

# PROJECT

## RE-IMAGINING CAMPUS FOOD

Design Research | August 2023



**S R I S H T I MANIPAL**  
INSTITUTE OF ART, DESIGN & TECHNOLOGY  
BENGALURU  
(A Constituent Unit of MAHE, Manipal)



**MANIPAL**  
ACADEMY of HIGHER EDUCATION  
(Institution of Excellence Deemed to be University)

## ACKNOWLEDGEMENTS

We would also like to extend our gratitude to the facilitators, Vineeta Rath and Subramanya T.N who made this project possible.

Lastly, we would like to thank all our peers, faculty members at SMI, and staff members at Chef Touch and Blue Dove for their honest and sincere feedback.

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## RE-IMAGINING CAMPUS FOOD

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# INTRODUCTION

## PROJECT SCOPE

### CONTEXT

As we, students of Srishti Manipal Institute of Art, Design and Technology, transition away from the old campus in Yelahanka New Town (Yelli), our perspective and experience of campus life has undergone a significant (gestalt ) shift.

In Yelli, students had grown accustomed to a quaint, cozy atmosphere with small eateries and food trucks as our regular hangout spots. The culture of walking or cycling through quiet roads, chatting with friends at the chai tapri enjoying a bun samosa and lemon tea as we gossiped away with the uncle at the stall was a part of our daily routine. .

Now, with the shift to the new campus, most students find themselves traveling a bit further than they used to. This change in commute has inevitably influenced our perception of campus life and the role of the canteen. The new campus canteen is no longer just another dining facility; it has become a dynamic hub where students come together to share experiences, make new memories, and build a sense of community.

### OBJECTIVE

This canteen is a space for social interaction, relaxation, and even study sessions. The main goal of this project is to understand any shortcomings in the service here at the SMI canteen. Our aim was to gather data and establish a collective consensus regarding desires, necessities, and prerequisites regarding the canteen experience. With gathered data, we propose potential concepts for the catering team and relevant authorities at Srishti Manipal Institute to consider for implementation.

### USER GROUP

The primary user group was SMI students, faculty and staff members.

### TEAM

Students of PGDP Experience Design:  
Veda, Mallika, Nikita, Kaviya, Sonali, Shinjini, Megha, Anjali & Aditi

Mentors:  
Vineeta Rath & Subramanya T.N

### TIME

3 Week project

## PROCESS

To effectively undertake this research project, we defined clear objectives that aligned with our goals.

### **01. Setting the Objective & Brief**

Our aim was to gather data primarily from the student and faculty body at SMI in the context of the canteen at Rta and establish a collective consensus regarding desires, necessities, and prerequisites. We divided our team into groups of three to study three major groups - students, faculty and Caterers.

### **02. Methodology**

Qualitative Method: Analyzing textual data through interviews and observing human interactions and behaviors in the SMI canteen.

Quantitative method: Collecting, testing and measuring numerical data by surveys) regarding canteen

### **03. Research Analysis**

Analysis of collected data with - meta matrix, consumer touchpoints, and heat maps for crowd management.

### **04. Observations and Recommendation**

Gathering insights and findings from analysis and data. Using them to make feasible recommendations.

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# OBJECTIVE & BRIEF

## KEY OBJECTIVES

### 01. Assess Current Satisfaction Levels:

Determine the current level of satisfaction among students, faculty, and staff regarding campus food services.

Identify the strengths and weaknesses of the existing food offerings.

### 02. Understand Preferences and Dietary Needs:

Investigate the diverse preferences and dietary requirements of the campus community. Determine if there are specific dietary restrictions or cultural preferences that need to be accommodated.

### 03. Analyze Food Quality and Safety:

Evaluate the quality and safety of the food being served on campus.

Ensure compliance with food safety regulations and standards.

### 04. Evaluate Pricing and Affordability:

Assess the affordability of campus food for students and staff.

Compare prices with off-campus alternatives to understand competitiveness.

### 05. Examine Sustainability and Ethical Practices:

Investigate the sustainability practices related to food sourcing and waste management.

Determine if there is a demand for ethically sourced or organic food options.

### 06. Assess Convenience and Accessibility:

Examine the convenience of food services, including hours of operation and locations.

Evaluate the accessibility of food services for students with disabilities.

### 07. Gather Feedback and Suggestions:

Collect feedback and suggestions from the campus community through surveys, focus groups, or interviews.

Encourage open and honest communication to identify specific issues and potential improvements.



