FH3 presentation/paper

# Design as System / Food as System

2008 launch of first junior-level studio within new curricular structure

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The focus of this presentation, the new junior level studio course, Design as System, and for our first foray Food as System, can be properly understood only within the context (or system if you will) where it resides. It is nested within a university, a college, a department and a curricular structure. Before describing the course and its objectives, as well as showing and describing the process and results of the first time this was taught in fall 2008, we will provide this context.

#### University

North Carolina State (NC State) is a research 1 university comprising ten colleges and a graduate school, attended by about 31, 000 students on a partly residential city campus. It is one of two land grant institutions in the state; in addition to undergraduate and graduate education, it supports research, technology transfer and statewide economic development through extension activity. It operates 13 off-campus regional research and extension centers and nine field laboratories. NC State was one of the first universities to adopt the concept of the private/public partnership to develop its Centennial Campus where corporate officers, industrial researchers and teaching faculty and students interact. The university library ranks in the top 30 of North American academic research libraries.

#### College

The College of Design, founded 60 years ago to teach architecture, has added the study of landscape architecture, industrial design, graphic design, textile design, animation and art. It has a student body of about 750 and a tradition of 24/7 access to dedicated workspaces for all students. The on-site design library, a branch of the university library, enables convenient research and the flow of source materials to the classroom. The interdisciplinary PhD in Design program offers expertise in seven areas of concentration using affiliated design faculty and faculty across the university.

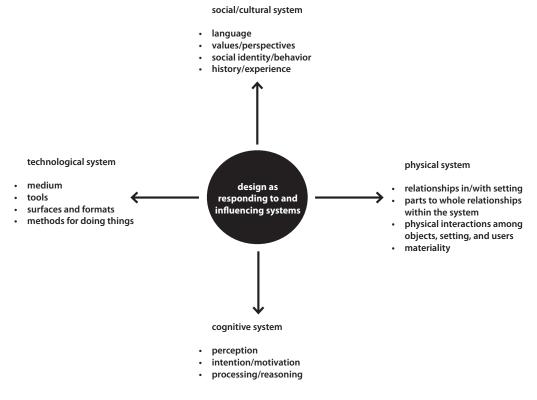
#### Department

The Department of Graphic Design, over 30 years old, teaches about 115 undergrads and 16 masters' students with eight full-time faculty. In that time, it has produced graduates who work for many of the largest American corporations, media and publishing companies, advertising agencies, government agencies, and non-profit organizations. Its graduates have also completed advanced degrees, and become design teachers and leaders in design education and practice.

As the practice of design has changed to address the needs of society and commerce, and as the faculty has defined what design practice is and can be, the department has gone through periodic changes in its curricular offerings.

### **Curriculum Change**

In spring 2007, the graphic design department began a complete overhaul of the upper three years of its undergraduate curriculum. First year study within the college is a joint effort of all departments, and undergoing its own redefinition. The new graphic design curricular plan, following a framework devised by Meredith Davis, views design as action within and influencing systems, the core four being: physical systems, cognitive systems, technological systems, and social/cultural systems.



Rolled out in fall 2007 with the sophomore class, each year of study addresses these systems at a different scale, or from a particular point of entry. In the sophomore year the students focus on the object as nested within systems; as juniors they focus on the system itself, and as seniors on the interaction of multiple systems. The focus at any level is not to discount the inherent overlapping, but rather to provide a way into the larger complexity, with which the students (and designers) ultimately contend.

While the primary focus of the work is carried out through studio projects, our curriculum from the beginning has been organized as a set of required co-requisite courses for the first three semesters. With this level of curricular continuity for our sophomores and first semester juniors, we are able to build student understanding of systems within the 6-credit hour studios as well as in the two 3-credit hour courses in Imaging and Typography (this represents 12 hours of a standard university 15 credit hour semester). The 6-, 3-, 3-credit hours show the relative time in class and expected amount of effort for these courses. There are additional required graphic design courses: more studios and electives, history and theory classes; and students have general education requirements from the university covering writing, mathematics, science and humanities and social sciences. In addition, the university and college highly recommend study abroad and have developed several programs.

Each graphic design faculty member teaching the three core courses (studio, imaging, type) may develop projects, though we agree they follow the framework and we seek to make them complementary in addressing smaller issues, and integrated by exchanging parts of projects. The whole departmental faculty reviews each course before it is taught and the student output is assessed at the end, every semester.

