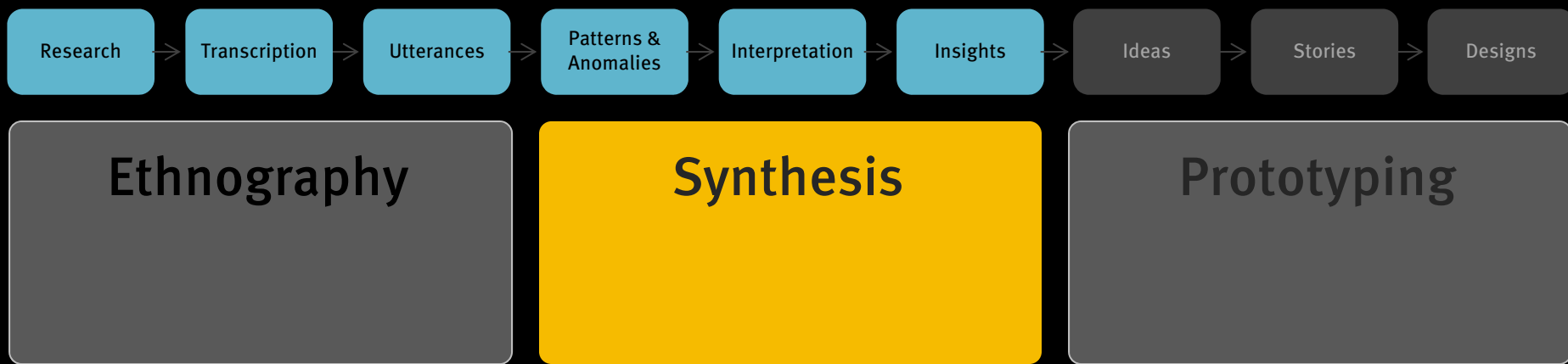




# Work Modeling

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ac4d



## The goals:

1. To make sense of data
2. To understand intent
3. To move towards insights

# A model..

.. Is a small object, usually built to scale, that represents in detail another, often larger object.

A model provides  
a shared understanding of the user-data,  
a shared language for the design team,  
and an easily understandable deliverable for  
communication outside the design team.

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Most importantly, models give us a  
visual representation of the user data.



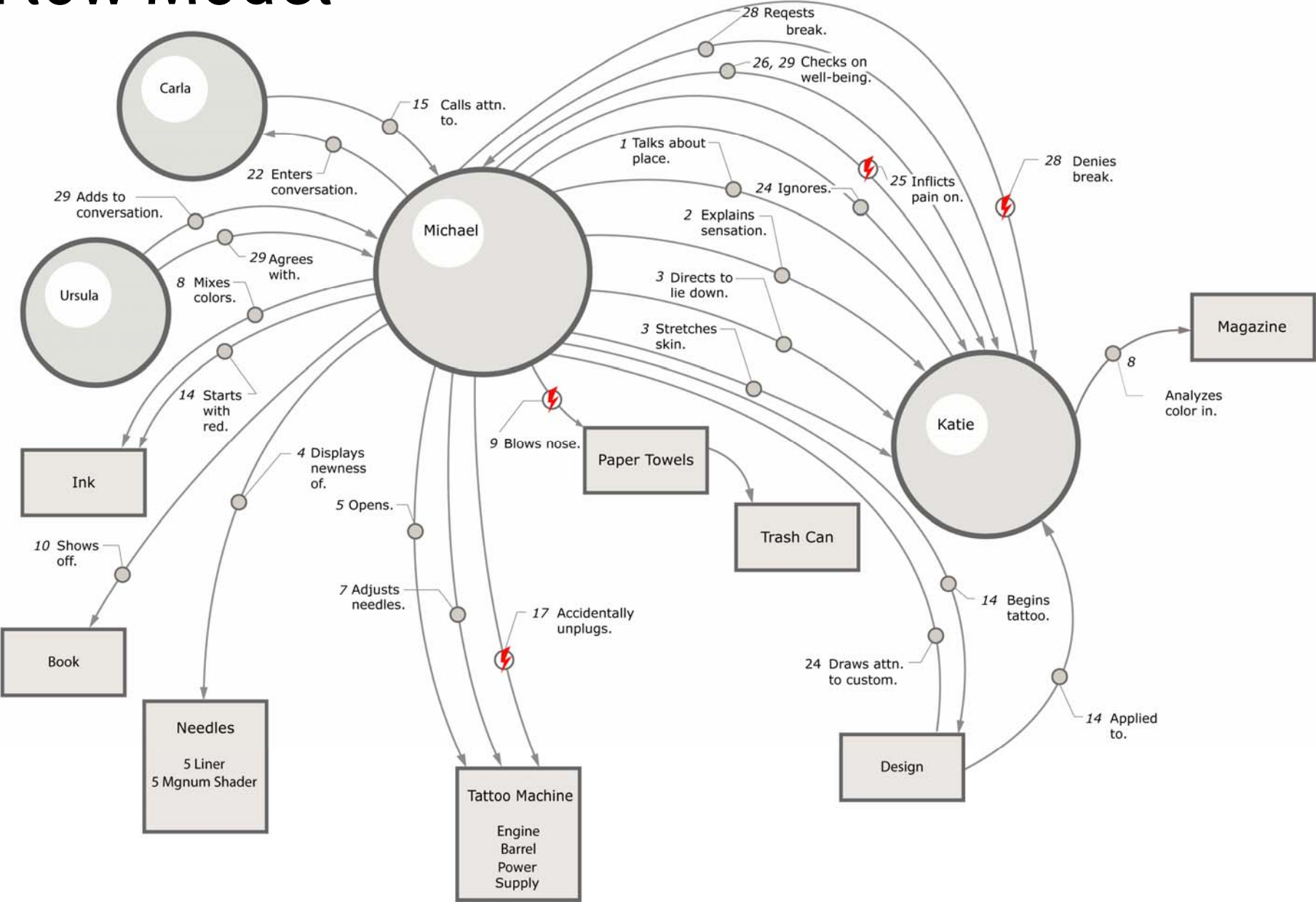
# Contextual Design Modeling:

## Slice the research data into different views.

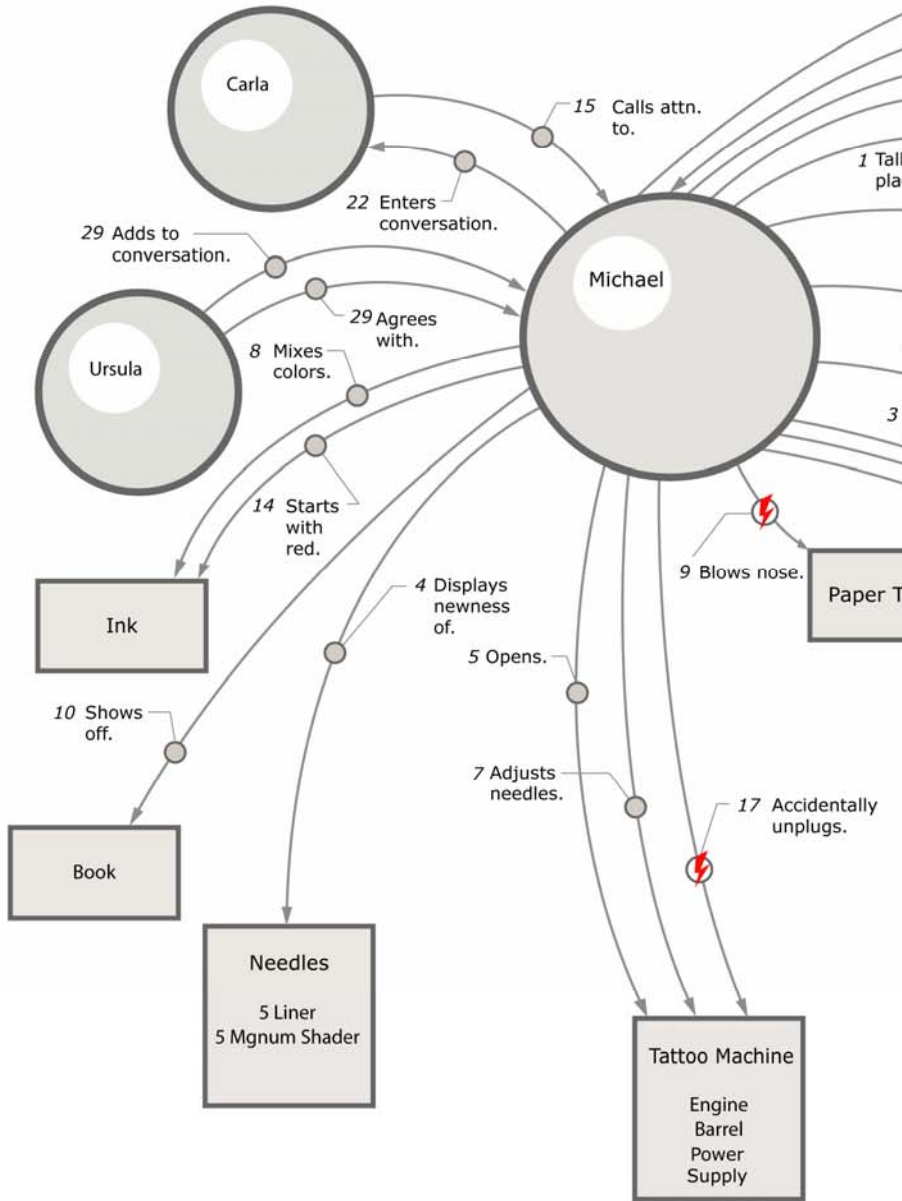
### 5 Contextual Design Models/

1. Flow  
How work is divided among roles and coordinated, without regard for time
2. Sequence  
The order of work tasks over time
3. Cultural  
The influencers which define expectations, desires, values and the overall approach people take to their work
4. Physical  
The physical environment in which work is accomplished
5. Artifact  
The tangible items people create and use to help them get their work accomplished

