

Designing a Car-Sharing Platform for Disabled People

As a product manager tasked with designing a car-sharing platform like Uber for disabled people, I'll outline a comprehensive approach to creating a solution that meets the unique needs of this audience. Below, I'll start with clarifying questions to narrow the scope, define the clarified scope, set the goal, identify users, list assumptions, detail use cases, propose solutions, discuss tradeoffs, and define success metrics.

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Clarifying Questions

To ensure the product meets the user's expectations, I'd first ask:

1. **What specific disabilities are we targeting?** Are we focusing on physical disabilities (e.g., wheelchair users), sensory impairments (e.g., blind or deaf individuals), or cognitive disabilities? For this design, I'll assume we're primarily addressing physical disabilities, with a focus on wheelchair users, as they face significant transportation barriers.
2. **Is this a web-based product or a mobile app?** Given the need for on-the-go access, I'll assume it's a mobile app for both iOS and Android.
3. **Is it for a particular region?** For this scope, let's assume it's designed for India to account for local infrastructure, regulations, and cultural context.
4. **Is it a standalone product or integrated into an existing platform?** I'll assume it's a standalone app to prioritize accessibility features tailored to disabled users.
5. **What's the primary goal—on-demand rides, scheduled rides, or both?** I'll assume it's for on-demand rides to address immediate mobility needs.

Clarified Scope

What

A mobile app (iOS and Android) for a car-sharing platform in India, offering on-demand rides tailored to the needs of disabled individuals (especially wheelchair users) and their companions.

Target Features

Accessibility, safety, and ease of use for both user groups, supported by trained drivers equipped to assist effectively.

Goal

To create an inclusive car-sharing platform that empowers disabled individuals in India, particularly wheelchair users, and their companions to book accessible, safe, and reliable rides, enhancing mobility and independence for both.

Users



Primary Users: Disabled Individuals (Wheelchair Users)

Needs: Accessible vehicles (e.g., ramps or lifts), assistance with boarding and securing wheelchairs, and a safe, comfortable, independent ride experience.



Secondary Users: Companions (Caregivers, Family, Friends)

Needs: Ability to book rides on behalf of the disabled individual, specify accessibility requirements, communicate with drivers, and ensure a smooth ride experience.



Drivers

Needs: Clear information about the rider's and companion's needs, training on accessibility equipment, and tools to assist both effectively.

Combined Focus: The platform serves both disabled individuals and their companions as a unified user ecosystem, recognizing their overlapping and distinct needs.

Assumptions



Transportation Gap

Many disabled individuals in India lack accessible transportation options and often depend on companions for support.



Flexible Tools Needed

Both disabled individuals and companions need flexible booking and communication tools to coordinate rides.



Driver Training Essential

Drivers require training and real-time information to assist both user types effectively.



Local Context Matters

The app must align with Indian accessibility standards and infrastructure constraints.

Use Cases

The use cases reflect the shared and individual needs of disabled individuals and their companions:

Use Case	Priority	Description
Book an accessible vehicle with specific needs	P1	Either the disabled individual or their companion can book a ride, specifying accessibility requirements (e.g., wheelchair ramp, assistance).
Communicate accessibility needs and coordinate assistance with the driver	P1	Both users can message the driver to convey needs or instructions (e.g., "I need help with the ramp" or "My companion will assist").
Track the ride in real-time	P1	Both the disabled individual and companion can monitor ride progress via the app.
Ensure safety and comfort during the ride	P1	Safety features and driver support ensure a secure, comfortable experience for the disabled individual, with companion assistance as needed.

For Drivers

Use Case	Priority	Description
Know the rider's and companion's specific needs before pickup	P1	Drivers receive detailed profiles outlining accessibility needs and companion involvement.
Access tools to manage accessibility equipment and assist both effectively	P1	Drivers use in-app guides and training to operate ramps and assist both users.

Focus: All use cases are prioritized as P1 to establish a robust, inclusive core functionality.

Potential Solutions

The following solutions address the combined use cases for disabled individuals and their companions, evaluated for business impact and development cost:

