Introduction

As a product manager, I've designed a bike rental app for Delhi, focusing on a user-friendly experience for both tourists and locals. The app will help users find, book, and manage bike rentals from a company-owned fleet, ensuring convenience and efficiency in a bustling city like Delhi.

Clarifying Questions and Assumptions

To ensure alignment, the following clarifying questions were posed:

- What types of bikes does the app support? (Regular, electric, etc.)
- Is the app for company-owned bikes or peer-to-peer rental?
- What is the target audience? (Tourists, locals, students, etc.)
- What are the key features required? (Booking, payment, tracking, etc.)
- Are there any specific regulations in Delhi that need to be considered?
- Will the app be available on web, mobile, or both?
- What is the business model for the app?

Based on typical industry models and the urban setting of Delhi, the following assumptions were made:

- The app supports both regular and electric bikes, catering to diverse user preferences.
- It's for company-owned bikes, simplifying fleet management and ensuring consistency.
- The target audience includes tourists and locals, given Delhi's tourism and commuting needs.
- Key features include finding, booking, paying, unlocking, using, and returning bikes.
- The company has necessary permits and licenses, assumed for simplicity.
- The app is mobile-based for both Android and iOS, aligning with user behavior in 2025.
- The business model involves charging rental fees through the app, with potential commissions.

These assumptions shape the app's design, focusing on a hub-based model for pick-up and drop-off, which is less common than flexible drop-off systems but ensures better fleet management in a dense urban area like Delhi.

Scope and Users

The scope is defined as follows:

- The app facilitates bike rental services in Delhi for a company that owns a fleet of bikes.
- Users can find, book, pay for, and manage their bike rentals through the app, with pick-up and drop-off at designated hubs.

Users are categorized into:

1. Customers (renters):
    - Find and book bikes at hubs.
    - Make payments via the app.
    - Unlock and lock bikes using smart lock integration.
    - Track rental status and report issues.
2. Company staff:

- Manage the bike fleet and bookings via a separate admin panel, assumed for this scope.

This user segmentation ensures the app addresses both customer convenience and operational efficiency.

Use Cases and Prioritization

Customer use cases were identified and prioritized as follows:

Use Case	Priority
Find hubs with available bikes near me	P1
Select pick-up and drop-off hubs	P1
Choose bike type and rental duration	P1
Book the bike and confirm reservation	P1
Make payment for the rental	P1
Unlock the bike using the app	P1
Track bike location and rental status	P2
Lock the bike back at drop-off hub	P1
Rate and review the experience	P3
Get support or report issues	P2

Company staff use cases, such as managing the fleet and bookings, are assumed to be handled via a separate admin interface, keeping the customer app focused on user experience.

Prioritization ensures that P1 features (finding, booking, paying, unlocking, locking, and returning) are implemented first, forming the core functionality. P2 features (tracking and support) can follow, with P3 features (ratings) considered later.

Potential Solutions and Technical Considerations

Potential solutions for each use case were evaluated, with a focus on mobile app development:

User	**Use Case**	**Potential Solutions**	**Business Impact**	**Cost to Build**	**Priority**
Customer	Find hubs with available bikes near me	GPS integration, map API (e.g., Google Maps) for hub display	High	Medium	P1
Customer	Select pick-up and drop-off hubs	User interface for hub selection, availability check	High	Low	P1
Customer	Choose bike type and duration	Filter options for bike type, duration selector	High	Low	P1

Customer	Book the bike and confirm reservation	Booking system with confirmation, real-time updates	High	Medium	P1
Customer	Make payment for the rental	Integrate payment gateway (e.g., Stripe, Paytm)	High	Medium	P1
Customer	Unlock the bike using the app	Smart lock integration via Bluetooth or NFC	High	High	P1
Customer	Track bike location and rental status	GPS tracking, real-time status updates in app	Medium	Medium	P2
Customer	Lock the bike back at drop-off hub	App confirms lock via smart lock system	High	High	P1
Customer	Rate and review the experience	Post-rental survey or rating system	Low	Low	P3
Customer	Get support or report issues	In-app chat or email support, issue reporting feature	Medium	Medium	P2

Technical considerations include:

- Mobile app development using React Native for cross-platform compatibility.
- GPS and map integration, likely using [Google Maps](https://developers.google.com/maps).
- Payment gateway integration, such as [Stripe](https://stripe.com) or [Paytm](https://paytm.com).
- Smart lock systems for unlocking and locking, requiring Bluetooth or NFC capabilities.
- Cloud-based database (e.g., Firebase or MongoDB) for managing bookings and user data.

Business impact is assessed as high for core features, ensuring user adoption and revenue, while cost to build varies based on complexity, with smart lock integration being the highest due to hardware dependencies.

Success Metrics and Differentiation

Success metrics were defined to measure app performance:

- Number of app downloads and active users (DAU, WAU, MAU).
- Number of bikes rented per day/week/month.
- Revenue generated from rentals.
- User satisfaction ratings from reviews.
- Retention rate (users who rent again).
- Average rental duration.
- Customer support ticket resolution time.

To differentiate from competitors like Ola, Uber, or local bike rental apps, the app focuses on:

- Hub-based pick-up and drop-off for better fleet management.
- Competitive pricing and wide coverage across Delhi.
- User-friendly interface with GPS and smart lock integration.
- Potential for electric bike options, aligning with sustainability trends in 2025.

An unexpected detail is the hub-based model, which, while less flexible than free drop-off systems, ensures bikes are always available at designated locations, reducing operational complexity in Delhi's dense urban setting.

Considerations for Delhi Context

Given Delhi's urban challenges, such as traffic congestion and tourism, the app's design prioritizes ease of use and accessibility. The assumption of company-owned bikes simplifies liability and maintenance, while hub-based operations align with existing infrastructure like metro stations or tourist hubs. Future iterations could explore AI-driven demand prediction for hub optimization, reflecting 2025 trends in mobility apps.

Conclusion

The designed bike rental app for Delhi addresses user needs through a mobile-first approach, with core features prioritized for launch and success metrics to track performance. This structured design ensures alignment with business goals and user expectations, with room for expansion based on user feedback and market response.