

Moving towards Design

Christopher Frauenberger

User-Research Methods VU 2017

Exercise

What are they doing with their results?

On the tables, pick out papers from TUWEL you have read and see what they do with the results of their user research

1. What are the results?
2. How are they informing design ideas?
3. How clear is the link from results to design?



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User research can...

... provide **implications for design**

- specific (features, functions)
- general (values, qualities)

... provide vital **information about user**

- contextual, beyond a technology focus
- reflective engagement, participatory & service design

... inform stakeholders, **policies**



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Questions to ask

- Who is the **audience** for this data?
 - What do they need from you?
 - What do they want to do with it?
 - What do you need from them?
- What is already **known**?
 - What installed base are we working from?
- What skills, **resources**, channels, time do you have
 - for analysis?
 - for communicating findings?
 - for engaging relevant ‘stakeholders’?

Ways to present

- Rich text in academic papers
- Personas
- Task Descriptions
 - Scenarios; Hierarchical task analysis
- Contextual Design approaches - Models
- Soft Systems Methodology - Rich Picture Stories
- HODI - Habitus of Design Inspiration
- Visual Stories, Story boards
- Design Fiction

Not For Me: Older Adults Choosing Not to Participate in a Social Isolation Intervention

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ABSTRACT

This paper considers what we can learn from the experiences of people who choose not to participate in technology-based social interventions. We conducted ethnographically-informed field studies with socially isolated older adults, who used and evaluated a new iPad application designed to help build new social connections. In this paper we reflect on how the values and assumptions guiding the technological intervention were not always shared by those participating in the evaluation. Drawing on our field notes and interviews with the older adults who chose to discontinue participation, we use personas to illustrate the complexities and tensions involved in individual decisions to *not* participate. This analysis contributes to HCI research calling for a more critical perspective on technological interventions. We provide detailed examples highlighting the complex circumstances of our non-participants' lives, present a framework that outlines the socio-technical context of non-participation, and use our findings to promote reflective practice in HCI research that aims to address complex social issues.

make to *not* participate in design and evaluation studies. Evaluations tend to focus on the positive impact of the technologies, with decisions to withdraw from the evaluation process typically attributed to a failure in the technology design [17, 19]. In this paper we argue that much can be gained by looking beyond the technology itself, and examining the socio-technical context in which people choose to not participate or discontinue in evaluation studies. This is particularly important when we are designing technologies that aim to support people who might be considered “marginalized” or who typically have limited opportunities to have their voices heard, such as those in the later stages of old age (the “oldest old” [2]).

Technologies designed for (and with) older adults often aim to improve people's lives in some way. Monitoring and assistive devices, for example, can be used to help older adults maintain their independence [22], and there is now a growing interest in the design and use of technologies to improve the social lives of older adults, especially for those considered to be socially isolated ([1, 13], [39]). This brings with it responsibilities for researchers to be sensitive to the



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the technologies that younger people use.

Victor

A widower in his late 80s, Victor has been lonely since losing his wife to illness two years ago. Victor was once a professional photographer and owned a camera shop. He sees himself as knowledgeable and experienced at using new technologies. However, Victor retired thirty years ago and since then has found it difficult to maintain his digital literacy, although he uses email and skype on a desktop computer to keep in touch with his children who all live some distance away. Victor's eye sight is deteriorating and he has started to experience some cognitive difficulties which can make it challenging to learn new things. Because of this, Victor has been unable to continue his hobby as a photographer, an activity he misses greatly.

Victor is keen to learn how to use the iPad. Although he uses a desktop computer, he has never used a tablet device and does not have a mobile (cell) phone, so he feels the need to update his technical skills. He enrolls in a local "iPad for Seniors" course soon after joining the project. However, Victor finds the course to be less than satisfying. Most of the other attendees are recent retirees who are younger than him and have a more up-to-date knowledge of modern technology. Victor is confused by the questions other attendees ask about "apps". He does not fully understand what apps are and what they are used for. He is also confused by the conversation about how to connect the iPad to a wireless internet (his son had set up the internet

SOCIO-TECHNICAL CONTEXT OF NON-PARTICIPATION

We now return to the question posed at the start of this paper: *What can we learn from the experiences of people who choose not to use technologies that are designed with their interests in mind?* From an analysis of the detailed narratives elicited about our five non-participants, we identified a number of individual circumstances that led these older adults to choose to stop using Enmesh and to disengage from the project. We broadly categorized these into three dimensions that together describe the socio-technical context in which participants chose to disengage from the project: 1) the personal context, including individual circumstances such as health and personal preferences, 2) the social context, such as the influence of family members and others, and 3) the technological context, including prior experiences of technology and digital exclusion. Together, these comprise a contextual framework for understanding the circumstances of older adults' non-participation in technology design and evaluation research.

Personal Context

At the time of the study each non-participant was experiencing difficult personal circumstances, such as those described in the profile of Abigail, which prevented their active engagement in the project. Given that we were specifically targeting people in the later stages of old age, it is not surprising that these personal circumstances often included health problems. Abigail, who represents the

LESSONS FOR THE HCI COMMUNITY

Our contextual framework for understanding older adults' non-participation is necessarily broad, as it aims to capture the range of individual circumstances that led our non-participants to disengage from the project. Our aim in developing this framework is not to provide generalizable understandings of non-use and non-participation, but rather to promote consideration of non-participation as a

participants or does it cause them anxiety? Is the new technology embraced by participants, or does it cause unwelcome disruption? When the answer to these questions is less positive than we would hope, we need to modify our approach and reflect on the reasons that the experience has been less than positive for our participants.

752

Implications for Design
Lessons learnt
Relevant Themes

...

Implications for Design

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ABSTRACT

Although ethnography has become a common approach in HCI research and design, considerable confusion still attends both ethnographic practice and the criteria by which it should be evaluated in HCI. Often, ethnography is seen as an approach to field investigation that can generate requirements for systems development; by that token, the major evaluative criterion for an ethnographic study is the implications it can provide for design. Exploring the nature of ethnographic inquiry, this paper suggests that “implications for design” may not be the best metric for evaluation and may, indeed, fail to capture the value of ethnographic investigations.

Author Keywords

Ethnography, design.

ACM Classification Keywords

I.m. Computing Methodologies: Miscellaneous.

This process can be seen at work in the research papers produced in a field. Bazerman [3] has detailed the ways in which transformations in the structure and tone of scientific publishing accompanied the transformation of the conduct of science itself, reflecting its increasing professionalization; the process of ensuring conformance to documentary standards is part of the “boundary work” by which disciplinary boundaries are maintained, and even the boundary between “science” and “non-science” is sustained [18]. Case studies illustrate the ways these conventions shape the development of scientific publications, scientific arguments, and scientific publications [13].

Unsurprisingly, then, as HCI has matured and developed a sense of its own disciplinary identity, conventions have arisen in the ways in which we conduct and describe our research. The peer review process employed by high-quality (and high-status) publication venues such as the CHI conference or leading journals is one important element in the machinery of genre production.



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Human-Centered Computing, Methodologies, Miscellaneous.

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Personas

»A rich picture of an **imaginary person** who represents your core user group« ... »Based on actual studies of users, observation, etc.« (Dix et al, p201)

Betty is 37. She has been a warehouse manager for five years, and has worked for SBE for 12. She did not go to university but has studied part time for a business diploma. She has two children aged 17 and 15 and does not like to work late. She did part of an introductory in-house computer course some years ago, but stopped this course due to a promotion which meant she had less time. Her vision is perfect but her right-hand movement is restricted due to an accident some years ago. She is enthusiastic about her work, but feels threatened by the introduction yet another new computer system – the third in her time at SBE.

So if we design it this way, how would Betty react to it?



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Personas

Human Resources

ORGANIZATIONAL MANAGEMENT PERSONAS

Primary Persona



Elena Montgomery

*Human Resources Coordinator,
Amino Pharmaceuticals*

*"This form requires the
manager's signature."*

Elena spends most of her day processing all the forms required to hire, transfer and terminate employees in the R&D division of Amino Pharmaceuticals. When something's incomplete or unclear, she takes the time to track down the answer. She's an expert on all the necessary forms and procedures

Elena's Goals

Move up in HR
Excellence through accuracy
Be helpful
Don't fall behind

Secondary Persona



Carl Stephens Ph.D.

*Laboratory Manager,
Amino Pharmaceuticals*

"Didn't we just do reviews?"

Although his main job is research, Carl also creates budgets, hires and trains employees, writes reviews and distributes bonuses. Carl wants to make sure his employees and his manager are happy, but he regards HR paperwork as a distraction from his real work.

Carl's Goals

Focus on his experiments
Keep his people happy
Keep his management happy
Grow his department



Gillian Winters

*Human Resources Manager,
Lacy's Department Store*

*"People are our number one
asset."*

Gillian wants to help build strong teams by improving communication between managers and employees and watching for "hot spots" that require her attention. She needs context to help her quickly find and solve problems.

Gillian's Goals

People not paperwork
Partner with management to build healthy departments
Be proactive
Build relationships within the corporate-wide HR departments



Martin Schwartz

*Dir. of Manufacturing,
Sunny Electronics, USA*

*"Can you get me those
numbers by Tuesday?"*

Sunny Electronics has manufacturing divisions all over the world. Martin needs access to headcount and salary information to help him understand the performance of his divisions and projects and plan for the future.

Martin's Goals

On time, under budget
Understand the bottom line
Maximize productivity
Controlled growth



Otto Bauer

*Organizational Planner,
Volksmotorwerks AG*

*"Let's start thinking about
your succession planning."*

Otto helps VP's and Directors structure their organizations for best productivity. He wants access to HR statistics about employees so he can understand historical performance of projects and forecast future changes to the company.

