

Introduction

Client Background – Purdue Dining & Culinary

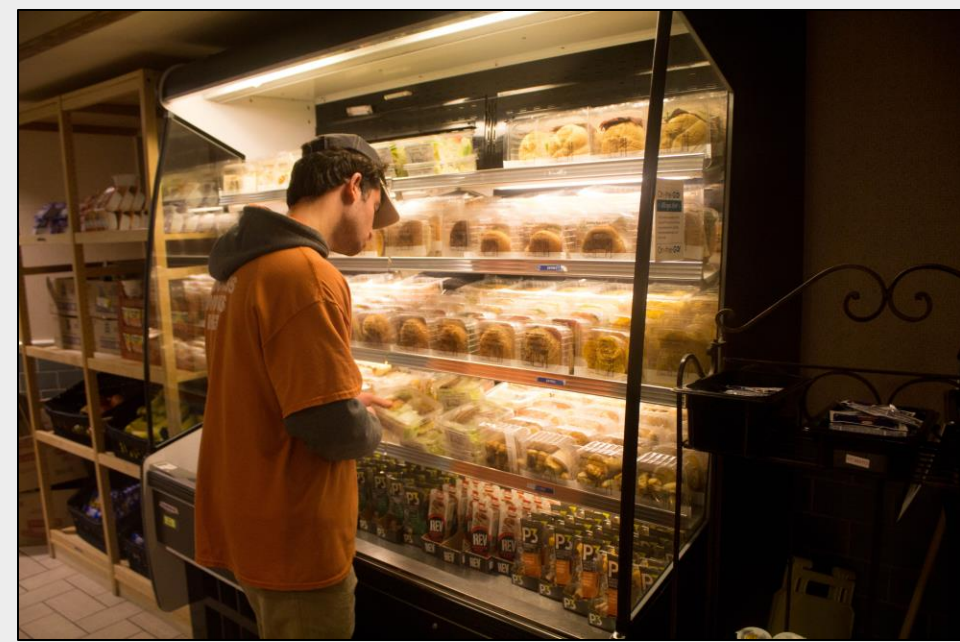


Purdue Dining

- Control dining options for Purdue students
- Operate On-The-Go!'s and dining courts

On-The-Go!

- Express dining options for students in a hurry.
- Currently 4 in operation on campus.
- Serve anywhere from 600-1200 students per day.
- Take stress off dining courts.



On-the GO!

Problem Statement

Increased unmet demand for Purdue dining due to an increasing student population, limited budget.

Long lines and wait times at dining courts at high-volume hours.

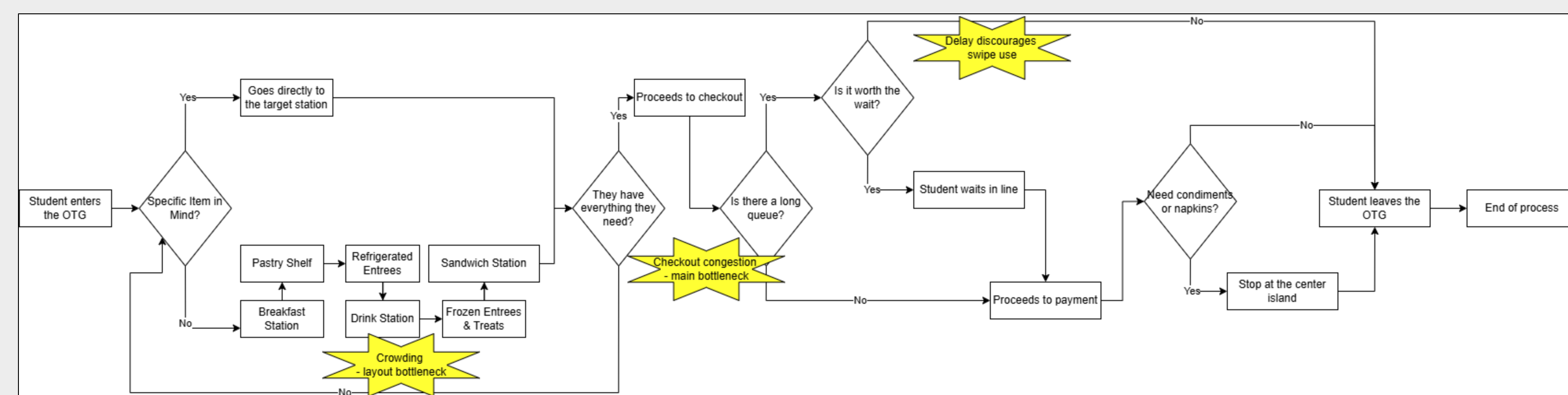
Frustration from students and under-utilization of meal swipes due to congestion issues.

