

# Computer Science 130: Creative Software Architectures for Collaborative Projects

## Contextual Inquiry Assignment

This assignment is designed to familiarize you with the problem domain of food insecurity and food waste. We are doing this as part of a contextual inquiry process so that we more deeply understand the problem domain that we are designing for.

We will collect our own data based on two ideas that have been given to us by the Santa Barbara food bank: a food insecurity resource finder and a restaurant food waste eliminator.

We do not know if these are the right things to make or even how such problems should be addressed. We have 1 data point which is the input from the COO of the Foodbank. He is an expert in the domain of food banking, but not an expert in computer science or human computer interaction. We need to balance his input with our own independent data.

Your job is to collect data using an IDEO contextual inquiry method. The choices follow below:

We will all take a **guided tour** of the food bank itself for one set of data:



Learn      **Look**      Ask      Try

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## Guided Tours

**HOW:** Accompany participants on a guided tour of the project-relevant spaces and activities they experience.

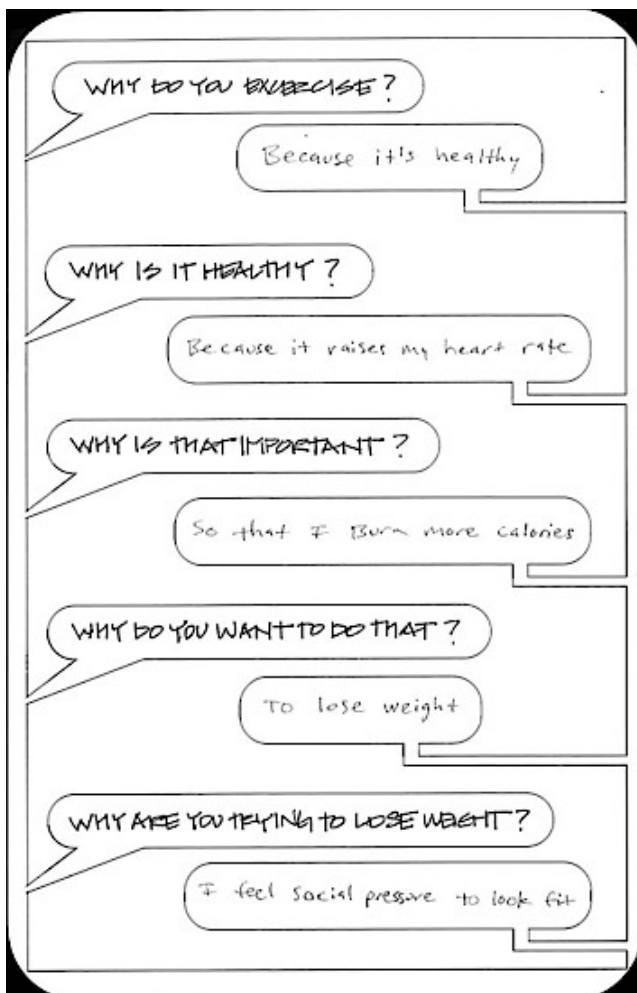
**WHY:** Making an exploration of objects and actions in situ helps people recall their intentions and values.

By following users through their homes, the IDEO team understood the various motivations behind ways photographs are used and stored.

IDEO [www.ideo.com](http://www.ideo.com)

## Choice 1: Five Whys?

1. Get out on the pavement of State Street and talk to four people that work at a restaurant within 1 hour of closing. Introduce yourself as a student that is doing a project for Westmont and the Foodbank to figure out how to give restaurants tax breaks for donating leftover food at the end of the night. Take no more than 10 minutes of their time if they are on the clock. Ask at least 5 why questions to each person about where the food goes, what people are doing with the food now, what has been tried in the past, etc... Document the responses. Take one picture at each location. Collect any other data that you can while engaged in the task. Present your photos and data in class.



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## Five Whys?

HOW: Ask "Why?" questions in response to five consecutive answers.

WHY: This exercise forces people to examine and express the underlying reasons for their behavior and attitudes.

"Five Whys" was used when interviewing dieting women around the US to understand their attitudes and behaviors around weight loss.

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## Choice 2: Try it yourself

1. Find a food distribution site. Get food from the location. Document the process that you followed in detail. How did you find the site? What were your options? What obstacles did you navigate along the way? What were your choices? What did you receive? Who did you meet? Take 10 pictures. Collect as many artifacts as you can along the way: tickets, forms, etc. Present your experience and data in class.



