1. Kano Model Overview

   The Kano Model is a method used to understand what users really want from a system. It helps us group the features into three main types based on how users feel when a feature is included or missing. This helps us decide which features are most important to focus on.

   1.1. Dissatisfiers
   - Access to academic records (grades, attendance, exam results, authorize)
   - Access to billing and payment information
   1.2. Satisfiers
   - Timely and reliable SMS notifications
   - Multi-language support
   1.3. Delighters.
   - Personalized dashboards or summaries for students/parents
   - Real-time data updates

2. Brainstorming Sessions Plan
   2.1. Session Structure:
   2.1.1. Target Audience
   2.1.1.1. Students
   - Key contribution: Identify pain points in communication, desired services for self-service access, and the most effective alert mechanisms.
   - Selection criteria: Undergraduate and postgraduate students from various faculties.
   2.1.2. Process

   The brainstorming process will be conducted in three main sessions, each targeting a specific type of requirement as classified under the Kano Model (Must-be, One-dimensional, Attractive). This will ensure structured input collection aligned with stakeholder expectations.

   Each brainstorming session will follow this detailed process:

   1. Session Planning:
      - Define the session's objective (based on the Kano category).
      - Develop a list of open-ended and targeted guiding questions.
      - Schedule the session and invite relevant participants
      - Physical session
   2. Session Execution:
      - Introduction (5–10 mins): Brief explanation of the project goals, Kano categories, and brainstorming rules (e.g., no criticism, build on others' ideas).
      - Idea Generation (20–30 mins): Prompt participants with guiding questions, allow free discussion, encourage creativity.
      - Grouping & Voting (10 mins): Cluster similar ideas, and allow participants to vote or prioritize the suggestions.
   3. Post-Session Analysis:

- Organize and transcribe collected ideas.
- Assign each suggestion to a Kano category.
- Refine and document clear requirement statements.
4. Session Moderation:
   - Each session will have a facilitator, note-taker, and optionally a technical observer (especially helpful if IT integration questions arise).
   - Sessions can be conducted physical meeting.

2.1.3. Session 1: Basic Requirements (Dissatisfiers)
- What features do you consider absolutely necessary in a university portal?
- What processes should never require you to physically visit an office?

2.1.4. Session 2: Performance Requirements (Satisfiers)
- What functions would improve your experience when accessing university services?
- How should academic consultations or document requests be handled digitally?

2.1.5. Session 3: Excitement Requirements (Delighters)
- What features would pleasantly surprise you or make the portal more enjoyable to use?
- If the system could offer smart suggestions or reminders, what would you want it to do?

3. Questionnaire Design Using Kano Format
   3.1. Structure:
      3.1.1. Target Audience

The questionnaire was designed with a clear focus on identifying and prioritizing user needs based on Kano's model of stakeholders satisfaction. Our target groups include of the main stakeholders in the university system, each of whom interacts with the suggested University Communication and Services Portal in a different way. These stakeholders include:

   3.1.1.1. Students

Dissatisfier (Must-be requirements):
- Access to academic results
- Viewing attendance records

Satisfier (Expected and valued):
- Fast loading and response time
- Clear and timely notifications

Delighter (Unexpected but pleasing):
- Personalized dashboard showing progress and reminders
- Calander with assignment deadlines

3.1.1.2. Lecturers

Dissatisfier (Must-be requirements):
- Reliable attendance marking system
- Stable system access during class hours

Satisfier (Expected and valued):

- Efficient uploading of learning materials
- Notification when students submit assignments

Delighter (Unexpected but pleasing):

- Combining with learning platforms (e.g., Moodle, Ebwise)
- Auto-generated performance reports for students

3.1.1.3. Administrators

Dissatisfier (Must-be requirements):
- Accurate student data management
- Secure access to sensitive information

Satisfier (Expected and valued):

- Dashboard to monitor real-time student or service status
- Bulk processing tools for routine tasks

Delighter (Unexpected but pleasing):

- Built-in tasks reminder system
- Customizable report templates

3.1.1.4. Parents

Dissatisfier (Must-be requirements):
- Clear access to tuition and payment status
- Basic academic performance updates