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# RESEARCH ANALYSIS

## SURVEY DATA

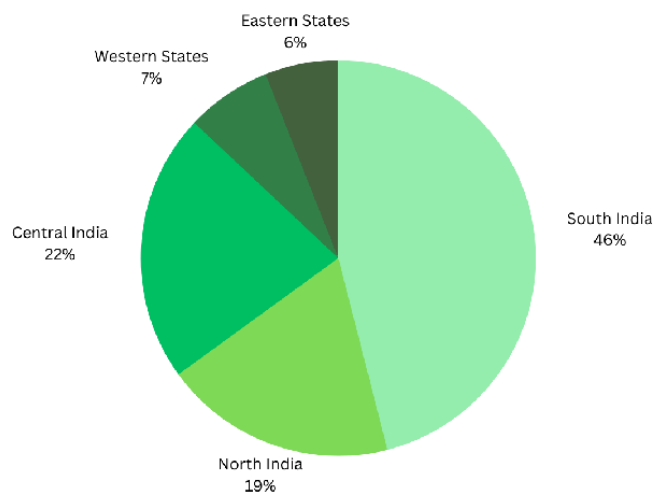
We received a total of 282 responses from members of our student body for our survey. Here are the statistics based on these responses:

These responses serve as a representative sample of our student body's opinions.

## ETHNOGRAPHIC DATA

Geographical demographic data plays a crucial role in helping us understand food choices and preferences by providing insights into how people's dietary habits and tastes are influenced by their geographic location.

We also used this to cross reference an initial hypothesis presented to us, which stated, that individuals from northern states prefer food from southern states and vice versa.



***student ethnographic data depiction***

## STUDENT ACCOMODATION

Student accommodation choices, whether it's living in a flat, a paying guest (PG) accommodation, or a hostel, have an impact on food habits, decisions, and perceptions.

### Flats:

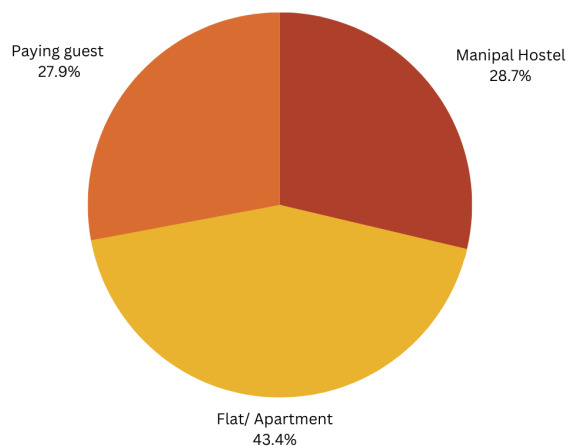
Students living in flats typically have their kitchens or shared kitchen facilities. Although this may give some more control over their food choices and cooking habits, its not a habituated practice of making meals everyday. students tend to skip meals to prioritise work and avoid spending time and money. They choose between cooking cost-effective meals at home or eating out, depending on their financial situation.

### Paying Guest (PG):

In PG accommodations, access to kitchen facilities may vary. Most PGs offer meals, but have very strict timings of adherence. Students in PGs often rely on the food provided by the canteen or nearby eateries if meal timings shift.

### Hostels:

Hostel residents have communal dining hall and limited to no access to cooking facilities. They are more likely to eat at the hostel mess, where meals are provided. Snacks and lunch is only provided at the main mess in campus for both male and females



***current accomodation data depiction***

## SURVEY DATA

We received a total of 282 responses from members of our student body for our survey. Here are the statistics based on these responses:

### Morning (8:30 AM - 10:00 AM)

For many, the canteen is a common meeting spot before the start of class.

1. Students/ Faculty who take the college bus arrive on campus by 8.30 a.m. and want to have a sit-down breakfast meal before class as they may not have time in the morning. Most users tend to opt for the 40 rupee meal option or coffee with sandwiches.

2. Students with early morning (before classes) extracurricular activities need a quick, healthy, and filling sources of food. Fresh foods, and energy sources in the morning will help in quick recovery and decrease fatigue.

3. Students/ faculty (9 AM) are often in a rush and tend to opt for a quick morning pick-me-up like coffee or tea along with a light snack, such as a chocolate bar or a sandwich. This choice allows for convenient takeaway and the option to store the snack for later consumption. However, individuals who follow a vegetarian diet face limited choices, as these sandwiches often lack satiating and filling vegetarian options.

4. PG students also rely on the canteen for breakfast on days when they miss meals due to rush. They prefer full breakfast meals, fruits, and sandwiches.

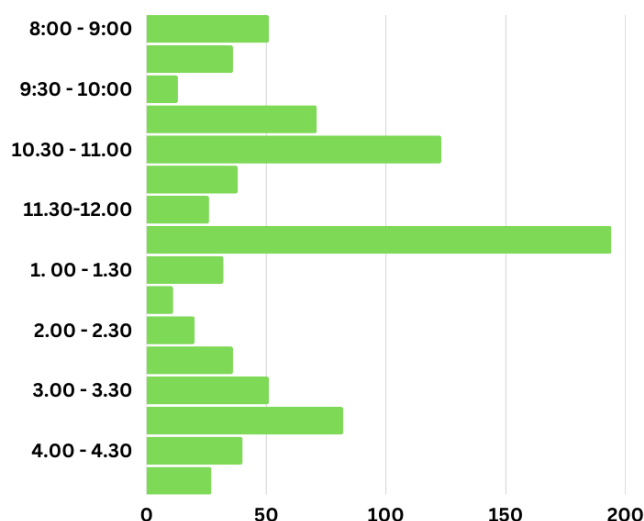
### Mid-Morning (10:00 AM - 11:30 AM)

These are short 10-15 min breaks given by faculty, but they don't have a set timing. By the survey data, we see that 10:00- 11:00 can be identified as busy hours.