Otto's Goals

Build a healthy organization
Partner with divisions and upper management
Find danger and opportunity in the workforce
Set the vision, chart the course

Persona Content

- Name (a real name like Greg or Madeline, etc.)
- Age & Photo
- Personal information, including family and home life
- Work environment (the tools used and the conditions worked under, rather than a job description)
- Computer proficiency
- Attitudes & Pet peeves and technical frustrations
- Motivation or »trigger« for using a high-tech product
- Information-seeking habits and favourite resources
- Personal and professional goals
- Candid quotes

Persona Example

Persona Chart: Steven (Contractor)



Steven

Basic Information

Age	36
Occupation	Design/Build Remodeler, CGR. He's been working in residential construction for nine years.
Net usage	30 mins to an hour a day, mostly for email, as well as some research for work.
Gear	Desktop Wintel PC, standard issue. Palm Vx for addresses, notes, calendaring, and time tracking.
Familiarity/Anxiety	Steven is comfortable using the computer and the Web for job-related needs. He's familiar with 3D House Designer, and a regular visitor at HousingZone.com.

Project Specific

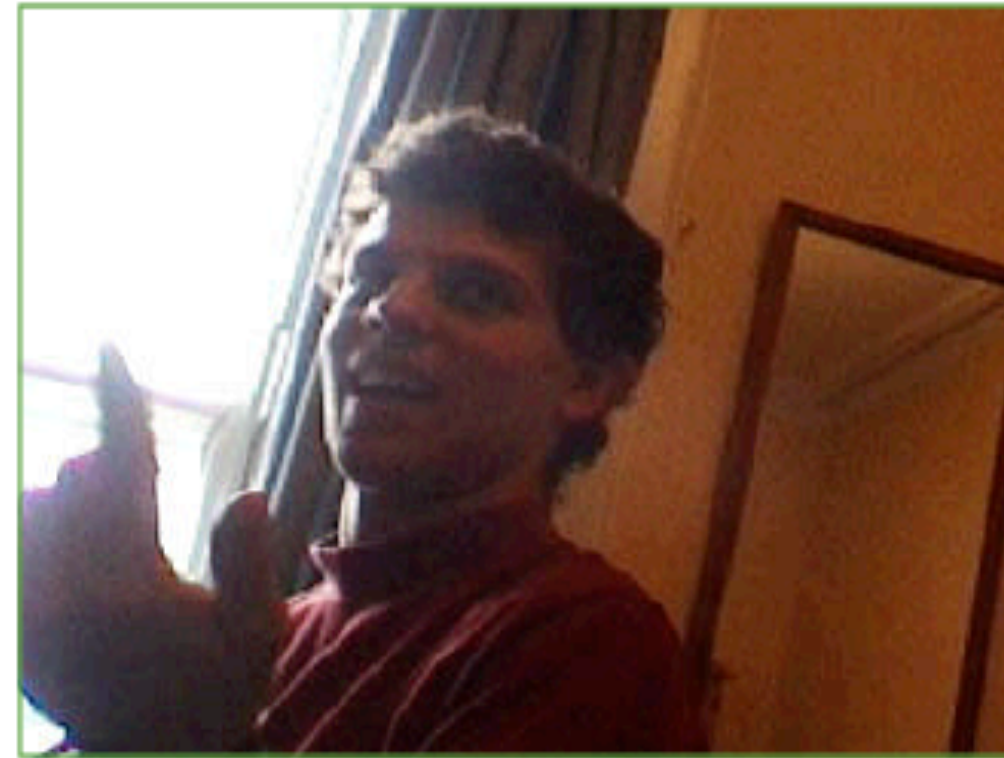
Trigger for action	Responding to client call... Not so much "triggered" as it is Steven's job.
Ultimate Goal	To make the client very happy with a kitchen remodel while pocketing a sizable profit.
Factors impacting availability	Also working on remodeling a condominium to ease an elderly person's living situation Taking a 2-week vacation 5 weeks into the project.
Estimated time for project	10 weeks
People needed to interact with	Clients, interior decorator, workmen, colleagues



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Persona example



Sam Student Loans

Age: 24
Location: (Oxford for BA); Edinburgh
Household: (College for BA); Sam now lives in a share house with 2 PhD students.
Computer Expertise: Experienced computer user. Has a Computer Science degree from Oxford and has worked in a web agency in London.

"I haven't gotten around to letting them know that my circumstances have changed."

Experience Highlights

Applied for first student loan 5 years ago when he started his BA in Computation at Oxford. College provided the forms and helped fill them out. Also received a grant and funding for tuition fees, both from his LEA. He recalls that these forms were more complicated to fill out.

Renewed his loan for the 2nd and 3rd years of his degree. Not aware of how he would be required to pay back the loan.

Worked for a London web agency in Dec 1998 for a year and a half. A few months into his job, he received a "threatening letter" about paying back the loan - money started to be deducted from his bank account.

Took 6-month break during which he applied for Ph.D. positions. Never got around to deferring his loan re-payments now that he was no longer working. Started his Ph.D. with an EPSRC grant at the University of Edinburgh. Phoned Student Loan Council to request a form to defer his re-payments in Oct 2000 just after he started the degree.

Now receives a letter every year notifying him that his deferral is running and giving him the option of extending the deferral period.

Triggers and Pain Points

- Not aware of how to pay back his student loan.
- Didn't get around to deferring his loan in a timely way.
- Hasn't gotten around to changing his address with the SLC and his bank since his move to Scotland.
- Couldn't vote because he realised that his electoral roll information was not updated after he moved.

Support and Finding Out

- Doesn't remember a lot of detail about the loan application processes.
- To apply for EPSRC funding for his Ph.D., he looked up the EPSRC web site.
- Spoke to friends, visited Edinburgh University and talked to a professor there, and checked the web site before making decision to apply there.
- His Ph.D. supervisor is a key support person for his Ph.D.

Attitudes about Government

- Wanted to vote in last election but found he wasn't on the electoral roll.
- Thinks local representation is important as many issues such as local services, transport, local schools, are not relevant at a national level.
- Thinks there is a bigger difference between London/SE and the North than England and Scotland.
- If he were to talk with government, the issues that interest him are about privacy on the Internet, student funding, and the abolition of tuition fees.

Attitudes about Identification and Security

- Skeptical about legislation that tries to control what people do on the Internet. Considers much of it impractical and a mechanism for government to spy on Internet traffic.
- Aware of the investigatory powers act that the government invited comment on last year.
- Occasionally watched what others said and tended to agree with them but didn't comment himself.
- Often uses his passport as a form of identification.

Persona example



Michelle C.

%Age% %Residence%
%Profession_background%
%family_life-style%

%Software/devices_attitud_behaviour%

PERSONALITY



Openness



Neuroticism

REFERENCES & INFLUENCES

“%Archetype%”

“%key quotes%” Nam at tellus mauris. Duis nisi nunc, auctor non vulputate id, sagittis vel nibh. Vivamus ac tincidunt mi.

”

about %product-service%

Technology

Information Technology and Internet

EXPERTISE LEVEL

• %USER TYPE%

IT and Internet



Using software



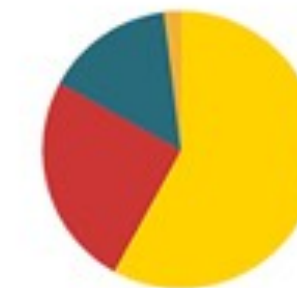
Using mobile - tablets apps



Using Social networks



App



● Games
● Photography
● Social Media
● Others

Software



● Business
● Design
● Utilities
● Others

USER EXPERIENCE GOALS



DEVICES & PLATFORMS



MUST DO



■ %do%: %why%.

MUST NEVER



■ %don't do% %why%



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Persona example



- Games
- Photography
- Social Media
- Others

- Business
- Design
- Utilities
- Others

REFERENCES & INFLUENCES



MUST DO



- %do%: %why%.
- **Hide unnecessary processes.** Not interested in having the "control".
- **Lorem ipsum dolor sit amet**, consectetur adipiscing elit.
- **Lorem ipsum dolor sit amet**, consectetur adipiscing elit.
- **Lorem ipsum dolor sit amet**, consectetur adipiscing elit.

MUST NEVER



- %don't do% %why%
- **Lorem ipsum dolor sit amet**, consectetur adipiscing elit.
- **Eliam posuere** felis in arcu bibendum pharetra.
- **Integer viverra** imperdiet porttitor.

Relationship with Brand & %product%

SEEK and VALUE...

H1 %content_or_feature%

H2 Rank

H3 Top downloads

H4 %content_or_feature%

L2

Recognize brand but seeks directly into Internet

USING BRAND



BRAND IS...

"%relationship_key_quote% sit amet, conse adipiscing elit. Integer bibendum tempus ante id egestas."

Product IS...

"%relationship_key_quote% (product)"



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UX lady
user experience and more

User Persona Basic Layout

ux-lady.com

Persona Portraits



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<https://blog.mailchimp.com/new-mailchimp-user-persona-research/>

Extreme Users



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The good & bad of Personas

- + Empathic response to actual people
 - + Handling specific problem space
 - + Synthesises key insights
 - + Extreme users (accessibility)
-
- Fosters stereotypes
 - Fringe users are left out
 - Hard to design
 - Tacit bias by authors



Persona - Storyboards

Irene

This lovely 84 yr old lady lives in a SW London suburb in the terraced house where she was born in 1927.



She lives alone, has no close family, never married or had children, because of years spent caring for her elderly parents. Her extended family consists of a distant cousin.

Before her stroke Irene was a regular church-goer, but is now nervous about getting out. She goes along to the local stroke club once a week where she acts as a helper to others.



Irene has had a couple of blackouts / falls and had trouble getting help. Now she has an emergency call button.



Irene has a pension as she spent her working life in the Civil Service, as well as finding time for charity work. She was awarded an MBE for her services.

Irene loves music and she used to play the piano to near professional standard. She used to enjoy gardening and creating tapestries in her spare time. These pastimes are now too difficult with one hand. She collects objets d'art brought back from all over the world by friends and colleagues.



