

CS449/649: Human-Computer Interaction

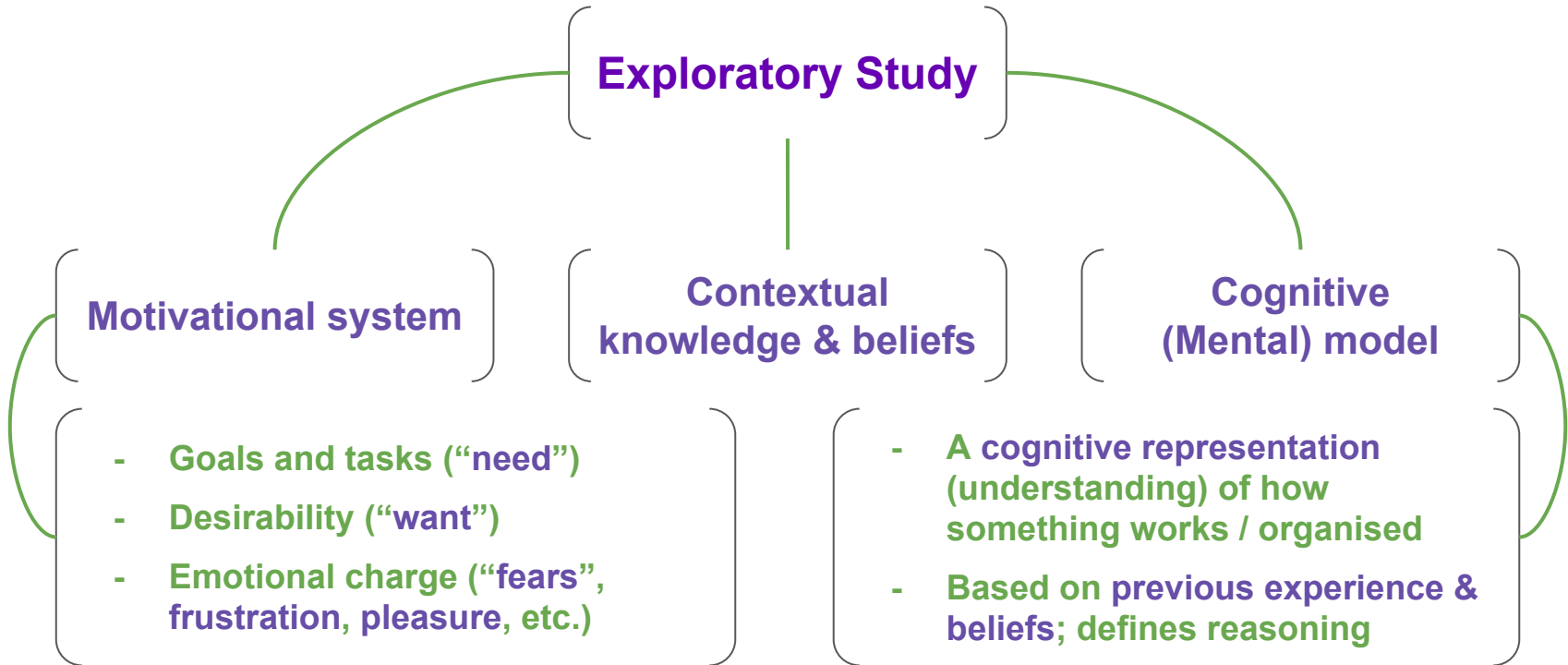
Winter 2018

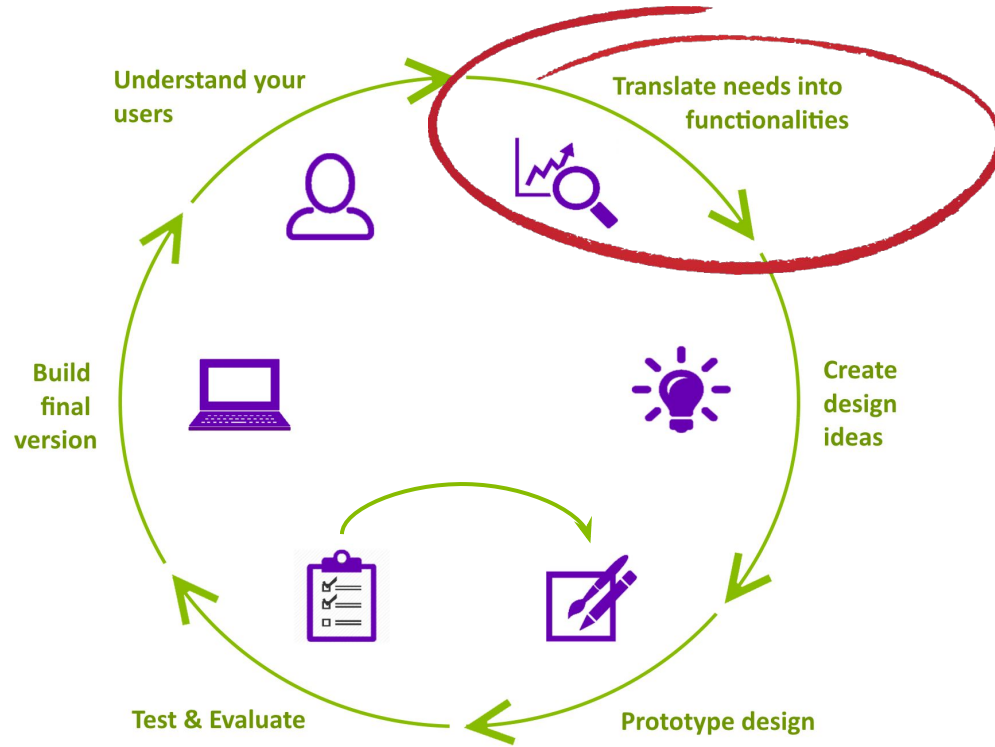
Lecture V

Anastasia Kuzminykh



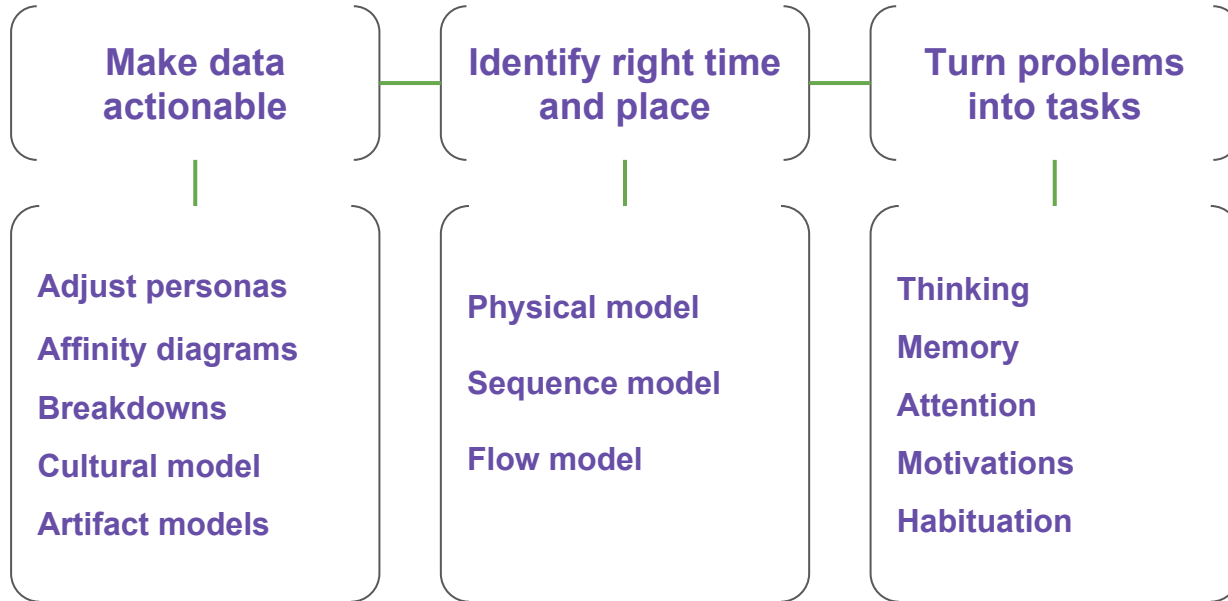
Understand Your Users: Exploratory Studies





