

HCI Design & Evaluation

Lecture 2 – Scenario-based Design, Value Sensitive Design

Monday 22-11-20201

Lorenzo, Birna van Riemsdijk

Who am I?

Lorenzo Gatti - l.gatti@utwente.nl

Postdoctoral researcher @ Human Media Interaction group

Main field: Natural Language Processing and Generation

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Bachelor in Human Computer Interaction

Master's in Cognitive Science/Language & Multimodal Interaction

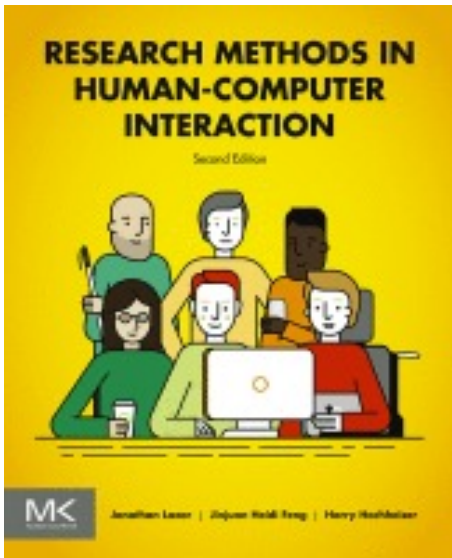
PhD in Computer Science/NLP... but HCI & UX design are still in my 

About last week...

- Peer reviews – look at Friday's meeting slides and video if you are still unsure. Assignments will be handed out today
- Is everyone in contact with all group members?
- Anything else?

Today

Week	Lecture (Location in Rooster)	on	Tutorial	Deadlines	Readings
1	Introduction HCI Course overview, topic and project	15.11	Ideation activity * Literature * Brainstorm * top 3 ideas	Proposal report (Fri 19-11)	Klemmer, Lecture 1. Available: YouTube Preece, Chapter 2 Link Lazar, Chapter 1 Link
2	Concepts, Ideation, Value Sensitive Design	22.11	Concept and Ideation * Scenario's, persona's, Values * Final #1 top idea * Video shotlist of above	Concept video, persona and scenario report (Fri 26-11)	Scenario-Based Design - Mary Beth LINK Value Sensitive Design and Information Systems - Batya Friedman LINK CHI - Guide to a Successful Video Submission
3	User confrontation	29.11	User confrontation * Interview script * Interview with peer groups * Interview results and conclusions	Interview report (Fri 03-12)	Lazar, Chapter 5 Surveys Link Lazar, Chapter 8 Interviews Link Lazar, Chapter 11 Qualitative Data Link
4	Lo-fi prototyping	06.12	Prototyping part I * (digital) prototyping * Setup user evaluation	-	Preece, Chapter 12 Link Klemmer, Lecture 2, The Power of Prototyping Link Lazar, Chapter 15 Link Lazar, Chapter 16 Link
		13.12	Prototyping part II * (digital) prototyping * User evaluation * Conclusions and results	Lo-Fi prototype report (Fri 17-12) Exam part I (Fri 17-12)	Lazar, Chapter 10 Link
	Research Analysis	20.12	Prototyping part III * Hi-fi prototyping	-	Lazar Chapter 2 Link Lazar, Chapter 3.1, 3.2, 3.3 Link Lazar, Chapter 4 Link Usability.gov Link ; Quant. Spec. Link

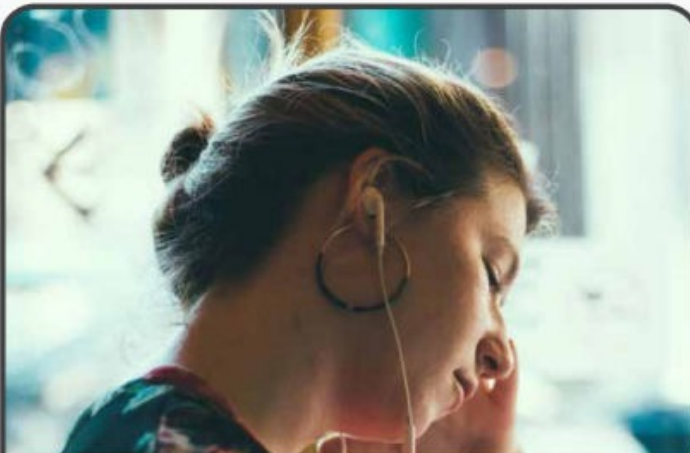


Today

- Scenario Based Design (Paper)
 - Personas
 - Scenarios
 - Concept video
- Value Sensitive Design (Paper)
 - Video lecture

Personas

- Reliable and realistic representation of key audience segments
- Represent major user group(s)
- Major needs and expectations of the most important user groups
- User's expectations
- Aid in uncovering universal features and functionality
- Describe *real people* with backgrounds, goals, and values
- <https://www.usability.gov/how-to-and-tools/methods/personas.html>



Rebecca

Casual audiophile

Age	26
Occupation	Frontend developer
Education	Bachelor degree
Marital status	Single
Location	Mountain View
Online locations	Work and mobile
Computer(s)	iPhone and MacBook Pro
Internet usage	8-9 hours



Music is essential to Rebecca's life. She is listening to tunes almost every second of her life, particularly while working.

Obstacles Rebecca faces:

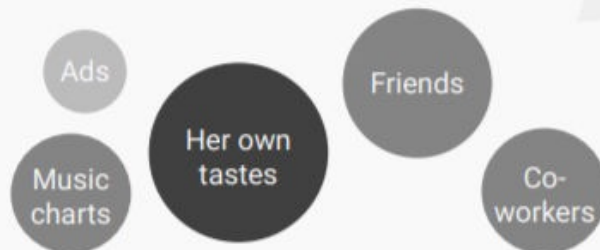
- Too busy to explore new music artists she might like
- Streaming music consumes a lot of data

How will Rebecca interact with Spotify?

Questions Rebecca will ask:

- How do I keep updated on new releases by artists I follow?
- How do I learn of new artists I haven't heard of?
- Can I listen to music in a data-efficient manner?
- How can I listen on both my MacBook and my iPhone?

Who influences Rebecca?



Rebecca's situation

Goals, motivations:

- Listen to great music to keep her productive at work
- Relax and unwind at the end of the day
- Superior music quality for full enjoyment of tracks
- Expand the circle of music artists she listens to

Key words

music, jazz, r&b, pop, artists, new releases, top charts, background music

Rebecca's story

Music is a big part of my life; I like to think that I always have a "background music" running in each scene of my life. I love working while listening to music; somehow, it gives me a lot of focus on my task.

I regularly talk to my co-workers about music and singers — that's what we like to talk about over lunch. We're constantly looking for new artists to inspire us and to expand our music library, but lately it seems a little tough to do that. Everything seems to have a "filter bubble" effect, and we keep listening to the same genres and artists.

