CS-200 - INTRODUCTION TO HUMAN-COMPUTER INTERACTION

Lecture 6
Understanding Users

10/2/2021

PERSONAS AND SCENARIOS

PERSONAS AND SCENARIOS

Personas

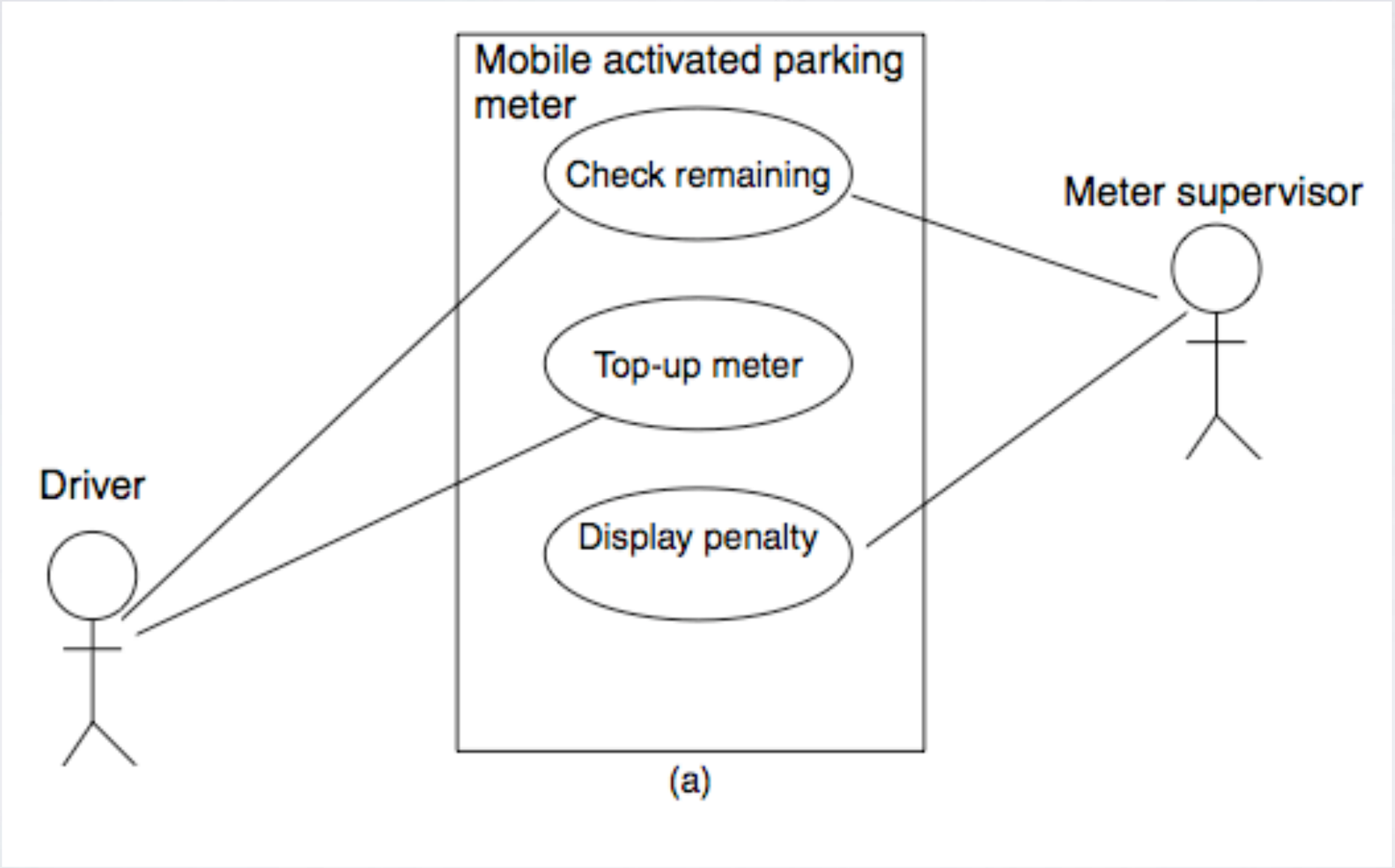
- Typify and embody user class
- Designer's conscience:
  "What what Sam do?"; "What Sam think?"; "How would Sam react?"...