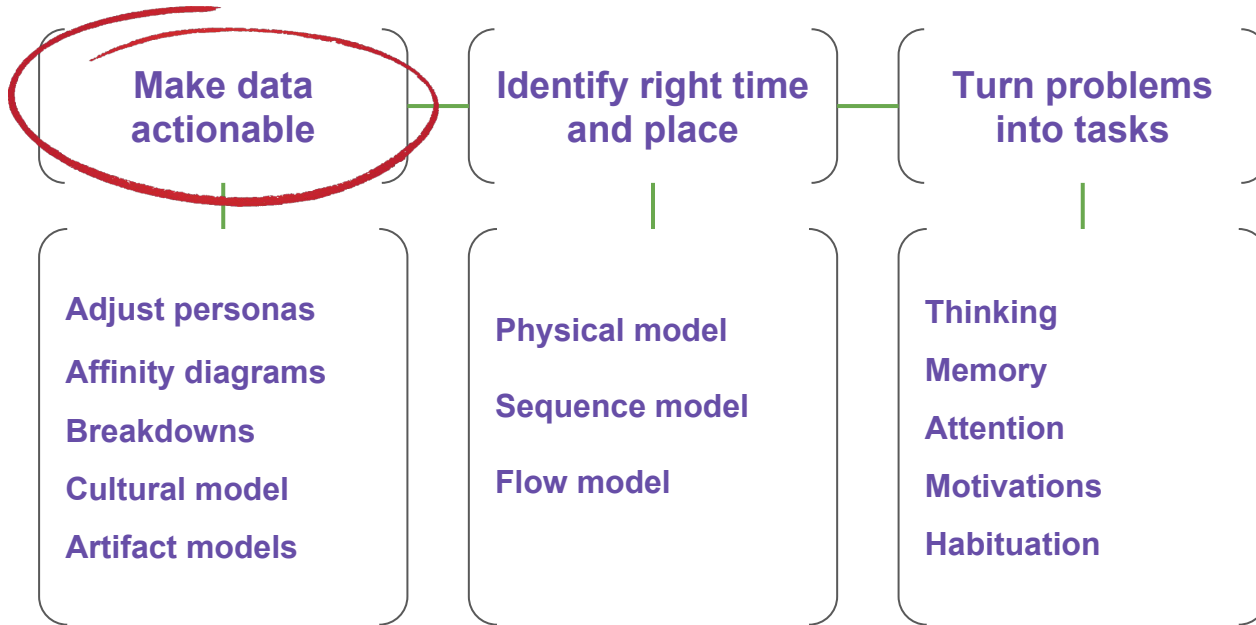


Translating Needs Into Functionalities





Translating Needs Into Functionalities





Translating Needs Into Functionalities

**Make data
actionable**

Adjust personas

Affinity diagrams

Breakdowns

Cultural model

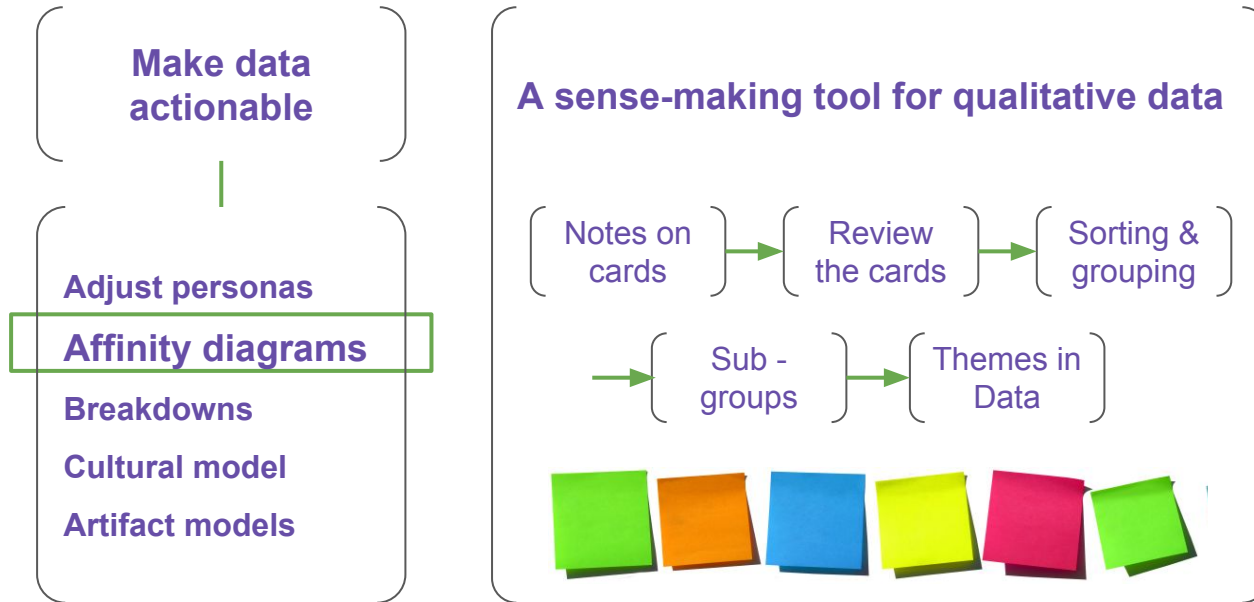
Artifact models

**Make them more colorful and detailed
based on the generalized characteristics
of your participants you did not account
for previously**

(most likely there are several)



Translating Needs Into Functionalities





Translating Needs Into Functionalities

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Breakdowns

**Cultural model
Artifact models**

**Where and when things go wrong
in individuals work practice**

**Points in time or space when
individuals have a problem
accomplishing the task that should
otherwise be easy, given the tools that
they are using**



**Unpacking the tacit dimension for
possible design solutions**



Translating Needs Into Functionalities

**Make data
actionable**

Adjust personas
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Artifact models

External influences - because:

“Work takes place in a culture, which defines expectations, desires, policies, values, and the whole approach people take to work”