1. Most students/faculty prefer tea/ coffee with biscuits/ chocolates in the short break due to time constraints.

2. Students prefer chips and snack items to consume quickly before heading back to class.

3. Those who have missed breakfast in the morning, also want a proper meal option.



Canteen visit frequency - AM & PM session



The coffee machine does not start working till 9.15 -9.30 forcing users into opting for packaged sugar beverages.



Veg mayo sandwich, Chicken and egg sandwich, egg sandwich and chicken burger are only options for takeaway in the morning.

## SURVEY DATA

We received a total of 282 responses from members of our student body for our survey. Here are the statistics based on these responses:

### Lunchtime (11:30 AM - 1:30 PM)

Most students, including those who live in PGs, and those who get their own tiffin choose to eat at the canteen to socialize and step away from workspaces

1. Students/ Faculty who haven't brought meals from home need large portion-sized, filling meals at a discounted rate as they may choose to buy a meal every day. (introduction of daily/ weekly/ monthly subscription module)

2. PG Students/ those who get packed lunch want to buy sweet items - desserts/ chocolates after meals.

3. PG students also rely on the canteen for lunch on days when they miss meals due to PG food being over. These may not be regular customers, but need filling, healthy food items



*Canteen is very crowded during lunch*

### Afternoon (1:30 PM - 3:00 PM)

These are short 10-15 min breaks given by faculty, but they don't have a set timing

Most students /faculty prefer tea/ coffee with biscuits/ chocolates in the short break due to time constraints.

Students prefer chips and snack items/ cold juices and milkshakes to consume quickly before heading back to class.



*Snacky - grab and go options*

### Late Afternoon (3:00 PM - 4:30 PM)

1. Some students visit the canteen for a late lunch or snacks before leaving or while waiting for friends. Students who carpool and hence wait around at the main gate as their friends finish their classes.

2. Students/ Faculty who take the college bus leave campus by 5:00 pm and want to grab a snack or milkshake for the ride back to the city.

3. Students prefer easy, disposable options - chips and snack items/ cold juices and milkshakes to consume quickly before heading back.



*Canteen is empty due to lack of options. Students also rush to the bus to reserve a spot for the 4.00 pm timing.*

## Documented observations through videos and photos





## OBSERVATIONS

### Prerequisite process

#### Certifications:

- Vendors are selected based on the necessary certifications like FSSAI
- Caterer is FSSAI certified

#### Sampling:

- Caterers sample the raw materials to test it for quality check each time they receive the stock.
- According to FSSAI and inhouse guidelines , specific branded products that are FSSAI approved are used

#### Rejection Criteria :

- SPS (Standard Purchase Specification ) is the only criteria for rejection of the products.

### STORAGE

Storage is bifurcated for non-food and food items because according to the guidelines Chemicals should not be kept along with food items .

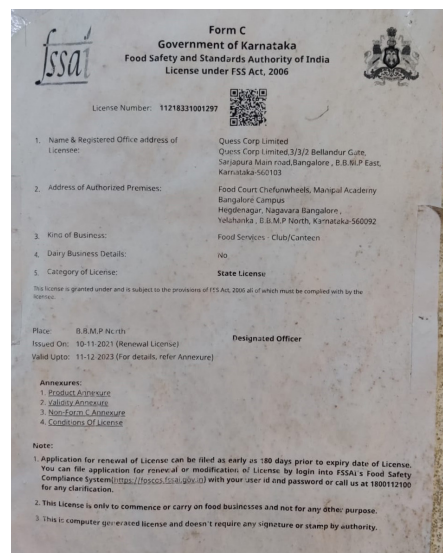
### VEGETABLE PROCESS AREA

- The 3 sink method (Wash , sanitize and wash ) is used for cleaning the vegetables .
- Sanitization of vegetables are done by 50 ppm tablet of fruit and vegetable sanitizer
- Machinery like Pulverizers , potato peelers and vegetable cutting machines are used .

### KITCHEN PROCESS

#### Day store:

- The raw materials required for a day are stored in a day store .
- After machine sorting , manual sorting is also required for an efficient sorting process which machines cannot totally take care of
- The kitchen has 2 separate sections for veg and non-veg cooking
- The veg kitchen is further divided into 3 departments:  
South indian  
North Indian  
Sweet & Snacks



## OBSERVATIONS

- Machines like convotherm and Automated chapati makers are used to carry out the cooking process effectively and efficiently
- Convotherm can be used for various purposes such as baking , cooking rice , shallow frying and cooking meat .
- Meat is cleaned using turmeric and salt

### Recipe:

- Standard recipe decided by the Head chef and a few others.
- Recipe is finalized after it is Tasted and tested by group of people and followed by SOP - (standard operating process)

### Cold Room:

- Cold room is divided into 2 sections for cooked food and raw materials respectively
- Cooked food sample is kept in the cold room for 72 hours in case there is a problem with the batch of food , this food sample is sent to the food lab for quality tests .

