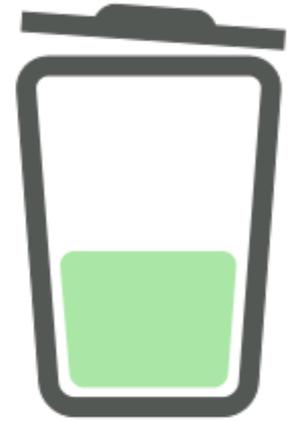


scraps



reducing cafeteria food waste

Vivek Choksi, Natasha Berk, Anne Evered



Each student...

wastes a **~0.4 lbs** of food per meal

Each dining hall...

wastes **~240 pounds** of food per meal

Stanford...

throws out **~3,900 tons** of food each year

Statistics courtesy of Hannah Mensing and Sonia Baltodano

Outline

❖ **Problem**

- Needfinding
- Prototyping/Testing

❖ **Solution**

- Design evolution
- Final Design

Needfinding - Initial POV's



Dara

needs students to
waste less food on
their plates



Maria

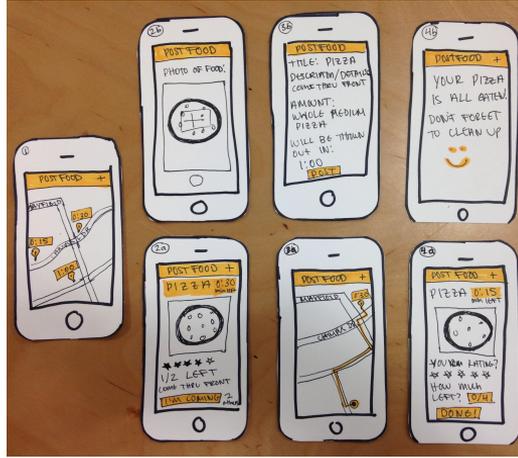
needs to reduce
wasted leftovers



Sloane

needs more variety
in late-night food
options

Parallel Prototypes



Leftovers Tracker App ↑

post leftovers so people nearby can come eat them

Compost Bin

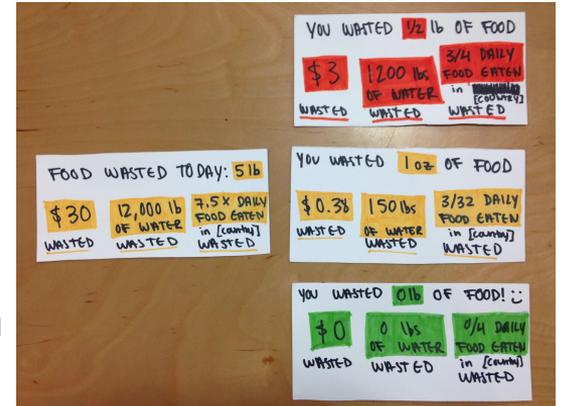
Feedback App →

prominently display amount of food each person throws out

Date	Item	Date	Item
5/3	Baked potatoes	5/3	Chopped bell peppers, plain
5/3	Tofu scramble	5/3	Ground turkey
5/3	Salt tea soup		
5/3	Special Desserts		
5/3	Oatmeal		
5/3	Hummus		
5/3	Vegetable beef soup		
5/3	Multiple salads from special D		
5/3	Eggplant dice		

Leftovers Board ↑

Keep track of available leftovers so people eat them more





Serving food at dining hall



Composting uneaten leftovers

Each student wastes ~0.4 lbs of food per meal!

Why?

- Diners on autopilot; not thinking about waste
- Belief that composting isn't wasteful

Maybe diners just need...

- To realize if they're systematically wasting food
- To understand food waste's impact tangibly