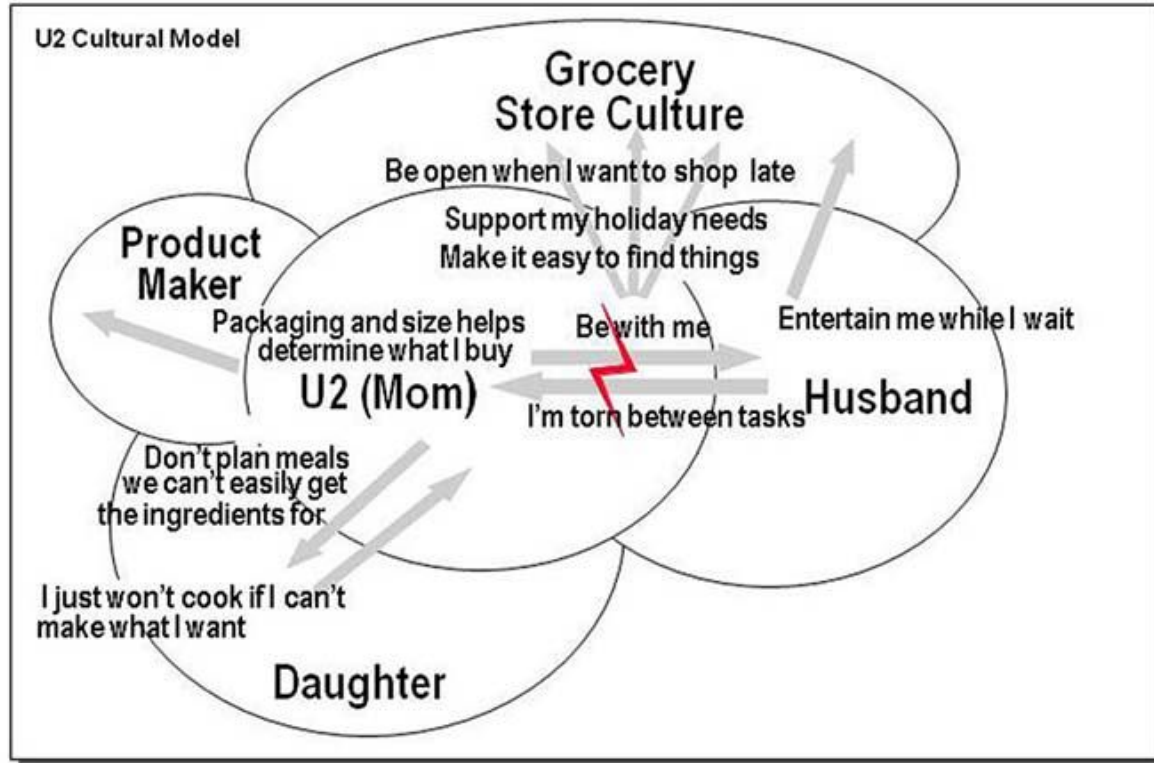
Beyer, Hugh, and Karen Holtzblatt.

Contextual design: defining customer-centered systems.

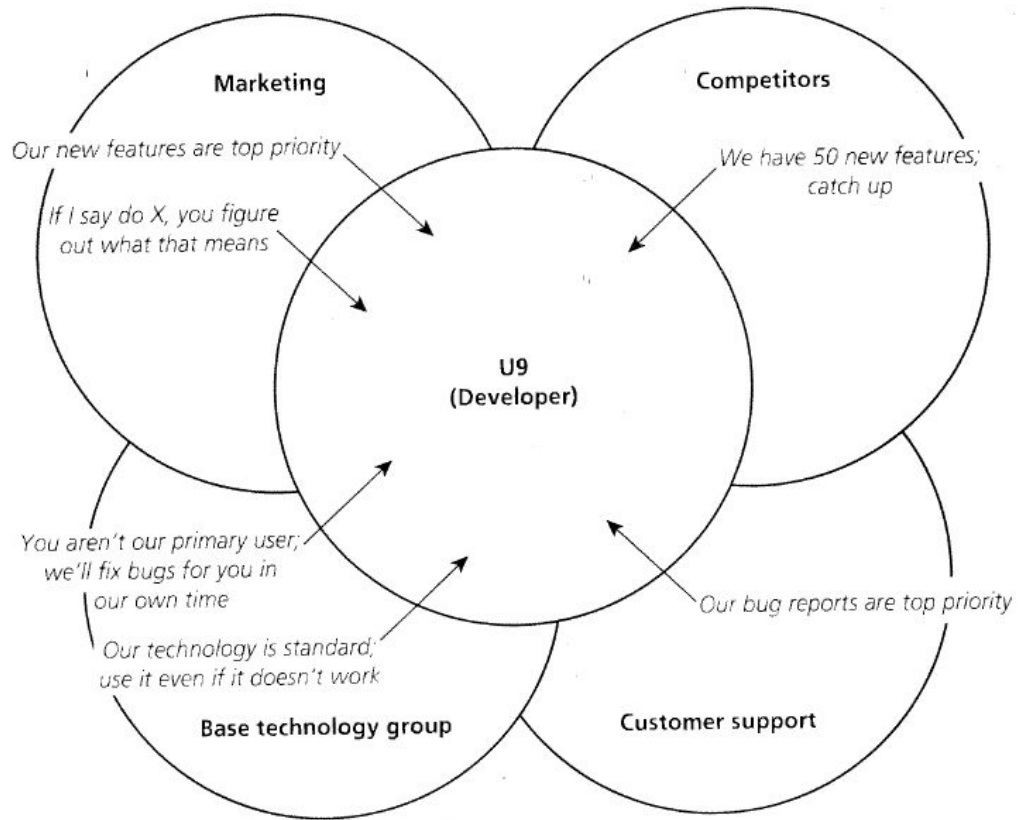
Includes:

- Influencers (represented as bubbles)
- Extent of influence (overlap of bubbles)
- Influences (as arrows - mind direction)
- Breakdowns

Cultural Model

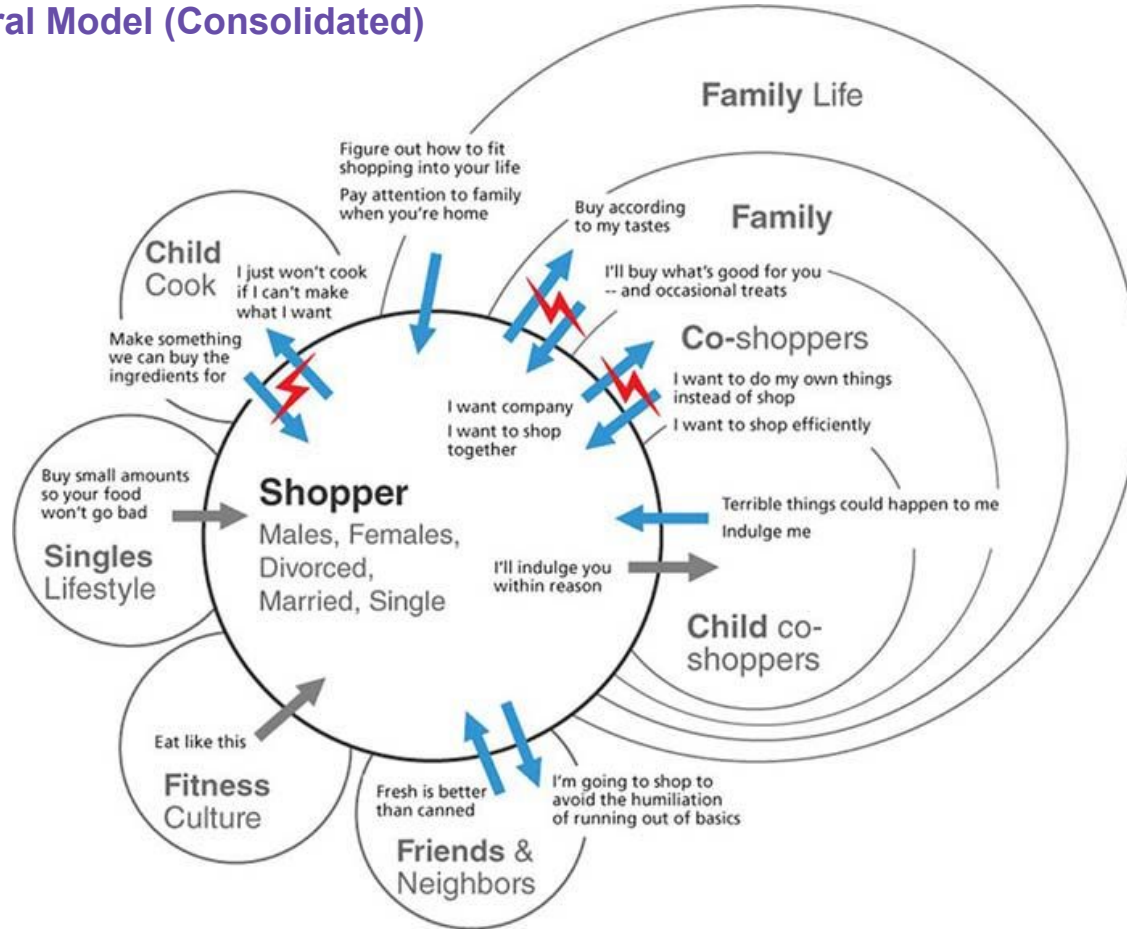


Cultural Model



Beyer, Hugh, and Karen Holtzblatt.
Contextual design: defining customer-centered systems.