Satisfier (Expected and valued):

- Timely alert for important academic events(e.g., graduation ceremony invitation)
- Regular updates on student progress

Delighter (Unexpected but pleasing):

- Real-time attendance low alert message
- Personalized message when student achieves academic goals

3.1.2. Process

To ensure that we received useful and meaningful feedback from all of the participants involved, we planned multiple methods for sending and collecting questionnaires based on each group's function, availability, and typical communication style. We also set at least targets for the number of replies we aimed to receive: 5 from students, 5 from lecturers, 5 from administration staff, and 15 from parents. In conclusion, we are combining the question and come out a clearly outcome in order to visualise the result based on the excel, and using the data to generate out the final target audience requirements.

Student

- The questionnaire was shared through both private student WhatsApp groups and official student email.
- These channels were chosen to match students' daily communication habits for convenience.
- Students completed the survey easily within these familiar platforms.
- Responses were automatically collected using an Excel-based form system.
- All data was stored securely in a centralized Excel database for analysis.

Lecturer

- Lecturers received the questionnaire through their official university email accounts.
- The email included a formal explanation of the survey's purpose to encourage thoughtful responses.
- Responses were collected using the same Excel-based form system as with students.

Administrator

- A project team member visited administrators in their department offices.
- The Google Form link was provided to them in person.
- This face-to-face approach allowed team members to answer any questions on the spot.
- Administrators completed and submitted the forms online.
- Ask extra feedback on system improvements was also collected during this interaction.
- Responses were collected using the same Excel-based form system as with students.

Parent

- Parents were sent a Google Form link via email or personal WhatsApp.

- A short description of the survey's purpose—related to their children's academic communication and progress—was included.
- Responses were collected using the same Excel-based form system as with students.

3.2. Sample Questions (at least 10 examples)

1. How would you feel if the portal includes a live chat feature to get instant help from the university (e.g., academic office, finance, or student affairs)?

Options:

• I like it
• I expect it
• I am neutral
• I don't really like it, but it's okay
• I dislike it

2. How would you feel if the system automatically reminds you before course registration or add/drop deadlines via notification or email?

Options:

• I like it
• I expect it
• I am neutral
• I don't really like it, but it's okay
• I dislike it

3. How would you feel if the portal allows users to choose between different language options (e.g., English, Malay, Mandarin) for better understanding?

Options:

• I like it
• I expect it
• I am neutral
• I don't really like it, but it's okay
• I dislike it

4. Which of the following features would you like to see improved or added in the university's online system?

Options:

- Faster loading speed
- Mobile-friendly design
- Real-time notifications
- Integrated chat
- None, everything is fine

5. Have you ever faced difficulty in submitting requests such as facility bookings and requesting certification letters at the university?

Options:

- Yes, often
- Yes, sometimes
- No, never
- I've never submitted any requests

6. I want to be able to view my academic and financial information (e.g: grades, attendance, fees) anytime through an online portal.

Based on the statement above, choose whether you agree or not, 1 being strongly agree and 4 being strongly disagree.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

7. How would you feel if the University Communication and Services Portal allowed you to track the status of your submitted documents (e.g., assignments, forms, applications) in real-time?

- I like it that way
- I expect it to be that way
- I am neutral
- I can live with it that way
- I dislike it that way

8. How would you feel if the University Communication and Services Portal offered a personalized dashboard with an AI chat assistant that could answer your questions about academic matters, campus services, and administrative procedures?
- I like it that way
- I expect it to be that way
- I am neutral

- I can live with it that way
- I dislike it that way

9. How would you feel if the University Communication and Services Portal integrated with your academic calendar, showing your class schedule, assignment deadlines, and examination dates in one place?
- I like it that way
- I expect it to be that way
- I am neutral
- I can live with it that way
- I dislike it that way

10. How would you feel if the University Communication and Services Portal included a dedicated access portal for parents/guardians to view their child's academic progress, attendance records, and financial information (with student consent)?
- I like it that way
- I expect it to be that way
- I am neutral
- I can live with it that way
- I dislike it that way