# Flow Model



# Flow Model



**Individuals** who do the work, shown as circles

**Groups** (sets of people), shown as circles

**Responsibilities** of the individual or the group, shown as a list in a circle


**Flow** of communication, shown as arrows and lines between individuals or groups

**Communication topics**, shown as labels on the flow lines

**Artifacts**, shown as small boxes on a flow  
**Places**, shown as large boxes

**Breakdowns in communication or coordination**, shown as a red lightning bolt and annotated as necessary.

# Sequence Model

Line Number	Trigger	Goal	Action	breakdowns
3	Setup is complete	To begin tattoo	Directs Katie to lay down	
3	Preparation for working with a first timer	To inform patient	Stretches Katie's skin	
4	It is procedure	To reassure patient	Michael shows Katie unopened needles	
4	Getting ready to start working on tattoo	To prepare for tattoo	Michael opens packages of needles	
5,6	Getting ready to start working on tattoo	To prepare for tattoo	Michael assembles and discusses machine components	
7	Getting ready to start working	To prepare for tattoo	Michael adjusts machine	
8	Katie makes request	To satisfy customer's request	Michael mixes color	
9	Michael may have had a cold	Mucous removal	Michael blows his nose	
9	Sarah is in tattoo booth	To obey health codes	Michael asks Sarah to leave booth	
10		To inform	Michael shows tattoo book	
14	To maintain his style	To avoid black outlines on Katie	Michael tattoos red on Katie	
15	Red portion of tattoo is finished	To begin line work	Michael switches to black ink	
15	Conversation about style	To offer visual reference to his style	Michael calls Carla over to show off her tattoos	
17	Michael moves so machine cord is pulled	No goal – this was an accident	Machine comes unplugged	
17	Machine came	Give power to	Michael plugs	

# Sequence Model

Line Number	Trigger	Goal
3	Setup is complete	To begin ta
3	Preparation for working with a first timer	To inform p
4	It is procedure	To reassur
4	Getting ready to start working on tattoo	To prepare
5,6	Getting ready to start working on tattoo	To prepare
7	Getting ready to start working	To prepare
8	Katie makes request	To satisfy customer's
9	Michael may have had a cold	Mucous ren
9	Sarah is in tattoo booth	To obey he codes
10		To inform
14	To maintain his style	To avoid b outlines on
15	Red portion of tattoo is finished	To begin li
15	Conversation about style	To offer vis reference t
17	Michael moves so machine cord is pulled	No goal – t an accident
17	Machine came	Give powe

Work tasks are ordered and unfold over time. The steps people take aren't random; they happen the way they do for a purpose.

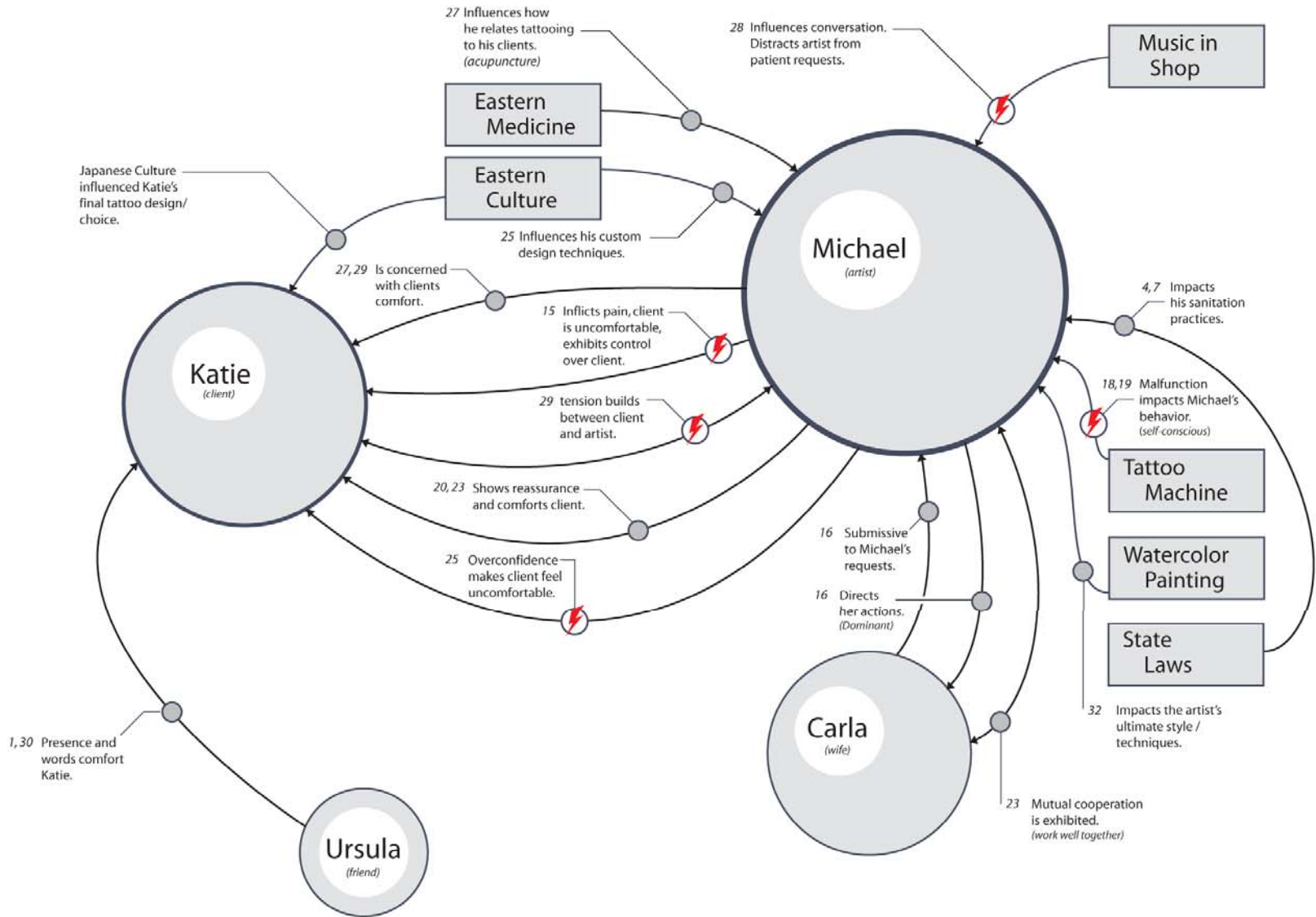
**Triggers**, described in sentences or blurbs