### Equipment Sanitization:

- Equipments are sanitized using chlorination .
- 2 tablets of chlorine in 10 liters of water gives 150 ppm
- It is later tested with chlorine strips to check for the concentration .
- Colour coded cutting boards are used according to the FSSAI guidelines.
- White - dairy
- Green - vegetables
- Red - meat
- No glass products are allowed inside the kitchen
- Cardboard boxes are minimally used because of space constraint



### Training and Hygiene Standards:

- Weekly once training on food handling
- Daily cleaning of the kitchen
- Everyone wears headgears

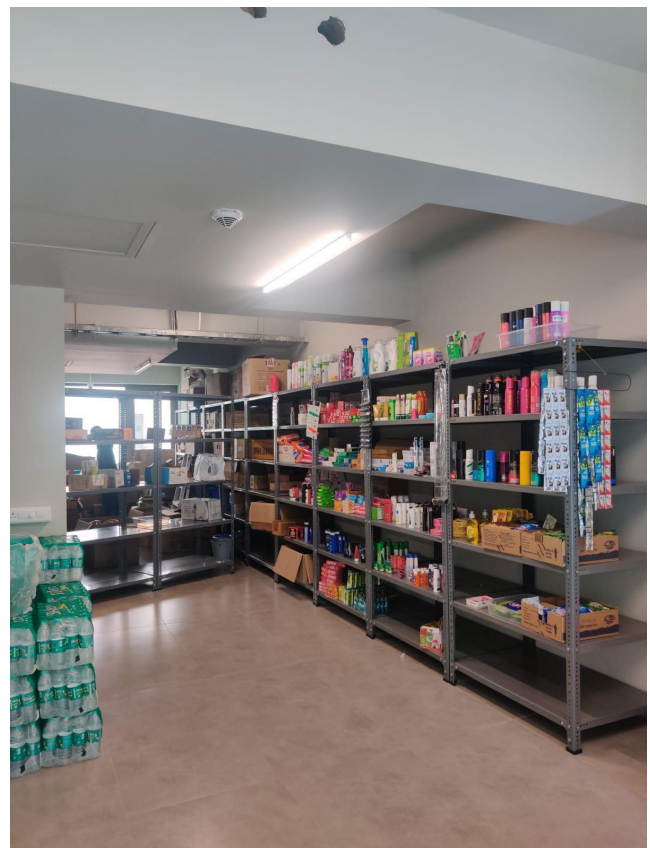
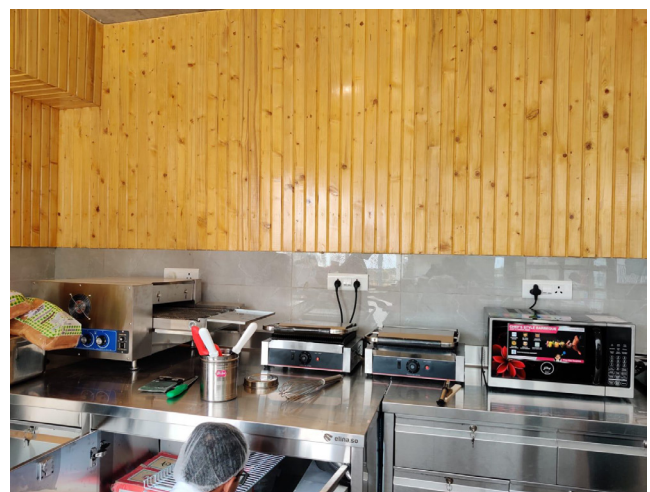
### Challenges from caterer POV

Kitchen Challenge	Quantity Challenge	Machinery Challenge	Payment Challenge
<ul style="list-style-type: none"> <li>• Bulk Procurement of same goods</li> <li>• SPS standards are the only criteria for rejection and SPS standards are not matching</li> <li>• Locally available vegetables are not liked by students (such as bitter guard )</li> <li>• Transportation of vegetables from different place</li> <li>• Unpredictable weather and lot of wastage due to worm infestation</li> </ul>	<ul style="list-style-type: none"> <li>• Limited baking capacity</li> <li>• Fixed recipe with fixed duration to pre-prep , cook and consume</li> <li>• Leftover food goes to trash from cafeteria or to piggeries from mess</li> <li>• Time consuming process for baking</li> <li>• No fixed break time , difficult to judge quantities</li> <li>• Restocking is difficult on demand because the baking process takes time</li> <li>• Can't produce in large quantities and keep because the product has to be consumed within certain period of time</li> <li>• The margins are less in cafeteria , survival on volumes</li> </ul>	<ul style="list-style-type: none"> <li>• Machine sorting does not do the entire job</li> <li>• After machine sorting , manual sorting has to be done . which is an additional work</li> <li>• Chapathi machines helps in producing large quantities of rotis but after 5 mins , turn rubbery or crispy</li> </ul>	<ul style="list-style-type: none"> <li>• Payment loss due to students tricking with UPI system</li> <li>• Fake screenshots of payments</li> <li>• Too quick to tally the payments</li> </ul>



## OBSERVATIONS

- We had an interaction with another organization which will be functioning soon at the campus
- to understand their POV . We visited their cafe during the process of their setup and also visited their kitchen
- This helped us in doing a comparative study and understand how two different organizations address similar challenges differently .



