

INF03 Expérience Utilisateur

3. Analyse d'entretiens et d'observations

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Outline

Interviews and observations analysis methods

- ▶ Affinity diagrams
- ▶ Task analysis
- ▶ Grounded theory

Affinity diagram

<http://wiki.fluidproject.org/display/fluid/Affinity+Diagrams>

- ▶ Variation of card sorting
- ▶ Less theoretical approach.

- ▶ Method to sort out and make sense of data
- ▶ Helps to identify themes and hidden relationships
- ▶ Data is written on post-its and sorted in groups/themes

Syst. Leprosy

Design
Principles/ guidelines

Competition

Argument

Authorizing

- Be used by many
- Be used across many systems
- Turn $\rightarrow$ pain / increase efficiency
- net loss
- to the system overall

Carum latifolium
Cuscut.

3-3

Process

1. Use interview data to identify ideas, problems, tools, questions...
 2. Write each point on a post-it
 3. Sort card in groups until all the cards are sorted out.
 4. Repeat
 5. Add names / labels to themes
 6. Link themes
-
- ▶ Write down themes to evaluate insights and interesting points
 - ▶ Each member can vote for themes of interest with a limited number of points (e.g. 5 to 10)

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Task analysis

On cherche à identifier ce que l'utilisateur doit faire et/ou les processus cognitifs impliqués pour réaliser une tâche.

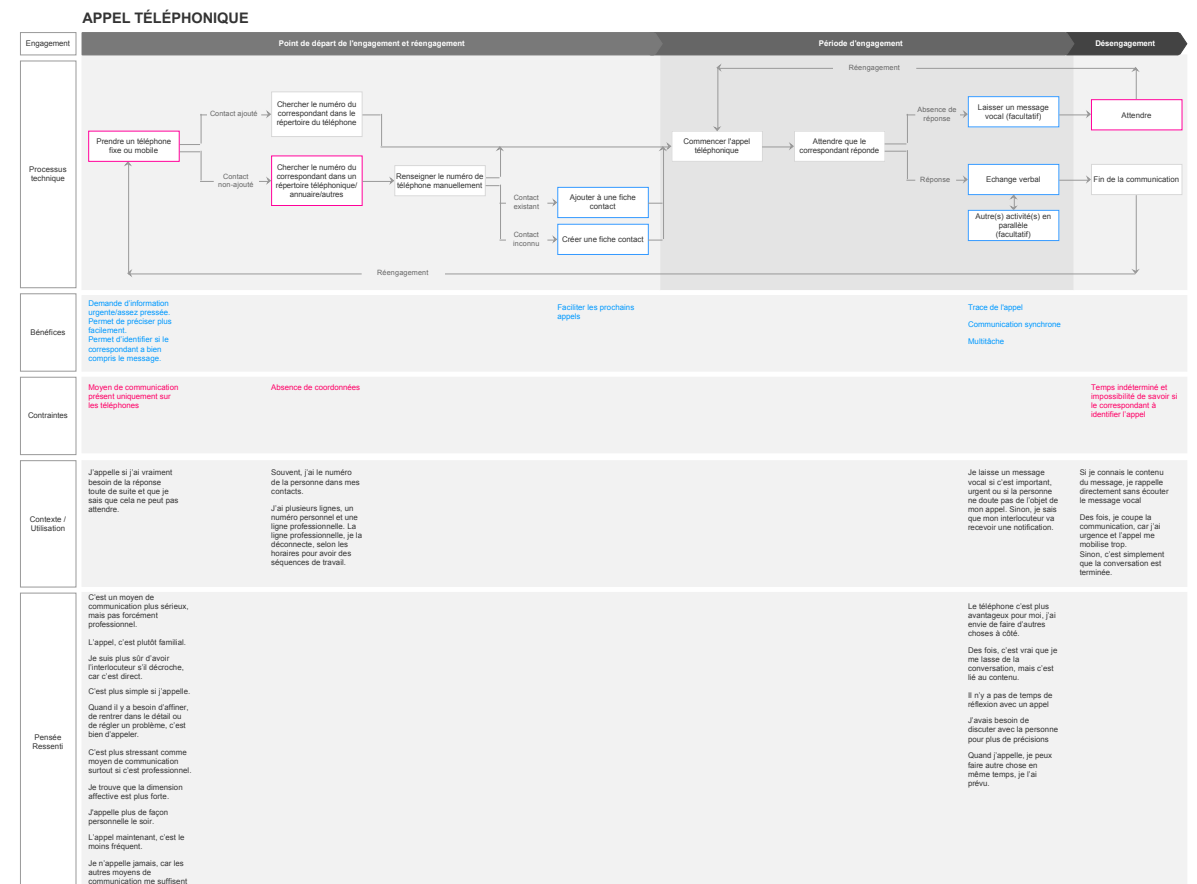
> Vue globale de la structure, des actions, et des processus de décision entre les gens et les outils utilisés.