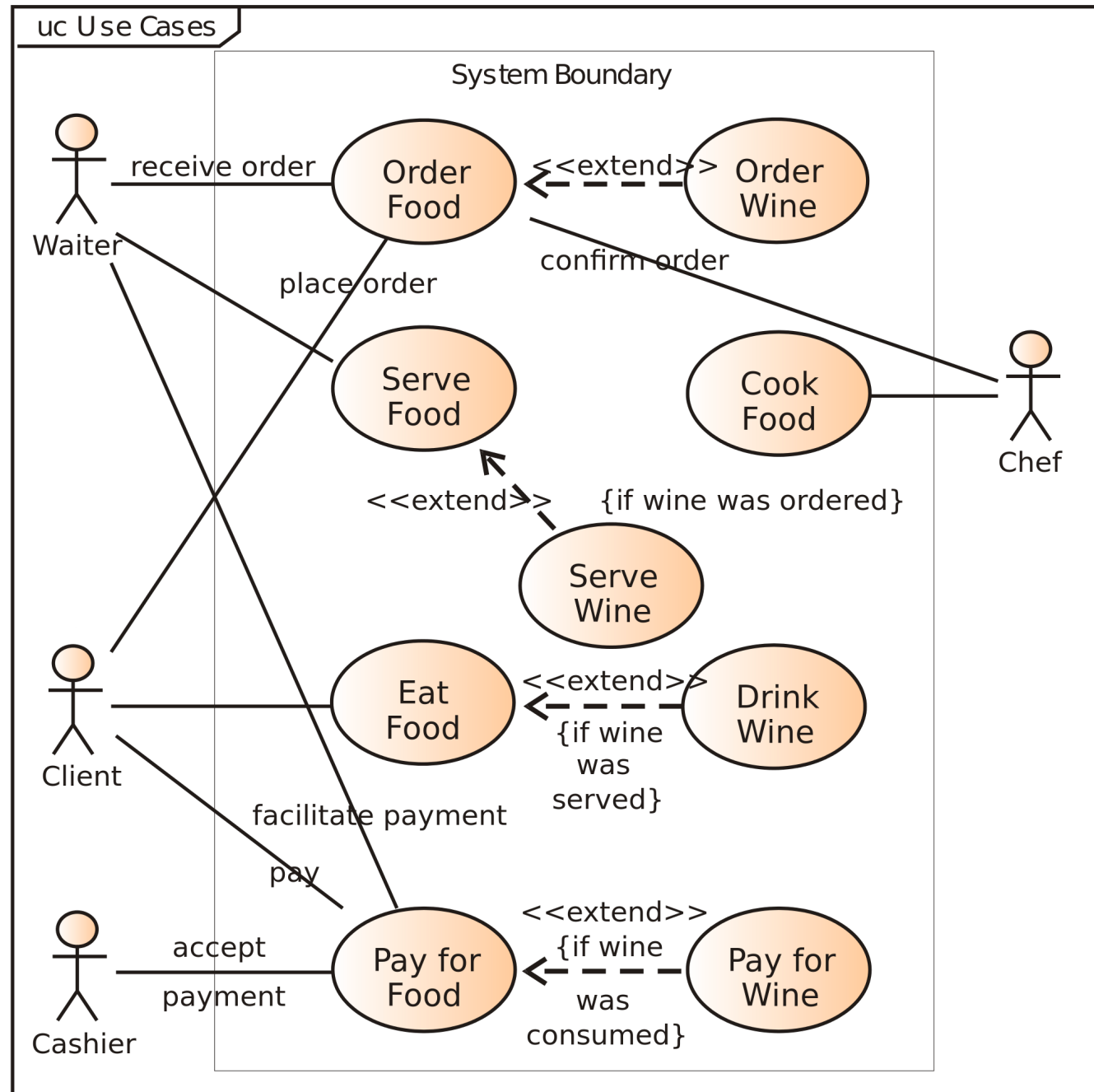
I really enjoy finding new artists that match my subjective taste, and most of the times I get those from my close friends. I wish there were a way to find more music and artists without having to rely on the serendipity of life!

Personas

Benefits of Personas:

- Personas help to focus decisions on application components
- Quick and inexpensive way to test and prioritize features throughout the development process
- *Stakeholders* and leaders evaluate new feature ideas
- Information architects develop informed wireframes, interface behaviors, and labeling
- Designers create the overall look and feel of the application
- System engineers/developers decide which approaches to take based on user behaviors

Scenarios



Scenario Based Design*

What?

- Techniques to concretely describe the use of a future system at an early point in the development
- Narrative descriptions of the envisioned use, employed in a variety of ways to guide the development
- From functional specification (solution first) to how people will use a system to accomplish tasks and activities.

Scenario Example

Charlie wants to take his elderly mother, Freia, to his favorite home products store, ComfortAtHome.

He knows that the store is in the shopping center nearby, but he doesn't know where. He needs to find a route suitable for Freia, who uses a walker but doesn't like elevators.

He opens the navigation app on his smartphone and enters the store name in the search feature. Two different branches of the store are listed, and Charlie asks for directions to the one nearest to their current location.

A map of the shopping center is shown, with their location, the store, and a suggested route. This route, however, includes stairs that are unsuitable for Freia. So he asks for an alternative route with ramps only, which the app shows.

They set off, following the new route provided.

Scenario Example: goal

Charlie **wants to take** his elderly mother, **Freia**, **to his favorite home products store**, ComfortAtHome.

He knows that the store is in the shopping center nearby, but he doesn't know where. He needs to find a route suitable for Freia, who uses a walker but doesn't like elevators.

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Scenario Example: needs

Charlie wants to take his elderly mother, Freia, to his favorite home products store, ComfortAtHome.

He knows that the store is in the shopping center nearby, but **he doesn't know where**. He **needs to find a route suitable for Freia**, who **uses a walker** but **doesn't like elevators**.

He opens the navigation app on his smartphone and enters the store name in the search feature. Two different branches of the store are listed, and Charlie asks for directions to the one nearest to their current location.

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They set off, following the new route provided.

Scenario Example: interaction

Charlie wants to take his elderly mother, Freia, to his favorite home products store, ComfortAtHome.

He knows that the store is in the shopping center nearby, but he doesn't know where. He needs to find a route suitable for Freia, who uses a walker but doesn't like elevators.

He opens the navigation app on his smartphone and **enters the store name** in the search feature. Two different branches of the store are listed, and Charlie **asks for directions to the one nearest** to their current location.

A map of the shopping center is shown, with their location, the store, and a suggested route. This route, however, includes stairs that are unsuitable for Freia. So he **asks for an alternative route** with ramps only, which the app shows.

They set off, following the new route provided.

Scenario Example: reaching the goal

Charlie wants to take his elderly mother, Freia, to his favorite home products store, ComfortAtHome.

He knows that the store is in the shopping center nearby, but he doesn't know where. He needs to find a route suitable for Freia, who uses a walker but doesn't like elevators.