Cultural Model (Consolidated)





Translating Needs Into Functionalities

Make data actionable

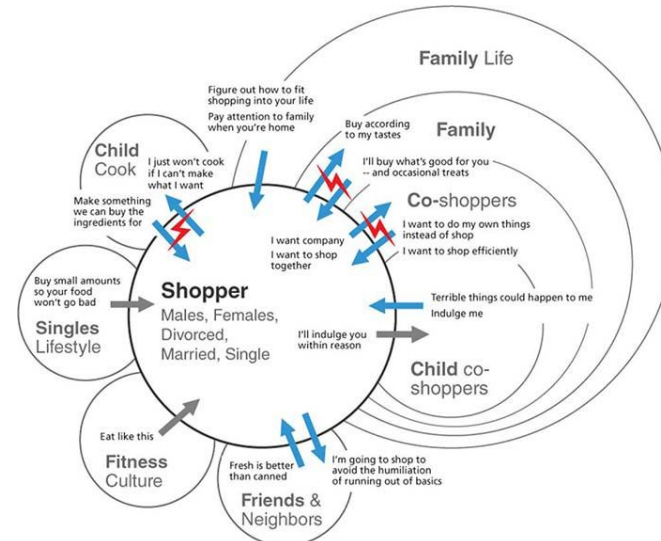
Adjust personas

Affinity diagrams

Breakdowns

Cultural model

Artifact models



Beyer, Hugh, and Karen Holtzblatt. *Contextual design*.



Translating Needs Into Functionalities

**Make data
actionable**

Adjust personas
Affinity diagrams
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Cultural model
Artifact models

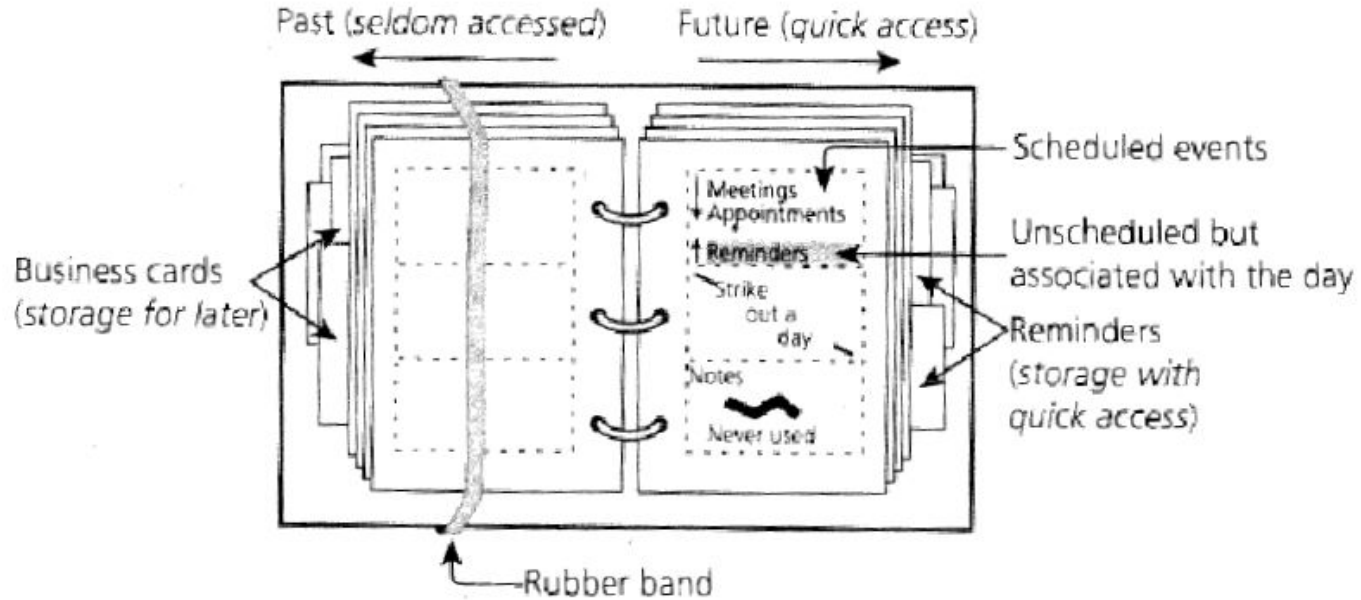
**Physical objects that support the work
(created and/or used in the process) -**
because you want to know what objects people
need and interact with

Sketch or photo

Complete with comments and notes on:

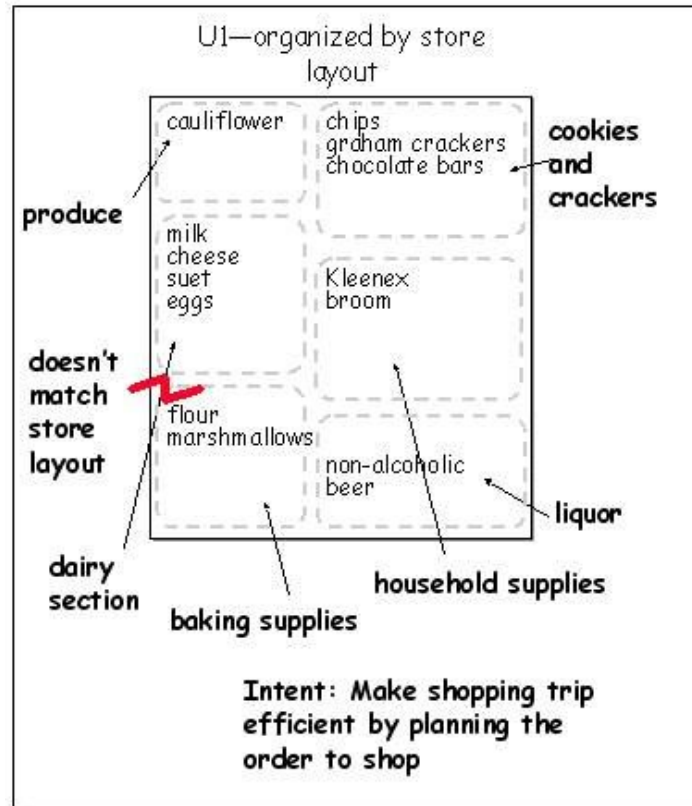
- Structure
- Related purpose and tasks
- Functionality

Artifact Model



Beyer, Hugh, and Karen Holtzblatt.
Contextual design: defining customer-centered systems.