Irene likes to read detective novels and travel books and learn of far away places. She has a TV she rarely watches, has no video or DVD player and no means of playing music, except on the kitchen radio. She has no IT experience, has heard about computers and the internet but says she doesn't understand what it is all about and she is rather averse to anything she considers technological.

Irene — (Medium Elbow / shoulder combined with grasp and release)

	Shoulder / elbow	grasp	both
low			
med			✓
hi			

Stroke History

- Stroke 6 months ago (second stroke – one 6 years ago where she made good recovery in 2 weeks). Right sided hemiplegia (R handed). Was independently walking quickly before stroke, her arm has been the main problem.
- Some hand grasp and release of moderately large (size of water bottle / drink can) objects at short distances away from the body
- Mild dysphasia – some problems understanding and retaining verbal information, problems with following instructions – written or spoken - and often struggles to find the word she wants.
- Cognitively has poor memory, very aware of problems but problems with writing reminders
- Lot of problems with feet and needs frequent chiropody

Motivation

- stay independent – help others - comply with instructions
- duty, the church, helping others, garden flowers, foreign lands, countryside, piano, orchestration, tapestry, galleries and museum trips, things of beauty – especially glass objets d'art
- misses the sensory enjoyment she got from hobbies – such as colours / sights

Functional Goals

To be able to hold food while cutting / peeling with the unaffected hand
To be able to put crockery / cutlery away on shelves using both hands
To be able to wash up using both hands

Treatment

To improve ability to grasp and release different sized objects (range of movement, control) further away from the body in 3 DOF

Storyboard 5 - Classical tapestry

Irene is afraid of falling and her balance is not too good so she likes to practise exercises at her desk. She has a block game to play which will result in a new kneeler for her local church. First she chooses a coloured block and then she places it in the grid. Each time she places a block, a virtual tapestry stitch is completed. At the moment she is designing one of the kneelers based on garden flowers. A computer literate friend from her church receives her design and prints it off – then the local WI make the actual tapestry. At the same time as building up the tapestry, with every placement of a block, Irene is 'releasing' a bar of her favourite classical music pieces -- (or an instrument track) which plays when the gr

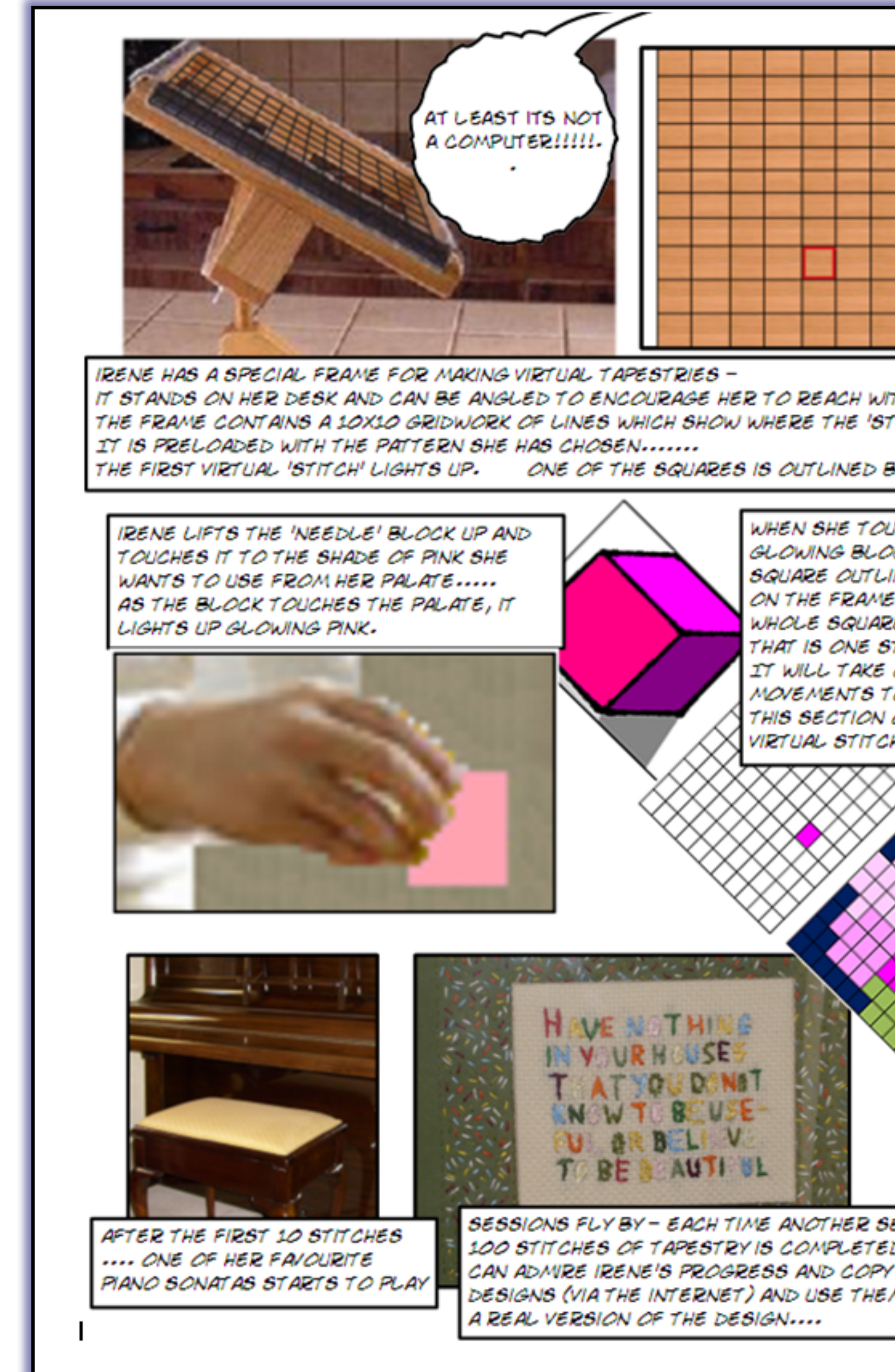
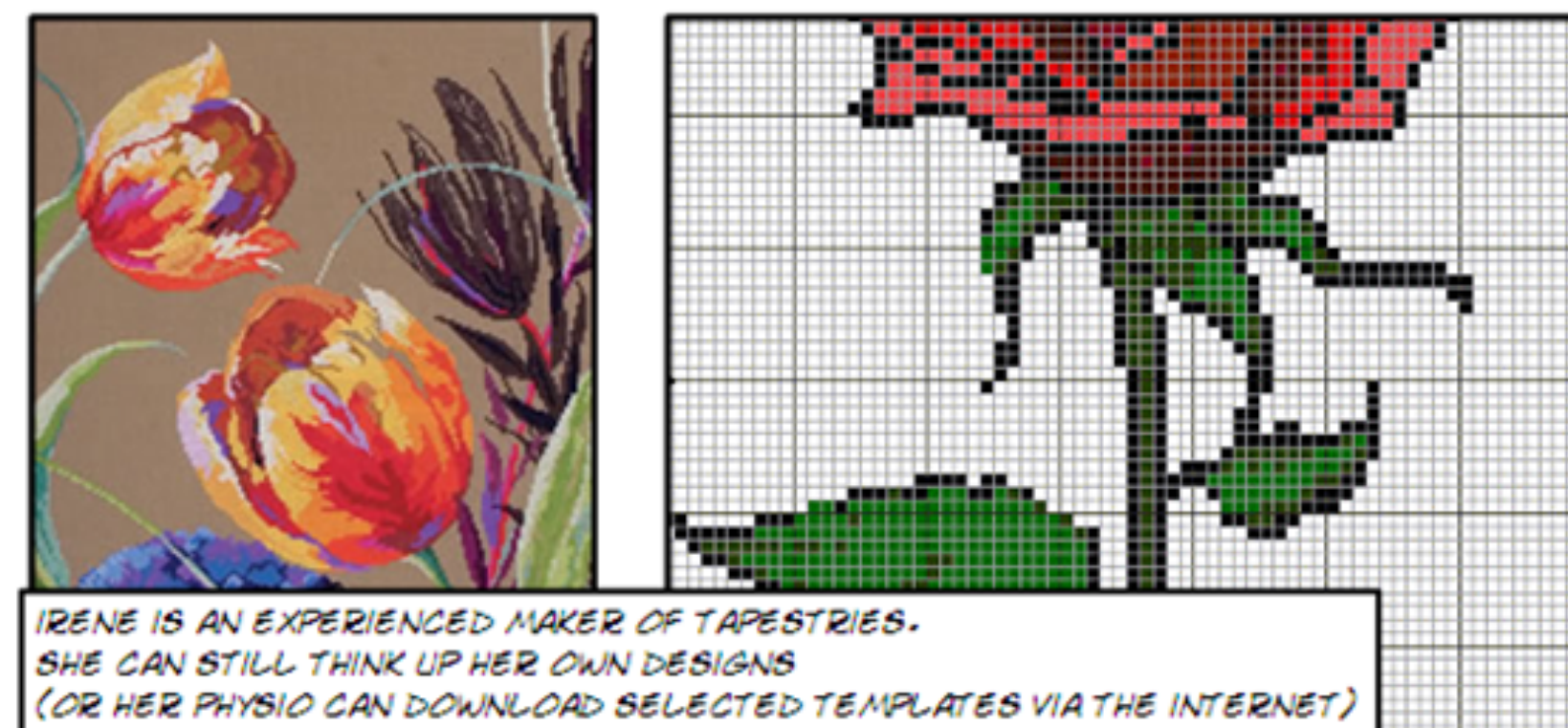


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Persona - Storyboards

Storyboard 5 Irene Virtual Tapestry



Double check Personas



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Task descriptions

Can be used to define current or envisioned tasks

Scenarios an informal narrative story

Use cases

- assume interaction with a system

- assume detailed understanding of the interaction

Essential use cases

- abstract away from the details

- does not have the same assumptions as use cases

Hierarchical Task Analysis

- Start with a user goal and the main tasks/subtasks for achieving it are identified



