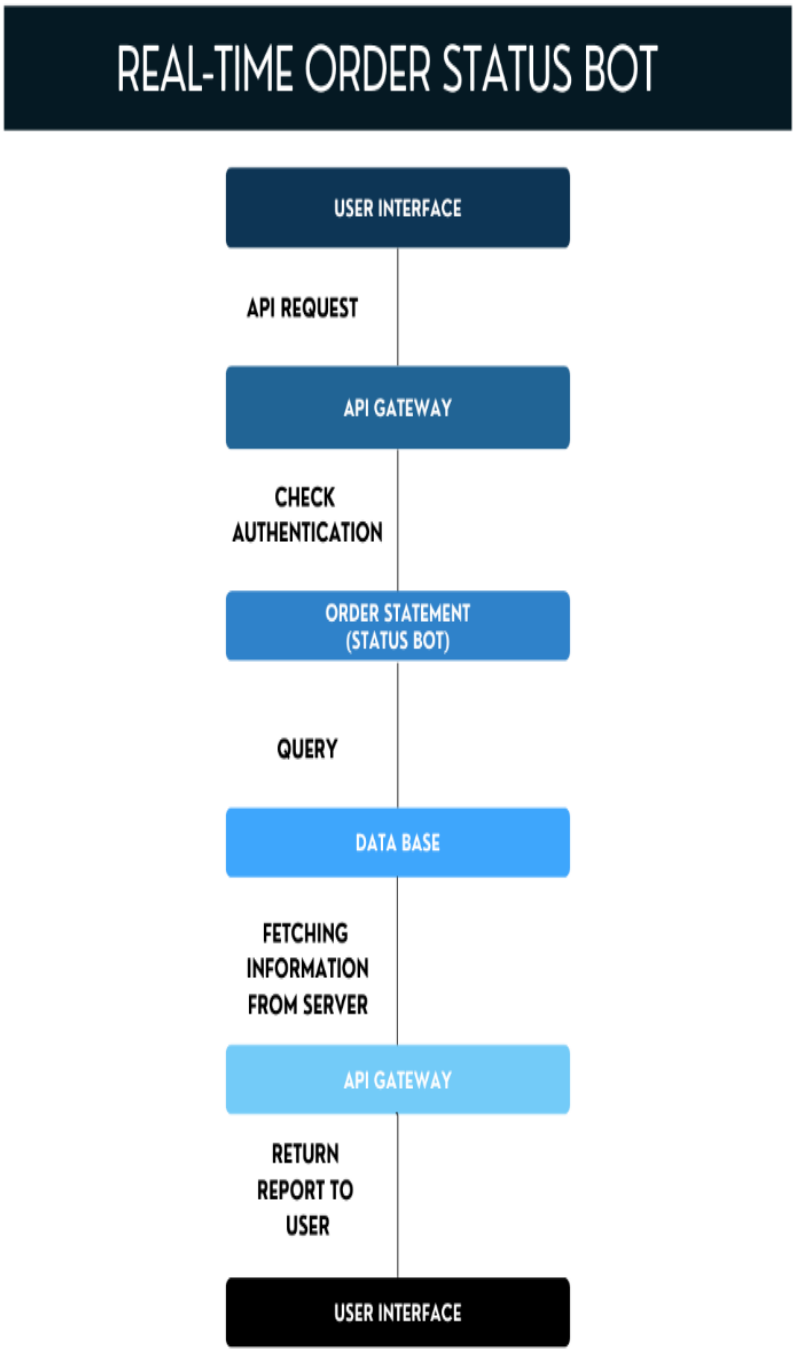
- If a user wants to track his/her order he needs to contact support for each time which is a headache for both customers and contact support. So our bot will automatically send notification to the customer about the status of the order.

- Some shipments, such as international shipments, aren't trackable. So we will try to partner with some international service providers for tracking international shipments.

- Marketplace sellers don't always provide us with tracking information for their orders. The order is a gift. But our status bot will provide tracking information whenever the user wants.

- This solution will enhance customer satisfaction, reduce support queries, and provide scalable infrastructure for future growth.