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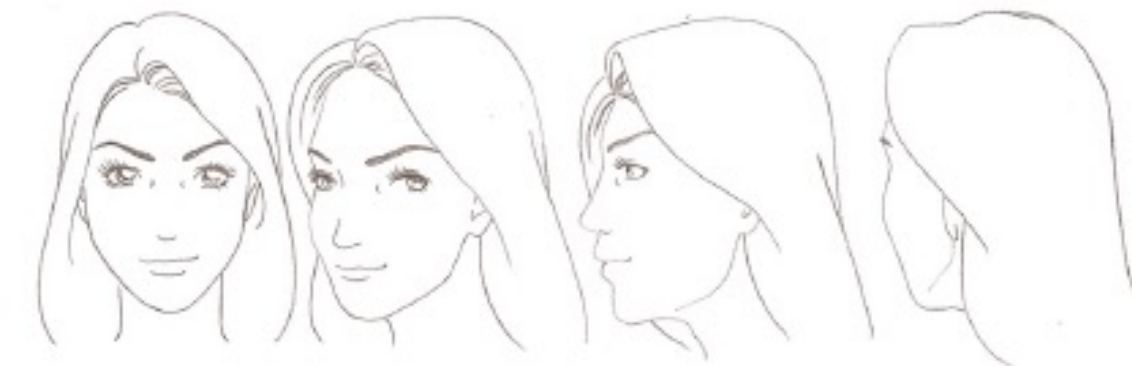
They set off, following the new route provided.



Maria



Antonio

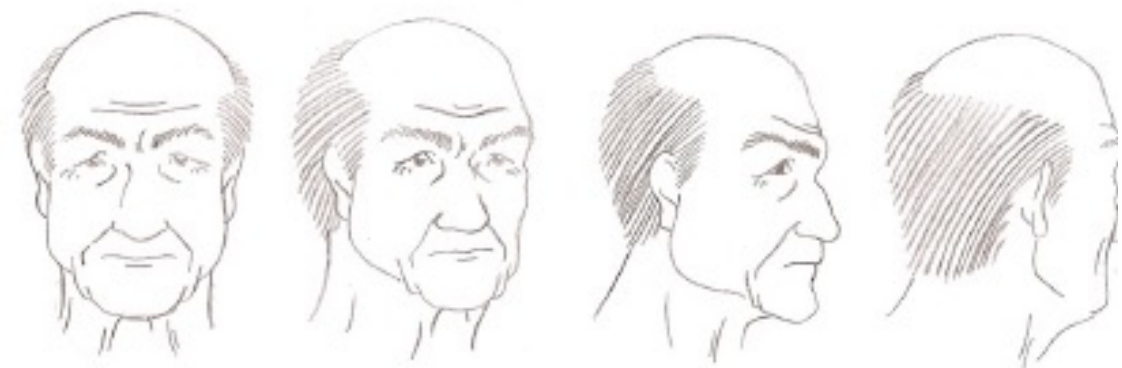


Luisa

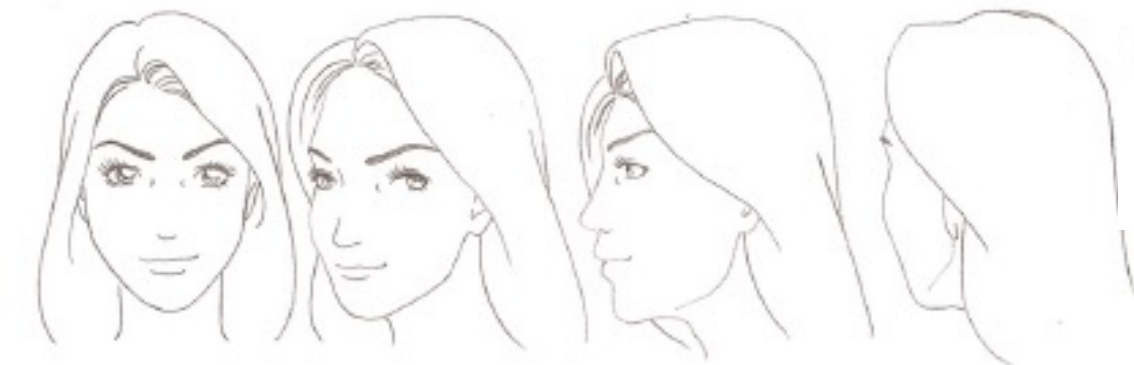
From Bazzanella, V. (2010). *Usa della metodologia scenario-based nelle fasi iniziali della progettazione: applicazione ad un sistema multimodale per l'analisi degli stili di vita*. Università degli Studi di Trento.



Maria



Antonio



Luisa

CAPIRE PRIMA DI CHIAMARE

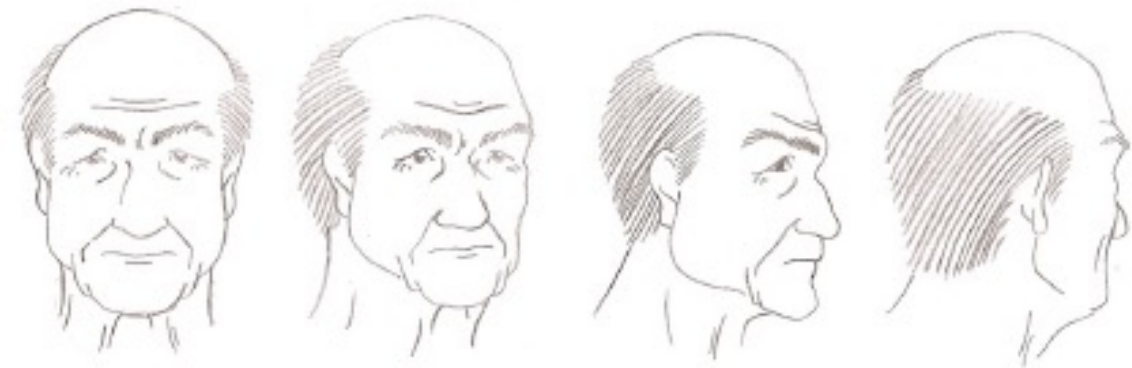
LUISA CHAMA SETTIMANALMENTE GLI UTENTI DEL TS IN MODO DA VERIFICARE CHE I SENSORI PRESENTI NELLA CASA E ADDOSSO ALL'UTENTE FUNZIONINO REGOLARMENTE.