Our Objective

To design a cost-effective and efficient *On-The-Go!* Dining location in Meredith hall that will help alleviate congestion of nearby dining courts during peak hours.



System Model



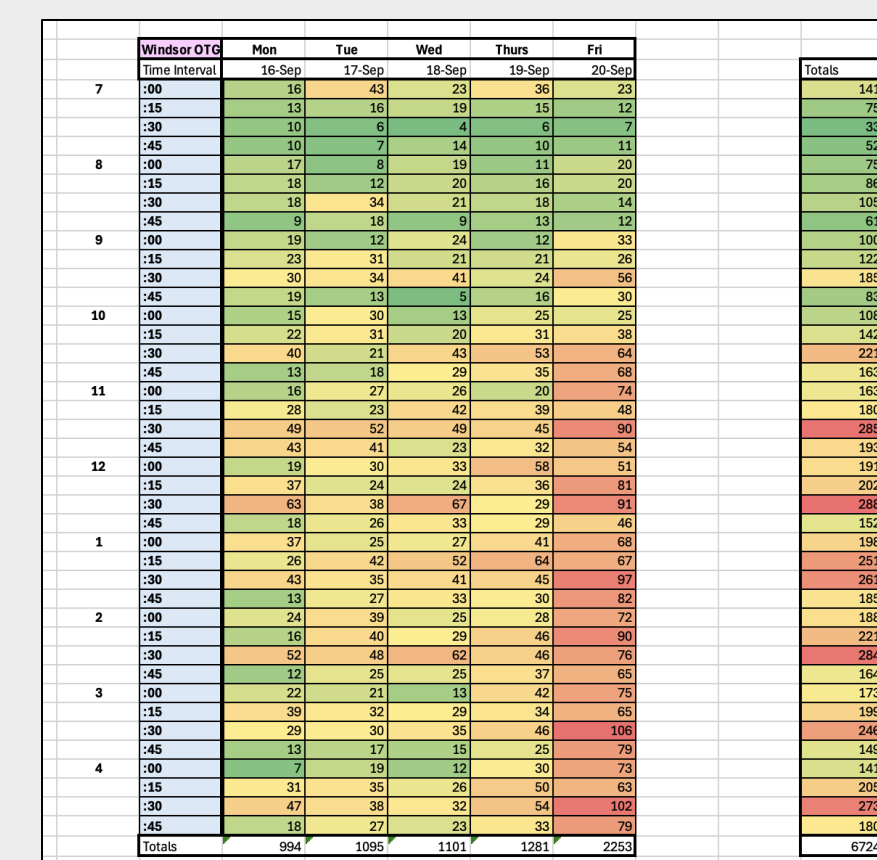
Methods and Results

Approaches

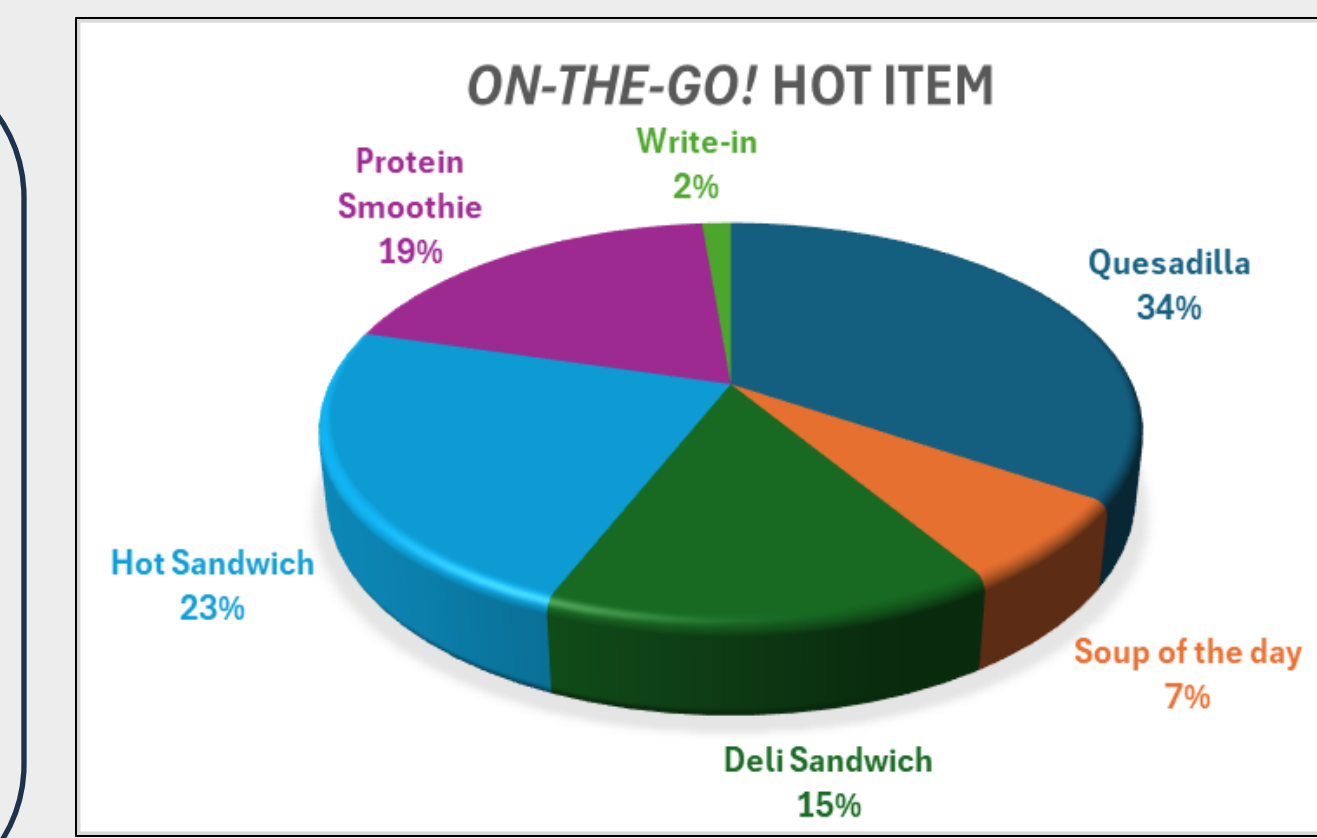
- Conducted time studies at existing *On-The-Go!*'s during peak hours to find maximum queue lengths, locations of bottlenecks, etc.
- Constructed an automated layout design programming (ALDEP) relational matrix, in conjunction with time studies to create a base layout.

Section	Number
1 Microwave/Toaster	1
2 Breakfast section	2
3 Pastry snacks	3
4 Drink station	4
5 Refrigerators	5
7 Freezers	6
8 General snacks/entrees	7
9 Checkout	8
10 Entrance/Exit	9
11 Utensils/Napkins	10

	J	K	L	M	N	O	P	Q	R	S
1	x	A	E	U	I	I	I	U	E	A
2	A	x	I	E	U	U	O	U	E	A
3	E	I	x	O	U	U	O	U	U	O
4	U	E	O	x	U	U	O	U	O	U
5	I	U	U	U	x	E	O	U	U	Q
6	I	U	U	U	E	x	O	U	U	Q
7	I	O	O	O	O	O	x	A	I	O
8	U	U	U	U	U	A	x	A	U	
9	E	U	U	O	Q	I	A	x	E	
10	A	A	O	U	U	U	O	U	E	x



- Utilized historical swipe data to construct heat maps of activity at existing On-The-Go! Locations.



- Surveyed peers and communicated with client to inform key decisions such as which hot item to provide as a meal option.