Task analysis

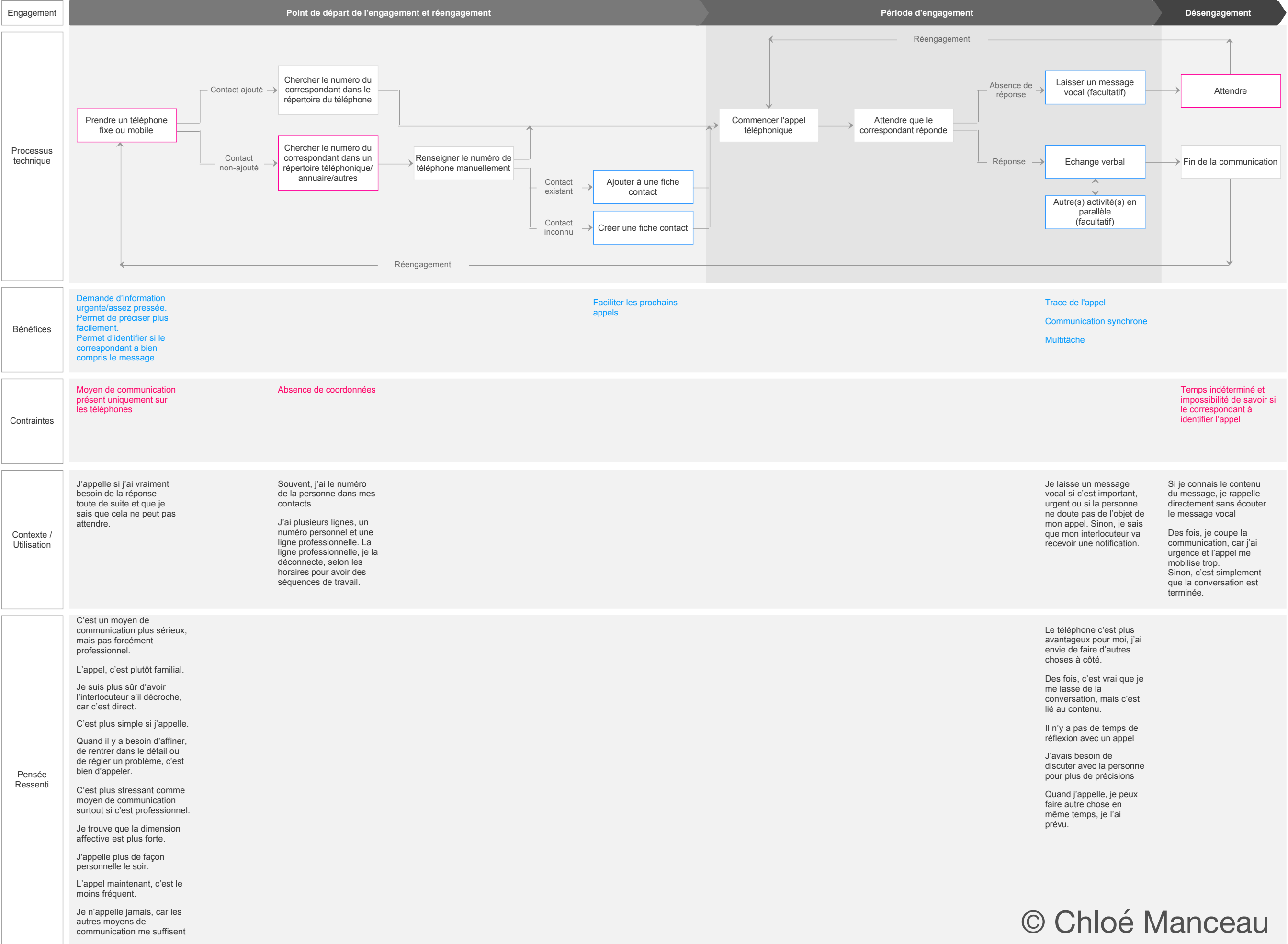
Example from Chloé Manceau's thesis :