Artifact Model



Artifact Model (Consolidated)

Consolidated Shopping List

Family Shopping List

Store name / Store section
Item (2)
Item
Item (4th big)
Item
Item (small)

Item (2)

Store name / Store section
Item
Item (3)
Item (brand - 2)
Item
Item (brand) - Get this only if child behaves good

Family Shopping List

Usage:

- List is usually built over time
- Items are added together using available white space
- Items can be more detailed with brand name and quantity where needed
- Items are grouped by store name or store section (e.g. food or household goods)
- Head chef reviews the final list and decides what to buy

Intents:

- Capture needs for multiple family members
- Instruct shopper what to purchase for all family members when the shopper is not head chef
- Make sure to get healthy, quality items family members need and match their expectations

Personal Shopping List

Item / generic name
Item / generic name
Item
Item
Item
Item
Item
Item

Personal Shopping List

Usage:

- Usually organized like the house, built just prior to shopping
- Items are added randomly, not grouped
- List is concise, usually only capturing generic name (e.g. toothbrush, lunch meat)
- List is often for one specific store

Intents:

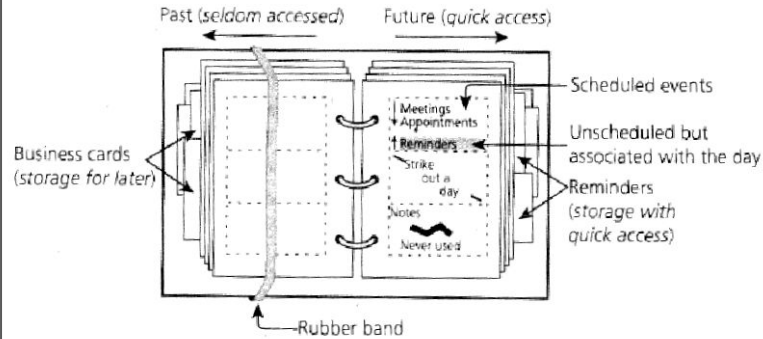
- Create mental trigger to get item when you see it in store (without necessarily needing to look at list)
- Remind head chef to recall details about the item to buy when looking at list



Translating Needs Into Functionalities

Make data actionable

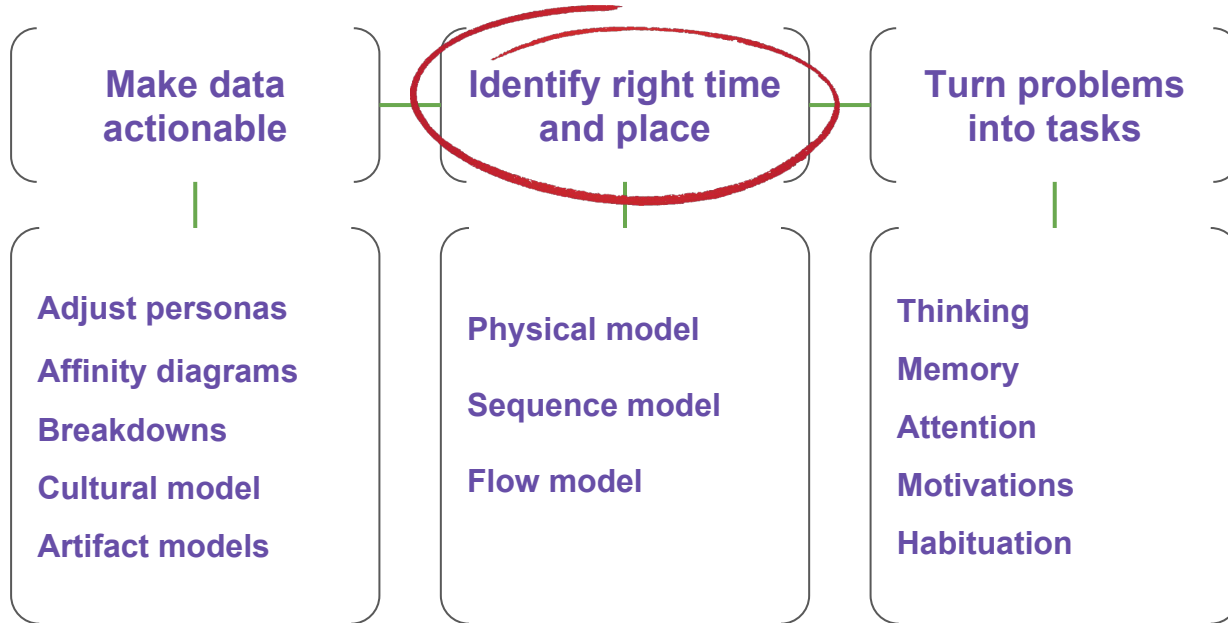
Adjust personas
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Cultural model
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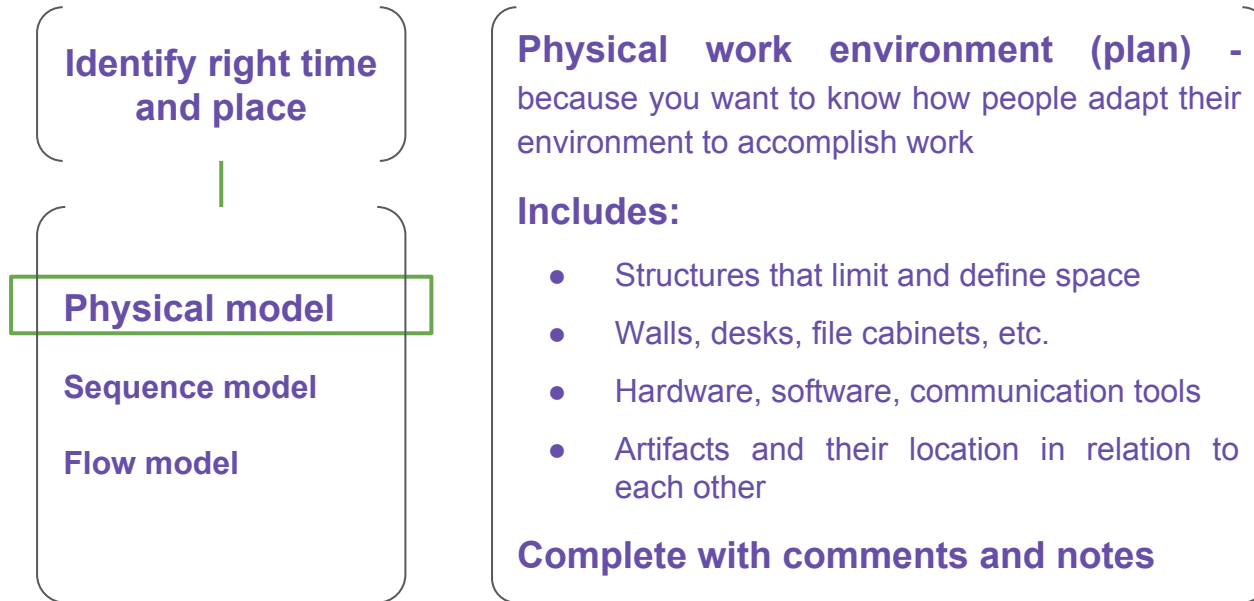


