



User Experience Research for a Connected Campus Food System

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A collaborative research project

About this project

OVERVIEW

This work draws from a master's thesis project, which explored how MIT might build community and increase access to information on healthy food options by mapping affordability, sustainability, and location-based attributes of MIT's food system. This work builds on recommendations from MIT's sustainability and food insecurity-focused working groups, which identified a shared solution space for mapping the campus food landscape. User experience design methods and extensive stakeholder research formed the basis of these recommendations, which are summarized here.

PROJECT GOALS

Advance progress for a campus food map

- Understand - what is the existing landscape of food-focused resources at MIT, and how might a food map fit in?
- Clarify what an effective food map would be and if it's worth investing in
- Identify opportunity areas

Summary of Opportunity Areas

	LINE OF WORK	RECOMMENDATION
QUICK WINS	Develop partnerships and build collaborative teams across campus groups	The project aims to centralize information around food at MIT and tighten up the user experience. Connecting currently siloed groups will help us reach this goal. Partnerships will allow the project to incorporate voices across campus, gain support and access to needed infrastructure such as data repositories, and reduce risk of duplicated efforts. Recommended partners include: Division of Student Life (DSL); MIT Dining; IS&T; Office of Sustainability; Department of Facilities; Class Awareness, Support, and Equality (CASE); the Undergraduate Association; and the Graduate Student Council.
	Usability overhaul and release of phased updates to the MIT mobile app	The MIT Mobile app is the most widely used MIT platform that offers food-based features today; however, it has its challenges. In the short term, addressing usability issues and augmenting the mobile app with missing information will provide the MIT community with an improved experience quickly.
	Develop orientation and onboarding materials on food resources for new students and employees	Create and share a simple, but comprehensive, food resource guide through orientation and onboarding channels. The resource guide should include basic details on each dining location, access to house dining halls by affiliation group, local farmers markets, and resources for food insecurity. The static guide can be created from existing information and shared physically and digitally through channels such as GSC Annos, UA info at orientation, individual department administrations, and Human Resources welcome packets for new employees.
6-12 MONTHS	Hold map-a-thon(s) for data collection	Before further mapping can occur, it's critical that a data set incorporating new variables such as microwave, vending machine, and picnic table locations is built out. Partnership with the Department of Facilities will better enable data collection, and a campus map-a-thon event held over a day or weekend could be used as a means for gathering data in a fun, informative, and engaging way.
	Incorporate campus food data and mapping into class practicum	Engaging classes and research projects around the campus food system and related data could: a) better engage community members and build a feeling of ownership and connection to food on campus, b) encourage word-of-mouth marketing and education around food on campus in general, c) create a new form of interactive and engaging communication, such as data sculptures, around critical food information.
LONG TERM	Explore a comprehensive food guide through a food.mit.edu platform	A comprehensive guide showcasing not only information on dining venues, but also information on food-focused events and research across campus should be further explored to exist as a standalone resource.

Quick Win

MIT Mobile Usability Updates

If you could get a food map into the MIT app that already has all the shuttle information and the dining hall hours, that that would probably be the best way to reach a really wide audience.
- MIT Undergrad

OVERVIEW

The MIT Mobile app is a widely used MIT platform that offers food-based features today. It provides an opportunity to better showcase and consolidate resources in one, accessible and maintainable interface.

Addressing usability and discoverability issues in the short term, and augmenting MIT Mobile with missing information can provide the MIT community with an improved experience *quickly*.

MIT MOBILE BENEFITS OVER EXISTING PLATFORMS

~4-5k sessions/day
Existing daily user traffic, as compared to ~50 hits/day on DSL

14
Food-relevant features currently available (most comprehensive to date)

Non-programmers can modify the interface & content

Dedicated support & maintenance team

GOALS

- Usability updates to the MIT Mobile interface, flow, and layout will increase usage, ease of use, and increase accessibility to food and food resources fast
- Reduce resource fatigue by augmenting existing features and solving usability issues within one already used and downloaded platform
- The incorporation of new data, such as the location of microwaves and local farmers' markets, alongside food pantries will better enable decision making and help reduce stigma associated with food insecurity on campus