Price Evaluations

Premium Investment

+\$3,750 base cost

- Hot item included
 - Survey selection
- Heated shelving
- Backroom food equipment

Moderate Investment

\$15,605 (Estimate)

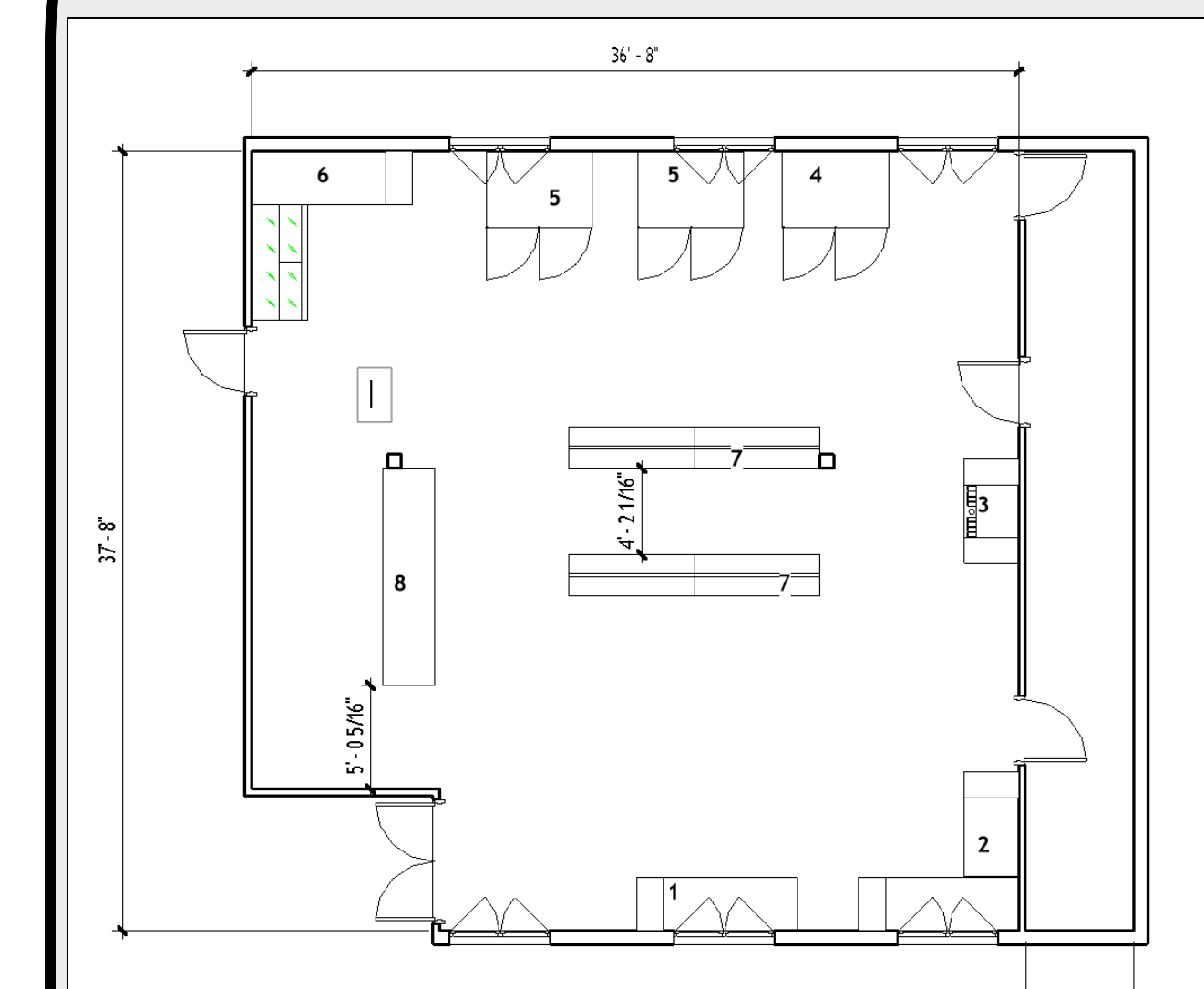
- Base layout shown to the right
 - No hot item

Minimal Investment

-\$2,600 base cost

- One less refrigerator
- Only one row of dry products
- Temporary wall up
- No hot item
- Extra storage

Preliminary Layout Designs



- Based on the team's research methods and collected time study data, the final layout was developed using Revit to optimize space usage, equipment placement and customer flow.