In this paper/presentation, we will be concentrating on the studio implementation of the framework, fully supported by concomitant restructuring of the type and imaging courses (which we will not discuss).

A possible array of project types for the three levels of studio and intersecting with the four systems.

Examples of projects	<b>Design for information</b> - visualization, mapping, wayfinding	<b>Design for communication</b> - dentity/branding, agency/ sdvccacy, authorship/publishing	<b>Design for interaction -</b> experience design, service design, web
Sophomore level - Object	Ŭ 5	ă <u>c</u>	õ ô X
Technological system	• timeline		
Cognitive system			product instructions
Social/cultural system			
Physical system			• experience map
Junior level - System Technological system	•		• web system
Cognitive system	publication s	ystem	
Social/cultural system		<ul> <li>identity system</li> </ul>	
Physical system	<ul> <li>signage syste</li> </ul>	m	
Senior level - Interacting syste	ems		
Technological system			social networking
Cognitive system	● learning		
Social/cultural system		● advocacy	
Physical system			• exhibition

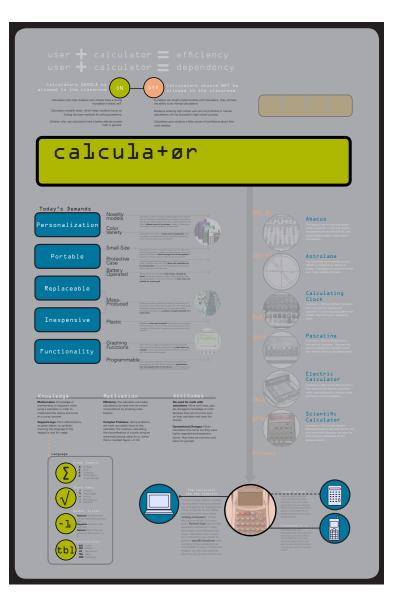
### Sophomore year

At the object level, the goal of the projects is for the students to understand them as located somewhere within a concept map of larger systems. Each student is assigned an object and given related literature for their semester's work. The object is studied in culture and as part of larger communication systems. Examples of objects assigned, falling within the categories of communication technologies, leisure and household, are: toy, cell phone, T-shirt, camera, bicycle, shoe, teapot, cutlery, tent. By using the chosen object as subject matter across the three courses (studio, imaging, type) the required research is more efficiently used. The students design simple printbased artifacts, understanding how these relate to the larger systems.

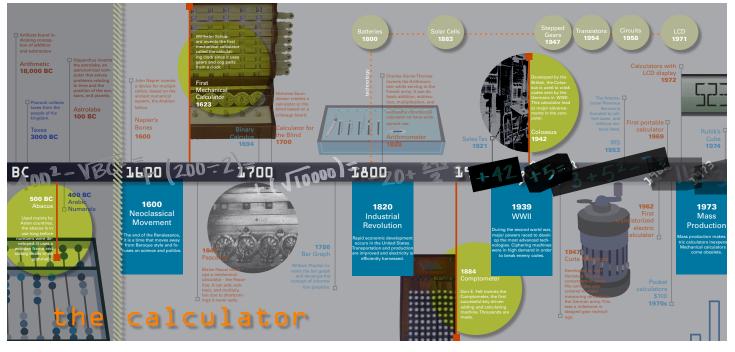
Students begin by building concept maps of a larger system related to the object, within which they locate projects for the remainder of the semester. The system addresses cognitive, social/ cultural, technological, and physical issues related to the object, its position in history, and the consequences of its use. Students explore the technological lineage of the object and its implications for organizing social behavior. They examine the role of physical interaction and the interpretation of meaning in its use and culture. In the second semester of sophomore year, students focus on people and settings. A sophomore imaging class, for example, looks at ways of representing experience (through movies, maps, broadsheets, and prototype scenarios). This all contributes to an understanding of design as addressing "human experience within a context" and as illustrating and shaping the values and practices of a culture. These concepts recur throughout the curriculum.

Some examples of sophomore student studio work follow.

Sophomore work: concept map for an object.



*Sophomore work: timeline for an object (detail).* 



Sophomore work: Ttwo posters based on same object for different audiences.



Sophomore work: one spread from an experience sequence.



#### **Junior year**

At this level, the students design artifacts (parts) that collectively create or suggest a system (whole). We will return to the junior year shortly, as that is the focus of this paper/presentation.