Scenarios

- Stories of use
- To inspire and evaluate design

Both formed from user understanding phase – grounded in reality

PERSONAS – FULLY FLESHED OUT



PERSC SHED

pervisor

Driver

WITH VALUES, ATTRIBUTES, FRIENDS, FAMILY.... PETS

PERSONA TEMPLATE

(Pruitt & Grudin, 2003)

- A day in the life
- Work activities
- Household and leisure activities
- Computer skills
- Market size / influence
- Demographics
- Quotes
- ...

PERSONA TEMPLATE

(Pruitt & Grudin, 2003)

- A
- W
- H
- C
- M
- D
- Q
- ...

PERSONAS AT A GLANCE

Christina
Moletti

Freelance Graphic Designer

"Living life is a creative process too"

- Has enough money but not much more
- Works hard during the day but on her own hours
- Walking is her main way to travel, day or night

Personal Information

Age: 25
Location: Pittsburgh, PA
Education: BA Graphic Design NC State Unviersity,
Profession: Freelance Graphic Designer, Part-Time Student
Home life: Lives with a roommate (Eva 25),
Hobbies: Playing guitar and xylophone, reading, drawing, sewing, watching movies, sleeping
Favorite TV shows: Doesn't watch much TV
Personality: Easygoing, outgoing, try new things

User Goals

Christina uses this information system to...
- Give her reasons to go out walking at night
- To be active and aware of her surroundings at night
- To find the safest places to go at night
- Make walking and being out at night more social with her friends

Maria
Nantes

Newspaper Editor

"I want to stay healthy both mentally and physically always"

- Health Conscious
- Use basic technology for day to day activities
- Enjoy Social groups

Personal Information

Age: 31
Location: Ann Arbor, MI
Education: Master's in English from U of Michigan
Profession: Newspaper Editor
Home life: Married, no children
Hobbies: Walking, making friends, Yoga
Favorite TV shows: Desperate Housewives
Personality: Outgoing, Passionate, Social, Cheerful, Sophisticated

User Goals

Maria uses this information system to...
- Connect and coordinate with friends
- Find safe walking routes at night
- Get a sense of safety by getting more info
- Find out about social events taking place at night, which might be of potential interest
- Wants to get emotional and mental relaxation by walking

James
Goeffsner

Senior Engineer

"I know what I'm doing, I'm willing to try everything new."

- is willing to spend money on that
- Likes to chat with others online
- Knows that health is very important & work out

Personal Information

Age: 37
Location: San Fransisco, CA
Profession: Cellphone Interface Developing
Education: Master's
Home life: Single
Hobbies: Surfing online to look for new electronic products, working out at gym
Favorite TV shows: Friends, Heros
Personality: knowledgeable in popular stuffs, talkative, keeping things on schedule

User Goals

James uses this information system to...
- Stay ahead of latest trends on mobile devices
- Take more time to walk as the substitute for exercise
- Meet new friends through this application
- Feel free to walk at night
- Discuss the new interaction
- Try to figure out a method for socializing and also provide a feeling of security

Family traveler

""I want a travel organiser that will offer me a range of potential vacations that suit our needs"

Age: 35
Work: Plumber
Family: Married, two children

Personality

Introvert — Extrovert

Thinking — Feeling

Sensing — Intuition

Organised | Practical | Expects high standard

Goals

- To book comprehensive travel quickly
- To find a trip that meets the needs of the whole family
- To feel supported and guided from the beginning of the booking experience right to the end.

