

ASSIGNMENT 1 –
PRODUCT MANAGEMENT

EV RANGE ANXIETY – FEATURES, PRIORITIZATION + PRD (PHASE 3)



Problem & Goal Summary

- **Core User Problem**

EV drivers struggle with charger reliability and locating exact charging spots in large complexes.

- **Impact on User Experience**

Difficulty causes detours, app switching, and charging delays, negatively impacting journey satisfaction.

- **Goal to Improve Activation**

Boost user confidence, reduce search-to-start time, and provide clear navigation inside complexes.

- **Measurable Outcomes**

Aim for 20% increase in activation and 30% reduction in time-to-start to enhance usability.

Solution Brainstorming

- **Structured Ideation Techniques**

Used How-Might-We framing and root-cause analysis to identify user distrust causes and generate solutions.

- **Reliability and Navigation Solutions**

Proposed Reliability Layer, Bay Finder, and Plan-B for real-time usage and dynamic rerouting.

- **Innovative Support Features**

Considered EV filters, operator scoring, micro-directions, and enhanced indoor positioning.

- **User Confidence and Experience**

Solutions aim to provide transparent info and boost EV user confidence, reducing friction.



Prioritization

- **RICE Framework Metrics**

The RICE framework evaluates solutions based on Reach, Impact, Confidence, and Effort for effective prioritization.

- **Top Prioritized Solutions**

Reliability Layer, Bay Finder, and Plan-B Auto-suggest emerged as the strongest solutions after evaluation.

- **Benefits of Prioritization**

Prioritization ensures data-driven decision-making and alignment with core user pain points for clear execution.





Wireframes:

Reliability & Bay Finder Wireframe

- **Station Selection and Usability**

The wireframe shows EV stations with 'Likely Usable' badges plus plug type and speed indicators to help users select confidently.

- **Detailed Location and Trust Validation**

Detailed pages include basement location, payment methods, operator branding, and user notes to build trust and reduce uncertainty.

- **Indoor Routing and Bay Guidance**

Indoor routing uses elevator/stair references, color-coded lanes, and garage-level labels to guide users to the correct charging bay precisely.

- **User Confidence and Information Hierarchy**

The design balances comprehensive trust cues and intuitive grouping to provide clear information without overwhelming users visually.



Plan-B Auto-Suggest Wireframe

- **Dynamic Charger Availability Alerts**

The wireframe dynamically alerts drivers when charger availability drops, minimizing risk of last-minute failures.

- **Alternative Charging Suggestions**

A discreet snack bar prompt suggests alternative charging stations with updated ETA and kWh information.

- **Notification Fatigue Guardrails**

The design limits notifications by triggering only when user benefit exceeds a defined threshold to prevent fatigue.

- **Adapted for Fluctuating Infrastructure**

The feature is tailored for fluctuating charger reliability, especially in regions with inconsistent infrastructure.

Success Metrics

- **Primary Success Metric**

The EV Charging Navigation Start Rate measures users who begin navigation after searching for a station, indicating activation success.

- **Secondary Metrics**

Includes median search-to-start time, Plan-B acceptance rate, and 'Reached Bay' confirmations to reflect decision confidence and accuracy.

- **Guardrail Monitoring**

Tracking wrong bay reports, rapid re-search events, and user complaints to monitor potential negative side effects and ensure quality.

- **Balanced Measurement Approach**

A structured measurement plan balances value creation and risk monitoring, enabling robust validation and iterative improvements post-launch.



Risks & Mitigations

- **Managing Prediction Risks**

Conservative thresholds, uncertainty labels, and quick feedback loops help manage inaccuracies in predictions effectively.

- **Handling Partner API Outages**

Using cached data, graceful degradation, and last updated timestamps mitigates impact from partner service outages.

- **Spam and Content Quality Control**

Quality scores and user reporting paths reduce spam and maintain high-quality user-generated content.

- **Indoor Mapping Coverage**

Indoor mapping rollout prioritizes top malls and uses crowdsourced visuals to address coverage limitations.



Rollout & Experimentation

- **Structured A/B Testing**

Initial rollout uses A/B testing in Bengaluru to evaluate performance before expansion to other cities.

- **Performance Metrics Tracking**

Tracking activation rates, time-to-start, and engagement with reliability features to assess impact early on.

- **Phased Expansion with Gates**

Success gates require consistent metric improvements for two weeks before expanding the user base.

- **Risk Reduction and Scalability**

Phased launch limits operational risk and negative user impact while enabling data-driven scalability.

PRD Overview

Context

- Phase-1 identified trust & navigation gaps.
- Phase-2 validated reliability & bay-finding issues.
- +20% activation & -30% search-to-start as goals.

Problem Statement

- Users cannot trust charger usability.
- Users cannot locate exact bay in large complexes.
- Leads to delays, detours, and low activation.

Personas

Person 01 – Daily commuter, no home charging.

Person 02 – First-time EV owner with high anxiety.

Person 03 – Highway traveller needing fast, reliable chargers.

Use Cases

Case-1: Confident station selection via reliability signal.

Case-2: Bay-level indoor navigation to charger.

Case-3: Mid-route Plan-B if availability drops.

PRD Overview

MVP Solutions

1. Reliability Layer
2. Bay Finder
3. Plan-B Auto-suggest

User Stories & Acceptance Criteria

Case-1: Reliability badge visible on list & detail.

Case-2: Bay info + photos available for mapped venues.

Case-3: Plan-B triggers only when beneficial.

Success Metrics

Key: Navigation Start Rate

Secondary: Search→Start time, Plan-B acceptance

Guardrails: Wrong bay, complaints

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THANK YOU