**Intents**, described in sentences or blurbs

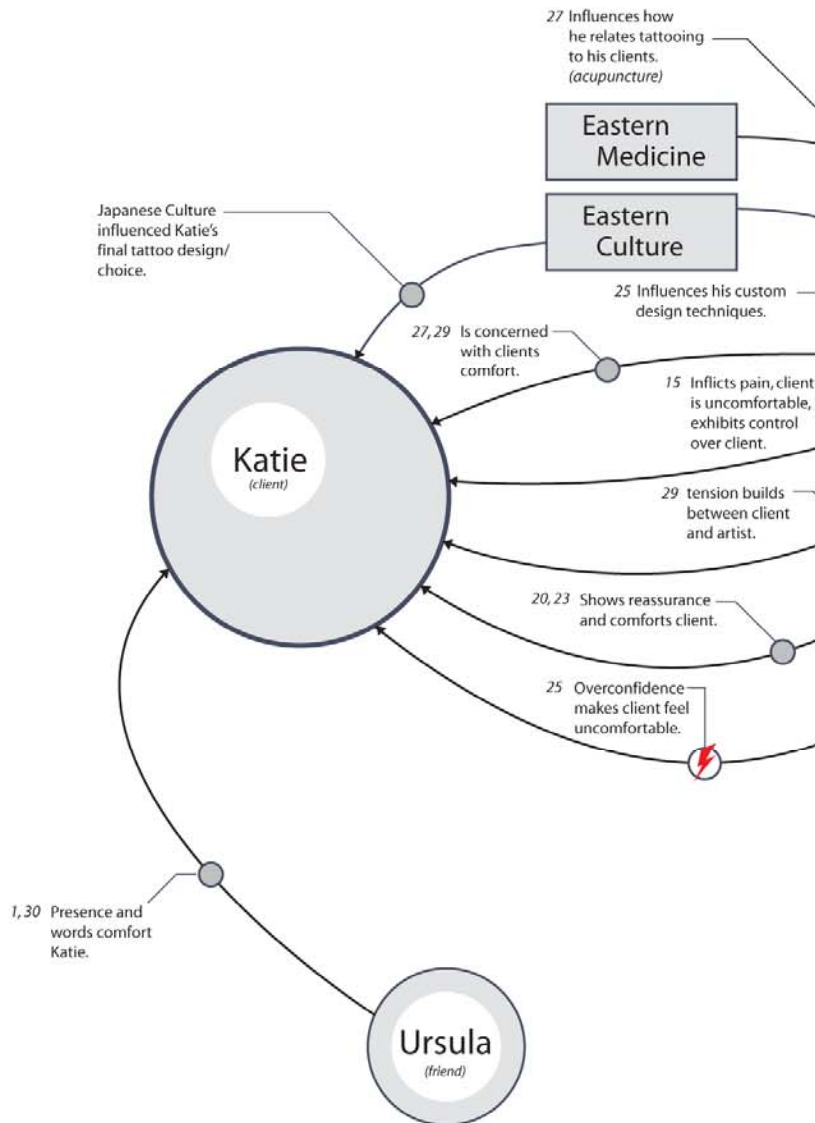
**Actions**, described in sentences

**Breakdowns** in doing the steps, shown as a red lightning bolt and annotated as necessary.

# Cultural Model



# Cultural Model



Work takes place in a culture, which defines expectations, desires, policies, values and the whole mindset people take for their work.