Frustrations

- Wasting time filling in forms
- Too much irrelevant information
- Existing systems tend to be too diverse and complicated

Bio

Will loves to take his family on adventure holidays to explore new challenges. His children, Sky (8) and Eamonn (15) are old enough to take part in several sporting activities and he wants to make the most of this before they no longer want to go on trips with him and his wife, Claire. He likes the fact that choosing travel options is so much easier than it used to be, but is frustrated by the many different sources and disjointed options that this can result in. He wants a travel organiser that can provide clear support for family holidays while offering as wide a choice as possible.

Motivation

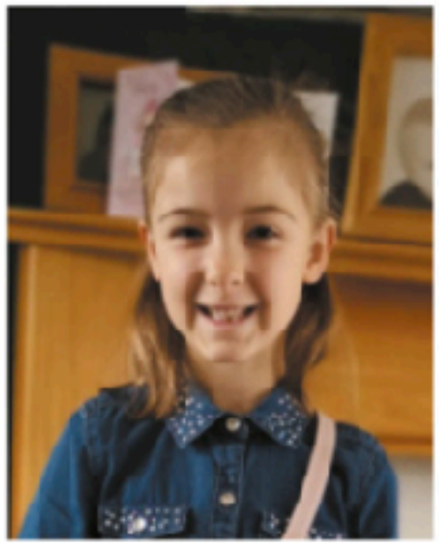
Price

Comfort

Choice

Favourite destinations

Young traveler



"I want a travel organiser that will allow all of us to choose the vacation together"

Age: 8
Work: Schoolgirl
Family: Mum Dad and Eamonn (15)

Personality

Introvert	Extrovert
Thinking	Feeling
Sensing	Intuition

Energetic | Inquisitive | Likes reading

Goals

- To find a good vacation without any fuss
- To find a destination with other children her age
- To make sure that the travel time is short

Frustrations

- Sitting around discussing things for too long
- Not getting clear answers to her questions
- Feeling that everything is organised for adults and not children her age

Bio

Sky likes having adventures. She is very energetic and takes part in lots of sporting activities at school, such as gymnastics and swimming. She enjoys playing games with her older brother, Eamonn. Sky is keen to make new friends, but is also happy sitting reading a book, painting or making a model. She likes going to visit new places but expects to see something familiar, such as playground or food that she recognises!
The most important thing for her is that she can go on vacation with her family where there will be something for everyone to do - but especially for her and Eamonn.

Motivation

Fun
Comfort
Choice

Favourite destinations

SCENARIOS

- Stories of use
- Components
  - **Setting** – the starting point of the story
  - **Actors** – key players
  - **Goals or objectives** – what the actors want to achieve
  - **Action or events** – the steps they take

SCENARIOS

AudioCanvas personalised messages scenario: *Today Mark has found out he has passed his last set of University exams. His family, who live six hours away, each want to send personal messages to congratulate him on his success, so they purchase a greetings card that is augmented with AudioCanvas QR codes. Each family member writes their name and message, then, using the AudioCanvas app, takes a photograph of the card. Using the editing tool, each family member can draw around their marks on the card, and add their own personal audio message. Once complete, the family post the hand-written card to Mark. A few days later, Mark receives the card and opens it to find the hand-written notes made by his family. Getting out his phone, he takes a photograph of the card and touches the messages one-by-one, each of which plays the personal voice message in response.*

SCENARIOS

A good scenario will

- Set the scene; what's the context?
- Describe the actors in enough detail to know what they are trying to achieve (i.e., the goal)
- State the steps they take in prose
- Be short, sweet and to the point

REMINDER:

- Your coursework requires
  - Personas x2
  - Scenario
- Use these examples to help you!