POTENTIAL PARTNERS

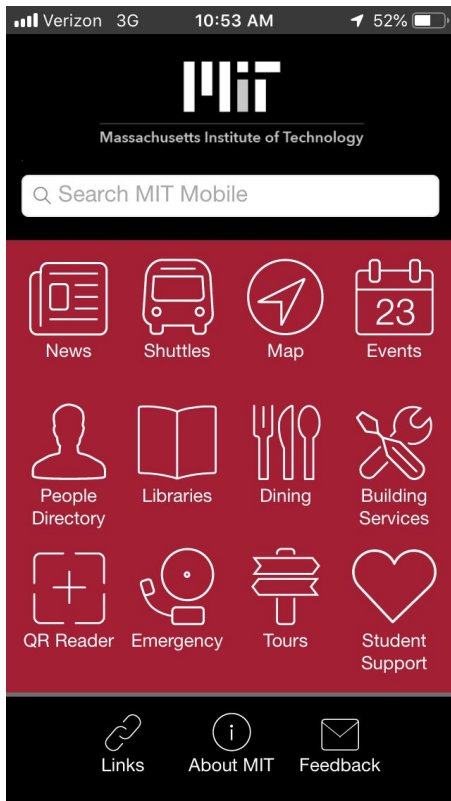
- IS&T, Dept. of Facilities, UA, GSC, CASE, Course 6, EM

DISCUSSION QUESTION

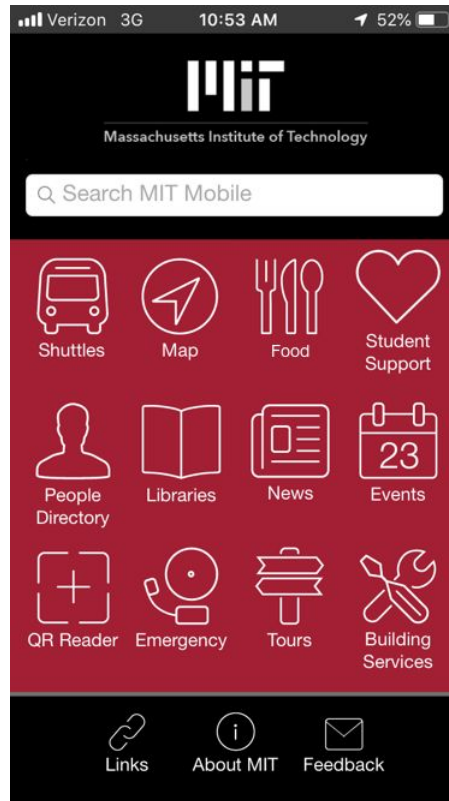
- Review the suggested updates on the next page. What do you think of this approach?



Sample short-term MIT Mobile usability updates



Before



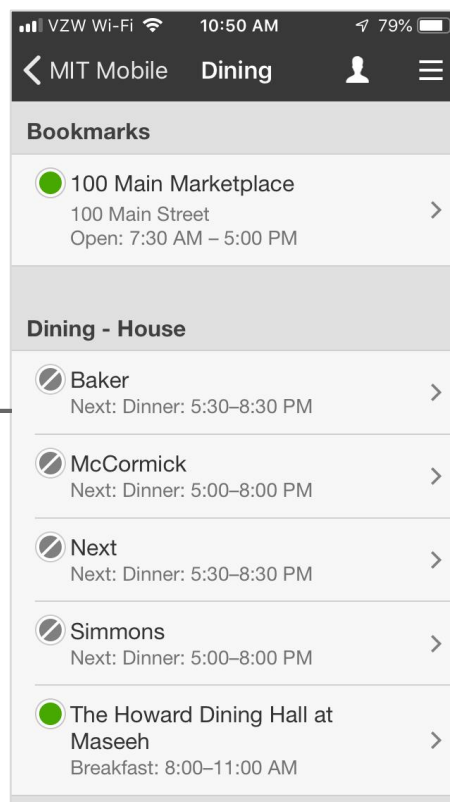
After

1. Make the Student Support button more discoverable by bringing it upwards in the home index, in addition to placing info on food support directly into the "Food" section