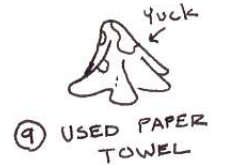
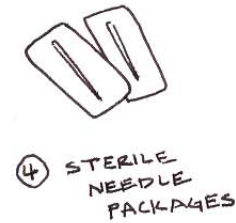
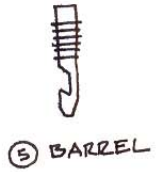
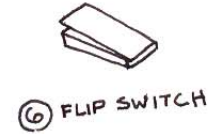
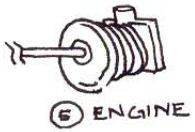
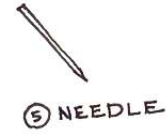
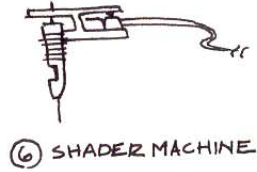
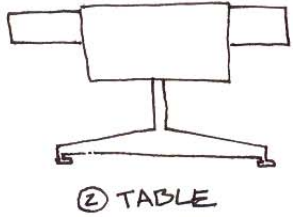
**Influencers**, shown as circles.

**The extent of the influence**, illustrated by the size of the circles

**The influence**, shown as an arrow pointing from one influence to another, and described in text.

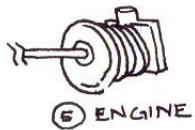
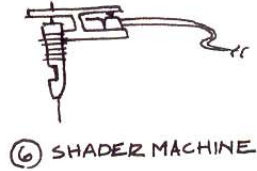
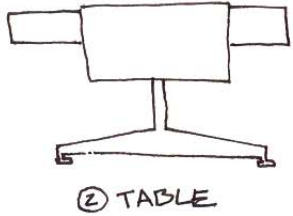
**Breakdowns in cultural influence**, shown as a red lightning bolt and annotated as necessary.

# Artifact Model





# Artifact Model



People create, use and modify things in the course of doing work. These things become artifacts, which each tell their own stories.

**A visual representation of the object**, either drawn, photographed, or scanned

**Presentation of the object**, including relevant physical characteristics

**Information presented by the object**, such as the contents of a form

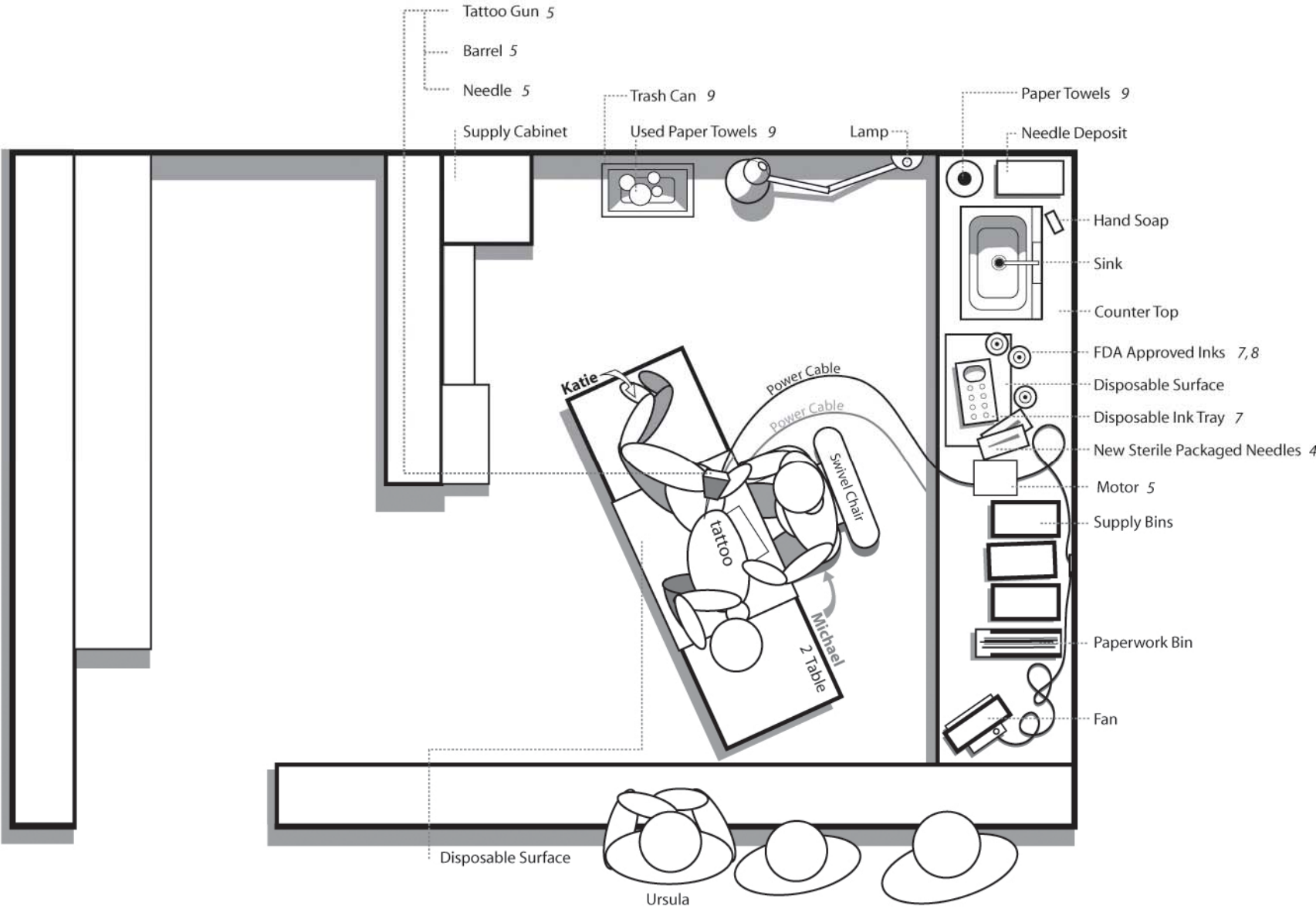
**The structure**, or grouping, of the parts of the object