UNDERSTANDING USERS:
DATA GATHERING

DATA GATHERING

Used to establish requirements before design, and in evaluation of a finished prototype

- Establishing requirements
    - Collect sufficient, accurate and relevant data to create a set of stable requirements
- Evaluation
    - To capture users' reactions and performance with a system or prototype

TYPES OF DATA GATHERING

- Diary study
- Observation
- Interviews
- Questionnaires

QUALITATIVE AND QUANTITATIVE DATA

Qualitative: data that is not expressed in numerical terms

e.g., descriptions, quotes from participants or images

Quantitative: data that is in the form of numbers or can be easily translated into numbers.

e.g., the number of years' experience participants have or the number of minutes it takes to perform a task

Coca-Cola

QUANTITATIVE

Match Stats

BRC		HUL
10	Fouls	9
1	Yellow Cards	2
0	Red Cards	0
7	Offsides	3
6	Corner Kicks	3
8	Saves	5

BRC — Possession — HUL

42% — 58%

Shots (on Goal)

BRC	HUL
8 (7)	13 (5)

QUALITATIVE

"Best day of my life"

"Absolutely in shock. Never thought I'd see the day"

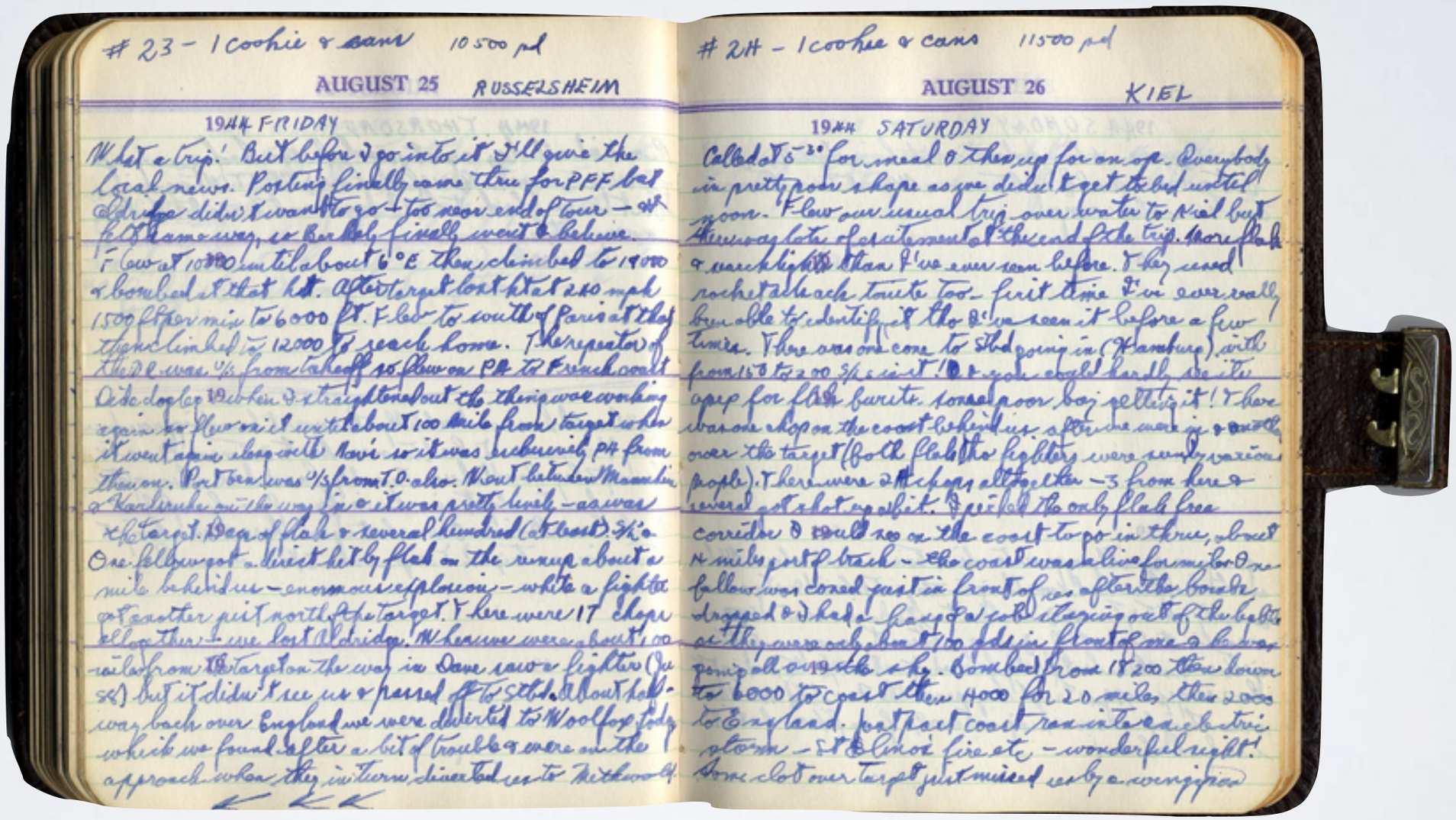
"Deano needs a statue outside the stadium"