### **Senior year**

Students at this level enter through the interaction of systems and focus on designing for and to the overall conditions for user experience, leading to issues of service, interaction, and experience design. They explore how to leverage projects within larger real world systems through applied and self-initiated work.

### Junior year: Design as System

In fall 2008, the junior level students were the first group introduced to the new curriculum the year before as sophomores; they had been through the object-related projects, the focus on relating design to the four larger systems, the planned relationships among studio, imaging and type. For this group, the semester would be about the systems that were implied and tentatively explored in the previous year, as well as about others in play in the real world.

The Overview for the Systems studio semester stated that:

Design practices and artifacts are a system that exists within multiple other systems: culture, business, production, distribution, consumption (to name the larger ones). As a way to study and act within design systems, we will look at food systems (existing within the same systems) as analogous cases, and use sectors of food systems for the content of the design activities.

The Course Objectives were these:

- To analyze and understand design systems (and other systems);
- To operate effectively within design systems;
- To apply systems knowledge and design skills to produce meaningful and appropriate design artifacts/interventions within identified systems;
- To discover/define design 'opportunities' and develop the strategies and tactics to address them and their particular audiences;
- To experience playing various designer roles (communicator/organizer, advocate, provocateur, entertainer);
- To learn to define design problems and write design briefs;
- To find possible trans-media opportunities and connect studio work with other GD course work.

To prepare the students for the studio activities, which would include extensive research, for the first time we asked students to complete a reading assignment over the summer. As a general introduction to Food, we asked them to read at least one book from this list, considering these a variety of entry points that should pique the interest of any student:

- Wendell Berry, *The Unsettling of America: Culture & Agriculture* [1970s classic on American agriculture]
- Anthony Bourdain, Kitchen Confidential [behind the scenes in restaurant kitchens]
- Bill Buford, *Heat: An Amateur's Adventures as Kitchen Slave, Line Cook, Pasta-Maker, and Apprentice to a Dante-Quoting Butcher in Tuscany* [self-explanatory]
- Barbara Kingsolver, Animal, Vegetable, Miracle [family case study of locavore practice]
- Ruth L. Ozeki, My Year of Meats [amusing but serious novel about food practices]
- Carlo Petrini, Benjamin Watson (editors), *Slow Food: Collected Thoughts on Taste, Tradition, and the Honest Pleasures of Food* [reader on slow food movement by founder]
- Michael Pollan, *Omnivore's Dilemma* [where American food comes from and what to eat and why]
- Ruth Reichl, *Garlic and Sapphires: the secret life of a critic in disguise* [as restaurant reviewer for NY Times]

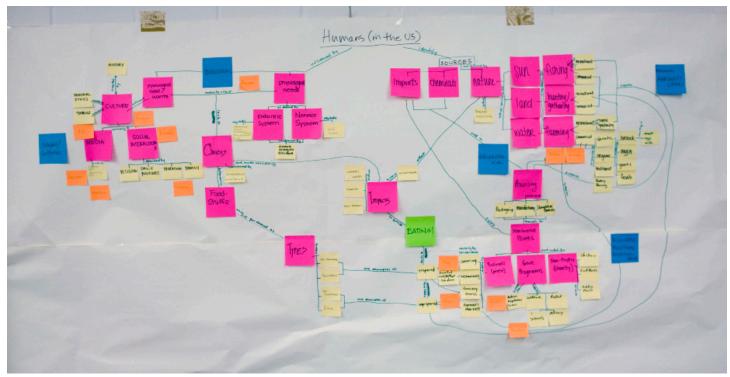
With this foundation, the students were able to discuss food as a contemporary issue, and as part of a larger system, on the first day of classes. In addition, working from a hunch based on personal experience, we handed out a survey to the students, two faculty and one teaching assistant, in an attempt to gauge their current food opinions and practices. This was followed up at semester's end with another survey to assess possible changes. We will report the results of the survey later.