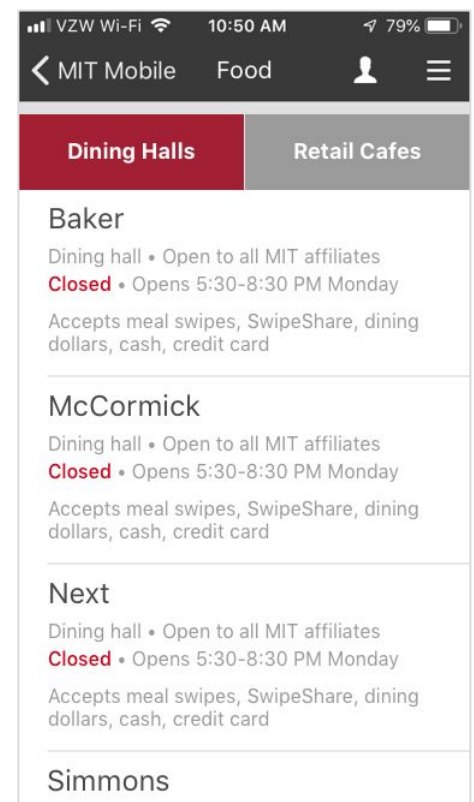
2. Elevate food, and other frequently used sections, to the first row on the index screen and change "Dining" to "Food," since non-undergrads don't tend to associate with the term "dining"

3. Make retail outlets more apparent by moving them out from under the house dining hall list and onto the same hierarchical structure

4. Clean up the display of venue details including hours, locations, and menus



Before



After

Quick Wins

Newcomers' Food Guide

OVERVIEW

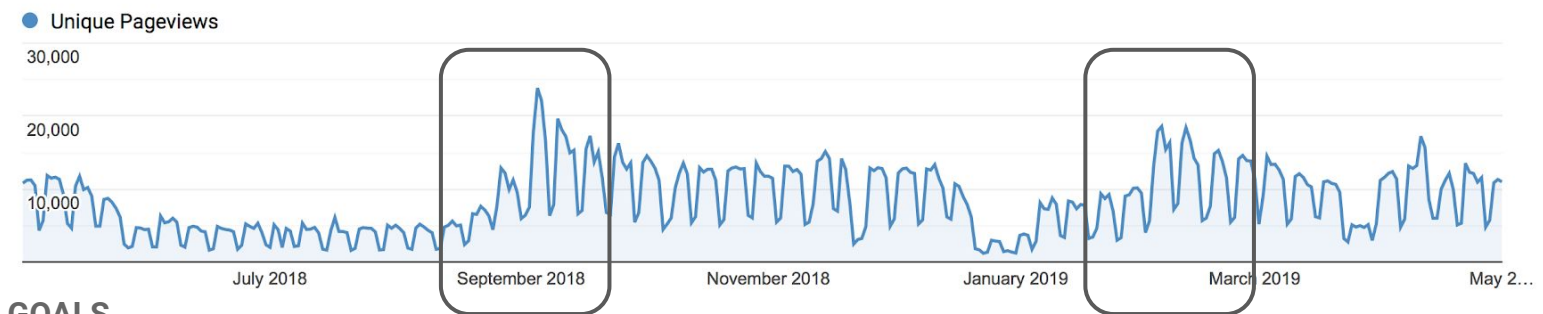
Create and share a simple, dedicated food guide for all newcomers (students, faculty, and staff) through orientation and onboarding channels where not done so already.

The static guide can be created from existing information and shared physically and digitally through channels such as GSC Annos, UA communications at orientation, individual department administrations, and welcome packets for new employees.

WHY NEWCOMERS

MIT welcomes ~7,500 newcomers each year across students faculty and staff. Meeting people at critical intervention points such as orientation and employee onboarding will provide them with information when it's needed most. While information on food resources exist in some orientation channels, this can get lost in large packets of information and the success of distribution can be department specific.

Interview takeaways and spikes in pageview counts, illustrated by MIT Mobile Analytics (below), clearly highlight the increased need for information at semester starts.



GOALS

- Provide community members with a clear, up-to-date, and standalone resource when they arrive.
- Create an easily distributed resource guide that fills the gaps of current onboarding materials. The guide should be simple enough to get off the ground in the next 3 months.