	<h3>Accessible Booking System with Companion Support</h3> <ul style="list-style-type: none">• Account Linking: Disabled individuals can link companions to their profiles, enabling companions to book rides on their behalf with full access to ride details.• Flexible Booking Options: Users (disabled individuals or companions) can specify vehicle type (e.g., wheelchair-accessible) and assistance needs during booking.• Voice Command Integration: Hands-free booking option for accessibility and convenience. <p>Business Impact: High – Core functionality that drives inclusivity and adoption.</p> <p>Cost to Build: Medium – Requires app development, account linking infrastructure, and voice integration.</p> <p>Priority: P1</p>
	<h3>Unified Communication Tools</h3> <ul style="list-style-type: none">• In-App Messaging: Both the disabled individual and companion can communicate with the driver using pre-set phrases (e.g., "Please lower the ramp") or custom messages.• Ride Details Sharing: Linked accounts allow ride information to be shared between the disabled individual and companion. <p>Business Impact: High – Ensures seamless coordination and reduces miscommunication.</p> <p>Cost to Build: Low – Builds on existing messaging frameworks.</p> <p>Priority: P1</p>
	<h3>Real-Time Tracking for All</h3> <ul style="list-style-type: none">• Ride Tracking: Both the disabled individual and companion can monitor the ride's progress in real-time via the app.• Push Notifications: Updates (e.g., driver arrival, ETA) are sent to both users. <p>Business Impact: Medium – Enhances trust and user experience.</p> <p>Cost to Build: Low – Standard feature in ride-sharing apps.</p> <p>Priority: P1</p>
	<h3>Safety Features</h3> <ul style="list-style-type: none">• Emergency Button: Accessible to both the disabled individual and companion to request immediate help or alert the driver.• Driver Training: Mandatory training modules on assisting disabled riders and their companions, including certification. <p>Business Impact: High – Critical for trust and user retention.</p> <p>Cost to Build: Medium – Involves training content creation and emergency response integration.</p> <p>Priority: P1</p>

For Drivers

- **Detailed Rider Profiles:** Display accessibility needs and companion details (if applicable) before pickup.
- **In-App Guides:** Provide step-by-step instructions for operating accessibility equipment and assisting both users.
- Business Impact: High – Enables drivers to deliver effective service.
- Cost to Build: Medium – Requires training development and in-app guide integration.
- Priority: P1

Prioritized Features (P1):

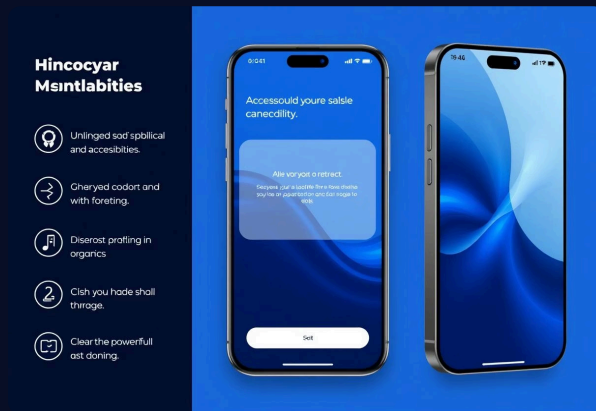
1. Accessible Booking System with Companion Support
2. Unified Communication Tools
3. Real-Time Tracking for All
4. Safety Features
5. Driver Training and Tools

Tradeoffs

Complexity vs. Usability

Adding companion features (e.g., account linking, shared tracking) may increase app complexity.

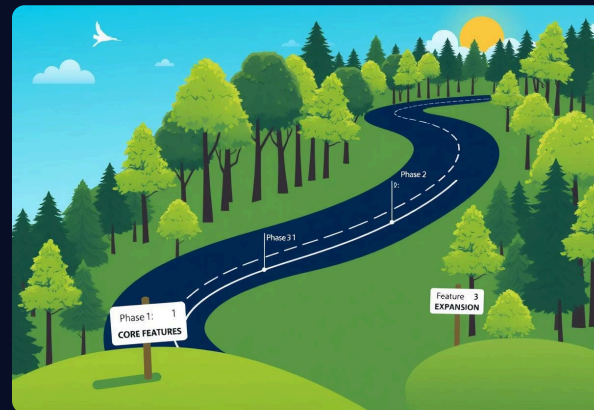
Mitigation: Design an intuitive interface with clear onboarding tutorials.



Cost vs. Inclusivity

Developing features like linked accounts and driver training raises costs but ensures broader accessibility.

Mitigation: Phase development, starting with core booking and safety features.



Regional Focus vs. Scalability

Customizing for India's infrastructure (e.g., limited accessible vehicles) may limit global scalability.

Mitigation: Build a modular system adaptable to other regions over time.



Success Metrics

Key Metrics



Sign-ups

Total number of disabled individuals and companions registering on the platform.



Ride Completion Rate

Percentage of booked rides successfully completed by either user type.



Customer Satisfaction

Net Promoter Score (NPS) or Customer Satisfaction (CSAT) from both disabled riders and companions.



Driver Retention

Percentage of drivers remaining active after completing training.

Indicative Metrics



Companion Booking Frequency

How often companions book rides for disabled individuals.



Communication Efficiency

Average response time in in-app messaging between users and drivers.



Safety Incidents

Number of emergency button activations or reported issues (goal: minimize).



Feature Adoption

Usage rates of companion-specific tools (e.g., linked accounts, shared tracking).