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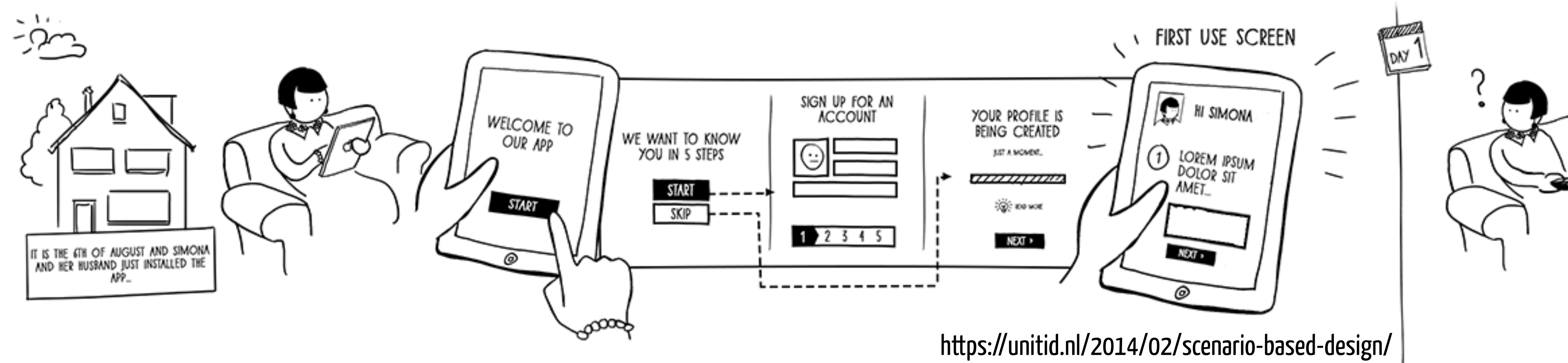
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Scenarios


User- & task-oriented descriptions of use

an informal narrative story
simple, natural, personal
not generalisable

Provide **examples of usage** as an input to design
Provide a basis for subsequent **usability testing**



Scenario & Persona

Persona Chart: Steven (Contractor)	
	 Steven
Basic Information	
Age	36
Occupation	Design/Build Remodeler, CGR. He's been working in residential construction for nine years.
Net usage	30 mins to an hour a day, mostly for email, as well as some research for work.
Gear	Desktop Wintel PC, standard issue. Palm Vx for addresses, notes, calendaring, and time tracking.
Familiarity/Anxiety	Steven is comfortable using the computer and the Web for job-related needs. He's familiar with 3D House Designer, and a regular visitor at HousingZone.com.
Project Specific	
Trigger for action	Responding to client call... Not so much "triggered" as it is Steven's job.
Ultimate Goal	To make the client very happy with a kitchen remodel while pocketing a sizable profit.
Factors impacting availability	Also working on remodeling a condominium to ease an elderly person's living situation Taking a 2-week vacation 5 weeks into the project.
Estimated time for project	10 weeks
People needed to interact with	Clients, interior decorator, workmen, colleagues

Scenario: Steven (Contractor)

Persona: Steven
Scenario: Getting The Work



Steven, a 36-year-old design/build certified remodeler, works out of a home office in Charlotte, NC. He lives with his wife, Andrea, and their daughter May, who is 6.

Though most remodelers work for small companies, Steven has always been something of an iconoclast, and prefers more control over the jobs he takes and the clients he works with. The drawback is that his job pervades all parts of his life, so that he always feels like he is "at work." In the past he at times forsaken his family life for work, upsetting his wife; he's now attempting to keep these roles distinct.

After breakfast, Steven sits down to his work desk, combing through his To-Do list. He's just completed one bathroom remodel job, and is looking to take on a new project. Luckily for Steven, Charlotte's construction boom of poorly-designed homes has proven a boon for remodelers—many new residents seek immediate changes to their house's layout. Still, he needs to make sure he maintains a manageable workload, and he's still in the midst of a safety remodel for an elderly woman living downtown.

Flipping through the various leads he's accumulated the past few weeks, he spots a particularly promising project – a light kitchen remodel for a young married couple, Eric and Joy. He calls the home phone number and leaves a message on their voicemail. He then calls Eric's cell phone number and leaves a message there as well.



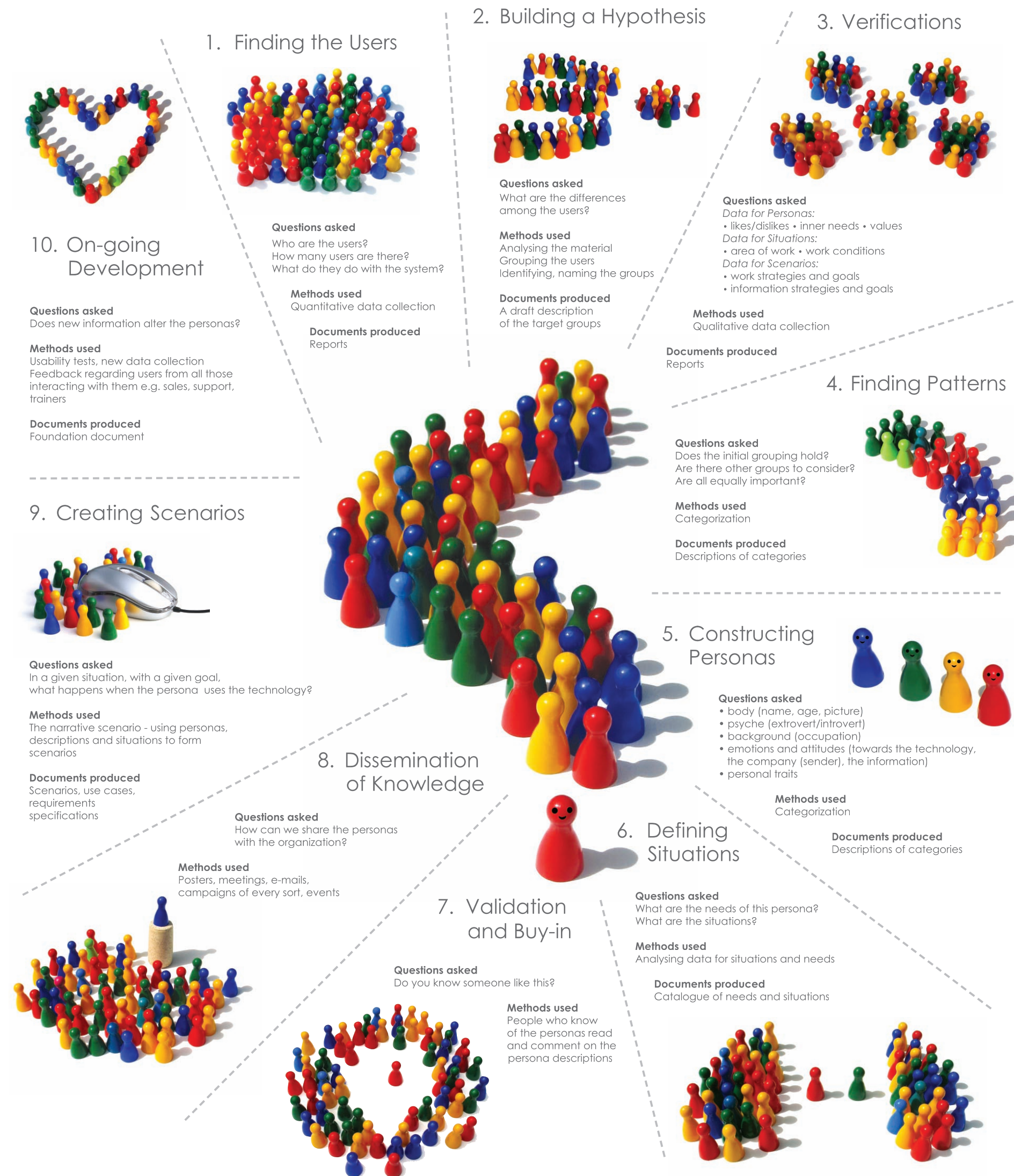
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Scenario & Persona

10 Steps to Personas

Based on the method “Engaging Personas and Narrative Scenarios” by Ph.D. Lene Nielsen