L'engagement dans une communication multi-dispositifs

- Analysis of engagement in phone calls



APPEL TÉLÉPHONIQUE



In service design

<http://servicedesigntools.org/tools/137>



Call History - Compiled Task Analysis

Before Scene

The spare bedroom (office) of Jenny's two bedroom townhome in suburban Indianapolis.

Jenny comes home from a weekend away and wants to see if there have been any important phone calls or messages that she missed. She sees the voicemail indicator on her phone and begins the lengthy process of calling and listening to her voicemail.

After Scene

The spare bedroom (office) of Jenny's two bedroom townhome in suburban Indianapolis.

Jenny comes home from a weekend away and wants to see if there have been any important phone calls or messages that she missed. She looks at her Comcast Message Center Dashboard she quickly sees that she has five new voicemails. Through the Comcast Message Center's dashboard, she is able to see that the third voicemail is from her mother and plays the message instantly.

Future Scene

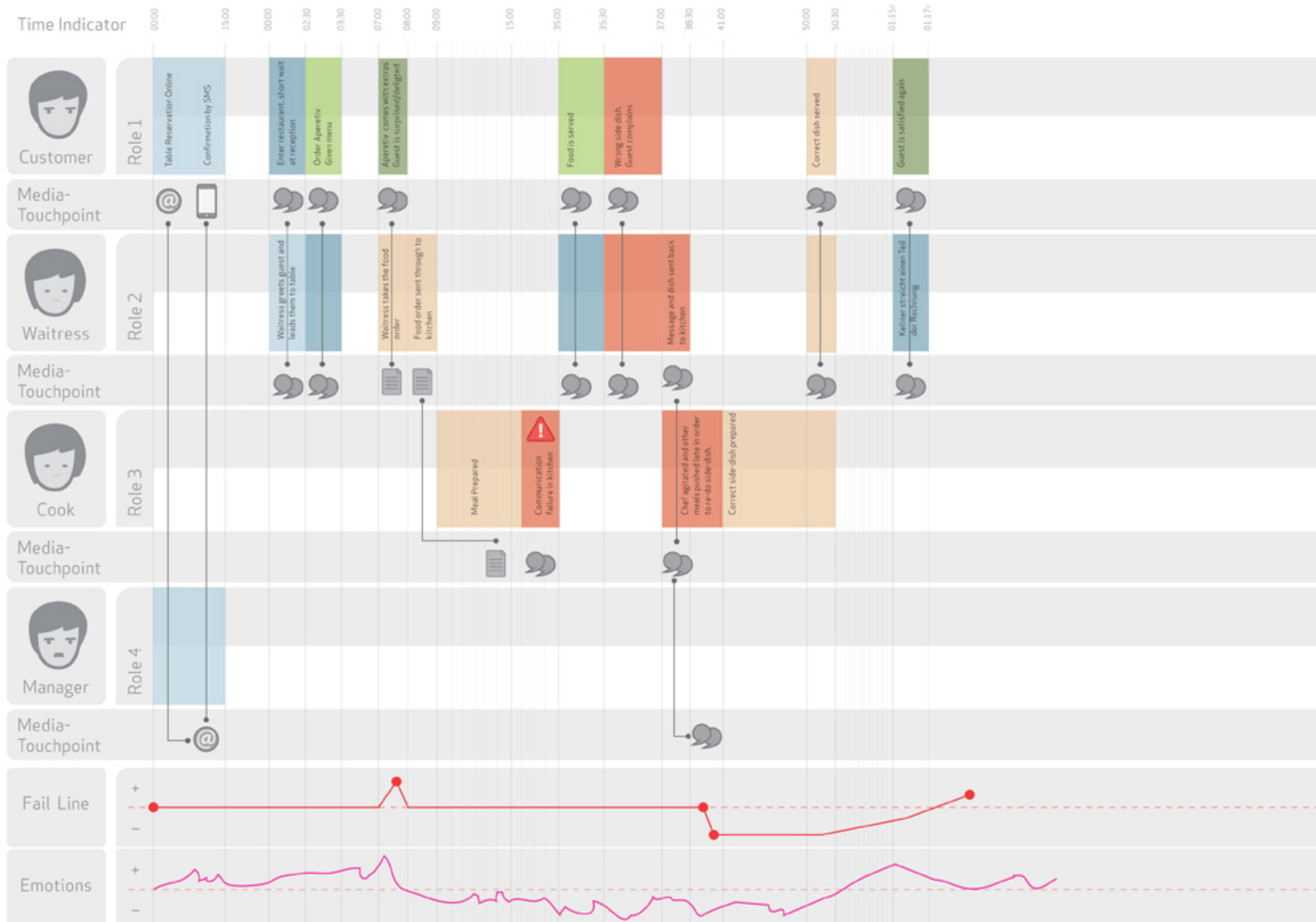
The spare bedroom (office) of Jenny's two bedroom townhome in suburban Indianapolis.