**Annotations** showing informal usage of the object, such as highlighting, post-its, etc

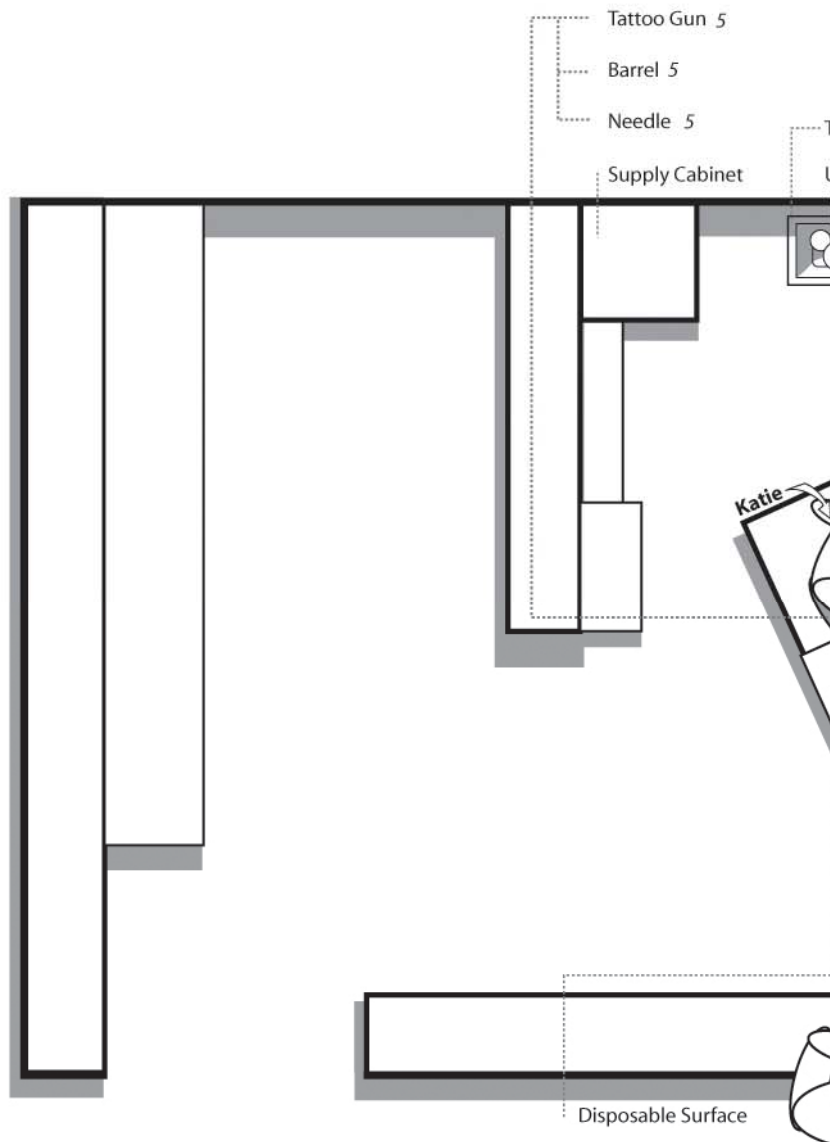
**A description of the object and its use**, in sentences

**Breakdowns** in using the artifact, shown as a red lightning bolt and annotated as necessary.

# Physical Model



# Physical Model



Work occurs in a physical environment that either supports and enabled the work or gets in the way.