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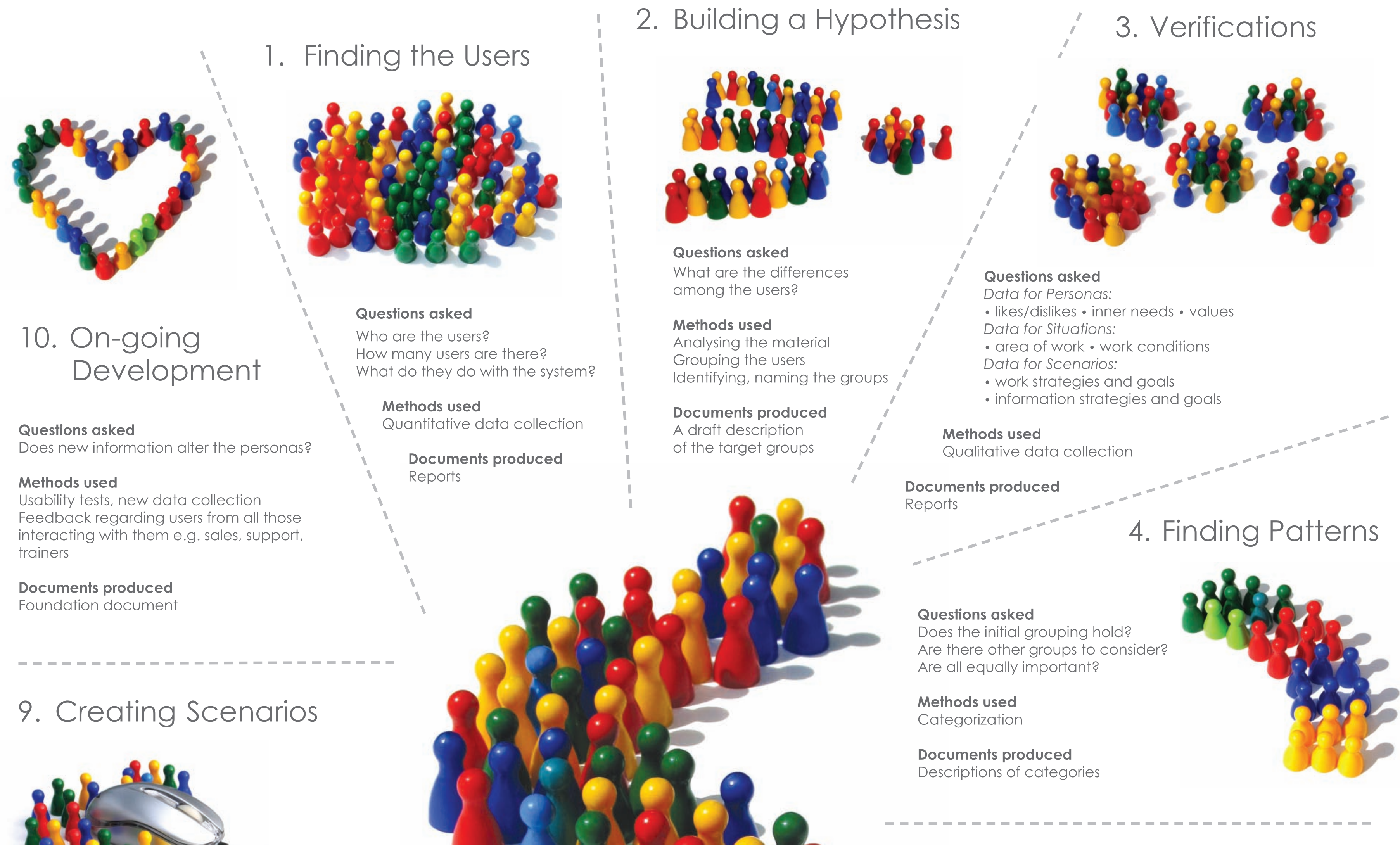
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10 Steps to Personas

Based on the method “Engaging Personas and Narrative Scenarios” by Ph.D. Lene Nielsen



Scenario & Persona

9. Creating Scenarios



Questions asked

In a given situation, with a given goal, what happens when the persona uses the technology?

Methods used

The narrative scenario - using personas, descriptions and situations to form scenarios

Documents produced

Scenarios, use cases, requirements specifications

8. Dissemination of Knowledge

Questions asked

How can we share the personas with the organization?

Methods used

Posters, meetings, e-mails, campaigns of every sort, events



7. Validation and Buy-in

Questions asked

Do you know someone like this?

Methods used

People who know of the personas read and comment on the persona descriptions



Are all equally important?

Methods used
Categorization

Documents produced
Descriptions of categories



5. Constructing Personas

Questions asked

- body (name, age, picture)
- psyche (extrovert/introvert)
- background (occupation)
- emotions and attitudes (towards the technology, the company (sender), the information)
- personal traits

Methods used
Categorization



6. Defining Situations

Questions asked

What are the needs of this persona?
What are the situations?

Methods used

Analysing data for situations and needs

Documents produced

Catalogue of needs and situations

Documents produced
Descriptions of categories



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FÜR INFORMATIK

Faculty of Informatics

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Scenario & Persona

10. On-going Development

Questions asked
Does new information alter the personas?

Methods used
Usability tests, new data collection
Feedback regarding users from all those interacting with them e.g. sales, support, trainers

Documents produced
Foundation document

Questions asked
Who are the users?
How many users are there?
What do they do with the system?

Methods used
Quantitative data collection

Documents produced
Reports

Questions asked
What are the differences among the users?

Methods used
Analysing the material
Grouping the users
Identifying, naming the groups

Documents produced
A draft description of the target groups

Questions asked
Data for Persona
• likes/dislikes • in
Data for Situation
• area of work •
Data for Scenario
• work strategies
• information stra

Methods used
Qualitative data colle

Documents produced
Reports

9. Creating Scenarios



Questions asked
In a given situation, with a given goal, what happens when the persona uses the technology?

Methods used
The narrative scenario - using personas, descriptions and situations to form scenarios

Documents produced
Scenarios, use cases, requirements specifications

8. Dissemination of Knowledge

Questions asked
How can we share the personas with the organization?

Methods used
Posters, meetings, e-mails, campaigns of every sort, events

5. Constructing Personas

Questions asked
• body (name, age)
• psyche (extroverted)
• background (occupation)
• emotions and attitudes
the company (status)
• personal traits

Methods used
Categorization

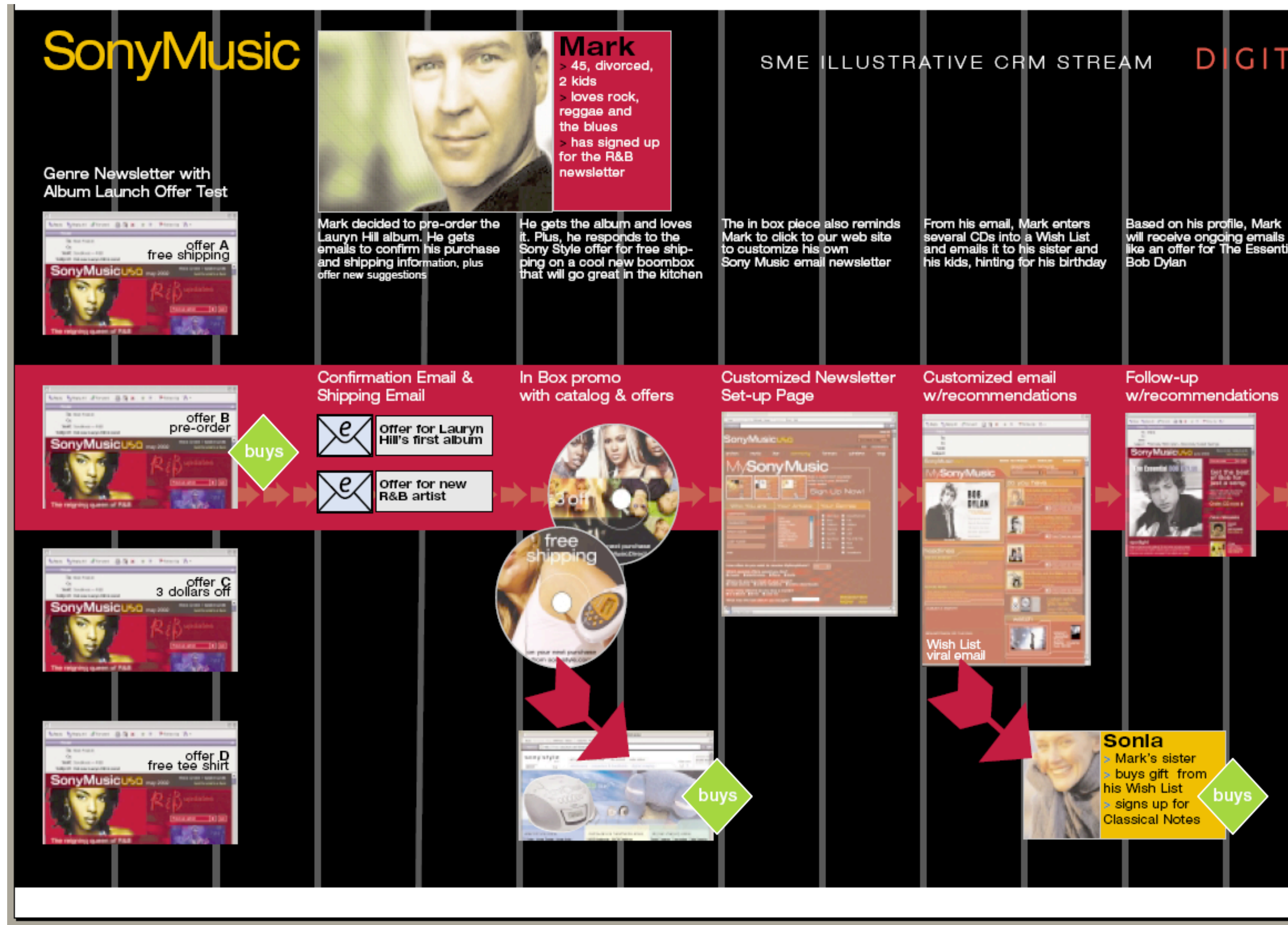
6. Defining Situations

Questions asked
What are the needs of this persona?
What are the situations?

7. Validation and Buy-in

Scenario Example

Ordering Process



Components in Scenarios

NARRATIVE ELEMENTS	NARRATIVE ELEMENTS IN A SCENARIO
Character(s): a protagonist as well as minor characters. A character can be any entity that has agency, that is, involved in the action.	In scenarios, the persona is the protagonist. (In scenario-based design, the main character and protagonist is the IT system.)
Time: both the time in which the actions take place, e.g. the future, and the story development over time - beginning, middle, and end.	Most scenarios are set in present time, but they can also concern a distant future. The story time can last minutes, days, months, etc.
Problem: a loss, a need, a lack of something, an obstacle to overcome, a conflict.	The persona has a problem.
Setting: presentation of characters, location, problems, and time.	The scenario begins with a presentation of the persona, his or her problems, the place where the action takes place and the time (present time/distant future).
Opening episode: the character reacts to the problem, sets a goal, and outlines a path to the goal.	The persona defines the goal and starts to act.
Episodes: development toward the goal. Episodes consist of: <ul style="list-style-type: none">• Beginning• Attempts• Events (accidents, obstacles, happenings, deliberate human actions)• Development	The scenario develops through a sequence of episodes that concern the problem, the goal and the attempts to reach the goal, the events involved in these attempts, and the obstacles hindering fulfilment of the goal.
Resolution: the problem is solved and the goal is reached - or it is not.	There are two types of scenarios - one where the problem is solved and the goal is reached, and one where they are not.
Plot: the linkage and order of the episodes.	Most scenarios are presented in a linear manner, without deviations from the story line.
Overall story: starts with a beginning, goes through a middle, and arrives at the end. The overall story is sensitive towards what is considered ordinary social practice within a given culture and explains deviations from accepted social practice.	Each episode links to and has to be meaningful in relation to the overall story. The scenario has to explain why non-routine actions and events happen and how they are dealt with.
Narrator's perspective: The narrative is told by someone.	Most scenarios are told in third person allowing the narrator to be omnipotent.