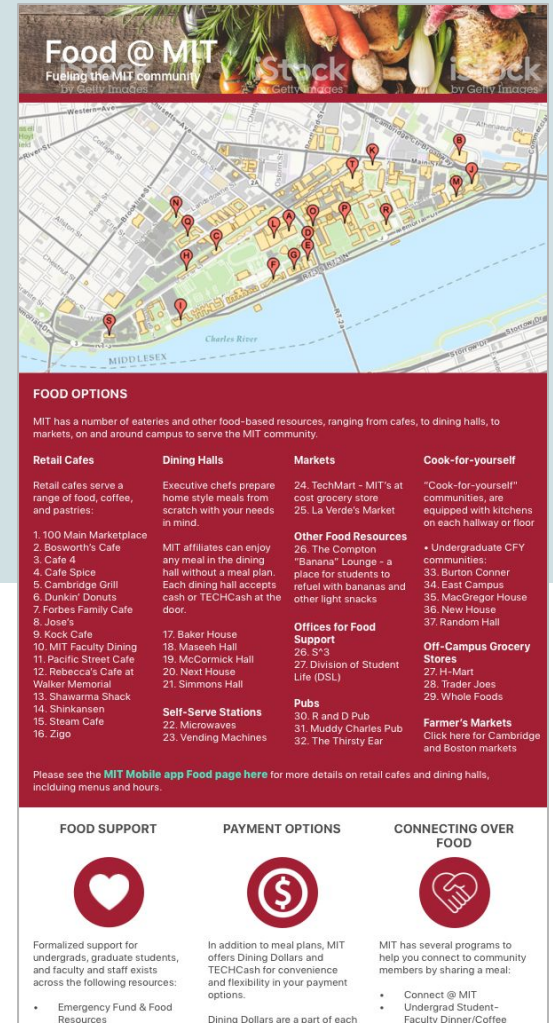
POTENTIAL PARTNERS

- Student groups and researchers: UA, GSC, CASE team members, UROP or research fellows
- Department administrators, HR, DSL, Office of Undergraduate and Graduate Education, and the GSC Anno / UA equivalent to help distribute the guides and provide feedback

DISCUSSION QUESTION:

- What do you think of this approach? Would this enhance the MIT experience?

SAMPLE INTERFACE



6-12 months

Data Collection



OVERVIEW

Before further mapping can occur, it's critical that a data set incorporating new variables such as microwave and vending machine locations is built out.

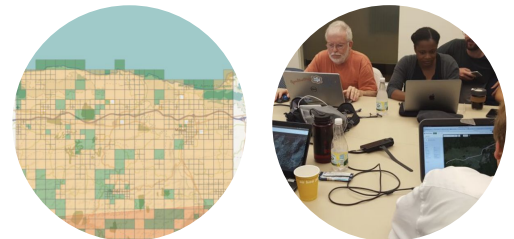
GOALS

- Collect data and build an augmented, open dataset to be utilized by the food map, as well as freely across campus departments, groups, research and educational partners
- Create a mechanism for ongoing, annual collection and data updating

INSPIRATION:

MIT Libraries and DUSP Mapathon for Puerto Rico¹

A campus map-a-thon event, held over a day or weekend, could be used as a means for gathering data in a fun, informative, and engaging way.



The map-a-thon could be held annually in the model of a 5K community event (e.g. 5K runs) or a scavenger hunt, where people form teams and participate in an active event to contribute to a larger cause. One to three variables, that change for each subsequent map-a-thon, could be mapped across campus with prizes and food for participants.

POTENTIAL PARTNERS

- Department of Facilities to better enable data collection and management; Office of Campus Planning; MIT Office of Sustainability
- Department of Urban Studies and Planning, MAS, Course 6, campus data experts
- Student groups: UA, GSC, CASE

DISCUSSION QUESTION

- What do you think of this approach? What partnerships are necessary for it to work?

¹DUSP. October, 2017. Mapathon seeks to direct humanitarian aid for Puerto Rico. *MIT News*.

<https://dusp.mit.edu/news/crowdsourced-mapathon-seeks-direct-humanitarian-aid-puerto-rico>

6-12 months

Research & class practicum

OVERVIEW

Class practicum and partnerships across researchers and faculty experts in food systems, urban planning and studies, and data visualization may be a powerful channel to further engage people in and build out the project.



GOALS

We know that communicating information across a wide audience at MIT is challenging. Engaging classes and research projects in the campus food system and related data may:

- 1) better engage community and build a feeling of ownership and connection to food on campus
- 2) create a new form of interactive and engaging communication, such as data sculptures, around critical food information
- 3) build lifelong food literacy skills in participants
- 4) encourage word-of-mouth marketing and education around food on campus in general

TWO PATHS TO HELP ENABLE THIS VISION

1. **Make a strong, food-based dataset available** for use by students and faculty across coursework and group projects **and market this to educational partners.**
 - Operationally, groups such as MIT Dining, the Office of Sustainability, and the Department of Facilities will be strong owners and builders of this type of information. That data could live on datapool.mit.edu.
 - Once available, the dataset should be clearly communicated as a resource for educational and research partners.
2. **Faculty & research partner collaboration**
 - In the past semester (Spring 2019), 4+ food-focused classes were offered across departments, indicating that there is a growing academic interest in food and agriculture at MIT.
 - When faculty and researchers are scoping out new courses and projects, they might consider 1) integrating a campus component and 2) consider inviting campus partners to help think through how to utilize MIT's campus as a test bed.