# Architecture diagram



## Tech stack :

- **Frontend interface :**

  React JS or Angular for interactive UI

- **Backend :**

  Python with flask or Django ( Django has built in admin for managing records )

- **Database and data storage :**

  - ➔ MySQL or PostgreSQL for SQL databases
  - ➔ MongoDB

- **Messaging platform integrations :**

  Twilio ( SMS & Whatsapp integration )

- **Third part APIs :**

  Shipping API – To provide tracking details (APIs from FedEx, UPS ) and Geolocation API – To provide estimated delivery time

- **Authentication & Security :**

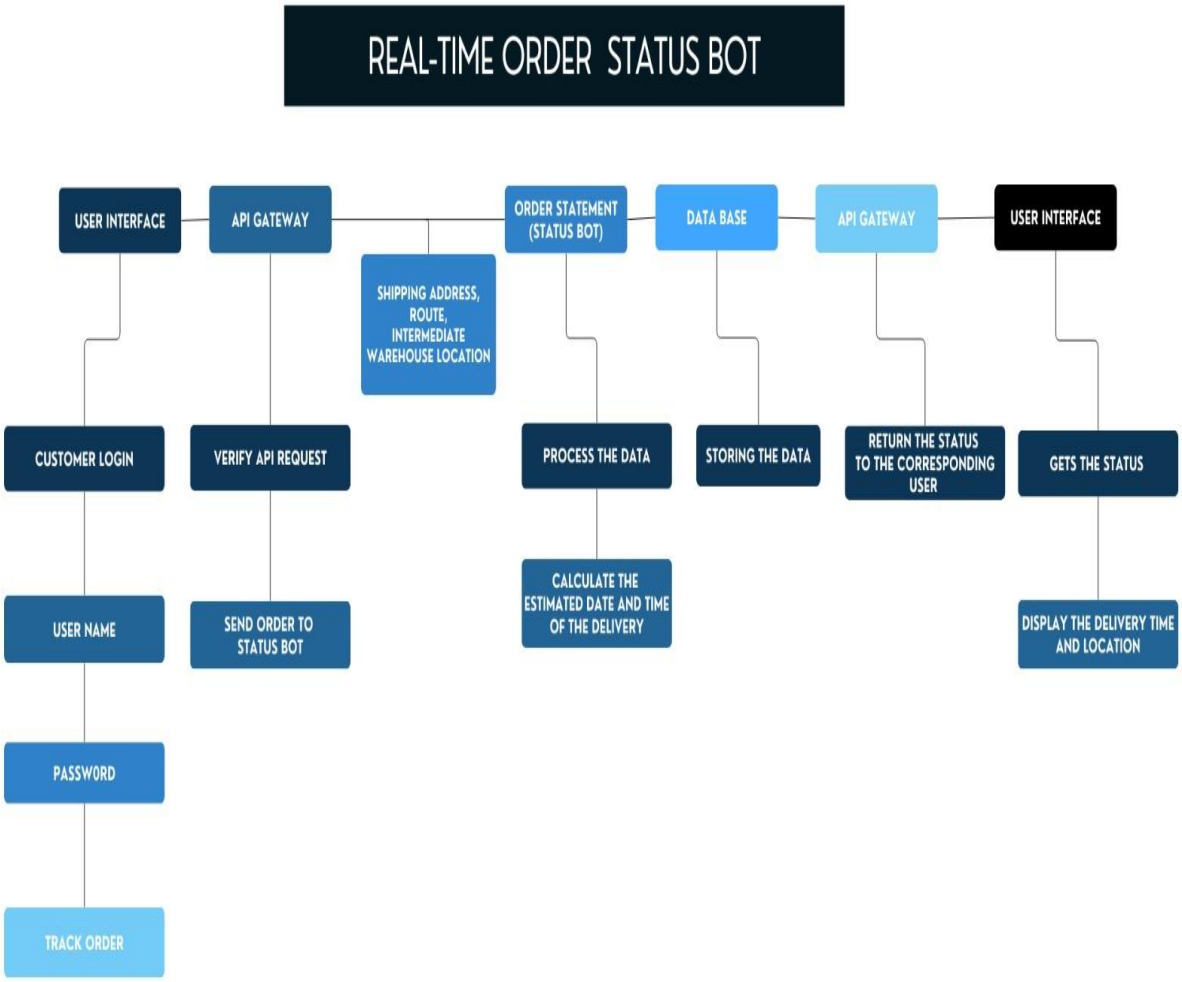
  Firebase Auth

  JWT based authentication for secure login

- **Monitoring and Analytics :**

Error tracking – Sentry or new relic for monitoring issues in production

# Flow diagram



## Challenges faced by our project :-

**Challenges :**

- 100% accurate location sharing is impossible
- Shipping delays
- Poor order picking process
- It is complicated to manage orders in bulk quantity
- If a user changes the delivery location at the last minute

**Challenges due to status bots:**

- Bots lack ability to understand human necessity
- Bots do not have the ability to understand customer intent
- Bots are often used to handle multiple tasks at once, but this can lead to unnecessary multitasking that reduces their effectiveness.

**Estimation for this project : -**

**Minimum Estimate**: ~ Rs.16,000/month (lower no of users, fewer messages, and minimal monitoring).

**Maximum Estimate**: ~ Rs.50,000/month (more no of users, larger database, and extensive monitoring).