Table 30.2: An overview of the story form and a 'translation' hereof to a scenario context (Madsen & Nielsen, 2010)

The good & bad of Scenarios

- + specific knowledge and reflection in action
 - + communication and shared understanding
 - + design knowledge accumulates across problems
 - + supports idea generation & abandoning
 - creates a false sense of assurance
-
- not all aspects are covered by a few scenarios
 - it can bias people away from the big picture
 - create obsession with unnecessary details.
 - does not create user engagement

Hierarchical Task Analysis

- Used mainly to **investigate an existing** situation
- Start with a user goal which is examined and the main tasks for achieving it are identified
- Tasks are sub-divided into **sub-tasks**
 - Involves breaking a task down into subtasks, then sub-sub-tasks and so on.
 - These are grouped as plans which specify how the tasks might be performed in practice
- Focused on **physical and observable actions**, and includes looking at actions not related to software or an interaction device

HTA Example

1. In order to borrow a book from the library
2. go to the library
3. find the required book
 1. access library catalogue
 2. access the search screen
 3. enter search criteria
 4. identify required book
 5. note location
4. go to correct shelf and retrieve book
5. take book to checkout counter



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Contextual Design

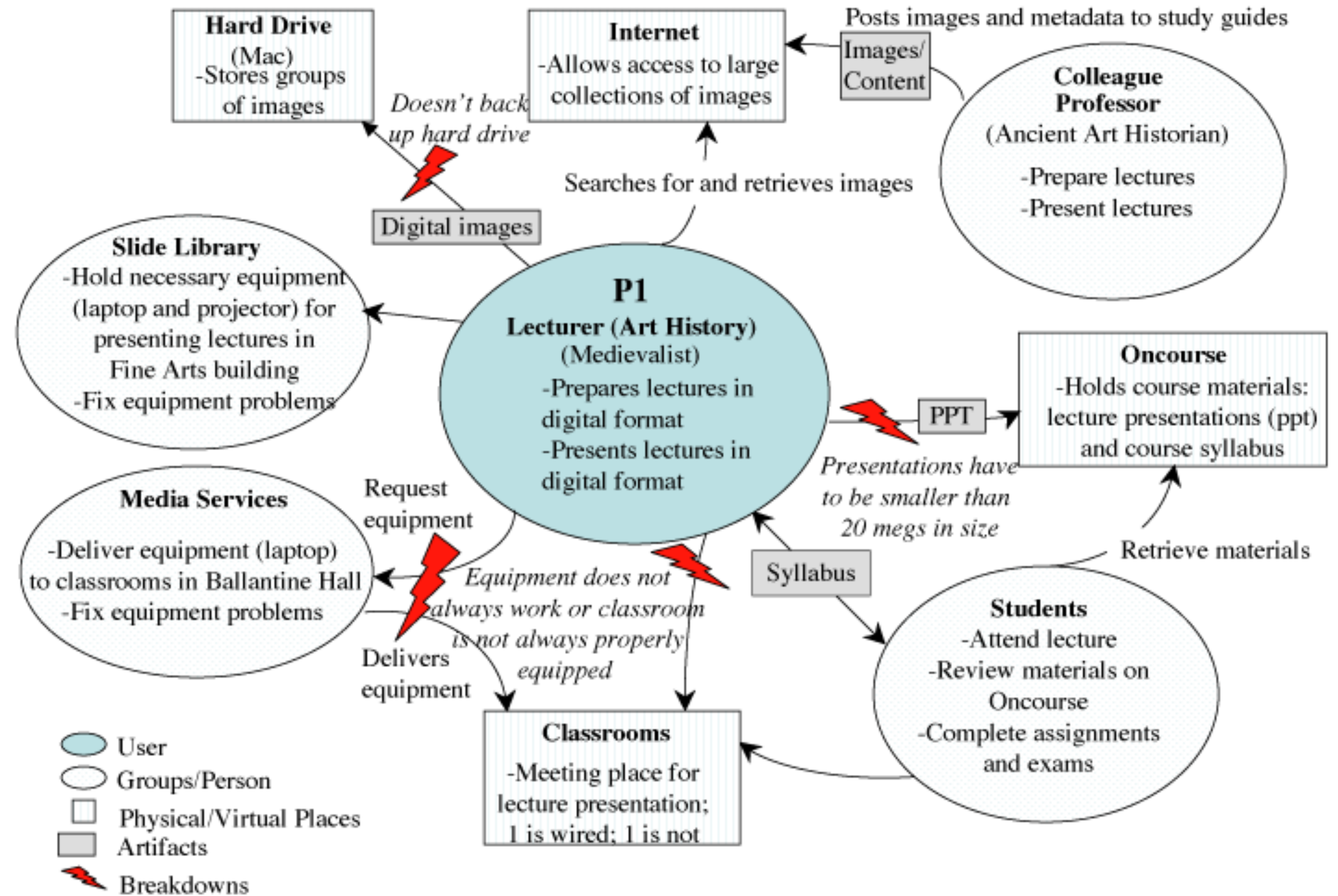
1. Contextual inquiry
2. Work modelling
3. Consolidation
4. Personas built with contextual data
5. The Design Response: Visioning
6. Storyboards
7. User environment design
8. Mock-up and test with customers
9. Driving Product Development
10. Contextual Design and Agile Development

Contextual Design

1. Contextual inquiry
2. **Work modelling**
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Contextual Design

Flow Model



Work Flow Model, "Reviving DIDO", DLF Spring 2004,
Michelle Dalmau, Indiana University

Contextual Design 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	*Renames image (long, descriptive names)