Final POV

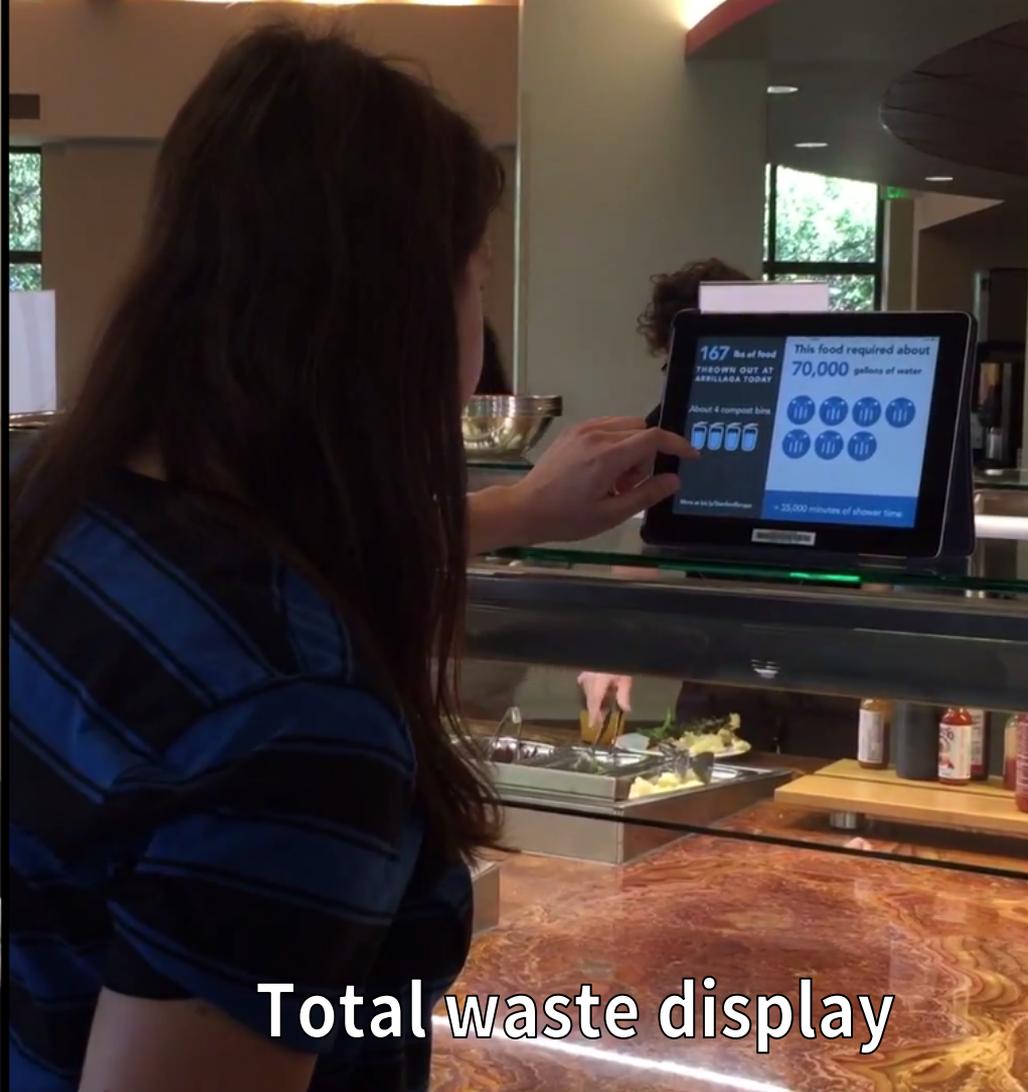
We met “Fred”, a student who serves himself more food than he eats because he is **not very waste-conscious**. It would be game-changing if we could **make him aware of his pattern of wasting food** to motivate him to change his serving habits.

Final Solution

1. Screen showing **individual waste** as person throws food into compost bin
2. Screen showing **total waste** at stations where people serve themselves food



Individual waste display



Total waste display

Design Evolution



Feedback: too much text!

YOU THREW OUT 0.27 lbs OF FOOD

That equates to:

≈ 27 gal water cost
≈ 7 Kg CO₂ emissions

To Learn

More Scan Here:

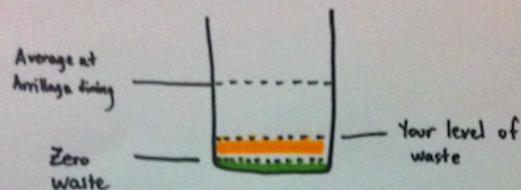


And is about:



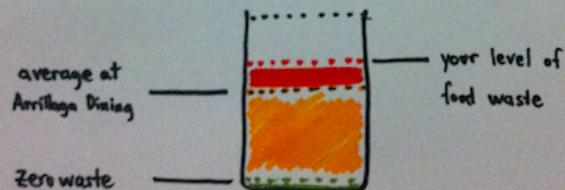
You threw out 0.07 lbs of food.

Your waste is below average. Keep it up!



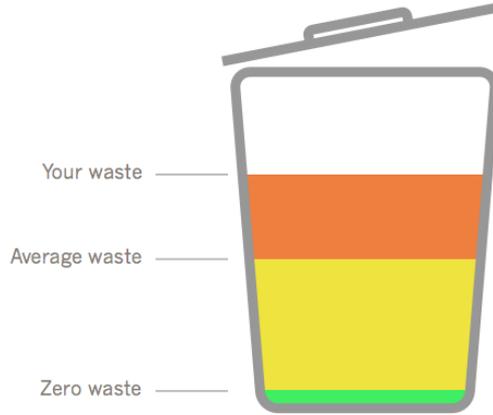
You threw out 0.17 lbs of food

Your waste was ABOVE AVERAGE



Feedback: still too much text

You threw out **0.17 lbs** of food



For more info, visit bit.ly/StanfordFoodWaste

Feedback: needs more visual appeal

32 lbs total food thrown out at
Arrillaga Dining today,

having an approximate water footprint of

12,000 gallons of water

4,800 minutes shower time



Want to learn more?