Jenny comes home from a weekend away and wants to see if there have been any important phone calls or messages that she missed. She looks at her Comcast Message Center Dashboard she quickly sees that she has five new voicemails. Through the Comcast Message Center's dashboard, she is able to see that the third voicemail is from her mother and plays the message instantly. The Comcast Message Center's presence indicator, Jenny can see that her mother may not be home, but has her cell phone with her. Jenny calls her mother back on her cell phone.



Checking voicemail is tedious and time consuming. I want a system that is quick, convenient, and easy for once.

Sub Tasks	Jenny returns home from a weekend away.	Jenny checks to see if anyone called while she was away.	Jenny checks to see if anyone left a voicemail message.	Jenny listens to her voicemail.	Jenny checks for missed calls she needs to return.	Jenny adds the caller to her address book.	Jenny reviews her list of calls to return.	Jenny returns her phone calls.
Scenario	Jenny returns home from a weekend away. She walks in the door, puts down her bags and takes a look around. Everything appears to be right where she left it.	Jenny walks into the office to check the caller id light on her phone to see if anyone called while she was away.	Jenny checks the voicemail indicator and see's the number six. She knows she had saved some messages, but doesn't know how many.	Jenny sees there are four new voicemail messages. The second new message is from her mother. She would like to listen to it first.	Jenny sees that her grandmother called, but didn't leave a voicemail; she typically doesn't leave messages.	One of Jenny's friends called from her new mobile phone. Jenny wants to add the number to her address book.	Jenny has a list of calls to return. Each item has the name, number, and a few brief notes about the call.	Jenny reviews the order of calls she needs to make and returns the phone calls she can now, saving the others for later.
Considerations/Influencers	Can I be notified that I missed calls while I was away? Is it quick? Is it easy? Do I need any special equipment? How much does it cost?	Can I be notified quickly that someone important called while I was away?	Can I check quickly to see if I have any messages waiting?	Can I listen to a specific message? Can I listen to the message quickly? Can I save or delete the message before it is completed playing?	Can I check my missed calls quickly and conveniently? Can I quickly determine which calls I need to return that don't have voicemails?	Can I add the new number to my address book quickly and easily? If an entry already exists, can I update it easily? Can I sync the address book with my mobile?	Do I have enough time to return all these calls now? Which calls should I return first?	Do I have enough time to return these calls now?
Pain-Points	Checking for missed calls and voicemail is laborious and inconvenient.	I have to go to my office to see if anyone called. Checking from the road is even more laborious and inconvenient.	How many of the messages are new? Which ones are important? Can I pick a specific message to listen to? Which messages need immediate attention?	Listening to voicemail is time inconvenient and time consuming. Why can't I listen to a specific message without listening to the ones before it? Do I have time to listen to the messages now?	Checking for missed calls is inconvenient and time consuming. Can the system help me determine which calls need to be returned?	Keeping all my devices in sync is difficult. How can I keep my mobile phone and email address books in sync?	How do I know what each call is about? How will I know that I've returned a call, or marked it for "call back later?"	How do I keep track of which calls I've returned? Do I have to use something else to return the calls?
Functionality		C 2.1 View call history status. (1) The customer can view the status of whether or not (s)he has any new missed calls.	C 3.1 View voicemail status. (1) The customer can view the status of whether or not (s)he has any new voicemail.	C 4.1 Access the voicemail system. (1) The customer accesses the voicemail system to listen to new messages.	C 5.1 View new missed call history. (1) The customer can view the new missed calls history.	C 6.1 Add to address book (update in (1) address book). The customer can add (update) a name and number in the address book.	C 7.1 Review call back list. (1) The customer can review a call back list, ordered by priority, and with notes for each call.	C 8.1 Return calls. (1) The customer can return calls from within the message center.
		C 2.2 View new missed calls history. (1) The customer can view the call history for new missed calls.	C 3.2 View new voicemail list. (1) The customer can view a list of new voicemail messages with the name (number) and date/time of each voicemail.	C 4.2 Select a voicemail for playback. (1) The customer reviews the list of messages and related info and selects a message to play.	C 5.2 View call priority status. (4) The customer can view the priority/importance of a call to help them determine which calls need to be returned.	C 6.2 Sync address book. (4) The customer can sync the address book across home phone, mobile phone, email, etc.		C 8.2 Mark call as returned. (2) Once a call has been returned, the message is automatically marked as returned.
		C 2.3 View full missed call history. (2) The customer can view the entire call history, including new and past missed calls.	C 3.3 View full voicemail history. (2) The customer can view the entire voicemail history, including new and past voicemails.	C 4.3 Play message. (1) Upon selection, the message automatically begins playback.	C 5.3 Delete. (1) The customer can delete missed calls from the missed call history.			
		C 2.4 View full incoming call history. (3) The customer can view the entire incoming call history, including all missed, answered, and forwarded calls.	C 3.4 View similar or duplicate messages. (4) The customer can view if anyone who left a duplicate voicemail on multiple phones, or email for a similar message.	C 4.4 Message notes. (4) The customer can place notes and/or a description next to the voicemail - useful when returning or saving the call.	C 4.5 Set message priority and/or reminder. (4) The customer can set a priority level, due date, and/or reminder for the message. Over time, the system learns and sets these automatically.			
		C 2.5 View similar or duplicate calls. (4) The customer can view if anyone placed a duplicate call to more than one phone.			C 4.6 Save message. (1) The message is automatically saved if the customer doesn't delete it.			
					C 4.7 Delete. (1) The customer deletes the message. They should be able to perform this action at any time during the message playback.			
					C 4.8 Rewind and fast forward. (2) The customer can rewind and fast forward through the message during playback.			
					C 4.9 Forward message. (4) The customer can forward the message to another number or email address.			
Glossary Ratings (1) High - address as soon as possible (2) Medium - address after priority 1 (3) Low - after priority 2 and if there is time in development cycle (4) Future - consider for a future version of the product								



