Requirements Elicitation Plan Using Kano Model

Objectives

1. **Analyze Survey Data**: Assess feedback from 32 participants to determine user requirements.
2. **Classify Requirements**: Categorize features into Dissatisfiers, Satisfiers, and Delighters using the Kano Model.
3. **Validate Findings**: Corroborate survey results with insights from interviews and observations.
4. **Address Stakeholder Needs**: Reflect the priorities of students, staff, and admins.

Participants Involved

1. **Students**: Main users who provided survey responses and interview feedback.
2. **Faculty/Staff**: Secondary users contributing through surveys and interviews.
3. **Campus Admins**: Offered administrative needs via interviews.

* **Sample Size**:
  + **Survey**: 32 respondents.
  + **Interviews**: 2 key stakeholders.
  + **Observation**: Conducted during peak commuting hours.

Elicitation Methods Used

* **Google Form Surveys**:
  + Collected 32 responses with paired questions (presence vs. absence of features).
  + Responses ranged from "Strongly agree" to "Strongly disagree."
* **Interviews**:
  + One-on-one discussions with stakeholders for detailed insights.
* **Observation**:
  + Observed commuting and parking behaviors to support data findings.

Elicitation Activities and Data Analysis by Kano Category

Dissatisfiers (Must-be Requirements)

These are essential features where absence causes dissatisfaction.

* Survey Questions (Kano-style):
  + Functional:
    - Do you think safety features are important and what safety features would you expect to have in a ride-sharing app (e.g., SOS button, trusted contacts)? (Like/Expect/Neutral/Dislike)
    - What information do you think is important to show about a driver or passenger before confirming a ride? (Like/Expect/Neutral/Dislike)
  + Dysfunctional:
    - How often do you drive to campus, and what’s your typical parking experience like? (Like/Expect/Neutral/Dislike)
    - What are the biggest frustrations you face when finding parking or commuting at MMU? (Like/Expect/Neutral/Dislike)
    - Do you think it is important to know whether parking is available before arriving at the campus? Why?
* **Interview**:

1. **Question**: If users could access the app using their MMU ID and password, how would you feel? / If users were not able to sign in using their MMU ID, how would you feel?

* **Purpose**: To assess user preference for seamless integration with existing MMU credentials, evaluating whether single-sign-on is a critical expectation for convenience and security.

1. **Question**: If the app let users report cars parked in the wrong place, how would you feel? / If the app did not allow users to report improper parking, how would you feel?

* **Purpose**: To determine if users expect the app to address parking violations, a common campus issue, and whether its absence would cause frustration.

1. **Question**: If the app showed open parking spaces and vehicle plate info, how would you feel? / If the app did not show parking availability or car details, how would you feel?

* **Purpose**: To evaluate the importance of real-time parking information and vehicle details for reducing search time and ensuring transparency.

1. **Question**: If there was a zoomable map of the campus with parking zones, how would you feel? / If no map was provided to locate parking or pickup areas, how would you feel?

* **Purpose**: To gauge user need for navigational aids to locate parking and ride-sharing pickup/drop-off zones, assessing if lack of a map hinders usability.

1. **Question**: If MMU admins could view reports of parking issues, how would you feel? / If parking-related complaints were not visible to MMU staff, how would you feel?

* **Purpose**: To understand if users expect administrative oversight to enforce parking rules and address violations effectively.

1. **Question**: If administrators could check the name or plate of a car parked in a spot, how would you feel? / If the system didn’t let admins see who owns a parked vehicle, how would you feel?

* **Purpose**: To assess user support for admin access to vehicle data for parking enforcement, and whether its absence undermines accountability.

1. **Question**: If the system required a second security step after logging in, how would you feel? / If the system didn’t use any additional security beyond password login, how would you feel?

* **Purpose**: To evaluate user expectations for enhanced security measures in the app, determining if weak security would deter usage.

1. **Question**: If you could watch your driver approach on a map with real-time updates, how would you feel? / If there was no live map to see where your driver is, how would you feel?

* **Purpose**: To determine if real-time driver tracking is a critical feature for user safety and convenience in ride-sharing.

1. **Question**: If you could press a button to share your ride with a trusted source, alert someone in an emergency, how would you feel? / If the app had no safety or emergency functionality during rides, how would you feel?

* **Purpose**: To assess the importance of safety features like emergency alerts for user trust and security in ride-sharing.

1. **Question**: If the app showed live parking space availability before arriving, how would you feel? / If you had to search for parking without any in-app updates, how would you feel?

* **Purpose**: To evaluate user need for real-time parking availability to reduce search time and frustration, a key campus pain point.
* **Observation Findings**:
  + Parking shortages and delays observed, highlighting need for real-time info.
* **Key Requirements**:
  + MMU ID Login Access
  + Real-Time Parking Spot Info
  + Emergency Features
  + Multi-Factor Authentication
  + Payment History with Ride Details
  + Live Driver Tracking
  + GPS-based Pick-Up/Drop-Off

Satisfiers (One-dimensional Requirements)

These features enhance satisfaction proportionally to their quality.

* Survey Questions (Kano-style):
  + Functional:
    - Have you ever participated in carpooling? How was the experience and how was the coordination handled? (Like /Expect/ Neutral/ Dislike)
    - Would you be comfortable using an app that matches you with others for ride-sharing? Why or why not? (Like/ Expect/ Neutral/ Dislike)
    - Would you prefer to schedule rides in advance or find them instantly? (Like/ Expect/ Neutral/ Dislike)
    - Are you comfortable using digital payments in such an app, or would you prefer other options (e.g., cash, campus billing)? (Like/ Expect/ Neutral/ Dislike)
    - Do you think real-time vehicle tracking is important? Why? (Like/ Expect/ Neutral/ Dislike)
* **Interview**:

1. **Question**: If students could carpool with lecturers or staff through the app, how would you feel? / If the app restricted carpooling to students only, how would you feel?