5. Prototyping Plan
    5.1. Session Structure:
        5.1.1. Target Audience
            5.1.1.1. Students
        5.1.2. Process
            5.1.2.1. Prototype Development Strategy:
                - Develop wireframes and paper prototypes for core user flows and essential functionalities identified as "Must-Be" (e.g., login, accessing grades, viewing attendance)
                - Tools: Basic wireframing software
            5.1.2.2. User Testing and Feedback Collection (Kano-Centric):
                - Dissatisfier (Must-be requirements):
                    o Were you able to easily complete [task related to a Must-Be feature]? If this feature was missing or difficult to use, how would that impact your experience?
                - Satisfier (Expected and valued):
                    o How satisfied were you with the [speed/efficiency/clarity] of [Performance feature]? What would make it even better
                - Delighter (Unexpected but pleasing):
                    o What was your reaction to [Delighter feature]? Is this something you would expect? How would its presence or absence affect your overall satisfaction with the system?

6. Kano Model Application
    6.1. Requirement Categorization Framework

Category	Identification Criteria	Example for Portal
Must-Be (Basic)	Target audience expect this by default. If it's missing, they become very dissatisfied, but having it doesn't increase satisfaction	Ability to check academic results and attendance record
One-Dimensional (Performance)	The more this feature perform well, the more satisfied target audience are. If it performs poorly or is missing, satisfaction decreases	Fast loading times
Attractive (Delighters)	Target audience don't expect this, but if it exists, they feel surprised and more satisfied, without its does not cause dissatisfaction	Personalized dashboard or real-time academic achievement alerts

7. Implementation Timeline

Date	Activities	Deliverables
9th May 2025	- Develop Kano-style questionnaire in Google Forms - Prepare brainstorming session materials - Identify and invite student participants	- Draft questionnaire - Brainstorming session agenda
10th May 2025	- Test questionnaire functionality - Revise questions based on test feedback - Finalize brainstorming session plan	- Validated questionnaire - Final session plan with materials
11th May 2025	- Distribute questionnaire to student population - Send reminders to participants for brainstorming session	- Distribution metrics
12th May 2025	- Conduct the brainstorming session with the student.	- Session recordings/notes - Initial requirements list
13th May 2025	- Close questionnaire - Begin analyzing questionnaire responses - Organize brainstorming results	- Raw questionnaire data - Organized brainstorming outputs
17th May 2025	- Apply Kano evaluation table to questionnaire results - Categorize all identified requirements	- Categorized requirements list - Preliminary analysis report

8. Expected Outcomes

Through our requirements elicitation process using the Kano model, we expect to gather authentic and comprehensive requirements directly from students as our primary stakeholders. Specifically, we aim to clearly identify core functionalities students consider essential (Must-Be requirements), performance features that would enhance satisfaction (One-Dimensional requirements), and innovative features that exceed expectations (Attractive requirements). This categorization will help us prioritize development of the most important features, ensuring the system design truly meets student needs and expectations, ultimately creating a University Communication and Services Portal that both fulfills basic communication requirements and delivers a delightful user experience.

9. Justification for Methodology

In this project, two main techniques were used to gather and understand user requirements: brainstorming and questionnaire elicitation using the Kano Model. These techniques were chosen because they help us understand what features the users really want and need.

First, we used **brainstorming** to come up with early ideas about what the system should include. It helped the team think of possible features, problems in current systems, and how to improve the user experience. This helped form a base list of features that could be tested later with users.

Next, we used a questionnaire to collect feedback from real users like students, parents, and lecturers. The survey followed the Kano Model, which helps classify features into:

- **Dissatisfiers** – must-have features that users expect,

- **Satisfiers** – features that increase satisfaction when done well,

- **Delighters** – unexpected features that surprise and please users.

This method was chosen because it shows not just what users want, but also how important each feature is to them. With this, we can know which features are most needed and which ones can be added if we have time and resources. By combining brainstorming and the Kano Model questionnaire, the project was able to cover both internal idea generation and external stakeholder validation. This improves the chances of building a system that meets real needs and expectations.