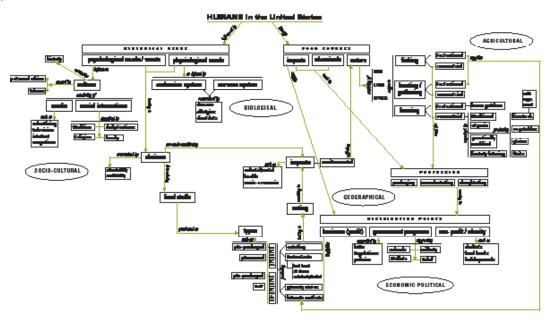
The framework for the projects we will describe and show follows the new curricular plan. There were six projects over 16 weeks. The idea was to introduce and work on these under relatively short time frames – to establish as quickly as possible the concept of the systems and their relationships – and then have time to return to all projects at the end to refine each one and its relation to the others.

Based on the students' summer reading, their experience with concept maps in sophomore year and some refresher reading, each section (there were two, average size 15 students) through discussion, negotiation, small group work and instructor herding devised a concept map for Food as a System. From the various systems encompassed by this (biological, agricultural, geographical, economic, political, social/culture) and their further mapped details, the students chose a sector of interest to explore for the semester.

The class-devised general food systems concept map from each section.







Note that while the same Food system was being mapped, there is no one way to map it. The course used a blog to communicate among the students and faculty of both sections, to provide specific readings and reading suggestions, to record research discoveries, to archive assignments, and to share the amazing world of food. Student activity was regular and mutually helpful. It was also an entertaining site that relieved, on occasion, the necessary immersion into parts of the system that were troubling. If a student despaired of butchering practices, she could visit a site about food decorating or typefaces made of food.

As part of the general research for the group, the instructors arranged two field trips. One was to a local well-regarded restaurant, where (fortuitously) the sous-chef was the husband of our teaching assistant. We got a tour of the kitchen and an introduction to its management. The other field trip took us to an organic farm within an hour's drive of the university, where a former architect now grows niche crops of tiny vegetables, herbs and flowers for specific customers and for a local farmers market. Here, too, we got an inside look at the growing as well as the packaging and retail aspects of farming. The students were encouraged to explore on their own the many farmers markets in our area.

These six projects then followed: an individual concept map for each student's sector within Food; an information design diagram of a process involving food production, distribution or consumption; an identity project for a food-related business, organization, institution or event; an extension of the identity work into the packaging of goods, services or experiences in the same food sector; a student choice intervention artifact; and a final pair of booklets explaining their system(s), showing the designed artifacts and research and process work.

From the start we discussed the roles that designers can play and that we expected the different projects to provide the student an opportunity to play each role over the course of the semester; the student choice project was one way to catch up on this requirement, to play a role not already experienced. As well, we expected the projects to be directed to different audiences that the students would define. We handed out a matrix that the students were to use to keep track of their roles and the audiences they defined.

DESIGNER ROLE	Project 1: Concept maps for Fooc	Project 2: Information Design	Project 3: Identity Design	Project 4: Packaging Design	Project 5: Student Choice	Project 6: Presentation Design
provocateur						
communicator/organizer						
advocate						
entertainer						
TARGETED AUDIENCE elderly	••••••	••••••••		•••••	•••••	
children						
cultural group (ex. slow foodies)						
ethnic group				••••••		

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In more detail, these were the projects:

### **ONE: Concept maps for Food**

Based on the general map of Food systems generated by each section, students map selected domains (smaller systems within) for individual development based on focused research. Possible overlapping domains were accepted, and the blog research posts allowed for some efficiency.

From the project brief:

For the chosen food sector, you will be researching natural, cultural, economic (and other) systems with and within which it operates. These several systems are those where your design work and developing system will operate.

Research and map building inform each other; the map will help you understand what you are learning and will direct further research.