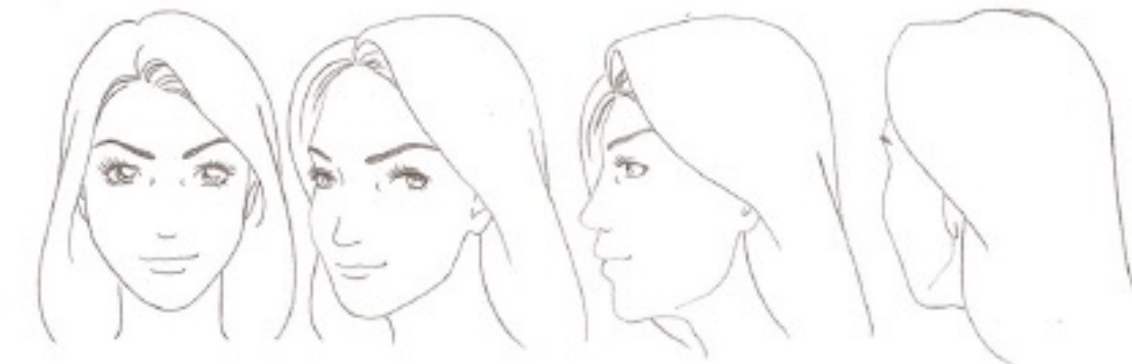
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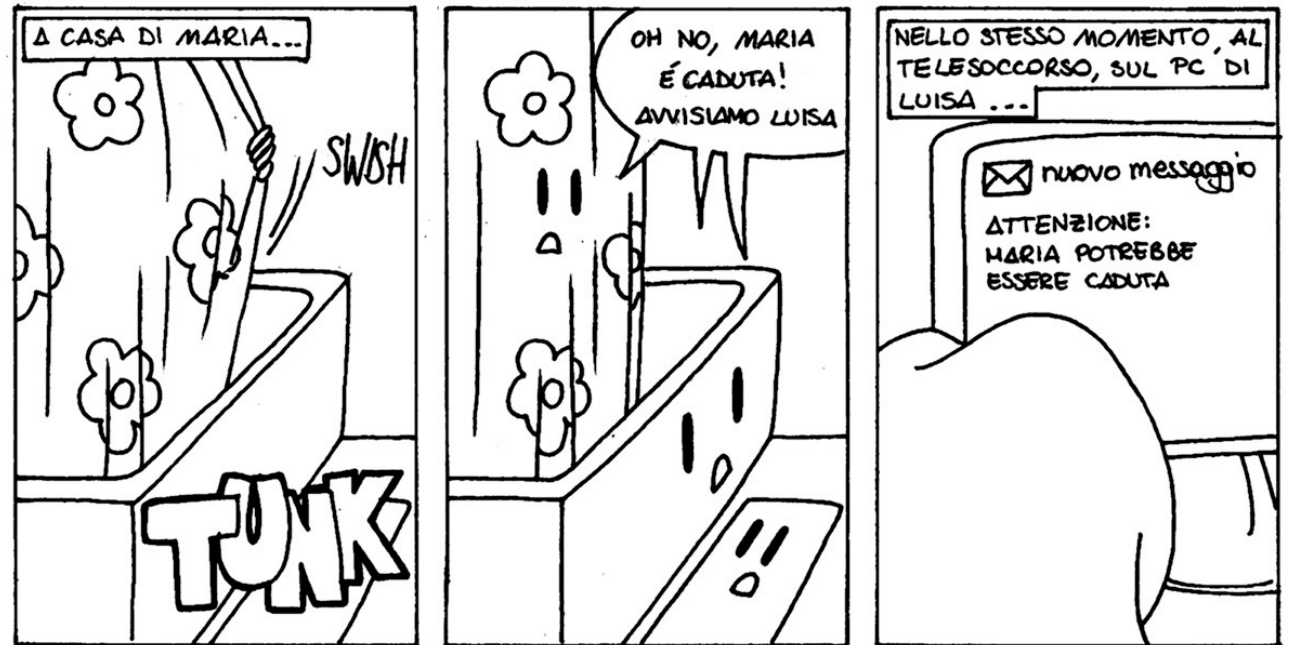
Maria



Antonio



Luisa



From Bazzanella, V. (2010). *Uso della metodologia scenario-based nelle fasi iniziali della progettazione: applicazione ad un sistema multimodale per l'analisi degli stili di vita*. Università degli Studi di Trento.

Scenario Based Design

What?

- Scenarios are concrete but rough.
- From *what* (possibilities of the system and the design) to *how* (how to carry out tasks of the system)

Scenarios: what are they useful for?

- Scenarios are useful in many stages of the ideation/development process
- But what can they be useful **for**, specifically?
- Think about it and answer with your guess:



<https://www.wooclap.com/HCISCENARIOS>

Scenario Based Design

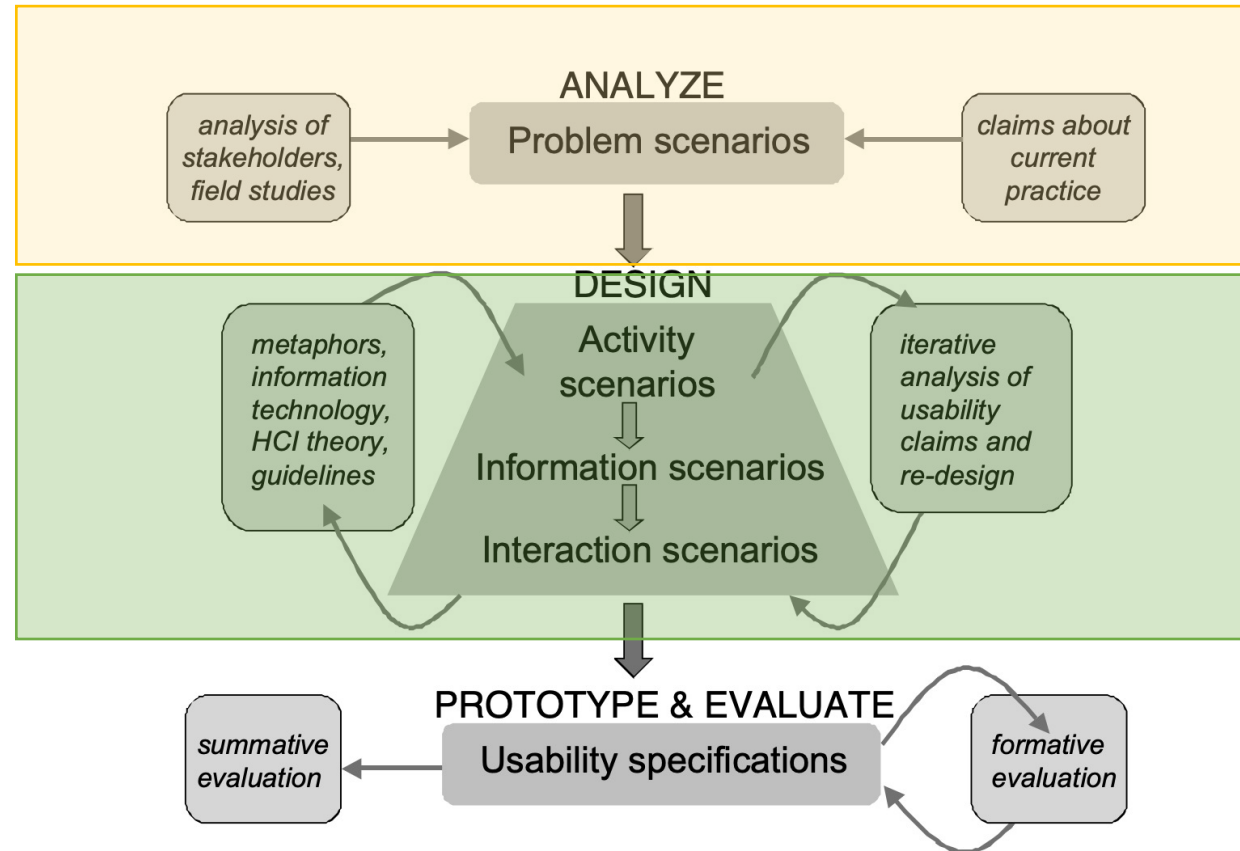


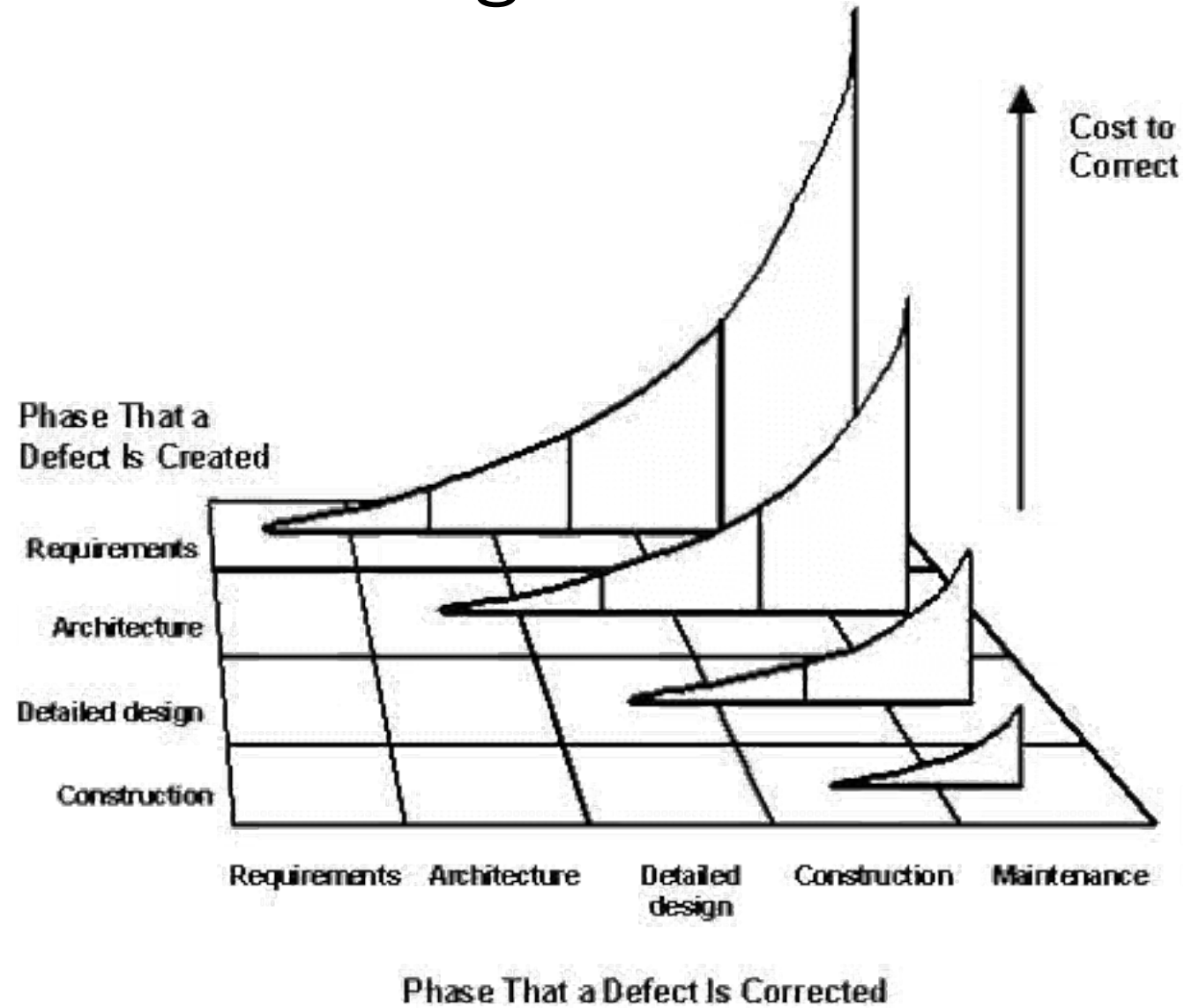
Figure 1: An overview of the scenario-based design (SBD) framework. Scenarios serve as a central representation throughout the development cycle, first describing the goals and concerns of current use, and then being successively transformed and refined through an iterative design and evaluation process (from Rosson & Carroll, 2001b).

Scenario Based Design

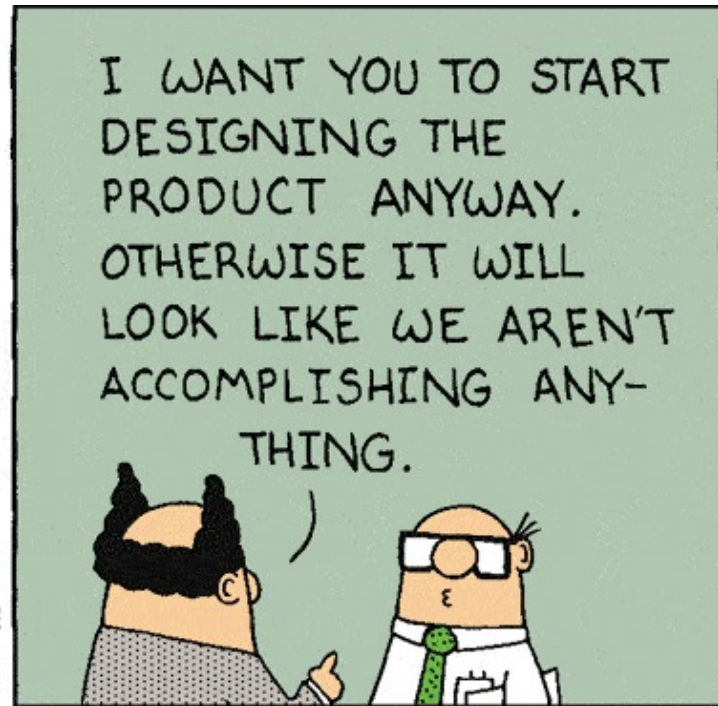
Why?

- Group brainstorming to develop further alternatives
 - Raise questions about assumptions behind the scenarios
 - Analyze software requirements
 - Specifications of functionality
 - Guide UI layouts and UI control
-
- Rapid communication about possibilities and concerns among different stakeholders

Scenario Based Design



Scenario Based Design



Scenario Based Design

What do you need for writing a scenario?

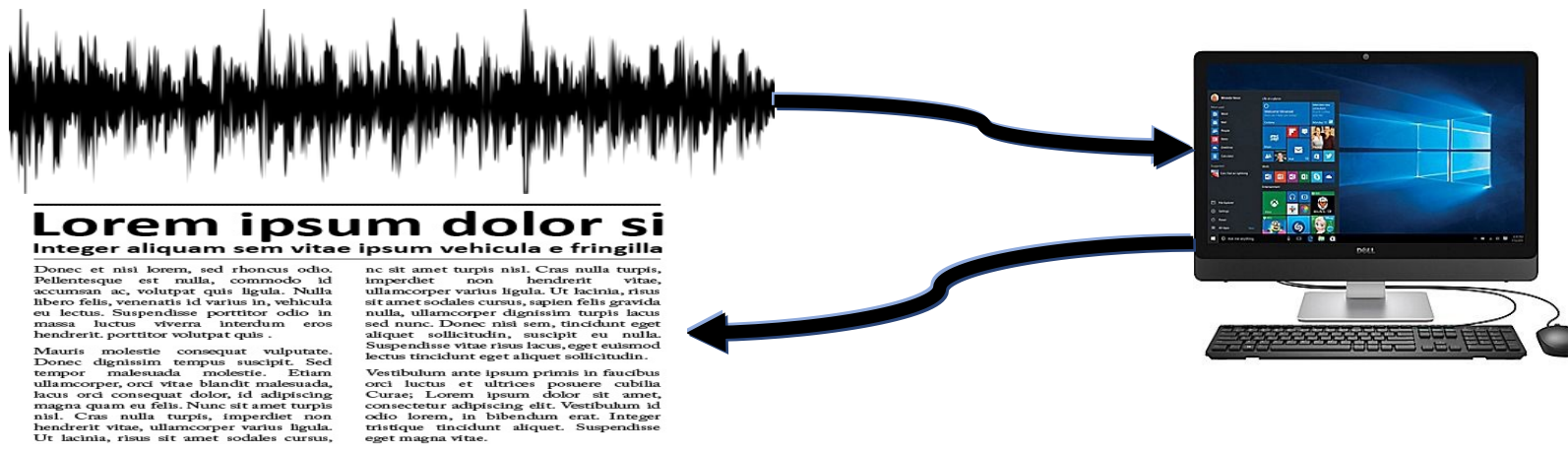
- Context
- Activities
- Stakeholders (direct/indirect)