POTENTIAL COURSE AND RESEARCH AREAS FOR INTEGRATION

- Data visualization & storytelling courses (Course 6, MAS), environmental impacts of food & agriculture (Course 1, Sustainability Certificate), software development (Course 6), product design and management (Course 15, EM), mapping & urban planning (DUSP and MIT Architecture).

DISCUSSION QUESTION

- What campus food challenges could classes address? What operations/academic partnerships can you envision?

Long-term

Comprehensive food guide

OVERVIEW

Taking advantage of opportunities for driving long-term value, repeat use, and the growing interest in food at MIT - academically and culturally - a more comprehensive, reader-driven food resource should be explored.

A comprehensive guide showcasing not only information on dining venues and food insecurity resources, but also info on food-focused events, research, and educational opportunities across campus should be further evaluated to exist as a standalone resource.

GOALS

- Consolidate info across all things food
- Develop repeat use and long-term value through functionality that provides daily convenience beyond basic venue information (e.g. direction routing, ratings & reviews, sustainability and health metrics)
- Provide an interface where people can connect and learn about what's going on around food and food security at MIT

MOVING BEYOND MIT MOBILE APP

Time and convenience are core value propositions of a layered food map, particularly one that is interactive. Evaluate interactive features, such as map layers, direction routing, ratings and reviews, and pre-ordering, to enhance these value propositions and drive long-term value.

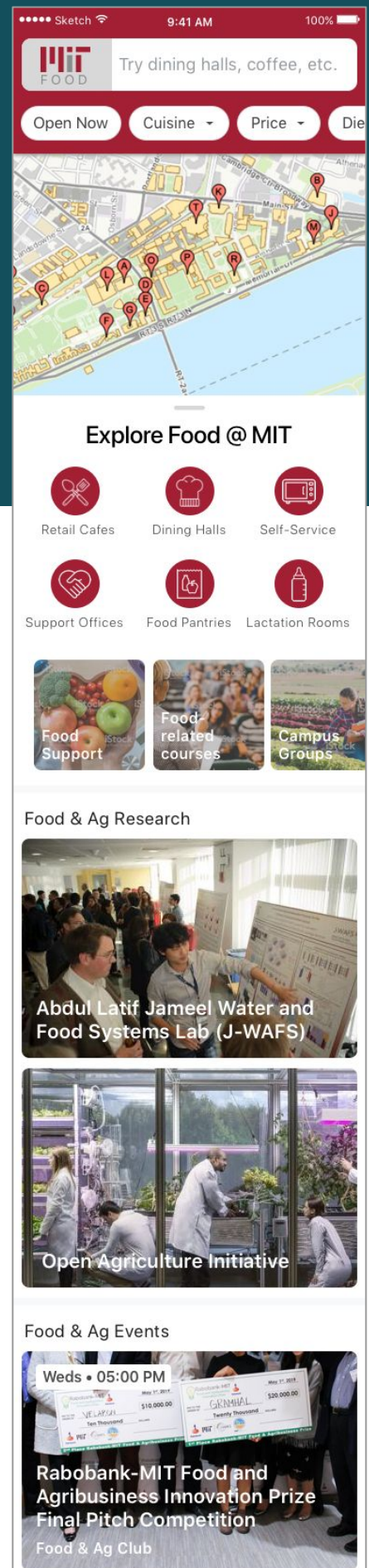
It may not be feasible to update the MIT Mobile App to incorporate these interactive features and maintain performance. The long-term vision should consider alternative software platforms that can handle more complex functionality.

**MIT community members are familiar with the current Google Maps and Yelp experiences, from which this sample interface draws heavily.*

DISCUSSION QUESTION

- Review the UC Berkeley model on the next page. Do you think a model like this fits into MIT's food future?