"F***ing hell!"

QUALITATIVE AND QUALITATIVE DATA

A quote	**Qualitative**
A timing	**Quantitative**
A rating	**Quantitative**

DIARY STUDY



#23 - 1 cookie & cans 10500 pd

AUGUST 25 RUSSELSHEIM

1944 FRIDAY

What a trip! But before I go into it I'll give the local news. Posting finally came thru for PFF but Aldridge didn't want to go - too near end of tour - & Kelly same way, so Burbel finally went. Believe. Flew at 10000 ft until about 6°E then climbed to 19000 & bombed at that ht. After target lost ht at 240 mph 1500 ft per min to 6000 ft. Flew to south of Paris at that ht & climbed to 12000 to reach home. The repeater of the DR was u/s from take off so flew on PA to French coast Did a dog leg 12 deg E & straight on about the time we were coming again so flew on it until about 100 mile from target when it went u/s, dog-legged back so it was inaccurate PA from then on. Port beam was u/s from T.O. also. Went between Maastricht & Karlsruhe on the way in & it was pretty lively - as was the target. Deg of flak & several hundred (at least). S/L's One fellow got a direct hit by flak on the run up about a mile behind us - enormous explosion - white & lights got another just north of the target. There were 17 Ships all on this 1 we lost Aldridge. 16 leaving were about 100 miles from the target on the way in Dave saw a fighter (Ju 88) but it didn't see us & passed off to Stbd. About half-way back over England we were diverted to Woolfox Lodge which we found after a bit of trouble & were on the approach when they in turn diverted us to Methwold

#24 - 1 cookie & cans 11500 pd

AUGUST 26 KIEL

1944 SATURDAY

Called at 6-30 for meal & then up for an op. Everybody in pretty poor shape as we didn't get to bed until noon. Flew our usual trip over water to Kiel but the way lots of a statement at the end of the trip. More flak & searchlights than I've ever seen before. They used ricochet attacks too - first time I've ever really been able to identify it tho I've seen it before a few times. There was one coned going in (Hamburg) with from 150 to 200 S/L's in it. I don't know how you could handle it to open for flak bursts. Sorry for poor boy getting it! There was a barrage up on the coast behind us & one in front & over the target (both flak & fighters were sent by various people). There were 2 Hurricanes all together - 3 from here & several got shot up a bit. I per left the only flak free corridor & could see on the coast to go in three, about 4 miles out & back - the coast was alive for miles & one fellow was coned just in front of us after the bombs dropped & had a field day & got clear out of the lights as they were only about 100 yds in front of me & he was pumping all over the sky. Bombed from 18 200 then down to 6000 to coast then 4000 for 20 miles then 2000 to England. Just past coast ran into a real electric storm - St Elmo's fire etc - wonderful night! Some slot over target just missed us by a wing span

OBSERVATION

Ethnographic techniques

- Immersive, front line, creating an account

Contextual inquiry (Beyer & Holtzblatt, 1995)

- Apprentice-master relationship
- Insights structured by context

INTERVIEWS

Conversations with a purpose

Four types:

- Open-ended or unstructured
- Structured
- Semi-structured
- Group interviews

UNSTRUCTURED INTERVIEWS

- Exploratory – more like conversations
- Questions posed by interviewer are open and unformatted i.e., when you want to explore a range of opinions:
- Interviewee is free to answer as fully or briefly as they choose