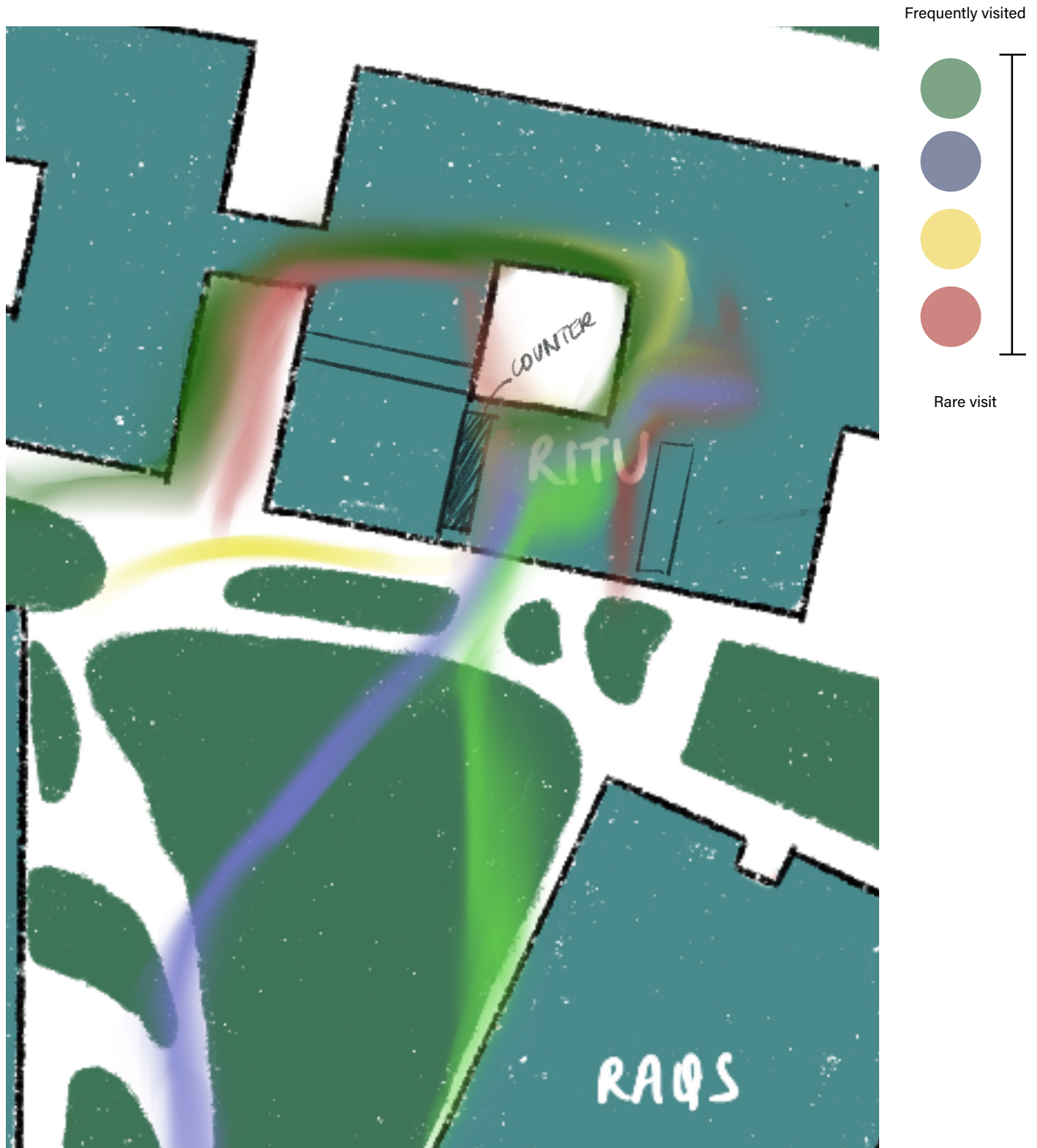


## HEAT MAP

Identifying 'hotspots' common spaces and crowd flow through heat maps

Heat maps as a visual tool to identify 'hotspots' or areas that experience high levels of activity or foot traffic within common spaces. Heat maps are a data visualization technique that uses color gradients to represent varying degrees of intensity. In this context, they are particularly useful for understanding how people move and congregate in specific areas.

By analyzing these heat maps, it becomes possible to identify popular meeting points, busy thoroughfares, or areas of congestion and help in making informed decisions related to space planning, resource allocation, and crowd management.