**Places that work occurs**, shown in plan view and annotated

**Physical structures** that define the space, shown as geometric shapes

**Movement throughout the space**, shown as arrows and lines and annotated

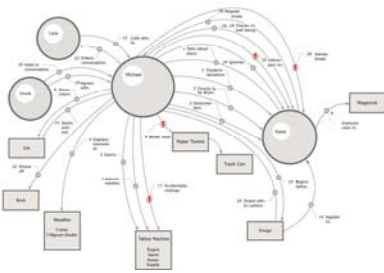
**Hardware, software, and tools** that are present, shown visually as appropriate and annotated

**Artifacts**, shown visually as appropriate and annotated

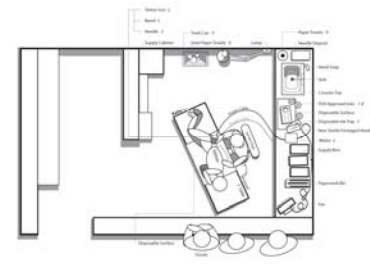
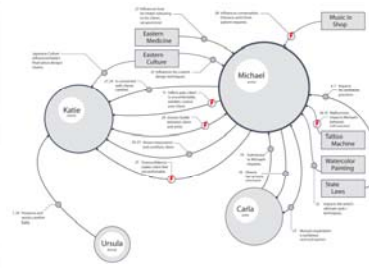
**Breakdowns in the physical space**, shown as a red lightning bolt and annotated as necessary.

# Contextual Design Modeling

## 5 Views of An Experience.



Line Number	Trigger	Goal	Action	Preconditions
3	Setup is complete	To begin tattoo	Directs Kate to his client	Michael shows Kate occupied needles...
3	Preparation for working with a first time	To inform patient	Michael shows Kate package of needles	Michael assembles and discards
4	It is procedure	To reassure patient	Michael shows Kate machine components	Michael makes color
4	Getting ready to start working on tattoo	To prepare for tattoo	Michael shows Kate customer's request	Michael shows his name
5,6	Getting ready to start working on tattoo	To prepare for tattoo	Michael asks Sarah to leave booth	Michael shows Sarah to leave booth
7	Getting ready to start working	To satisfy customer's request	Michael shows tattoo book	Michael shows red on Kate
8	Kate makes request	Michael makes color	Michael switches to black ink	Michael asks Carla quer to show off her tattoo
9	Michael may have had a call	Michael removal	Michael comes out/engaged	
9	To play health code	Michael removal		
10	To return	Michael removal		
14	To maintain the style	To avoid black outlines on Kate		
15	Red portion of tattoo is finished	To begin new work		
15	Conversation about style	To offer visual reference to the style		
17	Michael moves to machine and is pulled	No goal - this was an accident		
18	Michael returns	Michael returns		



Flow

Sequence

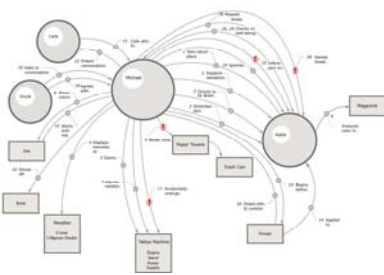
Cultural

Artifact

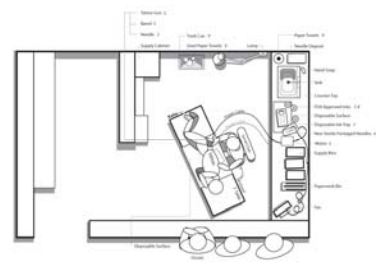
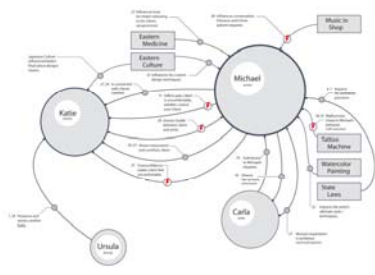
Physical

# Contextual Design Modeling

## 5 Views of An Experience.



Line Number	Trigger	Goal	Action	Observations
3	Setup is complete	To begin tattoo	Directs Katie to his client	
3	Preparation for working with a first time	To inform patient	Directs Katie to his client	
4	It is procedure	To reassure patient	Michael shows Katie occupied needles...	
4	Getting ready to start working on tattoo	To prepare for tattoo	Michael opens package of needles	
5,6	Getting ready to start working on tattoo	To prepare for tattoo	Michael assembles and discards machine components and discards	
7	Getting ready to start working	To satisfy customer's request	Michael mixes color	
8	Katie makes request	Michael removes customer's request	Michael shows her name	
9	Michael may have had a call	To play health code	Michael asks Sarah to leave booth	
10	Michael may have had a call	To return	Michael shows tattoo book	
14	To maintain the style	To avoid black outlines on Katie	Michael advises to black out	
15	Red portion of tattoo is finished	To begin line work	Michael switches to black ink	
15	Conversation about style	To offer visual reference to the style	Michael calls Carla over to show off her tattoo	
17	Michael moves to machine and is pulled	No goal - this was an accident	Machine comes on/rings	



Flow

Sequence

Cultural

Artifact

Physical

ON ALL MODELS/

Always label all data on the models (citations) with line numbers from the transcript or time on the tape; allowing you to go back to the raw data

Anything unlabeled is a hypothesis

Legibility is very, very, very important!