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## Try It Yourself

**HOW:** Use the product or prototype you are designing.

**WHY:** Trying the product being designed prompts the team to appreciate the experience the actual users might have.

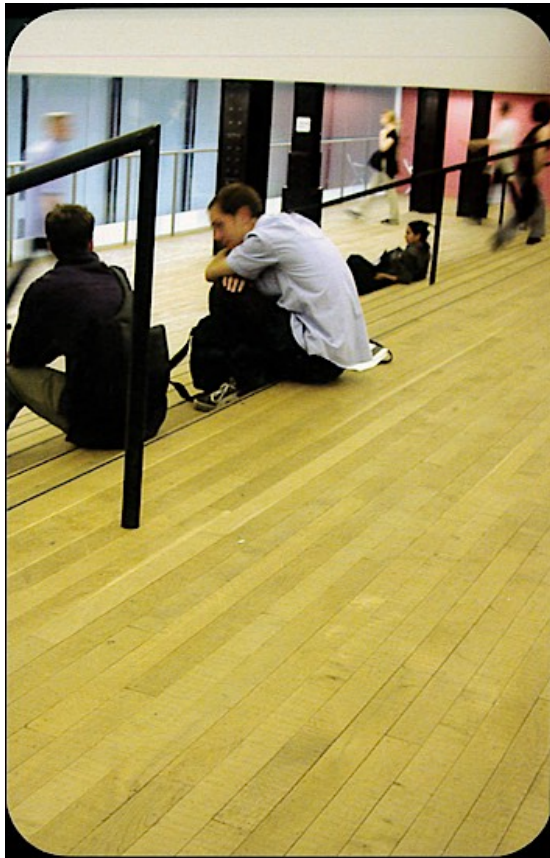
By wearing a prototype medical device throughout their daily activities, the team understood the physical, social, and emotional implications for patients who might use it.

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### Choice 3: Time-Lapse Video

1. Take a time-lapse video of a dumpster behind a restaurant, or other similar location. The video should span 30 minutes before closing to 30 minutes after closing and be condensed down to 5 minutes. While the video is being filmed, stake-out the location. What do you observe? Collect 10 additional still photos of the area to provide context for the stake-out and any other data as appropriate. Present your video and data in class.



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## Time-Lapse Video

**HOW:** Set up a time-lapse camera to record movements in a space over an extended period of time.

**WHY:** Useful for providing an objective, longitudinal view of activity within a context.

The IDEO team recorded the activity of museum visitors over several days to learn how to improve space layout.

IDEO

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## Choice 4: Activity Analysis

1. Go to a food distribution site for 2 hours and document every process that you can. Think about parking, determining eligibility, logistics of arranging the food, trash disposal. Where do people move? Where are staff positioned? Are there security concerns? How is the flow of the people managed? Collect at least 10 photos of the site and any other papers or data that you can. Present your experience and data in class.



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## Activity Analysis

**HOW:** List or represent in detail all tasks, actions, objects, performers, and interactions involved in a process.

**WHY:** This is a useful way to identify and prioritize which stakeholders to interview as well as which issues to address.

Analyzing the many activities and procedures involved in brushing teeth helped the IDEO team to understand some unanticipated needs and concerns.

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## Choice 5: Still-Photo Survey

1. Go to 3 different food distribution sites and take 20 pictures at each. Attempt to take pictures that capture the same moment or “thing” at each location. Arrange the pictures side-by-side in order to analyze generalities and differences between the different locations. Present the initial analysis as a PowerPoint deck.



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## Still-Photo Survey

**HOW:** Follow a planned shooting script and capture pictures of specific objects, activities, etc.

**WHY:** The team can use this visual evidence to uncover patterns of behavior and perceptions related to a particular product or context, as well as structure and inspire design ideas.

For a faucet design the team documented all the situations in which people accessed water.

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## Choice 6: Shadowing

1. If you know someone who uses food bank services arrange to follow them during a trip to a food distribution site. Start with them at their home, go with them to the food distribution site and return home with them. Collect photos of the entire process. Document the experience. Present a narration of the trip focussing on the places where there was friction in the process.



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## Shadowing

**HOW:** Tag along with people to observe and understand their day-to-day routines, interactions, and contexts.

**WHY:** This is a valuable way to reveal design opportunities and show how a product might affect or complement users' behavior.

The IDEO team accompanied truckers on their routes in order to understand how they might be affected by a device capable of detecting their drowsiness.

IDEO

[www.ideo.com](http://www.ideo.com)