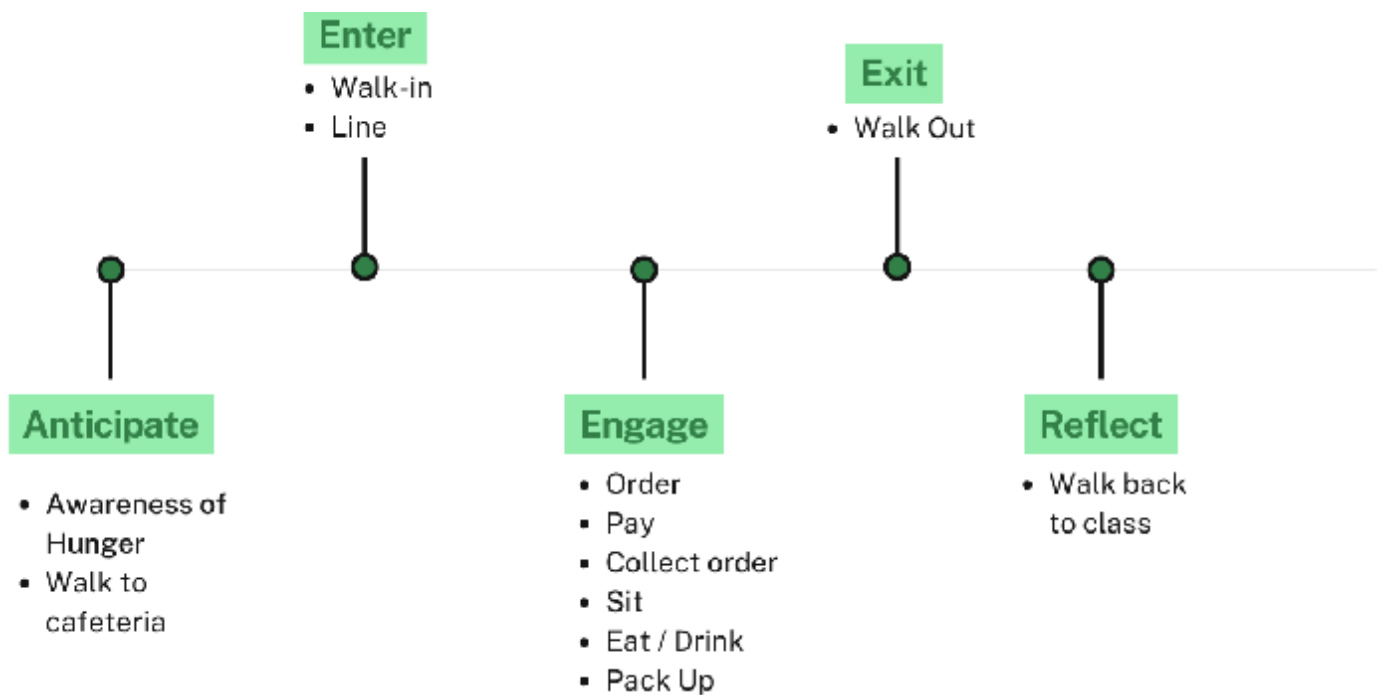


## USER JOURNEYS

We considered 12:00 pm - 12:15 pm break and the most challenged user journey along with the timeline for each action .

The entire journey was divided into 5 main stages

The entire journey was coded . The actions were coded with numbers and sub-actions with alphabets This user journey illustrates the typical experience of a student/ faculty/ staff at the canteen to address their hunger, highlighting the various decisions, interactions, and activities that occur along the way.



Explore different user journeys here:

<https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:0053e063-a6c4-358f-bf4b-b86dafeb8bb8>

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# OBSERVATIONS & RECOMMENDATIONS

## CROWD MANAGEMENT

Addressing crowd management in the canteen is essential for creating an enjoyable experience for both customers and servers. The presence and behavior of a crowd can significantly impact not only the overall atmosphere but also individuals' perceptions of food consumption. Crowd-related discomfort arises from various factors such as long queues, limited seating, noise levels, and the feeling of being rushed. These discomforts can influence the way people perceive their food, leading to decreased satisfaction and a unsatisfactory dining experience. To manage the crowd effectively and enhance the food consumption perception, creative strategies can be employed:

- **Queue Optimization:** Implementing a well-organized queue system with **clear signage** and **displays ( for prices, quantity and allergens)** can help streamline the ordering process. Utilizing technology like apps or kiosks can reduce waiting times and enhance the overall experience. Dividing the counter space into stations for - **ordering & paying and food collection and self serve condiments.**
- **Transparency :** Individually **marking and labelling all food items** to avoid confusion of orders.
- **Flexible Seating Arrangements:** A mix of seating options, including **communal standing tables, floor seating arrangements (picnic spots)** and **outdoor spaces (central lawn)** . This caters to different preferences and encourages social interaction, reducing the sense of crowding.
- **Food Stations:** Implement food stations with specialized items - **to go counters/ ready to eat options/ packaged foods**, encouraging users to explore different areas of the canteen and reducing congestion in one central location.
- **Takeout and Grab-and-Go Options:** Provide convenient takeout and grab-and-go counters for those who prefer a quicker experience or need to eat on the move.
- **Staff Training:** Train staff in efficient crowd management and customer service techniques like task based division to minimize wait times. Each food handler can be assigned particular role for more organized service.
- **Mini stations** around campus: Coffee and chai available at all times, preferably in every building with snacks that pair with them. Food stall or juice bar near main gate for people who are waiting at the gate in the hot afternoon time/ visitors who may need a quick refreshment. Introducing a mobile 'Canteen on wheels' with specific items and timings to provide snacks to areas where there is high demand.