# Contextual Design Modeling

Create all five models at once, through an “interpretation session”:

The models are created during an Interpretation Session, which helps us assign meaning to the data.

You’ll need multiple people:

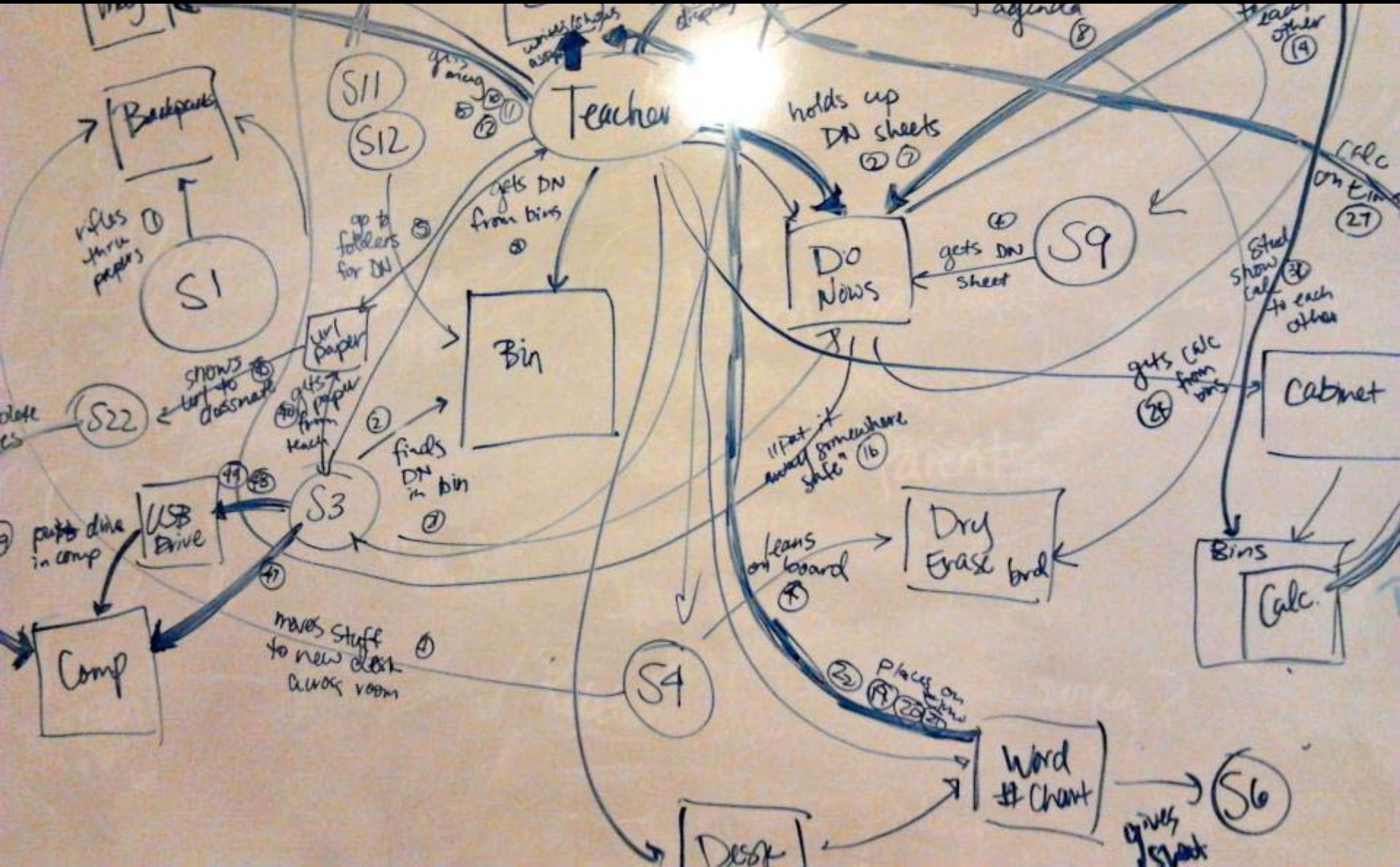
- Interviewer
  - Describes what happened
  - Answers questions
  - Draws the Physical Model
- Modelers, one each for Work, Sequence, Artifact & Cultural
- Recorder, takes note of any design ideas, breakdowns and key points

# Contextual Design Modeling

Create all five models at once, through an “interpretation session”:

1. Hand out the transcript; make sure everyone has a copy with line numbers labeled
2. Individually, read the entire interview
3. As a group, discuss the interview in general terms to make sure everyone is at the same starting point
4. Assign roles; in a small group, each person may need to perform multiple roles
5. Set up large sheets of paper on the walls, one for each model
6. Step through the interview transcript, and begin to create the models. For each line in the transcript, make additions to each model as relevant.
7. Record observations, insights, influences, questions, design ideas, and breakdowns
8. Summarize important insights on a separate piece of paper

# This is a messy process!





# ac4d

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Download our free book,  
**Wicked Problems: Problems Worth Solving,**  
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