How to create a task diagram

- ▶ Each actor is a line
- ▶ Each action is associated to one (or several) actors and positioned temporally
- ▶ Steps are ordered chronologically
- ▶ Look for emerging patterns from one observation to the next

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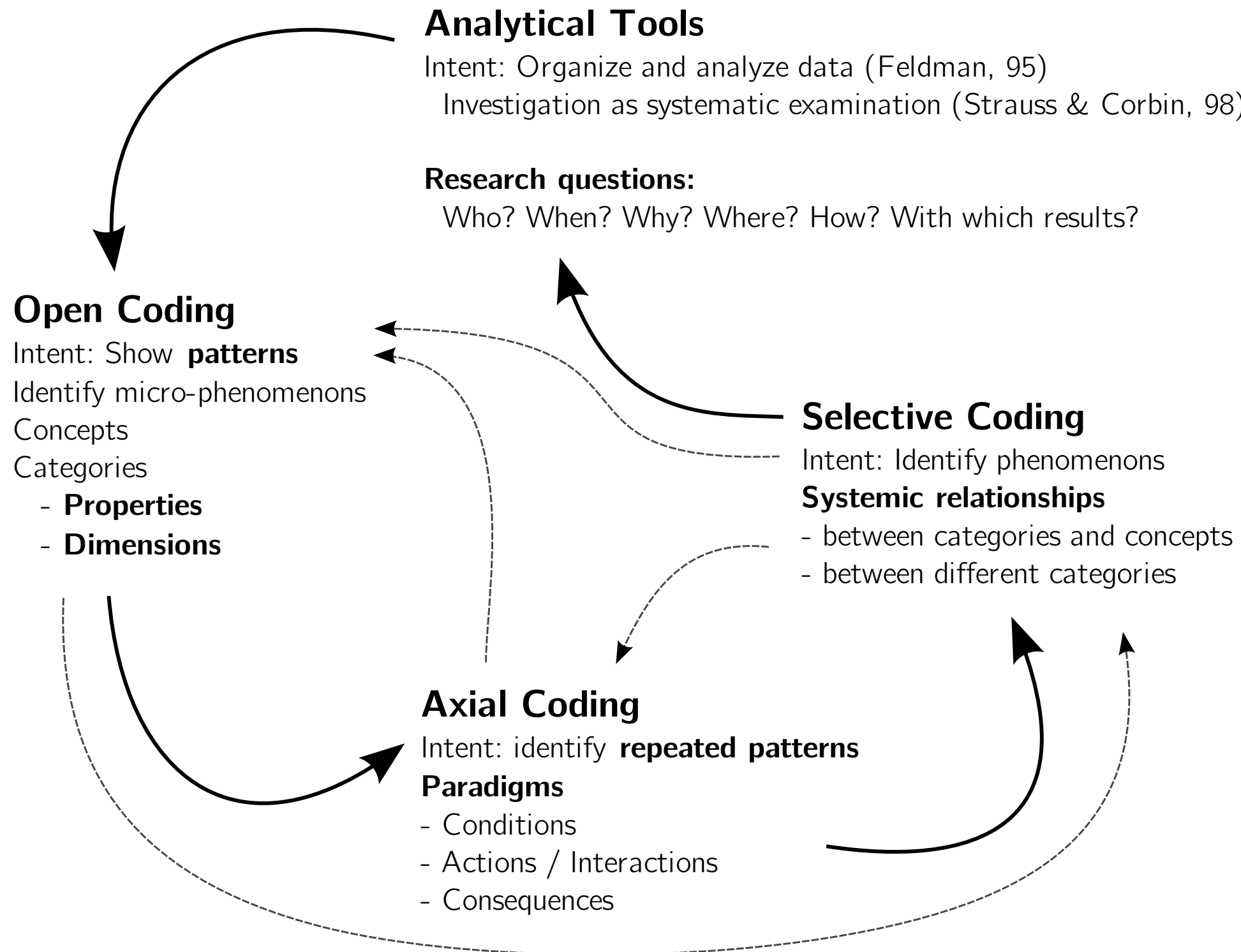
Grounded theory

https://en.wikipedia.org/wiki/Grounded_theory

- ▶ Glaser & Strauss, 1967
- ▶ Social Science method aiming to make analysis more rigorous
- ▶ Starting from data rather than theory
- ▶ Slowly moving towards more abstraction

- ▶ Further reading :
Corbin & Strauss "Basics of Qualitative Research: Grounded Theory Procedures and Techniques". 3rd edition. Sage, 2008.

Grounded Theory



Le codage ouvert (*Open coding*)

Afin de récolter des données qualitatives me permettant de comprendre les habitudes, les attentes et les contraintes des utilisateurs lorsqu’ils communiquent entre eux à l’aide de dispositifs numériques, j’ai effectué 9 entretiens semi-structurés. Les notes prises durant les entretiens et les retranscriptions des différentes discussions sont analysées et conceptualisées, me permettant ainsi d’observer de multiples concepts. J’ai regroupé par la suite ces concepts en 8 catégories définies par des propriétés et des dimensions (Table 1).

Catégorie	Propriétés	Dimensions
Contexte	Environnement Dispositif Moyen Synchronicité Relation	Lieu physique - Mobilité - Multitâche Digital - Papier Outil - Plateforme - Application Synchrone - Asynchrone (court, long) Personnelle - Professionnelle
Structure	Forme Moyen d’écriture Statut	Texte - Image - Vidéo - Audio - Fichier - Long - Court Clavier tactile et physique - Dictée orale - Dessin/Écriture sur écran tactile - Appareil photo Brouillon - Structuré - Formalité - Priorité
Partage	Domaine Sphère Coordonnées Contenu	Individuel - Collectif Public - Privé Téléphoniques (fixe et mobile) - Postales - Adresse email - Identifiant Information - Émotion
Beau	Organisation Compréhension Utilisation	Mobilité - Synchronisation Faciliter - Affiner -Clarifier - Régler - Détailler - Efficacité - Précision - Subtilité Fonctionnel - Sécurité - Rapidité - Adaptabilité - Relai

Le codage axial (*Axial coding*)

À la suite du travail de codage ouvert présenté dans la table 1, j'ai comparé de nouveau les catégories afin de les fusionner et d'en créer éventuellement des nouvelles permettant d'affiner des concepts.