Photo by R.D. Smith on Unplash

Large menu display with prices



@Airport

Food counter at the main gate

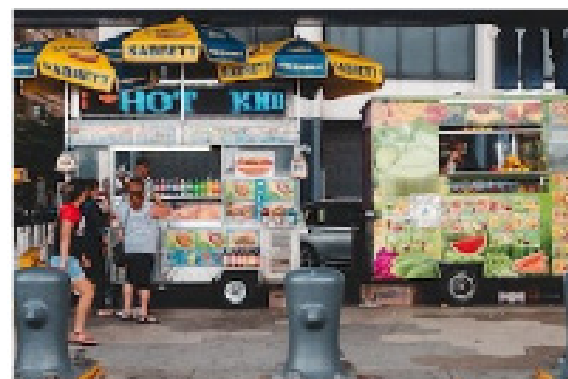


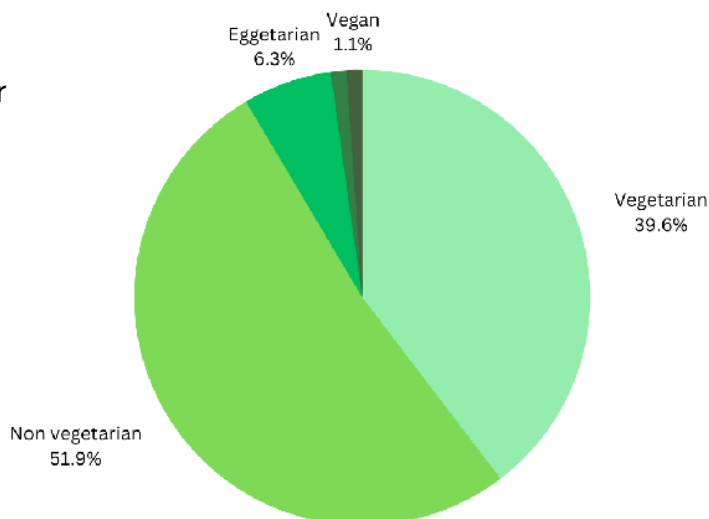
Image by EMS0 from Pixabay

Canteen on wheel

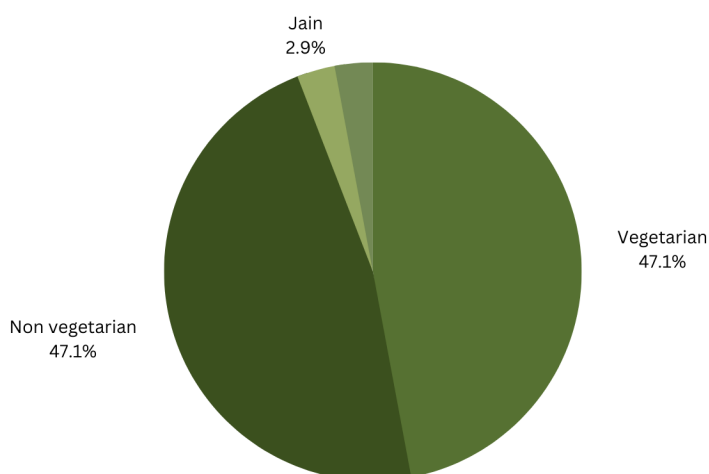
## FOOD VARIETY

Crafting a diverse menu within a college campus canteen that necessitates catering to a diverse and dynamic audience encompassing individuals of varying ages, health conditions, food preferences, religious beliefs, and dietary restrictions. This challenge extends beyond customizing cooked dishes; it also entails the inclusion of packaged food options that align with specific dietary criteria such as Jain, vegan, sugar-free, and more.

- Snacks and quick bites that go well with hot beverages to be sold along with your coffee or tea - biscuits, khari, dhokla, vada pav.
- Variety in packaged beverages (eg: High caffeine sources of drinks- energy drinks)
- Customizable meals - spice levels/ allergens
- Small packets of ready to eat snacks with affordable prices for students for daily consumption.
- Stock healthy snacks like yogurt parfaits, fruit cups, and protein bars
- Sugar free options in snacks and beverages
- Smaller chip packages- cheaper / more inclusive chips : Jain/Vegan/ Protein dense
- Easy to carry bites - Nutrition Bars, Museli pouches, granola bars instead of chocolates and chips



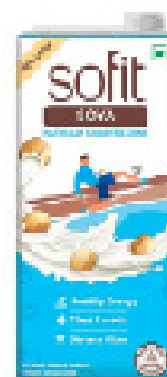
**Dietary choices of students - survey**



**Dietary choices of faculty - survey**



**Small packages, with different variety of snacks to be more inclusive Jain/Vegan/ Protein dense**



**Sugar free , non dairy products to be more inclusive**

## PACKAGING

Designing and developing an effective food packaging system to communicate ingredients, allergens and waste disposal. Packaging can also include - ensuring efficient check procedures maintain food temperature, easy in transport.