Example – FIODSpraak



FIOD
Belastingdienst

- Problem statement:
 - Interviews with suspects or witnesses do take a lot of time of police officers
- Concept:
 - Speech recognition during police interviews --> automatic speech recognition (ASR); faster interview process!



Example – FIODSpraak



FIOD
Belastingdienst



: Naam Eenheid
Naam district/dienst/team/afdeling

Proces-verbaal van verhoor verdachte

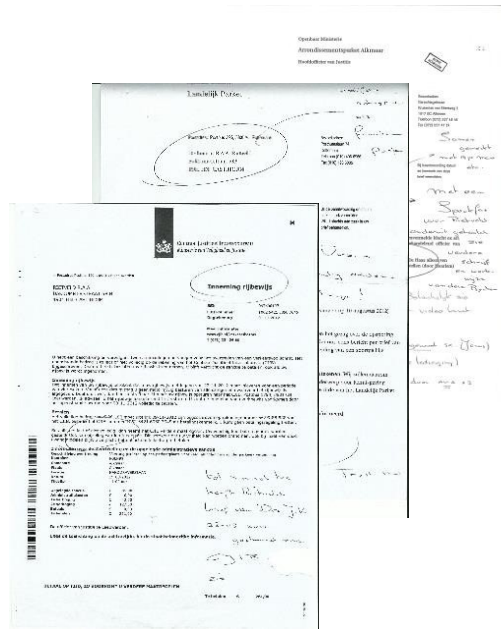
Proces-verbaalnummer : []
Documentcode : []
Naam onderzoek : []
Betreft : Verhoor verdachte [naam]
Parkeernummer : []
RC-nummer : []

PROCES – VERBAAL

K. verbaalsant, [naam, functie] werkzaam bij [organisatie], verklaart het volgende:

Op [dag] [datum], omstreeks [tijd] uur, hoorden wij in [plaats verhoor], de verdachte:

- Voornamen
- Voorvoegsels
- Achternaam
- Geboortedatum
- Geboorteplaats
- Geboorteland
- Geslacht
- Nationaliteit
- Adres
- Postcode
- Plaats
- Land
- SKN
- BSN
- GBA-nr.
- V-nr.



PHILIPS

Example – FIODSpraak



FIOD
Belastingdienst

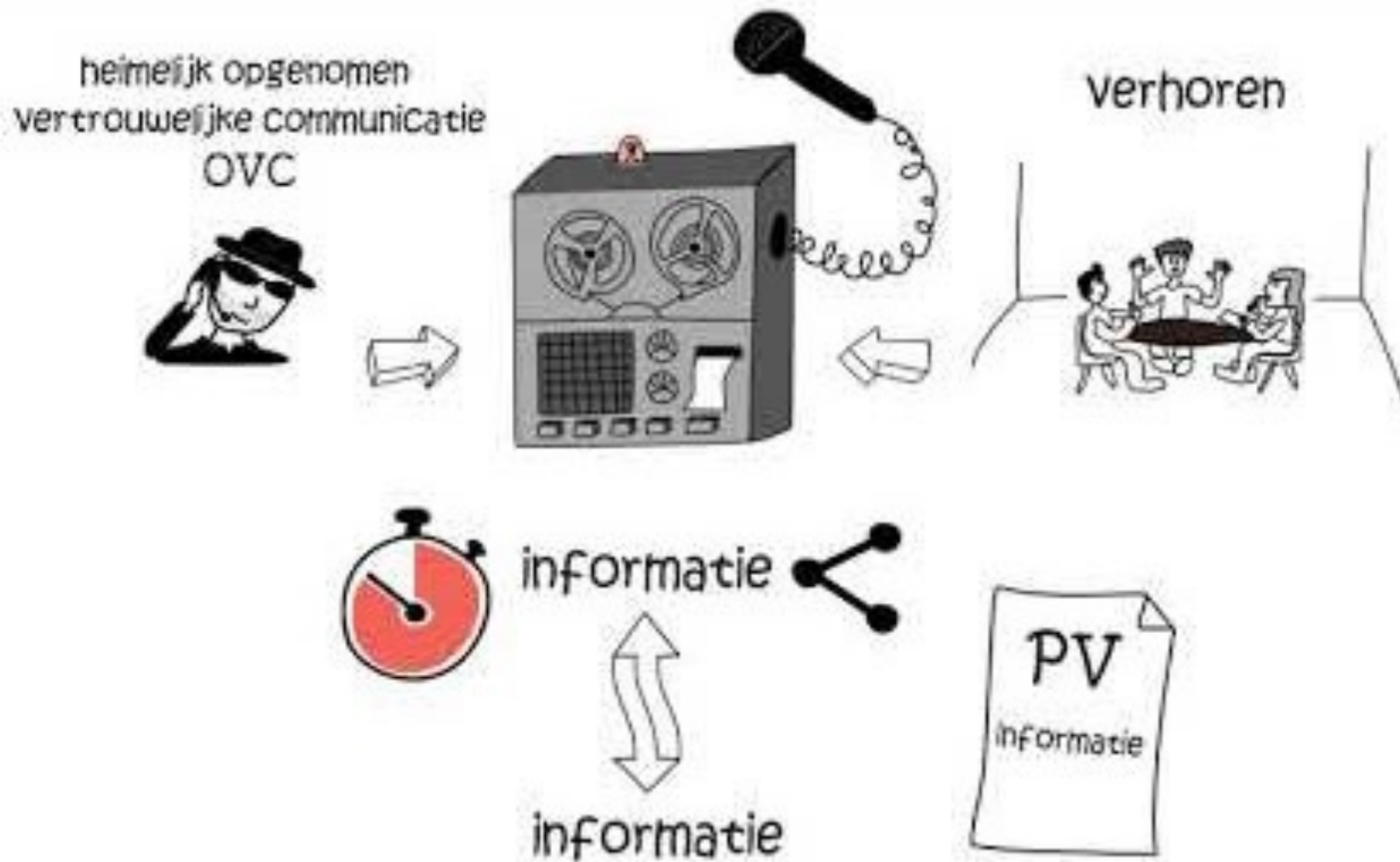
- Stakeholders
 - Direct: officers on the street, in the office, age: 25 - 60+
 - Indirect stakeholders, FIOD, public prosecutor, judges and lawyers
- Activities
 - Interviews with suspects or witnesses. (ok, how does that work?)