STRUCTURED INTERVIEWS

- Predetermined questions; standardised for all participants
- Questions are typically:
    - Short and clearly worded
    - Closed; i.e., require an answer from a predetermined set of alternatives:

SEMI-STRUCTURED INTERVIEWS

- Combine features from structured and unstructured interviews
- Contain both open and closed questions
- Starts with preplanned questions then probes participant to say more until more relevant information is forthcoming

INTERVIEWS – FOCUS GROUPS

- Interviewing people in groups
- Typically 3-10 participants led by a trained facilitator
- Participants are selected to provide a representative sample

INTERVIEWS – GUIDELINES

- Do not pre-empt answers by suggesting that a particular answer is expected.
- Beware of your body language while interviewing
- Keep questions neutral

INTERVIEWS – GUIDELINES

Keep questions neutral:

"Why do you like this type of interaction?" is a leading question

Assumes the person does like it

Could discourage participants from stating their real feelings

INTERVIEWS – GUIDELINES

Do not use complex language

Helpful to list the possible responses to closed questions – allow users to fill in a form:

"Have you used a tablet computer before?"

Yes ☐ No ☐ Don't remember/don't know ☐

QUESTIONNAIRES – TYPICAL STRUCTURE

- Demographic information (age, gender) and relevant experience (years using phones, expertise with *X*)
- Specific questions follow
- Often subdivided into related topics to make the form easier to complete

QUESTIONNAIRES – RESPONSE FORMATS

Many options, including:

- Open, free-text
- Check boxes and ranges
- Rating scales

OPEN TEXT

Questions that usually require an original personal response

"What do you consider to be the most interesting part of your university course?"

RANGES AND SCALES

Answers to some questions are predictable (e.g., demographics):

"What is your age range?"

under 21 ☐ 21-34 ☐ 35-49 ☐ 50- 64 ☐ over 65 ☐

Others are more open, but give responses on a scale (easier to analyse):

- Likert-like scales
- Semantic differential scales

RATING SCALES – LIKERT

Used for measuring opinions, attitudes and beliefs (e.g., user satisfaction with a product)

"To what extent did the use of colour help you understand how to use the app?"

very unhelpful	slightly unhelpful	neutral	slightly helpful	very helpful
☐	☐	☐	☐	☐

5-point Likert scale

RATING SCALES – LIKERT

"How would you rate the taste of chocolate?"

very pleasant	slightly pleasant	neither pleasant nor unpleasant.	slightly unpleasant.	very unpleasant
☐	☐	☐	☐	☐

RATING SCALES – LIKERT

"What is opinion on the following statement *'Boris has done a great job in handling the pandemic*"'

strongly disagree	disagree	somewhat disagree	neither agree nor disagree	somewhat agree	agree	strongly agree
☐	☐	☐	☐	☐	☐	☐