* **Purpose**: To explore user openness to inclusive ride-matching across campus roles, assessing if restrictions impact satisfaction.

1. **Question**: If drivers could release or override reserved parking spots, how would you feel? / If drivers could not adjust existing parking reservations, how would you feel?

* **Purpose**: To determine if users value flexibility in managing parking reservations, and whether rigidity reduces convenience.

1. **Question**: If drivers could choose to accept or reject ride requests, how would you feel? / If drivers had no control over who joins their ride, how would you feel?

* **Purpose**: To gauge user preference for driver control over ride requests, evaluating its impact on trust and comfort.

1. **Question**: If the app automatically suggested pick-up/drop-off based on your location, how would you feel? / If you had to manually enter pick-up/drop-off without GPS help, how would you feel?

* **Purpose**: To assess user desire for GPS-based automation to streamline ride-sharing logistics, and if manual entry is acceptable.

1. **Question**: If you could message drivers and get real-time ride alerts in the app, how would you feel? / If there were no updates or chat options during a ride, how would you feel?

* **Purpose**: To evaluate user expectations for communication features to enhance coordination and ride experience.

1. **Question**: If the app saved past payment info including driver, car, time, and fare, how would you feel? / If no payment history or ride details were available after the trip, how would you feel?

* **Purpose**: To determine if users expect transparency and access to past ride and payment records for convenience and trust.
* **Observation Findings**:
  + Gate congestion supported the need for automated access.
* **Key Requirements**:
  + Fare Estimation and Cost Splitting
  + Advanced Ride Scheduling
  + Automated Gate Access
  + View Parking Details
  + Driver Approval Request

Delighters (Attractive Requirements)

These are bonus features that excite users when included but aren’t expected.

* Survey Questions (Kano-style):
  + Functional:
    - Do you prefer automated entry at campus gates using your car’s license plate? (Like/Expect/Neutral/Dislike)
    - Do you think cost estimation and cost splitting based on the computer is much more comfortable than the price set by the drivers? (The cost will calculate by the computer will based on the peak and off peak) (Like/Expect/Neutral/Dislike)
* **Interview**:

1. **Question**: If the app could show the total cost between passengers, how would you feel? / If the ride cost splitting wasn’t calculated by the system, how would you feel?

* **Purpose**: To assess user preference for automated, transparent fare estimation and cost splitting to enhance fairness and convenience.

1. **Question**: If the app allowed booking rides in advance with rescheduling options, how would you feel? / If you could only book rides immediately with no changes allowed, how would you feel?

* **Purpose**: To explore user interest in flexible ride scheduling options, evaluating if they enhance the ride-sharing experience.

1. **Question**: If the system opened gates automatically using your car plate, how would you feel? / If you had to manually scan (ticket) at every gate, how would you feel?

* **Purpose**: To gauge user enthusiasm for automated gate access as a convenient, high-tech feature for campus entry.
* **Observation Findings**:
  + Navigation issues suggested maps could enhance experience.
* **Key Requirements**:
  + In-App Chat and Notifications
  + Campus Map Features
  + Reporting Illegal Parking
  + Freeing Occupied Spots
  + Admin Monitoring of Violations
  + Admin Vehicle Information

Analysis and Classification

1. **Kano Model Application**:
   * **Dissatisfiers**: Strong support for presence, high dissatisfaction when absent.
   * **Satisfiers**: Clear correlation between presence and satisfaction.
   * **Delighters**: Positive when present, minimal dissatisfaction when absent.
2. **Cross-Validation**:
   * Survey data aligns with interview and observation insights.
3. **Prioritization**:
   * Dissatisfiers prioritized, followed by Satisfiers, then Delighters.

Elicitation Schedule

**Week 1**: Planning and Recruitment

* + Finalize questions, wireframes, and survey tools.
  + Recruit participants via campus emails, posters, and faculty coordination.

**Week 2**: Observations

* + Perform parking lot observations during morning and afternoon peaks.

**Week 3**: Interviews

* + Conduct 3 - 4 interviews (target 3 interviews).

**Week 4**: Surveys and Analysis

* + Distribute surveys to 50+ participants (target 30 responses).
  + Analyze data, classify requirements using Kano Model, and compile findings.

Gantt Chart:

A schedule of tasks with text

AI-generated content may be incorrect.

Analysis and Classification

* **Kano Question Analysis**:
  + Use functional/dys responses to classify requirements:
    - **Dissatisfier**: Expected when present, disliked when absent.
    - **Satisfier**: Liked when present, disliked when absent.
    - **Delighter**: Liked when present, neutral when absent.
    - **Indifferent**: Neutral regardless of presence.
    - **Reverse**: Disliked when present, neutral/liked when absent.
* **Cross-Validation**:
  + Compare focus group, interview, and survey results to resolve discrepancies.
  + Prioritize requirements based on frequency, intensity, and stakeholder impact.
* **Documentation**:
  + Create a requirements report with categorized features, user quotes, and wireframe feedback.

Expected Deliverables

* A prioritized list of requirements classified as Dissatisfiers, Satisfiers, and Delighters.
* Detailed user feedback on pain points, preferences, and innovative ideas.
* Wireframe feedback to guide app design.
* A stakeholder-validated requirements document to inform development.

Risks and Mitigation

1. **Risk**: Misinterpreting survey responses.

* **Mitigation**: Combined with qualitative data for clarity.

1. **Risk**: Limited sample diversity.

* **Mitigation**: Included multiple stakeholder groups and observational data.