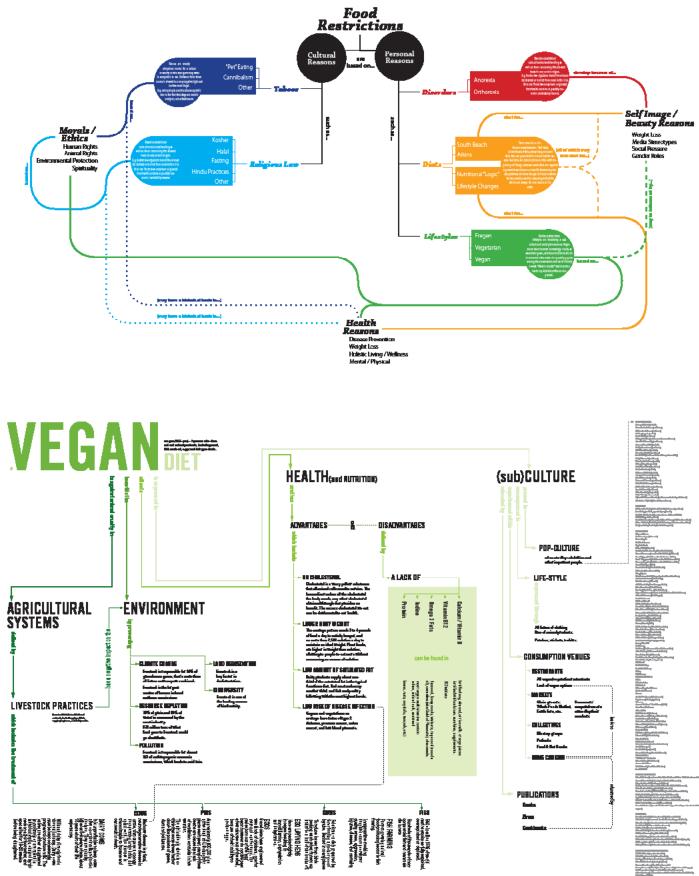
The individual map is to be presented in two forms. (1) schematic map of your food 'territory' that you continually develop. And (2) a final designed map where you refine the visual presentation.

For both:

- devise meaningful and clear organization; tell your 'story'
- establish your visual language (shapes, colors, typefaces, etc.)
- use visual language consistently

Examples of student work from both sections follows each project description.

Concept maps from both sections.



### **TWO: Information Design**

A diagrammatic explanation of one time-based process within a Food system with emphasis on inter-relationships of systems.

From the project brief:

Your emphasis should be on how the process unfolds, but should include how it influences and/or is impacted by other systems.

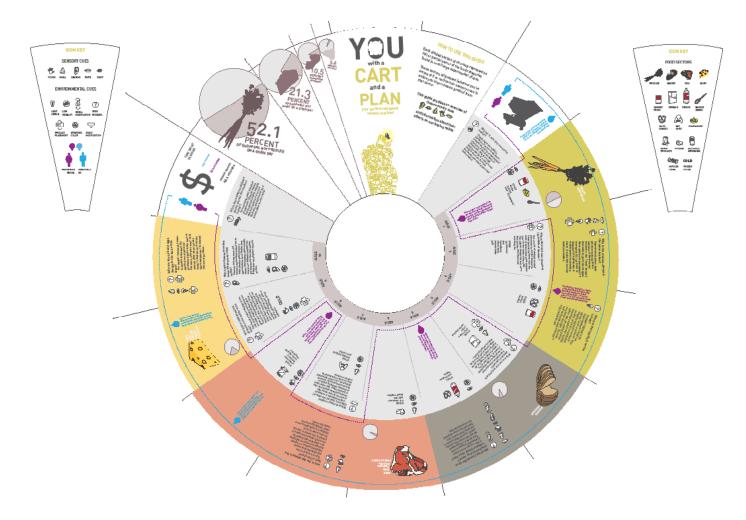
Remember to consult your matrix:

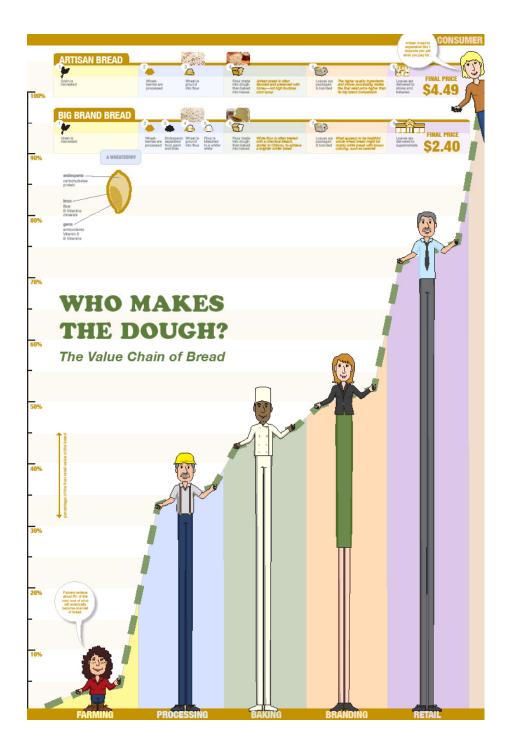
- you are playing the 'communicator/organizer' here
- but for which audience?
- and, therefore, what exactly is the purpose of the diagram?