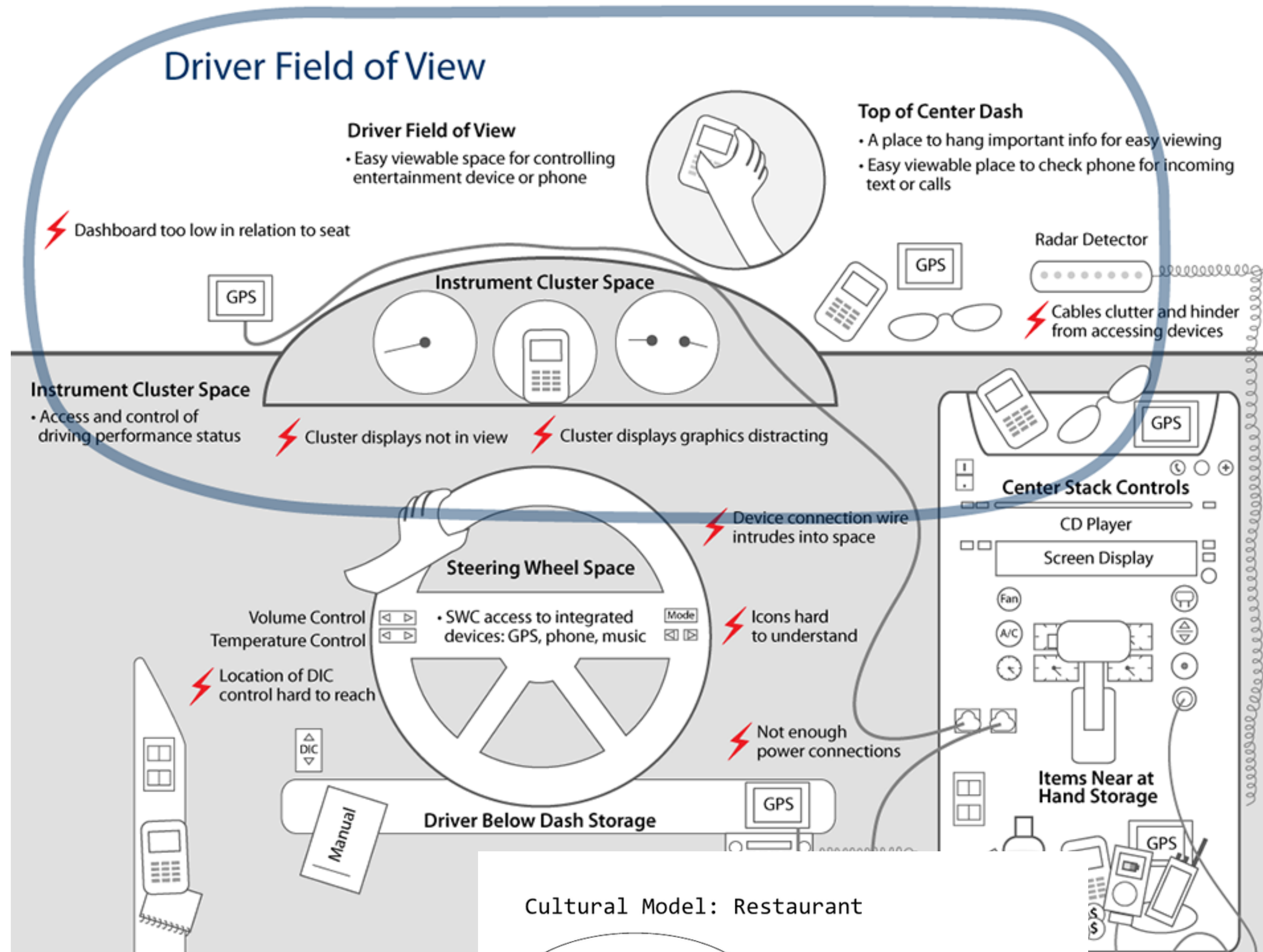


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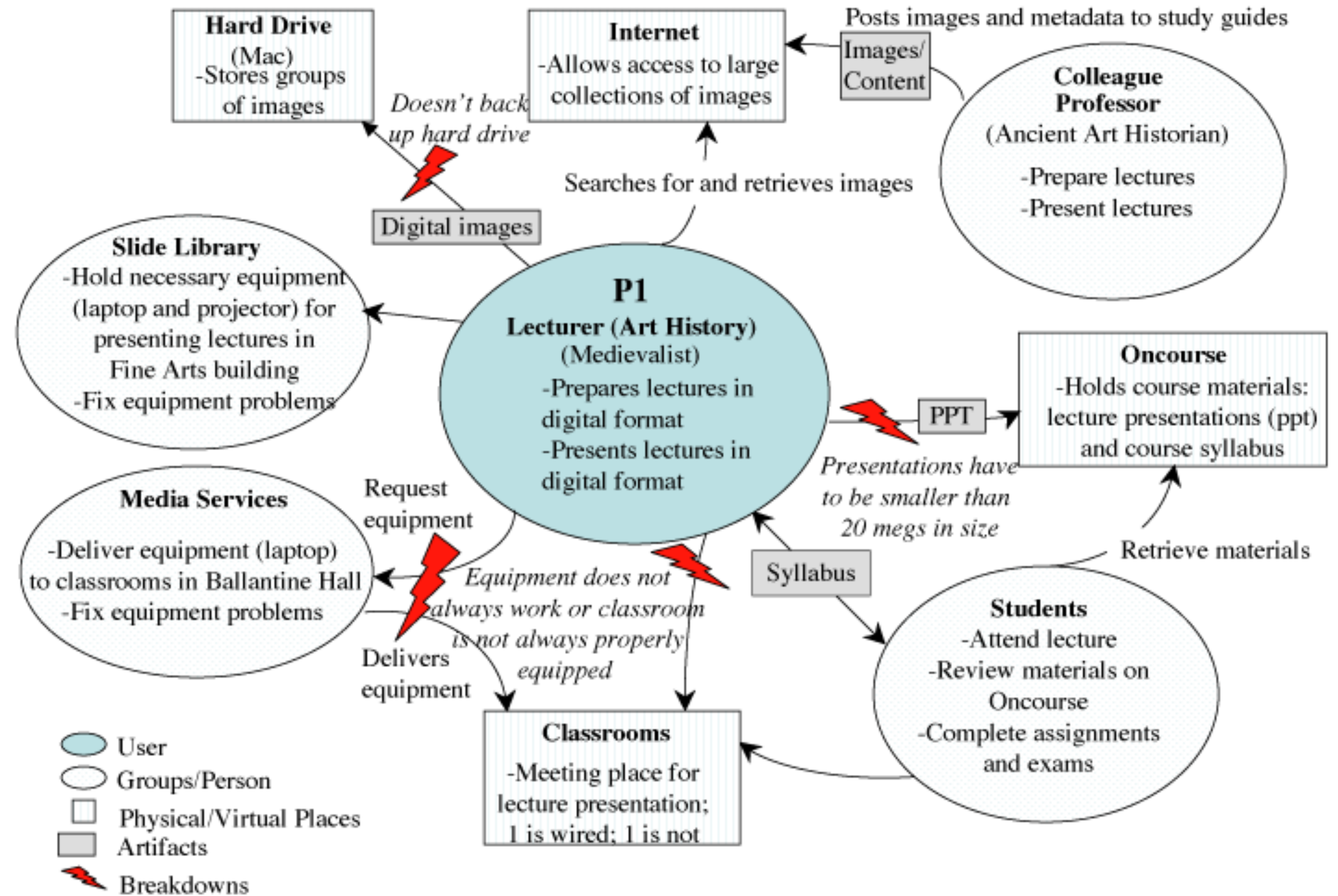
Contextual Design