Afin d'approfondir ce processus, j'ai utilisé un cadre de réflexion présentant des relations de causes à effet et présentant 5 éléments :

- Le phénomène – C'est le concept, l'objet ou le cadre ;
- Le contexte – Ce sont un ensemble de conditions qui influent sur le phénomène et les stratégies d'action ;
- Les conditions causales – Ce sont les événements, les incidents, qui conduisent à l'apparition ou l'évolution du phénomène ;
- Les stratégies d'action – Ce sont les activités qui vont inciter les utilisateurs à effectuer une réponse au phénomène et aux conditions ;
- Les conséquences – Ce sont les conséquences de stratégies d'action, les éléments prévus et les imprévus.

J'ai ensuite cherché à définir des sous-catégories définissant ces catégories (Figure 1)

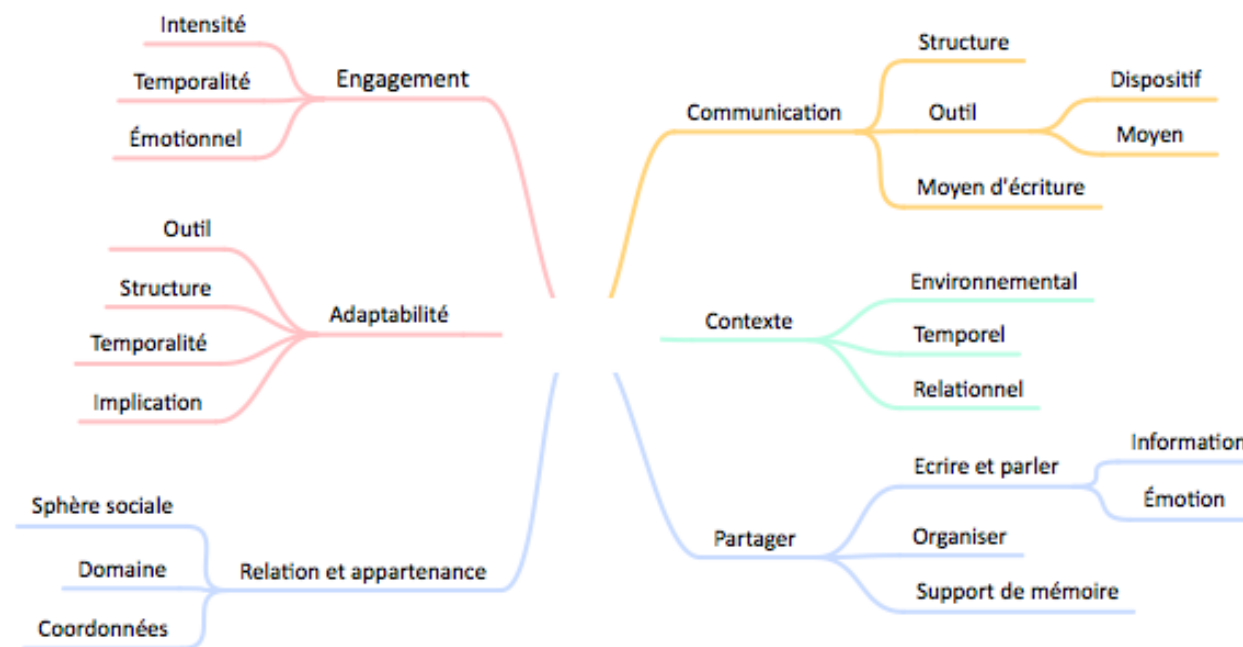


Figure 1 – Codage axial des entretiens semi-structurés

Enfin, j'ai établi les relations existantes entre les différentes catégories (Figure 2).