What, besides explanation, might be your agenda? You may make this explanation as "neutral" as you want/can OR you may choose to give it a slant. Either is fine but be clear from the start which way you are going.

A diagram uses words as labels and short explanations, illustrations when words would take too long, symbols for concision, other graphic elements (arrows, lines, dots, boxes, etc.) to help organize and suggest flow of the 'narrative' and relationships among the parts of the process. Consider all forms of information design: charts, maps, graphs to present relevant facts; you may need several, you may synthesize.

### Process diagrams from both sections.





# **THREE: Identity Design**

A basic visual identity system for a food-related business, organization, institution or event – to include: name, mark, typefaces, color palette, application to various scales, surfaces, and design guidelines. Student writing defines the entity, location, vision, core mission, audience, and competition.

From the project brief:

- Your identity will include the following:
- Naming/nomenclature
- Mark or mark system

- Typographic voice (typeface(s) choice, combination, arrangement, use)
- Formal look and feel (this could express itself as pattern, graphic form, photographic treatment, and other image making techniques)

• Color palette(s) (color as an identifier that has visual connotations that makes sense and/or a semantic connection to the subject of the identity program; more than just swatches)

• Applications (to a range of speculative scales, forms, surfaces, etc., enough for a client and audience to understand the identity in context of its use.)

• Identity guidelines (spreads or boards that show all the elements of your identity and its possibilities for use.)

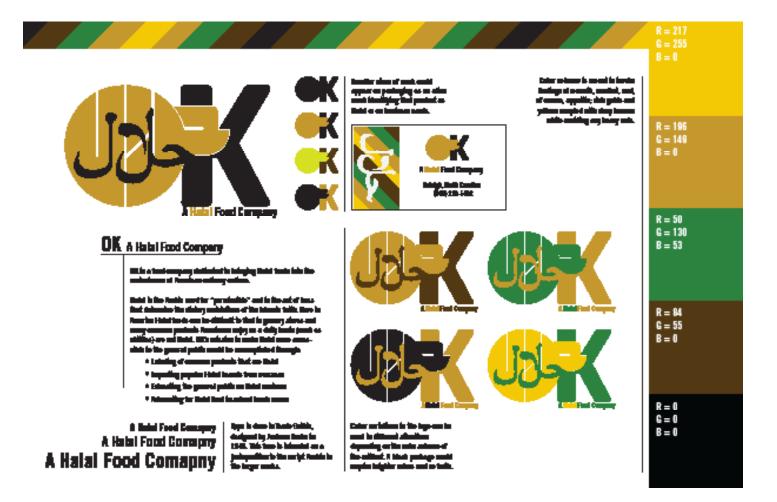
Continue to consult your matrix

• For an identity to be successful, it has to be both unique and memorable, but to whom and how do you make form memorable? Is it through provocation, entertainment, or purely visual pyrotechnics (this need not be a bad thing).

• Specificity is a key aspect of uniqueness in identity design. This could manifest itself though a number of ways, sometimes simultaneously. Language systems, typographic systems, formal systems all working in concert that comes out of the very nature of your business or institution.

As an example of the interaction among studio and the other courses, some of the identities were later used as the subjects for a Flash project in Imaging. And at least one of the typefaces created in the type class was used as part of an identity project.





## **FOUR: Packaging Design**

Extending identity work, the 'packaging' of goods, services or experiences for the same or related entity. Student writes individual brief following given structure.

From the project brief:

Ask these questions:

- who is the audience for product/event/service (p/e/s)? [check your matrix]
- what are the 'special needs' of the audience, if any?
- what are the rhetorical tropes that will attract/involve this audience?
- how does this p/e/s fit within your designed system?
- how does this p/e/s fit within external contexts or systems?

Methods:

- conduct an 'audit' or survey of related examples (in books and on web); collect and organize
- describe in words your primary concept/purpose
- · brainstorm in words and pictures how to connect your audience and your purpose

• iterate/explore all reasonable connections; use a matrix for focused and methodical exploration

Objectives:

- develop a project brief for your packaging project (based on answers and discoveries above)
- develop a 3-D to 4-D extension of your 'brand' identity

- explore other dimensions of scale
- involve p/e/s in its environment
- present in appropriate dimensional/scaled formats
- play another designer role





Packaging an event and packaging a product.