Translating Needs Into Functionalities

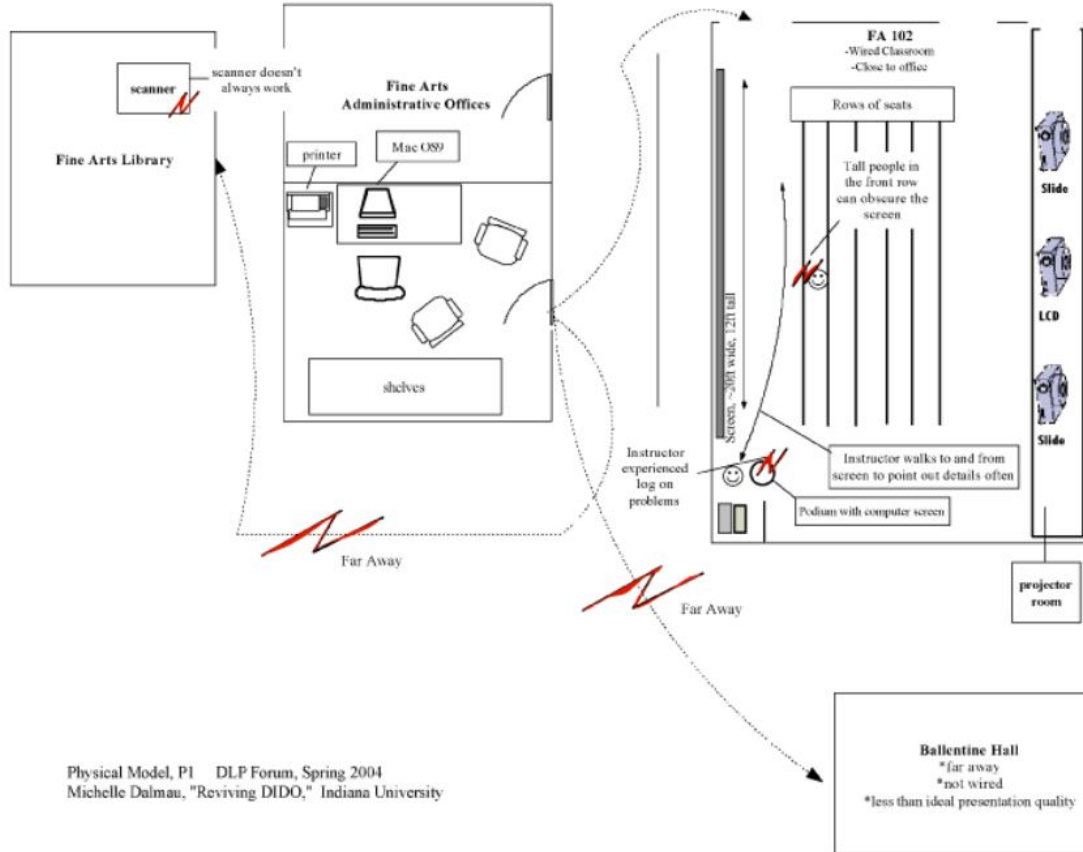




Translating Needs Into Functionalities

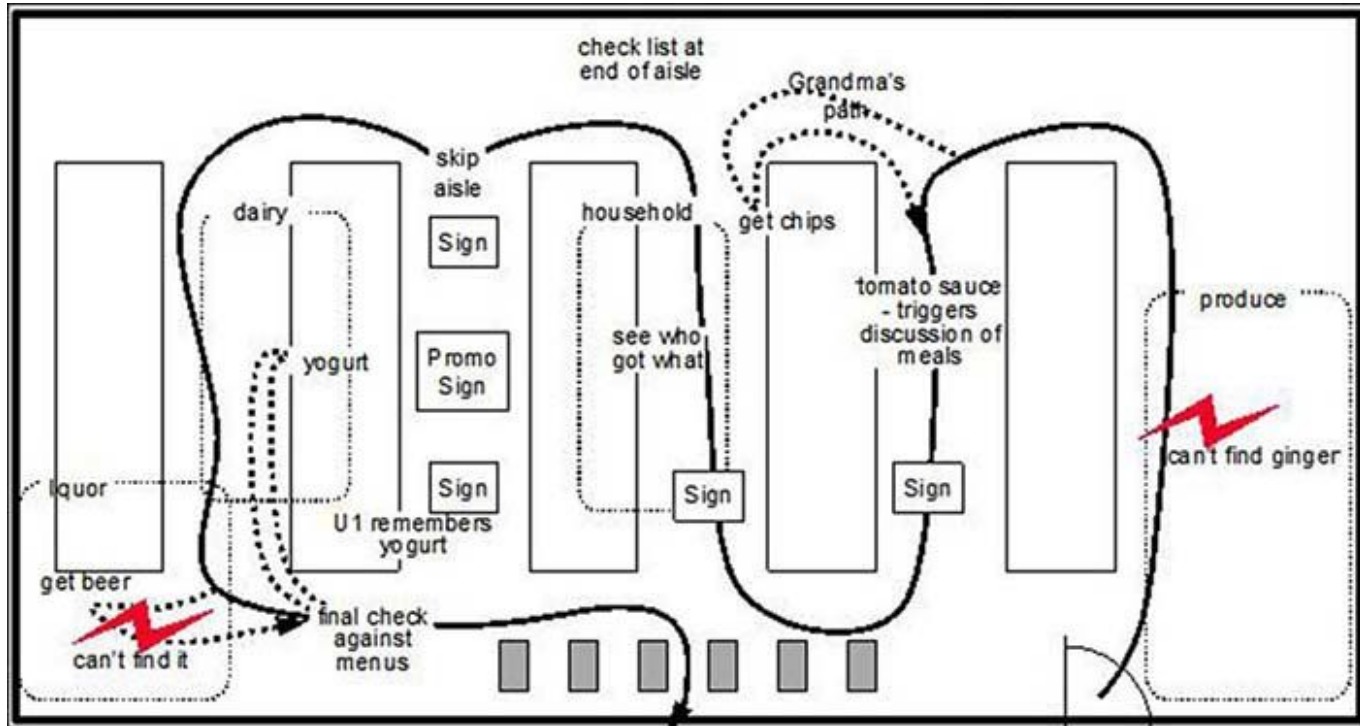


Physical Model

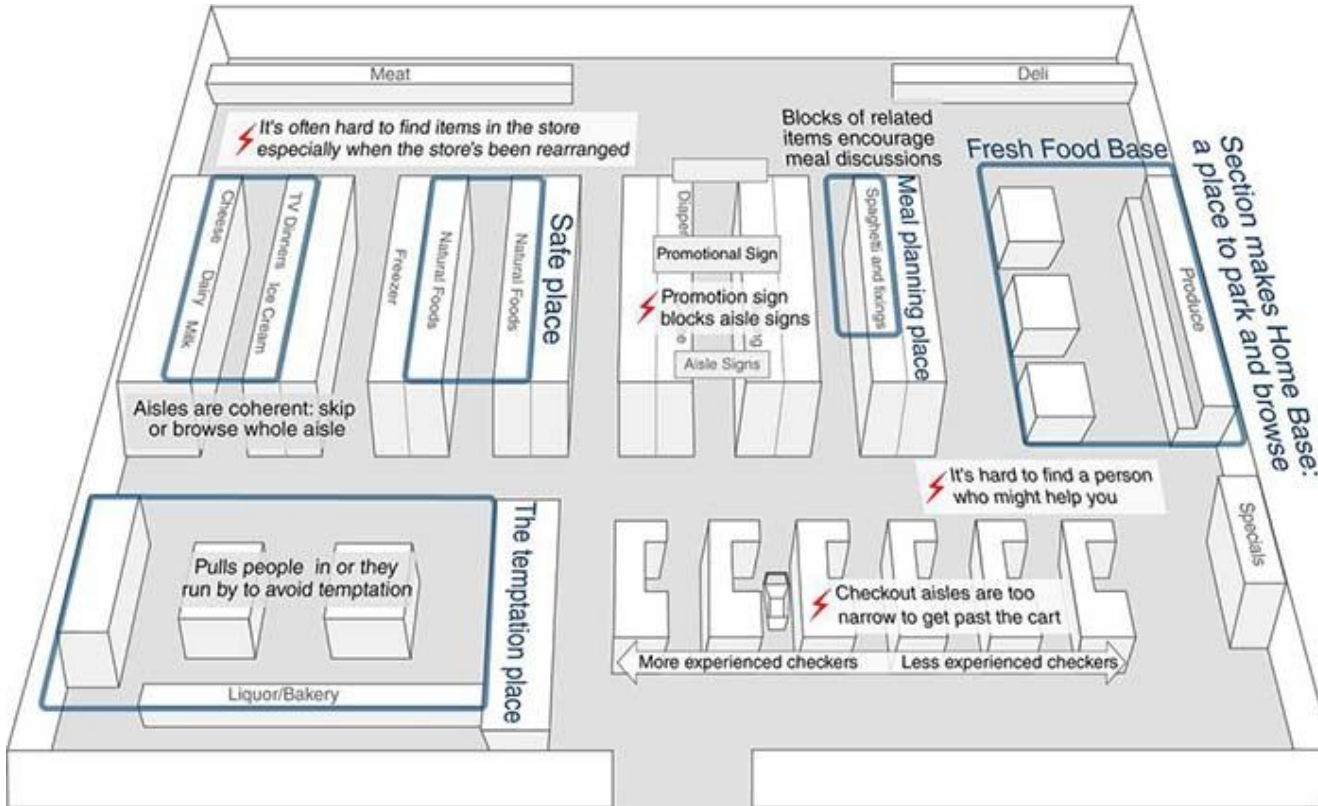


Physical Model, P1 DLP Forum, Spring 2004
Michelle Dalmau, "Reviving DIDO," Indiana University

Physical Model



Physical Model (Consolidated)





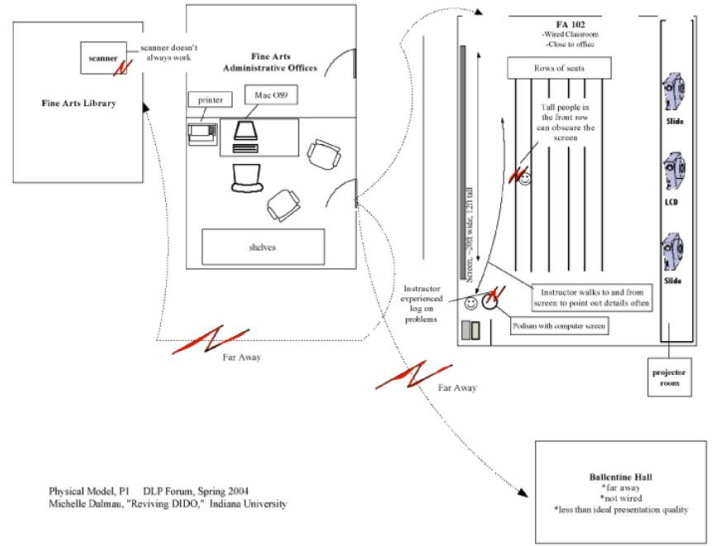
Translating Needs Into Functionalities

Identify right time
and place

Physical model

Sequence model

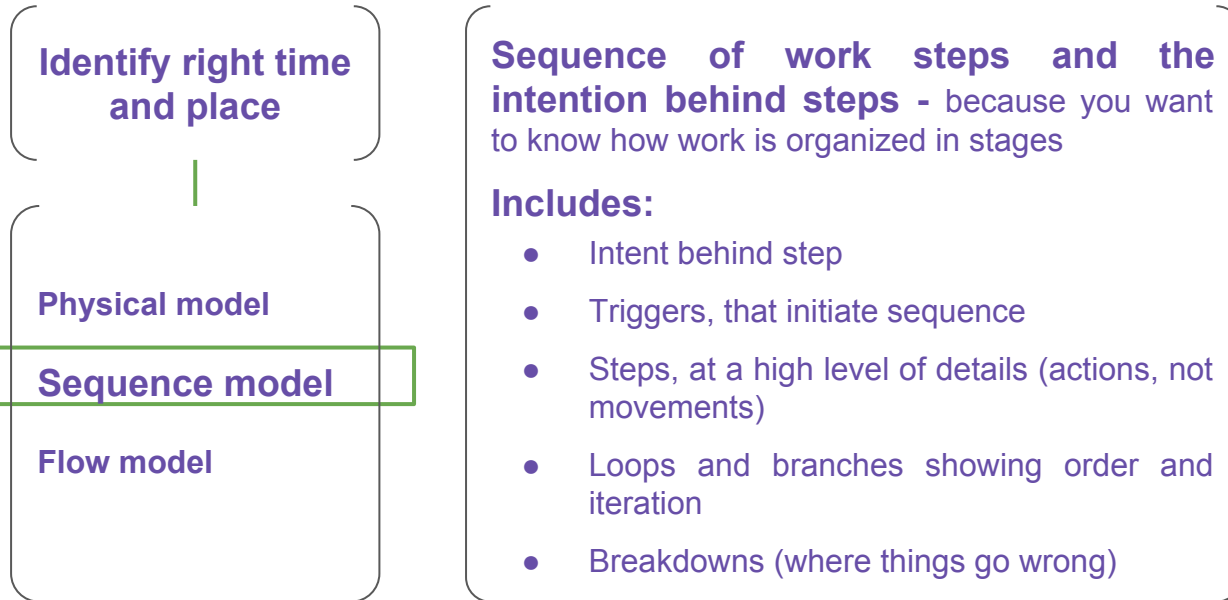
Flow model



Physical Model, P1 - DLP Forum, Spring 2004
Michelle Dalton, "Reviving DIDO," Indiana University



Translating Needs Into Functionalities



Sequence Model

	Intent: Needs to prepare 4 lectures for A214: Life and Art of Ancient Rome – Roman Religion
	Trigger: Class meets tomorrow afternoon, need to have first lecture ready
Note: In progress: PPT, Netscape 4.x and file Finder windows open before we arrived. Loyal MAC (OS 9.x) user.	Prompted by syllabus – topic for this week, Roman Religion
Intent: Recycle PPT – use a base PPT rather than start from scratch	Find existing PowerPoint (PPT) lecture on similar topic
Note: Keeps all the existing images/PPT slides	Copies (Saves As) PPT as A214 for Roman Religion Lecture
Intent: Colleague normally teaches this class (A214)	Goes to Classical Art Historian’s course web page (A210) – Bookmarked
Intent: Colleagues usually has good images (from DIDO)	Browses “Roman Gods” link (see Artifact A210 home page)
Note: Image quality assessment is automatic and very subjective	Identifies desired image /assesses quality
Intent: Expand lecture with reliable resource	*Downloads image (CTRL+Click) to “Download Image to Disk”
Note: Knows keyboard shortcuts	
Intent: Dynamically builds own image collection	*Saves image to “Roman Art” folder
	<i>No sub-folders – many, many unique images in one folder</i>
Note: Steps identified with * are done fluidly and repetitively while preparing lecture. Steps will not be represented for every image found as such but in shorthand: Integrates image	*Renames image (long, descriptive names)
	*Copy and Paste image into PPT slide
	*Resizes/Positions image in PPT

Sequence Model





Translating Needs Into Functionalities

Identify right time
and place

Physical model

Sequence model

Flow model

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Translating Needs Into Functionalities