Physical Model



Contextual Design

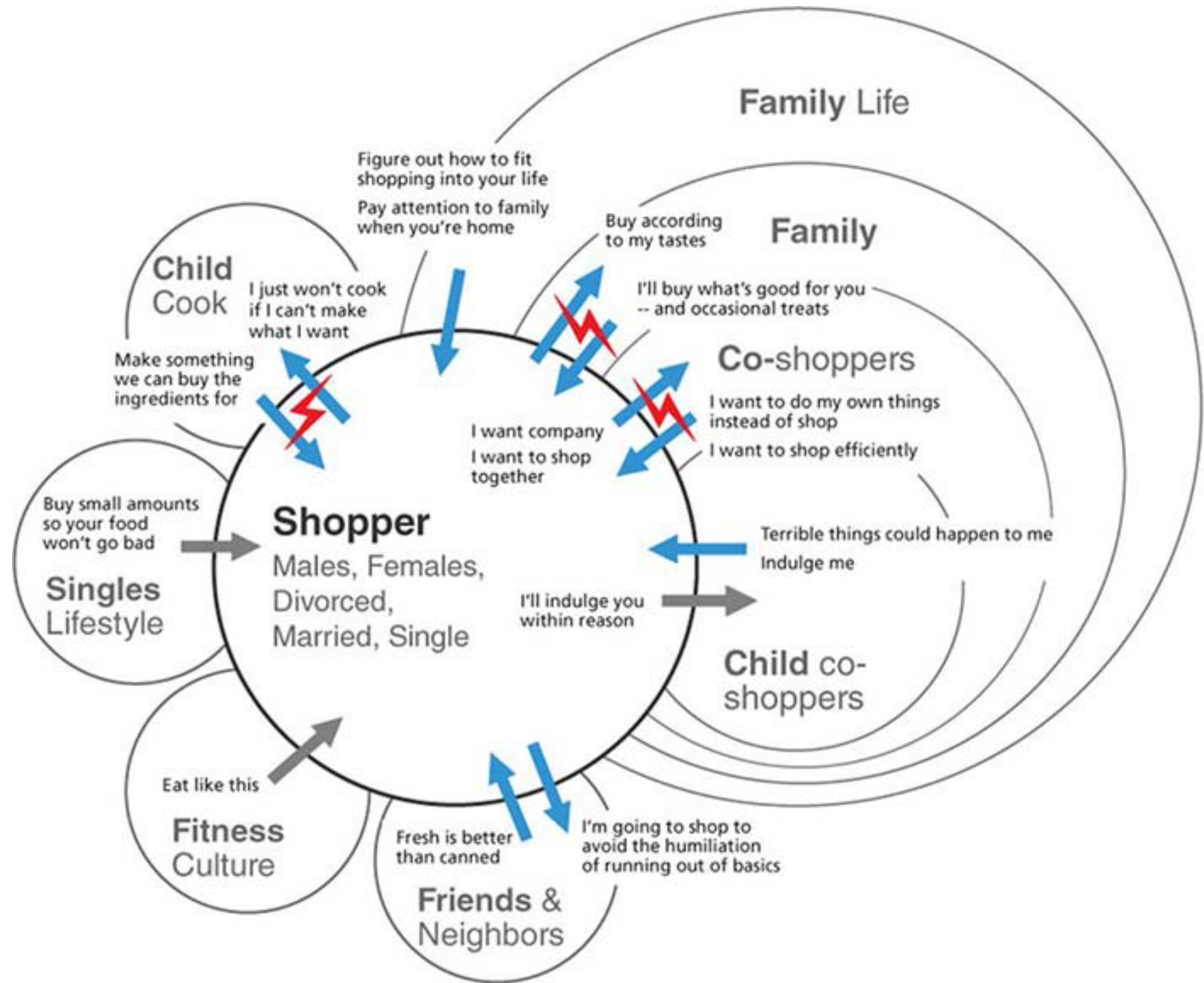
Flow Model



Work Flow Model, "Reviving DIDO", DLF Spring 2004,
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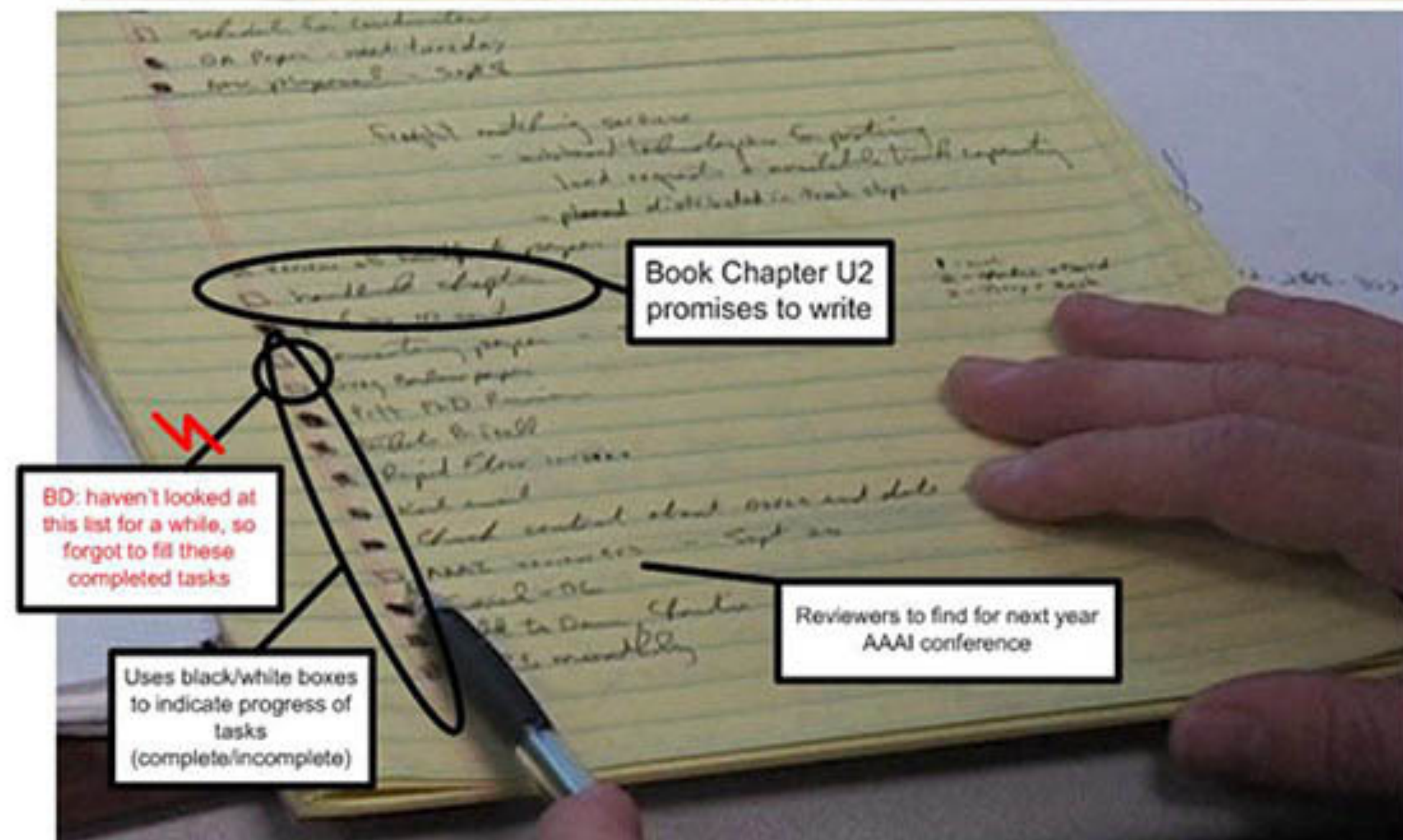
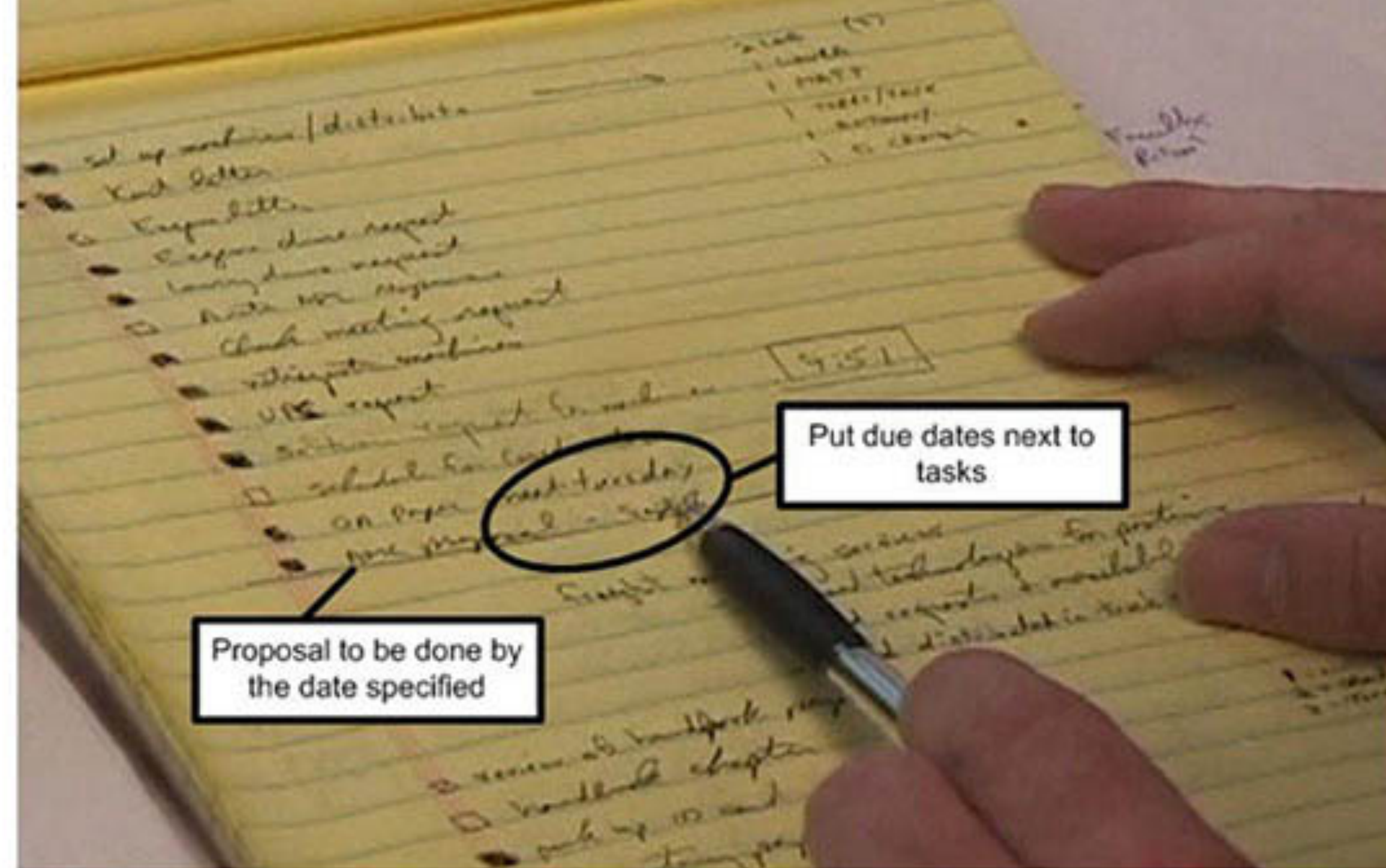
Contextual Design

Cultural Model



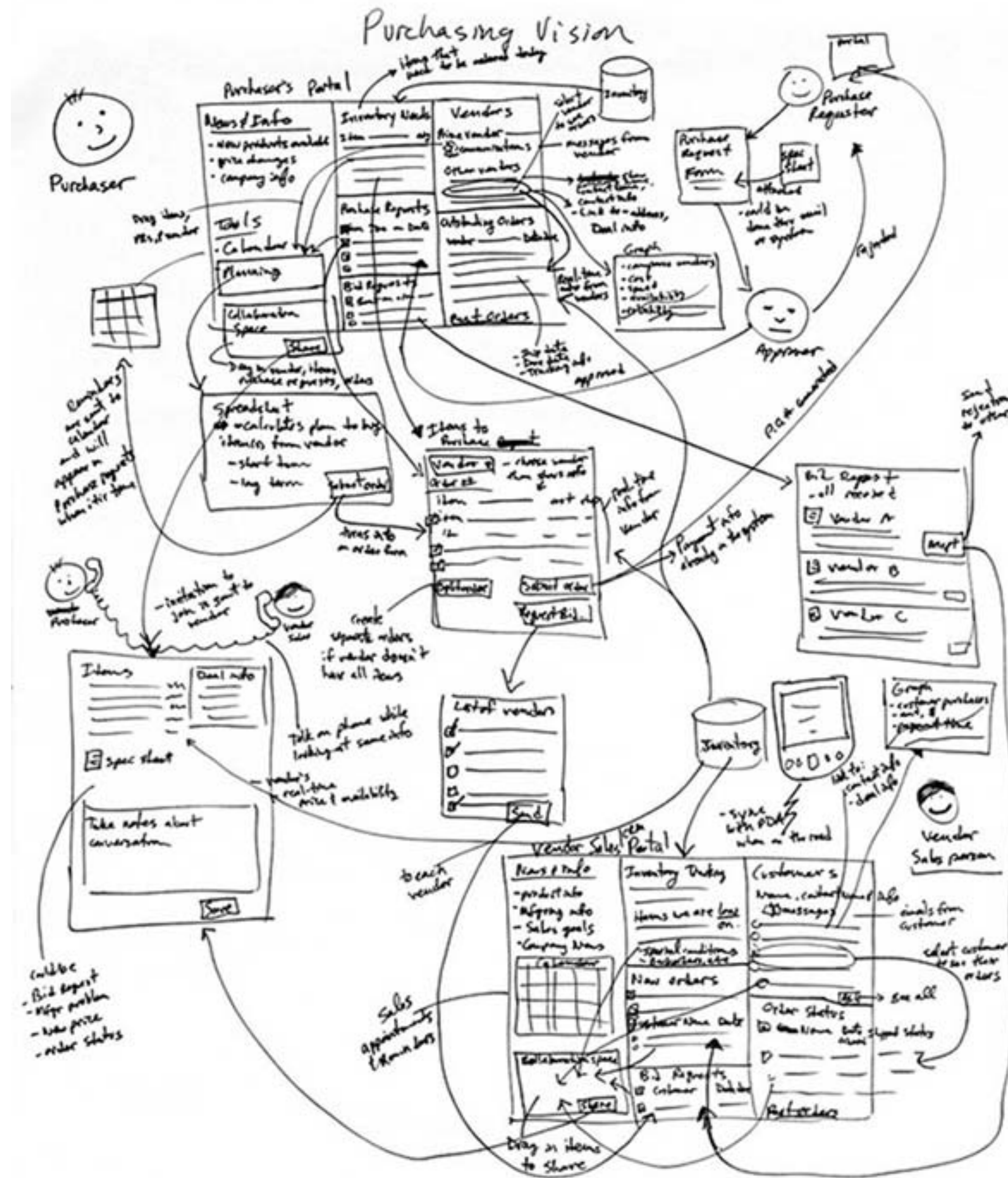
Contextual Design

Artefact Model



Contextual Design

Visioning



Contextual Design

Storyboarding