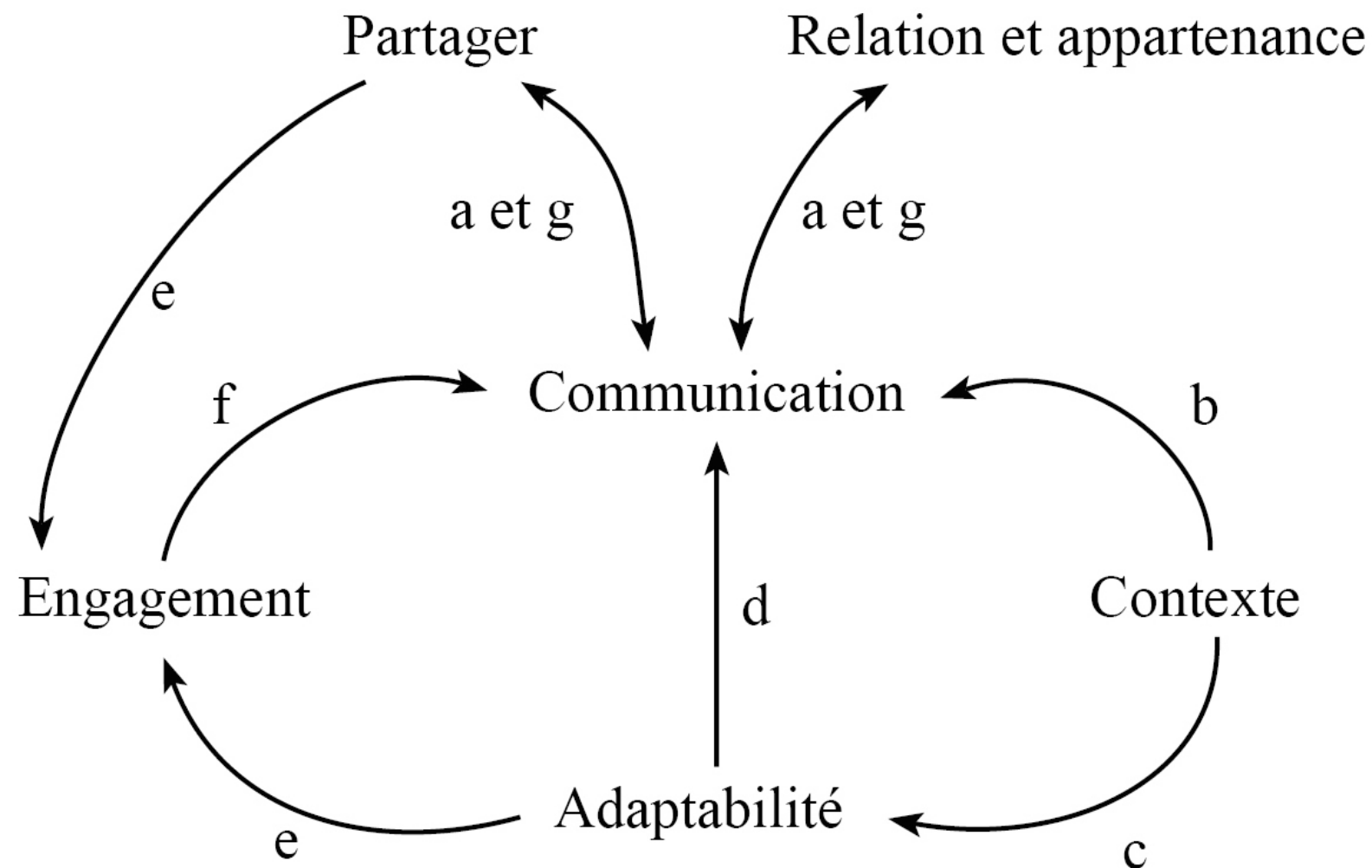


Figure 2 : Relations entre les différentes catégories du codage axial

a – Dans une volonté de partager de l'information et de satisfaire son besoin relationnel et d'appartenance, l'individu va communiquer avec des connaissances ou des inconnus afin de satisfaire ce besoin.

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Summary

- | | |
|----------|--------|
| ▶ People | Who ? |
| ▶ Place | Where? |
| ▶ Object | What? |

Goetz et LeCompte (1984)

Who is present ?

What are their roles ?

What happens ?

When does the activity unfolds ?

Where does the activity unfolds ?

Why does it happen ?

How is the activity organized ?