Visit bit.ly/StanfordFoodWaste or scan:

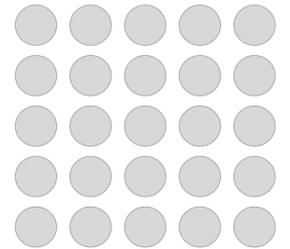


32 lbs total food thrown out at
Arrillaga Dining today,

or roughly

25

full meals



Want to learn more?

Visit bit.ly/StanfordFoodWaste or scan:



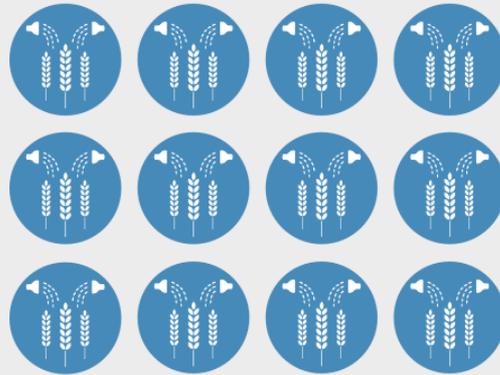
43.5 lbs of food

**THROWN OUT AT
ARRILLAGA TODAY**

About 4 compost bins



This food requires about
12000 gallons of water



~ 700 minutes of shower time

Want to learn more?
Visit bit.ly/StanfordFoodWaste

YOU THREW OUT
0.18 lbs of food



WORSE THAN AVERAGE

Want to learn more?
Visit bit.ly/StanfordFoodWaste

This food is about
60% of an average meal



<Some fact here>

You threw out...
0.18 lbs of food



WORSE THAN AVERAGE

Want to learn more?
Visit bit.ly/StanfordFoodWaste

This food requires about
12 kg of CO2 emissions



~ 34 miles of driving on the highway

Feedback: needs more visual hierarchy

Final Design

167 lbs of food
THROWN OUT AT
ARRILLAGA TODAY

About 4 compost bins



More at bit.ly/StanfordScraps

This food requires about
70,000 gallons of water



≈ 35,000 minutes of shower time

167 lbs of food
THROWN OUT AT
ARRILLAGA TODAY

About 4 compost bins



More at bit.ly/StanfordScraps

This food requires about
800 kg of CO₂ emissions



≈ 1200 miles of driving on the highway

167 lbs of food
THROWN OUT AT
ARRILLAGA TODAY

About 4 compost bins



More at bit.ly/StanfordScraps

This food requires about
800 m² of land



≈ 40 Roble doubles

167 lbs of food
THROWN OUT AT
ARRILLAGA TODAY

About 4 compost bins



More at bit.ly/StanfordScraps

This food is about
140 average meals



≈ \$1400 worth of food

YOU THREW OUT
0.05 lbs of food



Better than average.
Keep it up!

Learn more: bit.ly/StanfordScraps

This food required about
0.26 kg of CO₂ emissions



≈ 0.4 miles of driving on the highway

YOU THREW OUT
0.05 lbs of food



Better than average.
Keep it up!

Learn more: bit.ly/StanfordScraps

This food is about
2% of an average meal



≈ \$0.40 worth of food

YOU THREW OUT
0.05 lbs of food



Better than average.
Keep it up!

Learn more: bit.ly/StanfordScraps

This food required about
0.1 m² of land



≈ 1% of a Roble double

YOU THREW OUT
0.05 lbs of food



Better than average.
Keep it up!

Learn more: bit.ly/StanfordScraps

This food required about
21 gallons of water



≈ 10 minutes of shower time

YOU THREW OUT

0.49 lbs of food



WORSE THAN AVERAGE

Learn more: bit.ly/StanfordScraps

This food requires about

2.5 kg of CO₂ emissions



≈ 3.5 miles of driving on the highway

YOU THREW OUT

0.49 lbs of food



WORSE THAN AVERAGE

Learn more: bit.ly/StanfordScraps

This food requires about

204 gallons of water



≈ 98 minutes of shower time

YOU THREW OUT

0.49 lbs of food



WORSE THAN AVERAGE

Learn more: bit.ly/StanfordScraps

This food is about

41% of an average meal



≈ \$4 worth of food

YOU THREW OUT

0.49 lbs of food



WORSE THAN AVERAGE

Learn more: bit.ly/StanfordScraps

This food requires about

2.5 m² of land



≈ 12% of a Roble double

Concept video

Next Steps

- Build application
- Integrate system with wi-fi enabled scale's API
- Work with dining halls to implement system

Summary

- **Insight:** with the right nudge, people would reduce their food waste in cafeterias
- **Innovation:** make food waste tangible
- **Impact:** reduce environmental and economic impact of food waste in cafeterias; inform diners about food waste impact

Attributions

Thanks to The Noun Project for graphic elements

- Jane Pellicciotto, Christopher Classens, Ealancheliyan S, Luis Prado, Marek Polakovic

Thanks to Hannah Mensing and Sonia Baltodano for statistics on food waste

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