- A takeaway box option and can be eaten during travel (breakfast bars, smoothies, or sandwiches )
- 'Packaged on' info adds trust while consuming product
- Listing of ingredients in items - allergens warning
- Making packaging more sustainable and easier to re-heat
- Encourage to bring your own cutlery. For eg: Mugs, spoons, forks.
- Different colored food packaging to differentiate veg from non-veg



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**Listing of ingredients in items - allergens warning**



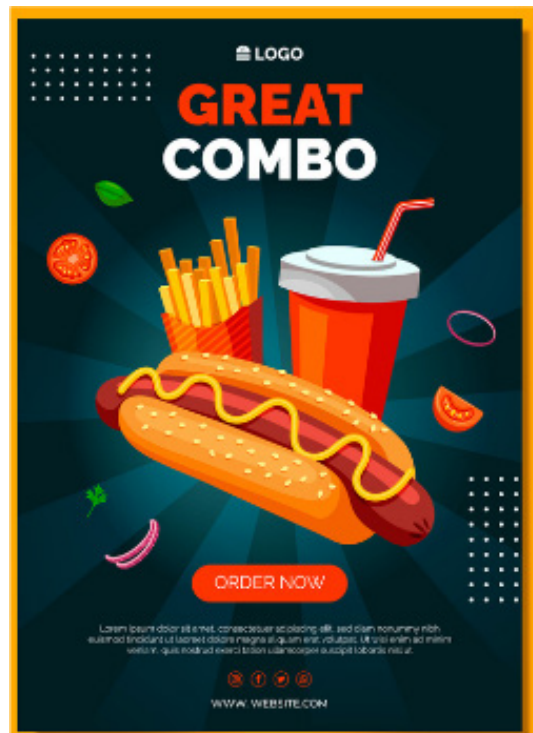
<https://www.ostoreil.com/grab-n-go/sandwich-packs-600-ct/>

**takeaway box option  
sustainable**

## FOOD QUALITY AND PRICING

Ways to effectively balancing food quantity and pricing while providing variety and maintaining decent quality, especially when serving students who rely on canteen services over an extended period. Here are strategies to achieve this delicate balance:

- Beverage (coffee/ tea) size options and takeaway cups with lids and varying prices
- Introduction of shareable meal bowls



[https://www.freepik.com/free-vector/flat-design-food-poster-template\\_20947488.htm](https://www.freepik.com/free-vector/flat-design-food-poster-template_20947488.htm)

### Meal Combo Options



[https://www.freepik.com/free-vector/flat-design-restaurant-menu-template\\_22801665.htm#query=beverages%20sizes&position=0&from\\_view=search&track=ais](https://www.freepik.com/free-vector/flat-design-restaurant-menu-template_22801665.htm#query=beverages%20sizes&position=0&from_view=search&track=ais)

### Beverages size options



As per the caterers request, we also worked on understanding and highlight features that could be implemented in the app to ensure a positive experience of the canteen.

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## SEATING

The campus canteen currently offers a less than satisfactory dining experience due to several issues. One major concern is the overcrowding of seating areas, which creates a chaotic and overwhelming atmosphere. The canteen is densely packed with students occupying nearly every available seat, leaving little room for comfort or ease of movement. This overcrowding not only makes it challenging to find a place to sit but also results in a visually cluttered and chaotic environment.

- Encouraging people to sit on floor and eat
- Using the verandah - in the center to optimize the space for seating arrangements  
Separate staff seating areas



@Theashkenazi.cafe

*Encouraging people to sit on floor and eat*



https://www.shutterstock.com/image-vector/round-tables-197196

*Multiple seating options to increase floor space*



Unused central space @ SMI canteen



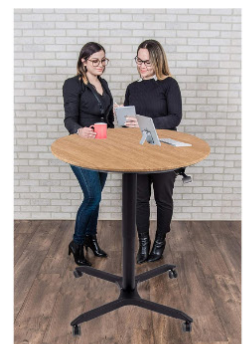
@Theashkenazi.cafe

*Using central space for seating to optimize seating areas*



@Theashkenazi.cafe

*Standing table option near counter for crowd management*



@Theashkenazi.cafe

*Standing table option near counter for eat and go option*

## WASTE DISPOSAL

Emphasizing the significance of a sustainable, mindful, and awareness-driven dining experience, where all students actively engage in cleaning up after themselves and practicing waste segregation, holds multifaceted importance. This approach not only contributes to a more environmentally responsible campus but also plays a pivotal role in instilling essential values in design students through habitual practice.

- Trash cans/ bins at multiple spots
- Segregation of waste



[@Rameshwaram.cafe](#)

*Encourage people to keep canteen clean*



[https://www.freepik.com/free-vector/throw-down-concept-illustration\\_1140467.htm#fromview=side%20not%20litter&from\\_view=search&track=ais](https://www.freepik.com/free-vector/throw-down-concept-illustration_1140467.htm#fromview=side%20not%20litter&from_view=search&track=ais)

*Encouraging people to keep the space clean*