SAMPLE INTERFACE*



Comprehensive food guide

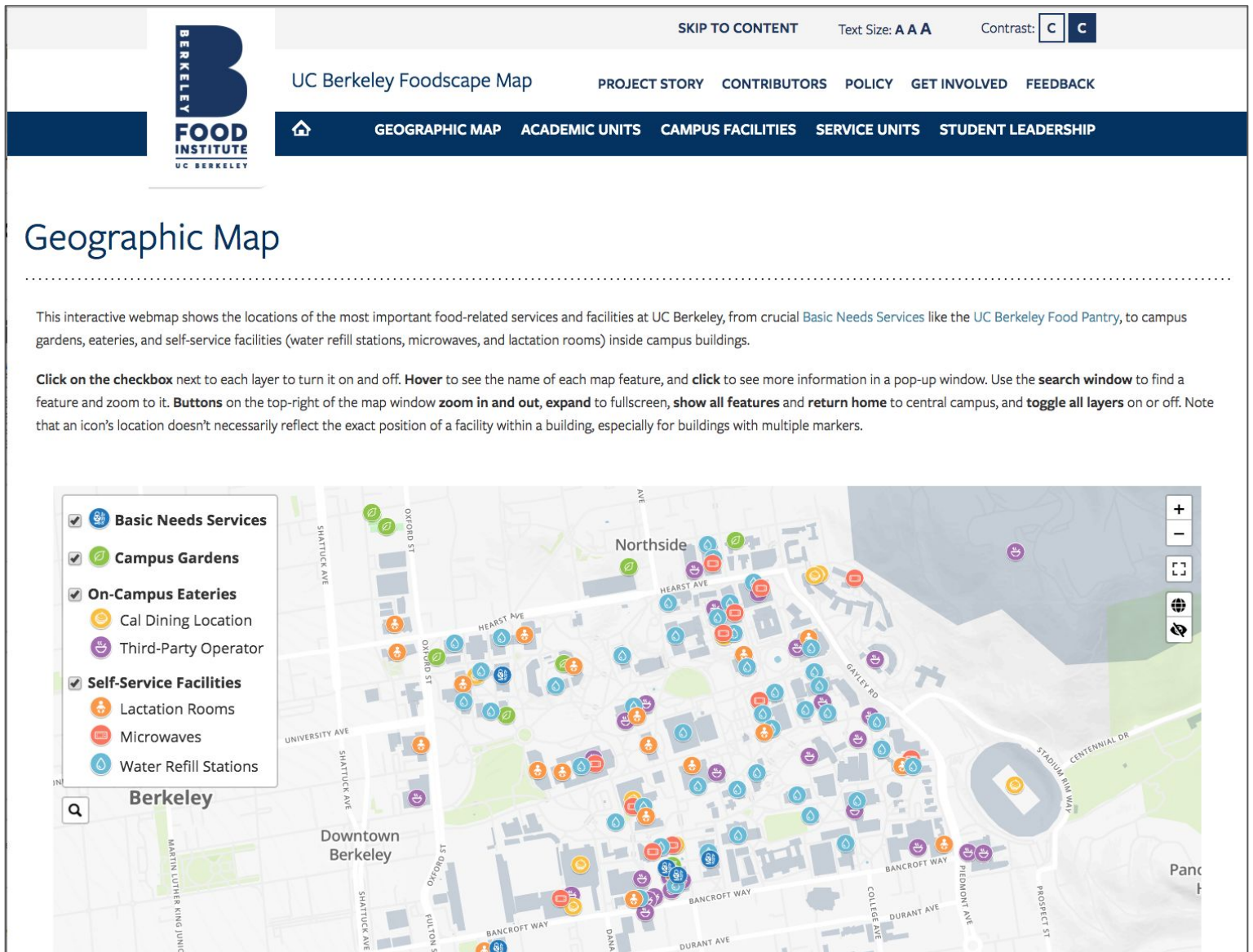
POTENTIAL PARTNERS

- DSL, Student Support & Wellbeing, Offices of Undergraduate and Graduate Education
- Office of Sustainability
- UA, GSC, CASE
- UROP and research fellows
- DUSP, Course 6, IDM/SDM, MAS, Course 15, MIT Architecture
- Others

INSPIRATION

The Berkeley Food Institute at UC Berkeley provides one of the best, known models for a comprehensive mapping project that similarly emerged out of a campus food insecurity analysis.

While the project includes a digital and interactive map of the Berkeley campus food ecosystem, it is not limited to a basic conception of a “map.”



Thank you!