### **FIVE: Student Choice**

From individual food sectors, students choose an appropriate design intervention, playing a design role not already played, addressing an audience not already served. Also, this is an opportunity to celebrate food after a semester of mostly serious engagement. Student writes individual brief following given structure.

From the brief:

Take a step back from your system. Is there something missing? Is there an appropriate or perhaps necessary design intervention connected to some unexplored districts in your concept map? Create a designed artifact, experience or interaction that might be absent.

The totally open brief seems like a designer's dream. But unrestrained freedom can be quite paralyzing at times. In the previous two projects you have been asked to reshape a brief that was given to you. This project offers you the chance to write and execute a brief from scratch.

For those of you who find some imposed limitations liberating, consult your wild card matrix for any gaps in your range of audiences and roles. You have three options with a range of preset constraints for a jumping off point for of this project:

A FOOD GLORIOUS FOOD (delighting artifact, experience, or interaction) Create a piece of graphic design that gives you and an intended audience the sensation that food is a delightful thing. Which it truly is!

B VIEWER DIGESTION ADVISED (persuading artifact, experience, or interaction) Create a public service announcement where the subject is derived from food defined in your system, but with the kind of persuasive power of this historic PSA. This could be for something optimistic, like eating more tangelos as part of a healthy diet.

C AN OPEN PLAIN (student choice artifact, experience, or interaction)

"Limitations are liberating." This notion is used often enough in design discourse to be a bit trite. But as the third option leaves almost every parameter of the project in your hands, projects from this group will work best by establishing a clear set of limitations related to scope, format, audience, role etc.



Student choice projects: spread from booklet helping new immigrants with holidays; posters counteracting packaging claims (detail).



### **SIX: Presentation Design**

Two summary booklets: one includes explanation and display of all design artifacts in their design system and chosen food sector; the second includes a research bibliography and all design process work (brainstorming, sketches, iterations, etc.) for all design artifacts.

From the project brief:

PART ONE The "story" of your system; explained through concise written texts, images and examples of your work. The work examples should be your revised versions. The audience for this story is a possible employer who wants to know how you think and how you design.

The parts should be:

- cover with suitable title for your semester's work
- title page with your name, title, plus date

• introduction with brief statement of your general understanding of systems (both design and food), followed by a paragraph describing/defining your chosen 'sector' of food systems, and a final paragraph that summarizes your system as a whole and explains how the parts work together. You might point out the 'anchor points' of your system; these points could be all or some of these: related content areas, related formal qualities, related points of view, attitudes or opinions; whatever you consider the links within your system

• table of contents listing projects and other parts of presentation

 reduced version of your concept map (project 01) with short commentary (where you would identify the audience and your designer role, plus...)

• folded full size version of concept map in pocket

• reduced version of your information diagram (project 02) with short commentary (audience, designer role, plus...)

• folded full size version of information diagram in pocket

• presentation panels of identity (project 03) plus panels of graphic standards, plus additional commentary in a revised form of your brief,

• or page with standards booklet in pocket

• presentation panels for packaging project (project 04), plus additional commentary in a revised form of your brief

• reduced version of your 'choice' work (project 05), plus additional commentary in a revised form of your brief

• folded full size version of choice project in pocket

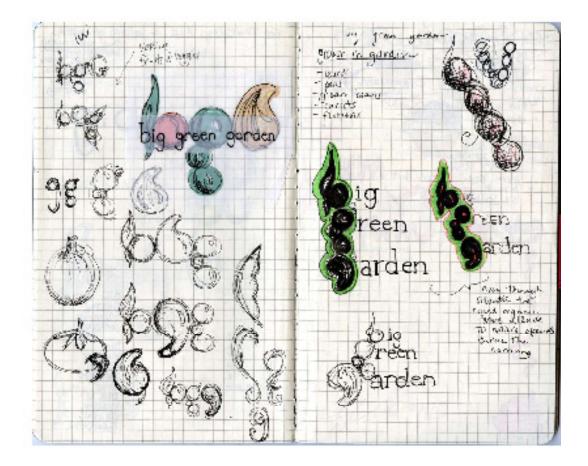
• summary statement about systems, and/or work of the semester

PART TWO In chronological order, divided clearly by project, all your research and process work for all the projects, including a bibliography of the websites, books and journals you consulted. Work in small notebooks and sketchbooks must be scanned and reproduced at readable quality.