**Identify right time
and place**

Physical model

Sequence model

Flow model

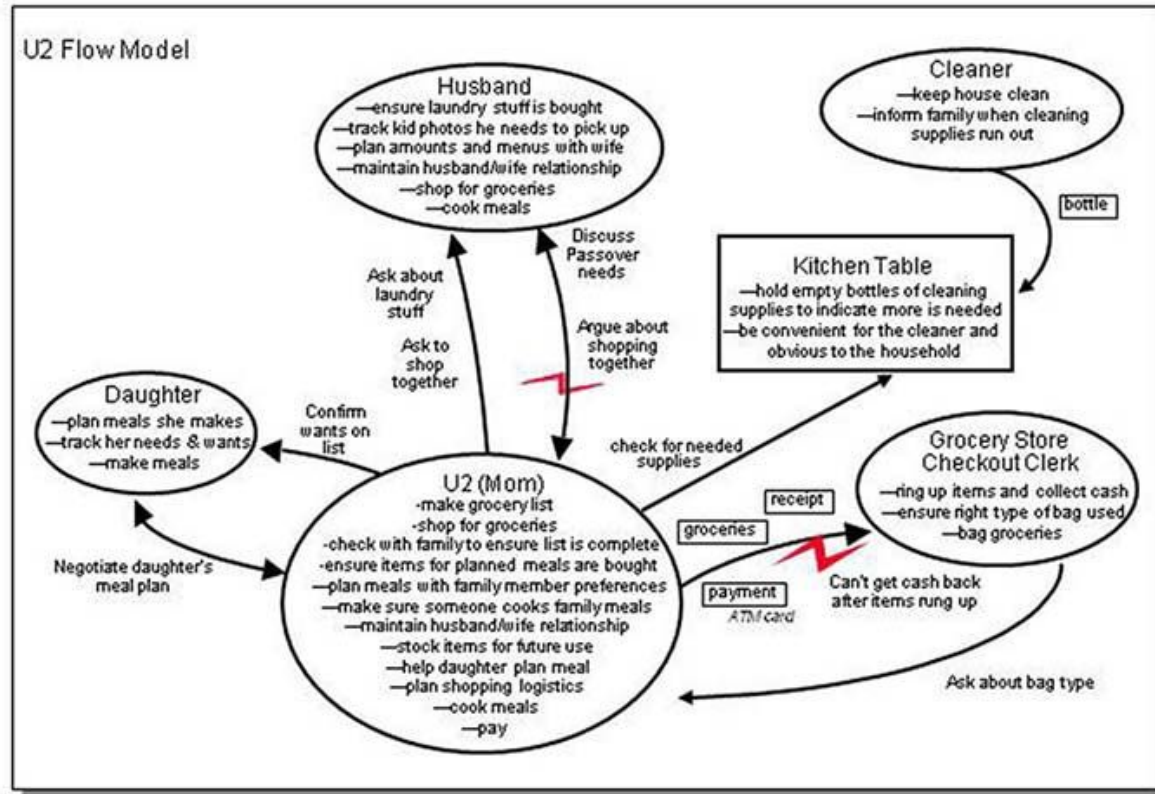
**Directions of communication and
coordination**

**Defines how work is broken up across
people and how people coordinate**

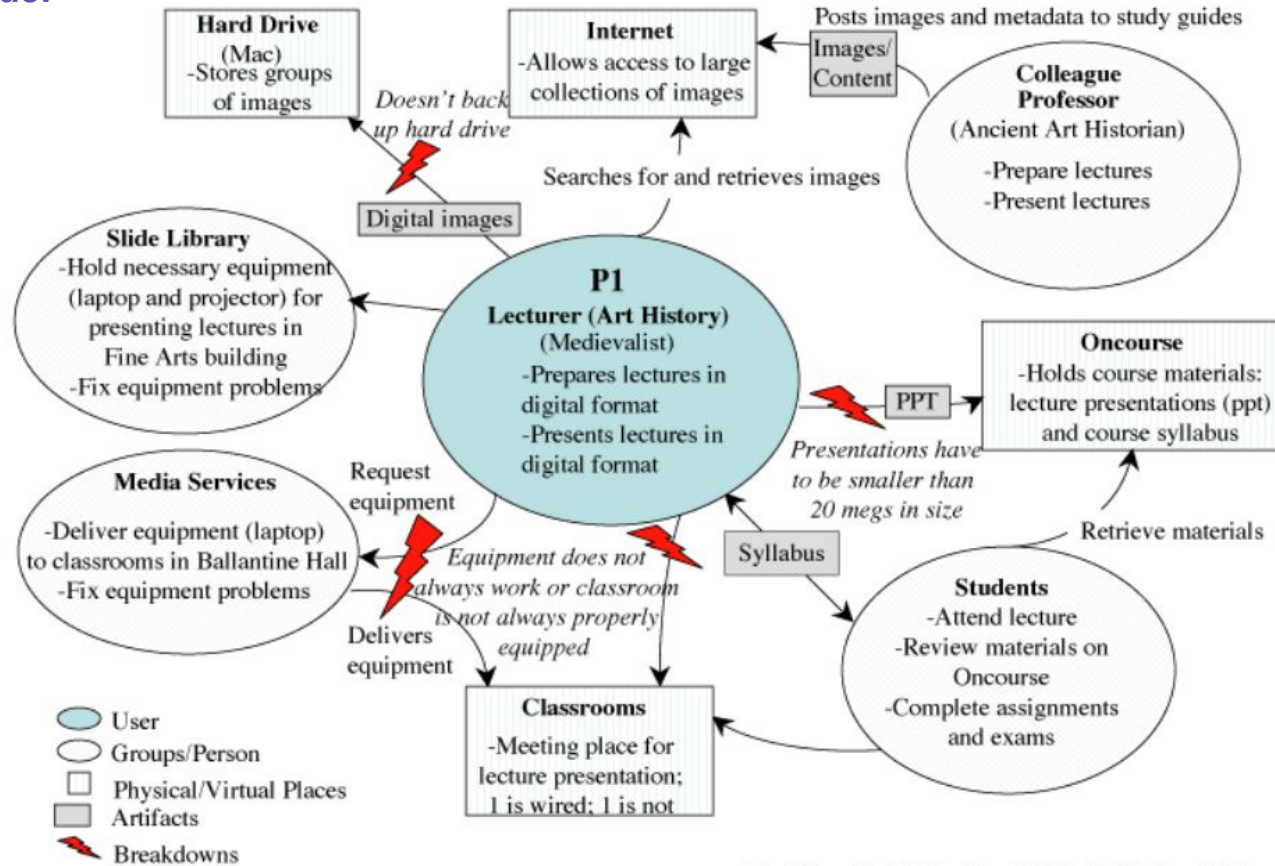
Includes:

- Interviewee (in the middle - circle)
- Other groups/people (circles)
- Physical/virtual places (usually rectangles)
- Artifacts as they pass between people
- Breakdowns (where things go wrong)

Flow Model



Flow Model





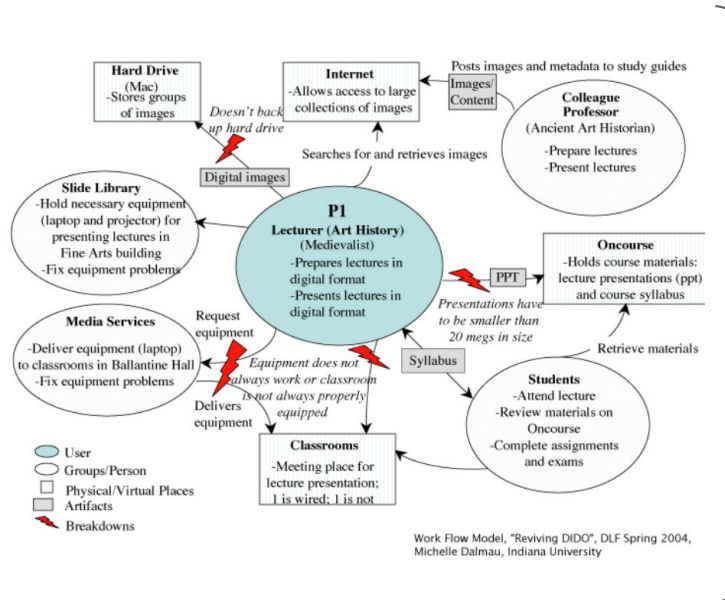
Translating Needs Into Functionalities

Identify right time
and place

Physical model

Sequence model

Flow model





Translating Needs Into Functionalities: Preparation

