Project 1: Ideation

Team Name: MealMap
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Problem Statement

International students at KAIST often find it challenging to discover diet-relevant, trustworthy, and up-to-date food recommendations, both on campus and in the surrounding area, which consistently leads to missed culinary opportunities, limited cultural international, unpleasant surprises, and difficulties in adhering to dietary restrictions (e.g., allergy, cultural, or belief-based).

Problem Background

International students and international students at KAIST often encounter significant culinary and cultural barriers in South Korea, which hinder their ability to fully experience the national cuisine with confidence and enjoyment. For instance, in the past 30 days alone, five individuals in the international student group chat sought food recommendations, with three specifying particular needs such as non-spicy or vegetarian options; however, two of these queries went unanswered or received suggestions that failed to reliably match their requirements. It's important for incoming international students to experience the national cuisine at its true depth and with confidence as a part of shaping the overall experience of South Korea. At a deeper level, the core issue is not a lack of willingness to share knowledge or valuable insights, but a systemic failure to capture and sustain them. Recommendations often vanish in ephemeral word-of-mouth channels like casual chats, without documentation for broader access. This is worsened by the absence of a food experience sharing culture in the online channels of the international community. Current solutions, like Naver Maps do not provide recommendations based on previously liked meals and also do not provide meal level recommendations.

Motivation

Automation or "expert" advice cannot solve the challenge of finding reliable food recommendations, because no algorithm or authority can know what counts as the right meal for each individual. Social computing, however, turns scattered personal experiences into a collective intelligence: a dynamic system that grows stronger with every contribution. Unlike food critics who typically rate an entire restaurant, peer reviews can cover a far wider range of places and go into detail at the level of specific dishes. Its power lies in capturing the diversity of tastes, diets, and cultural expectations with a granularity and scope that no top-down approach could ever replicate, because unlocking a richer culinary map that broadens international students' exposure and increases the variance of experiences they can confidently pursue.

How Might We Questions

From the problem identified, we have come up with 10 “How Might We” questions to narrow our ideas.

1. **How might we help users verify the reliability of other users' contributions?**
2. How might we make it easier for people to leave reviews?
3. How might we display information in a way that is easy to understand for everybody?
4. How might we foster an active community?
5. **How might we help users find restaurants for their specific preferences, mood, and budget needs?**
6. How might we increase the willingness for users to explore and try new places to eat?
7. How might we keep the price of the food central in the reviews?
8. **How might we make it rewarding and engaging for users to share a complete story of their dining experience?**
9. How might we reduce ambiguity in user-made reviews?
10. How might we create a swift review process with as few clicks as possible?

Solution Ideas

For each of the selected HMW questions, we have come up with five solution ideas:

HMW 1: How might we help users verify the reliability of other users’ contributions?

1. Irrelevant reviews, trolling, or spam will get filtered by LLM moderation.
2. Have users post evidence of eating at the place (for example with an image of their food) to both show which dish they ate and prove that they visited.
3. Create a point system that “rewards” people for putting more effort into each review.
4. Create a user-driven reliability metric to allow users to promote people that leave relevant reviews.
5. Reviews can be weighted higher if multiple independent users report similar experiences for the same dish or restaurant. This creates an emergent reliability signal even without explicit ratings of other users.

HMW 2: How might we help users find restaurants for their specific preferences, mood, and budget needs?

1. Depending on past reviews left, we could guide users to restaurants that have good reviews for similar dishes
2. Use machine learning on user-clusters to create data-driven food recommendations.
3. Incorporate a friend system which would allow users to directly connect with people they think would have similar tastes.
4. Dynamic filters for mood, budget, and dietary restrictions: lets users instantly find restaurants that match their mood, budget, and dietary needs through intuitive tags like “spicy,” “vegan,” or “under $10.”
5. Surface popular dishes and hidden gems by tracking what the community is raving about, helping users discover experiences they might otherwise miss.

HMW 3: How might we make it rewarding and engaging for users to share a complete story of their dining experience?

1. A simple and rigid review format could be enforced to ensure that there is information on multiple aspects for each review
2. We can explain to users that the more information of their experience they share, the better their personal recommendations will become.
3. Reward users that include more detailed information about different aspects of the experience.
4. Introduce achievement badges or levels to recognize consistent, high-quality contributions.
5. Highlight exemplary reviews in the community to motivate others to provide complete stories.

Top Solution Ideas

1. Have users post evidence of eating at the place (for example with an image of their food) to both show which dish they ate and prove that they visited. (HMW 1)
2. Use machine learning on user-clusters to create data-driven food recommendations. (HMW 2)
3. We can explain to users that the more information of their experience they share, the better their personal recommendations will become. (HMW 3)

https://social.cstlab.org/projects/01_DPM1