The two booklets should relate to each other in cover, binding, design and typography. Consider that you might show these together as you explain your work.

*Spreads from presentation and process booklets.* 





Yes, they managed to do all that in 16 weeks.

Now, returning to the curricular framework: how do these studio projects fit with the four core systems? All of their research, leading to their concept maps, encompassed these four systems. For their specific projects, because the students were working through the designer roles and audience matrix, there is individual variation here; but we can point out some examples within each system:

• Technological systems: projected choice of internet for some PSAs, brand extensions, marketing plans;

- . Cognitive systems: attention to various audiences, requirements for text and image 'reading';
- Social/cultural systems: identity systems, packaging of events and experiences; choice of designer roles;
- Physical systems: some signage systems as part of identity systems; protest intervention; toys; public spaces; choices of materials and production processes.

In addition, for this semester, the same students in their type class designed and exported useable display fonts and designed magazines (technological, cognitive, and physical systems); and their imaging class devised designs for new Facebook applications (technological and social/ cultural systems).

### The survey - we did not forget!

The first survey with 34 responses (students, faculty, teaching assistant) asked respondents to rate their interest in food; to identify where their interest in food lay (restaurants, new cuisines, social activity, health, social issues); to describe the basis for their food choice habits (family tradition, religious practice, budget, time, personal diet); to describe their knowledge level of food prior to the summer reading assignment; to describe how their eating habits had changed since moving

from home to college; and to describe how choices would be different if they had more control (more time, money, etc.)

In rating their food interest, 82% said their interest was 6-10 (10 being 'obsessive') with the most rating it at 8. Location of their interest showed 91% of the respondents claimed to love good food, liked new restaurants or discovering new cuisines, liked the social activities around food, or were concerned about a healthy and balanced diet. In the group there were three vegetarians, another who eats fish, and one vegan. A solid half (53%) of the group was concerned about sustainable agriculture and watched their food sources, while 44% were concerned about a healthy diet and watched food sources.

Food choices (shopping, eating out) showed that 50% based them on family/community or ethnic traditions; 85% also based them on self-determined habits. 82% were guided by their budget and 70% by what was convenient. (They were allowed to choose any descriptions that applied, therefore these do not add up to 100%.)

Prior to the summer reading, 47% said they had sometimes chosen to read about food; 23% said they had never read about the subject before; only one percent had done extensive reading previously.

In terms of family life, 59% said food was routinely important, while 85% said this was true on special family occasions. Food habits since moving away from home changed a lot for 35%, some for 65%. To the question about having greater control, 20% would choose more organic and more local food, 18% would enjoy cooking better food, and 12% would eat healthier food.

The second survey was done at the end of the semester with 24 respondents. At this point, 79% had an interest of 6-10 with most at 10 (a shift up on the scale). The top five interests this time included concern about processing. Influences on food choices were 79% based on own habits, 66% based on budget and 58% on convenience. All of these were less than on the first survey; family practices barely registered.

We asked about the impact of their reading for the course. In terms of overall interest, 29% mentioned Michael Pollan's two books (The Omnivore's Dilemma we had assigned, In Defense of Food was new and they had found it). The same number rated his books has having the most impact. In addition 17% reported that reading about corn had changed their thinking or behavior.

As to the role of food in their lives, 38% now thought about it more. 66% had changed some of their shopping and eating habits, with 54% changing toward fresh, local, healthier choices and more home cooking. With more control over choice, 79% projected they would choose more local or seasonal, or organic fare and would cook more. For 'most important' effect of the semester's study: 20% said they were now more aware of systems, 17% were more aware of food and 17% were more award of the environmental impacts of food choices. In addition to more experienced designers, we produced more knowledgeable, thoughtful and healthy ones too!

*In conclusion,* as this was the first time the system studio was taught: What did we learn (besides a lot about food)?

- That the students were fully engaged, and the topic helped.
- That they "got" systems, and learned how to operate within them as designers.
- That six projects may be too many (identity and packaging could be collapsed into one project) for a 16-week semester.
- That we should try for more connections with the other courses to reduce redundancies in research and to underscore the interrelatedness of it all.

Would this studio theme work for other topic areas (though food is seemingly so perfect)? Here are a few equally rich ones: transportation, recreation, entertainment, shelter, water, war. All these assuming you want to stay away from the really rich ones: religion, politics and sex.

And we would do it all again; it was energizing and fascinating.