7-point Likert scale

RATING SCALES – LIKERT

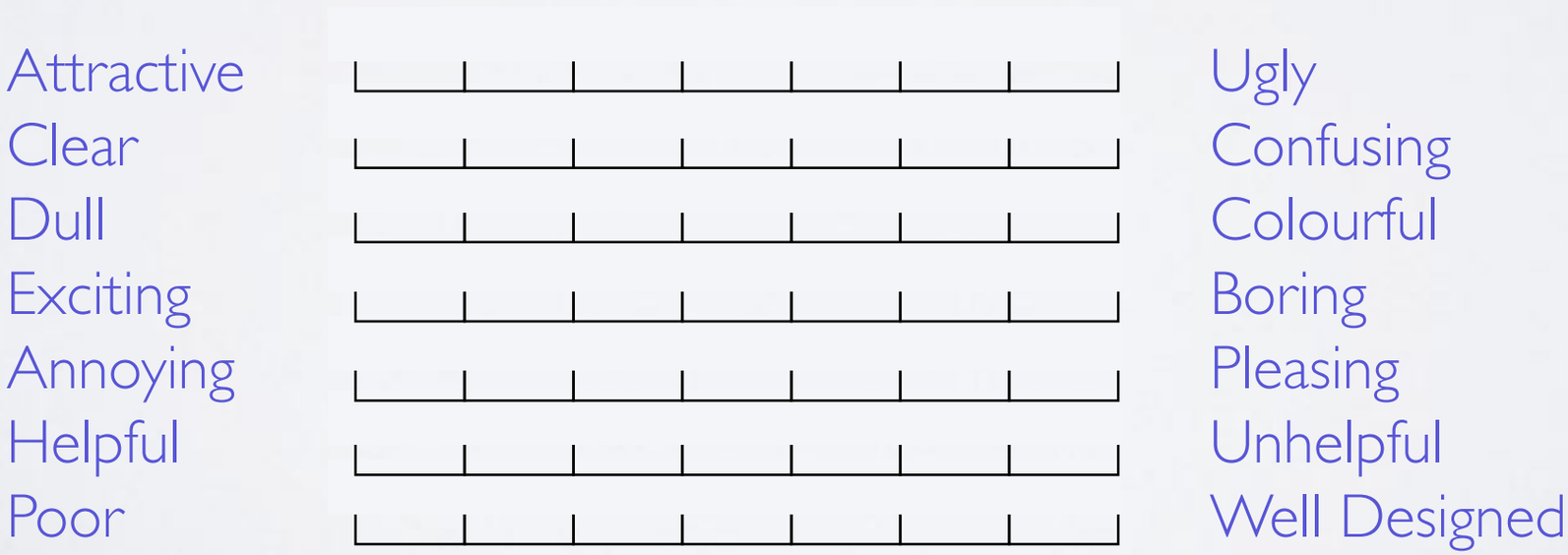
"Please rate out of 10 (1 being low, and 10 being high), how satisfied you are with the new series of the Mandalorian?"

QUESTIONNAIRES - SEMANTIC

Explores a range of bipolar attitudes about a particular item

- Usually represented as a pair of adjectives

- Mark a position between the two extremes:



WHAT SCALES TO USE?!

How many points are needed on the scale?

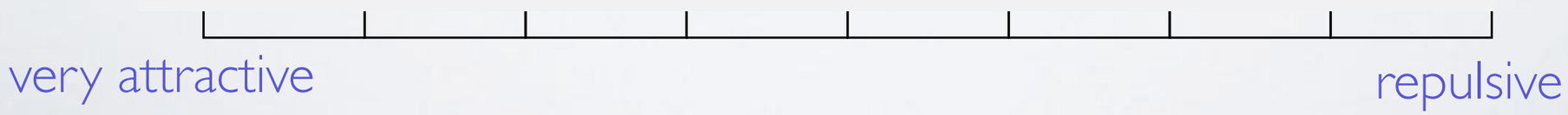
Use a small number when possibilities are limited/fixed:

Yes ☐ No ☐ Don't know ☐

Use a medium range when making judgements that involve like/dislike, agree/disagree statements:

strongly agree	agree	neutral	disagree	strongly disagree
☐	☐	☐	☐	☐

Use a larger scale when asking for subtle judgements:



WHATS WRONG WITH THIS?

"How dumb is Johnson when it comes to foreign policy?"

leading question

"Please describe Johnson's position on foreign policy"

WHATS WRONG WITH THIS?

"Where do you like to drink wine?"

loaded question

"Do you drink wine?"

"If yes, where do you like to drink wine?"

WHATS WRONG WITH THIS?

"Do you think the university should reduce fees and provide more lectures?"

double-barrelled question

"Do you think the university should reduce fees?

"Do you think the university should provide more lectures?"

WHATS WRONG WITH THIS?

"Do you always eat breakfast?"

Yes/No

absolute question

"How many days a week do you usually eat breakfast?"

WHATS WRONG WITH THIS?

"How is the weather today?"

no reference frame

"How is the weather in Swansea today?"