But what do the direct stakeholder needs? (do they think they have a problem? And how to explain this idea)

Example – FIODSpraak



FIOD
Belastingdienst



Example – FIODSpraak



FIOD
Belastingdienst

FIODSpraak

Metadata

Dossier: Dossier

Datum: / /

Plaats: Plaats

Naam: Naam

Geboorteplaats: geboorteplaats

xx: xx

option 1 (selected)
 option 2
 option 3 (indeterminate)
 option 4 (disabled)

Onderwerpen

Belangrijk

Titel: ...

Toelichting: ...

Bewijsstuk: ...

Link: ...

Toevoegen

Opslaan

Before interview

Meta data

Interview plan

Evidence

FIODSpraak

Onderwerpen

Titel 1

Bewijsstuk: X.Y

Toelichting:

Link: X1.Y1

Start

Stop

Aantekeningen

Licentiecommissie KNVB

Opslaan

Start verhoor

Stop verhoor

00:01:23

Start "Belangrijk"

Selecteer bestand...

Bladeren

Uploaden

During interview

Interview plan

Annotations

Controls

FIODSpraak

Dossier: option 1 option 3

Datum: option 2 option 4

Plaats:

Verhoor

Aantekeningen

Licentiecommissie KNVB

All Titel 1 Titel 2 Titel X

De FIOD is een strafrechtelijk onderzoek begonnen naar mogelijke valsheid in geschrifte bij FC Twente. Het Openbaar Ministerie bevestigt dat er een vermoeden van fraude is bij spelerstransfers bij de club uit Enschede.

De club wordt al geruime tijd in verband gebracht met malversaties bij transfers. Zo zouden onder meer de verkoop van Duzan Tadić en de aankoop van Jesus Corona niet in de haak zijn geweest.

Wijzing opslaan

After interview

Upload audio

Presentation of speech
analysis

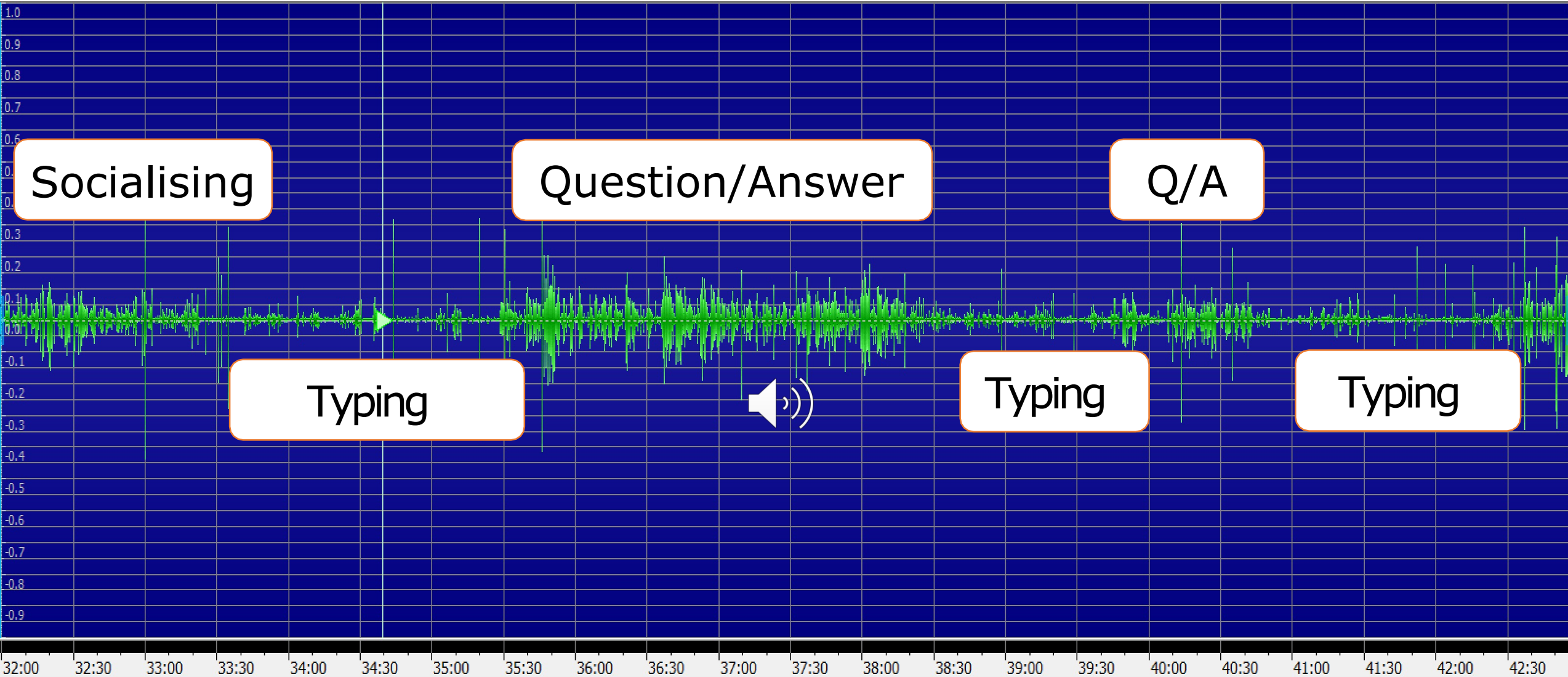
Export

Search

Example – FIODSpraak



FIOD
Belastingdienst

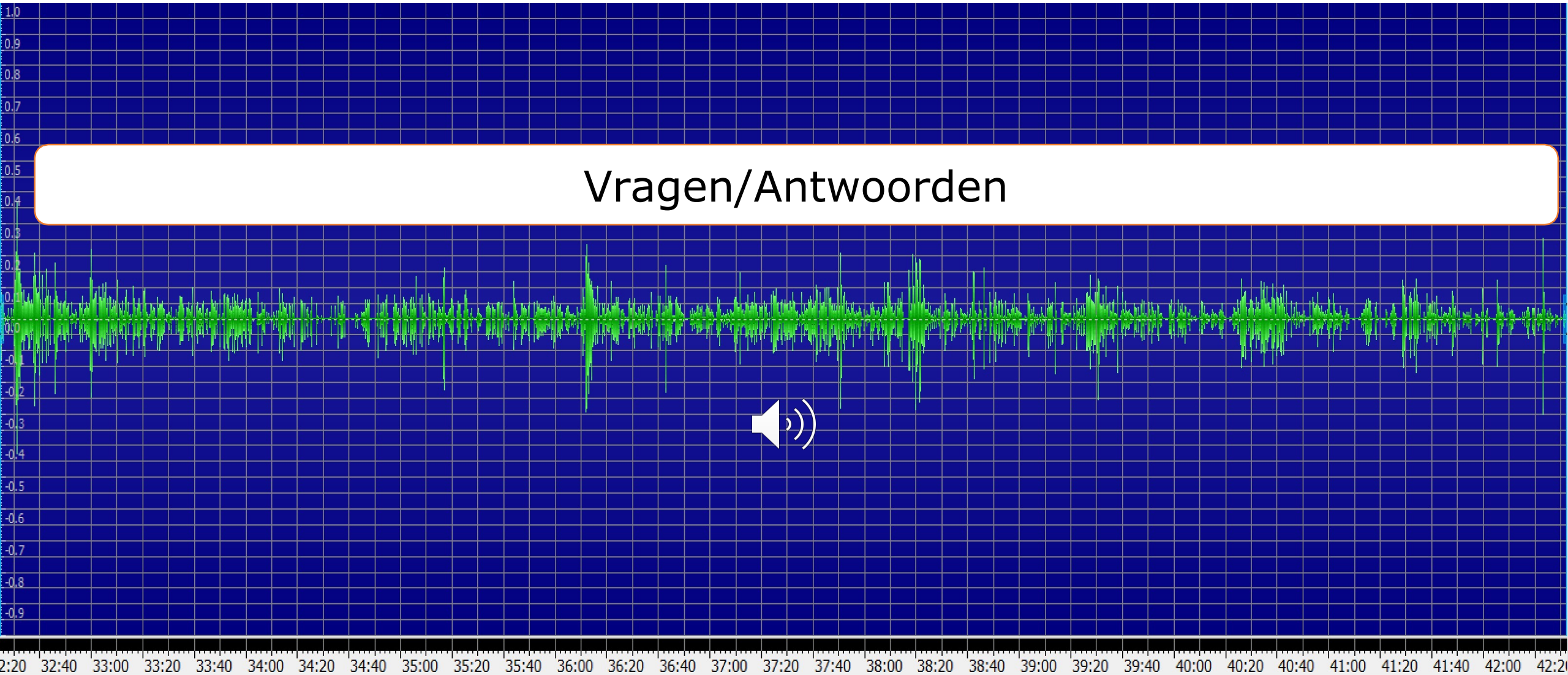


Example – FIODSpraak



FIOD
Belastingdienst

Vragen/Antwoorden



Example – FIODSpraak



FIOD
Belastingdienst

- Results
 - From Q/A to conversation
 - Technology acceptance
 - Audio recording devices
 - Education
 - Infrastructure
- Did **not** lead to a faster process
- Lead to **better** interrogations

Original method
45 min

+/- 4500 words
Silences
Few subjects covered

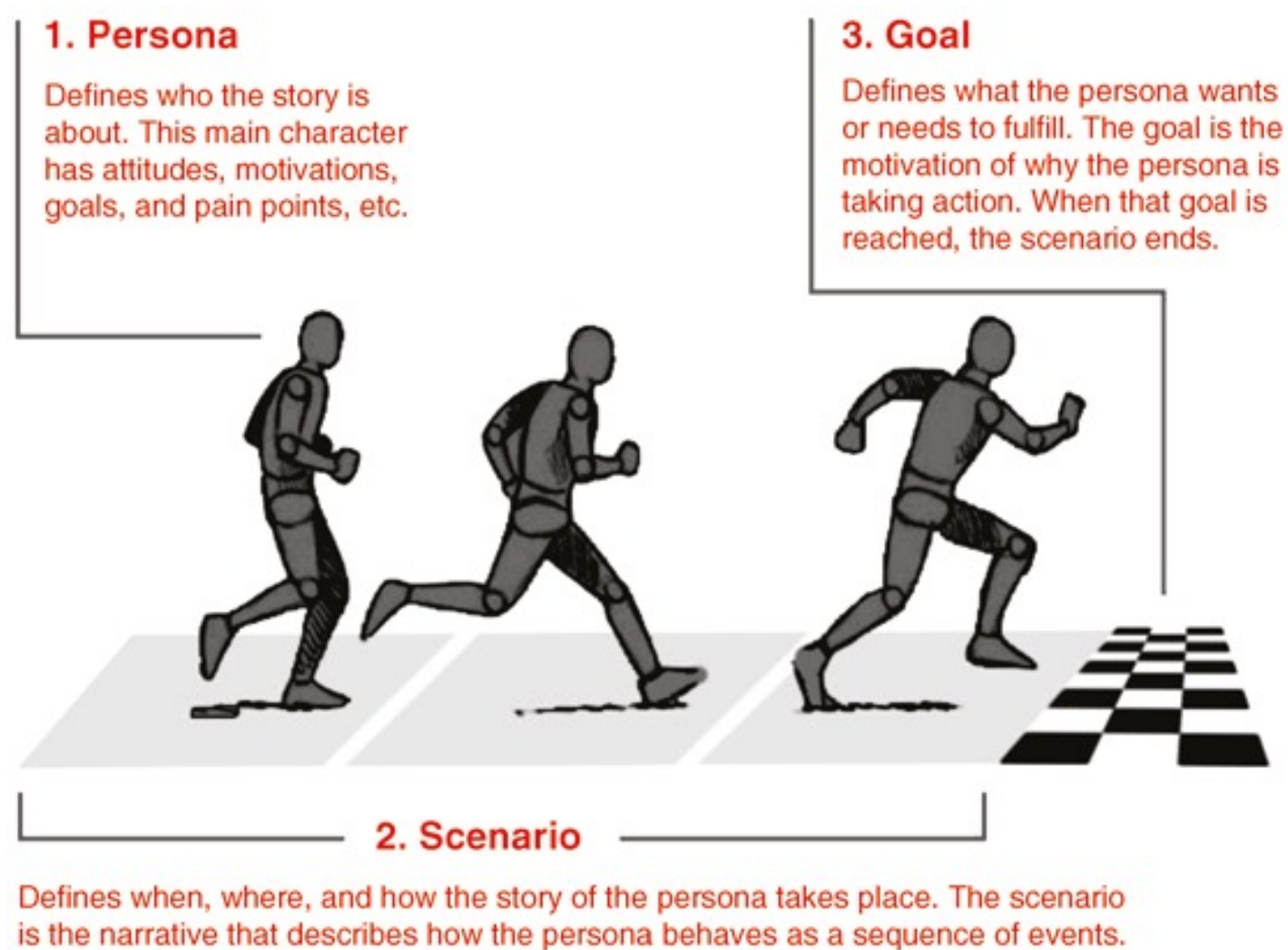
Not written down
=
Lost

Nieuw method
44 min

+/- 6700 words
Few silences
More subjects covered

Not written down
=
Still exists

Personas and Scenarios



Tutorial assignment

- Scenario
 - Current situation
 - Future situation, with your intelligent assistant
 - Identify values that may be affected through your technology
- Persona's
 - Direct stakeholders
 - Indirect stakeholders
- Shot list
- **Concept video**

Video magic

Possible resources:

1. Movie Maker-like software
2. Video Scribe (tool)
3. Google Content Creator (YouTube)
4. Adobe Spark
5. CHI 2018 Video Guide (<https://chi2018.acm.org/technical-requirements-and-guidelines-for-videos-at-chi/>)

Copyrights!! (images, video's music etc.)

Video magic



Thank you!

After the break, check out the VSD video lectures by Birna van Riemsdijk

