

1. Question 1: Data gathering

- **Discuss how interviews, surveys, focus groups and observation can be used in interaction design.**

Interviews are “conversation with a purpose”.

There are 4 types:

- *Unstructured interviews*
- *Structured interviews*
- *Semi structured interviews*
- *Focus group*

Surveys are similar to interviews in that they can have closed or open-ended questions.

Observation is the action or process of closely observing or monitoring something or someone.

- **Include how age, gender and culture affect the interaction design**

Different cultures attach their own meaning (value) to certain colours and symbols as well.

Depending the age, it can take longer or take short time to learn new applications or devices, to complete tasks, use different search strategies etc.

Depending the gender, males use the internet primarily for leisure and entertainment whereas females use it for communication and educational assistance.

- **Describe how data gathering is used in the process of Interaction Design**

“You need to make sense of your data, then act on it”.

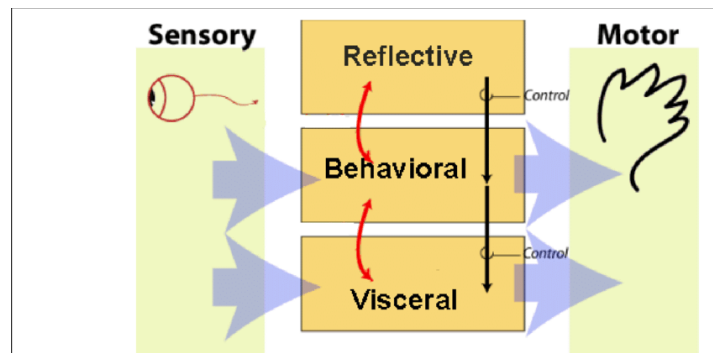
Data gathering methods are used in evaluation as for discovering requirements and identifying users’ needs, for instance, observation, interviews, and questionnaires.

Five key issues require attention for any data gathering session to be successful:

- Goal setting (information about users, behaviour and reaction to technology).
- Identifying participants (people who fit in the profile generated by data gathering are called study population.)
- The relationship between the data collector and the data provides (make clear and professional the relationship between the “study population” and the person doing the gathering).
- Triangulation (to validate the results of some inquiry by pointing to similar results yielded through different perspectives)
- Pilot studies (is a small trial run of the main study. The aim is to make sure that the proposed method is viable before embarking on the real study)

2. Question 2: Emotional design

- Present the 3-layer model (Ortony et al, 2005).



Visceral design is how things look, feel, and sound.

Behavioural design is to get the items to work well and to make their functionality undoubtedly accessible.

Reflective design is the meaning of things, messages, and products mature.

- Give an example of an interaction design, using the 3-layer model

Visceral: A good visceral design makes us feel happy and ideally getting us excited.



Behavioural: What matters on this level is function, performance and the physical feel of something.



Reflective: the reflective design defines our overall impression of a product, since we reflect on all aspects of it: messages sent, cultural aspects, the meaning of the product and whether it's worth remembering.



- **Explain the terms anthropomorphism and zoomorphism and how these terms can be used in interaction design.**

Anthropomorphism is the propensity people have to attribute human qualities to animals and objects (robots pets, dolls).

Zoomorphism: are man-made shapes that possess the form or appearance of an animal (zoomorphic architecture)



TWA Flight Center building in New York City

3. Question 3: Usability testing

- **Describe the purpose of usability testing.**
 - Identify the product's main pain points.
 - Check if users understand the navigation.
 - Observe how easily and quickly people accomplish tasks.
 - Validate the value proposition of a service.
- **Explain the difference between testing in controlled and natural settings.**
 - Controlled settings directly involving users (examples are usability labs and research labs): Users' activities are controlled to test hypotheses and measure or observe certain behaviors. The main methods are usability testing and experiments.
 - Natural settings involving users (examples are online communities and products that are used in public places): There is little or no control of users' activities to determine how the product would be used in the real world. The main method

used is field studies (for example in-the-wild studies).

- **Describe how usability testing is used in the process of Interaction Design.**
Usability Testing takes place in usability labs and other controlled lab-like settings
Involves recording performance of typical users doing typical tasks.
 - Controlled settings.
 - Users are observed and timed.
 - Data is recorded on video & key presses are logged.
 - The data is used to calculate performance times, and to identify & explain errors.
 - User satisfaction is evaluated using questionnaires & interviews.
 - Field observations may be used to provide contextual understanding.
- **What else could be tested but usability?**
 - Functional testing: verifies each function of an application or software (unit testing, integration testing, system testing, etc).
 - Black-box testing: examines the functionality of an application without peering into its internal structures or workings (only concerned with inputs and outputs, don't care how the actual outputs are derived)
 - White-box testing: tests internal structures or workings of an application, as opposed to its functionality (have at least some idea of what is going on inside the software)
 - Acceptance testing: tests what is expected versus what actually happens.
 - Accessibility testing: is the practice of making a software usable to as many people as possible

4. Question 4: Prototyping using different interface types

- **Give examples of different interface type prototypes.**
Some of the interface types are primarily concerned with a function (for example, to be intelligent, to be adaptive, to be ambient, or to be smart), while others focus on the interaction style used (such as command, graphical, or multimedia), the input/output device used (for instance, pen-based, speech-based, or gesture-based), or the platform being designed for (for example, tablet, mobile, PC, or wearable).
 - Command
 - Graphical
 - Multimedia
 - Virtual reality
 - Web
 - Mobile
 - Appliance
 - Voice
- **Describe how the use of prototypes are correlated with testing.**
Prototype testing is the process of testing your prototype with real users to validate design decisions before development starts. The goal is to identify problems and areas of improvement early so you can make the necessary changes prior to development and build a product that meets users' needs and expectations.

- **Explain the difference in how testers respond to low fidelity and high fidelity prototypes.**
 - Low-fidelity (lo-fi) prototyping is a quick and easy way to translate high-level design concepts into tangible and testable artifacts.
 - High-fidelity (hi-fi) prototypes appear and function as similar as possible to the actual product that will ship.

5. Question 5: Defining the user of the system

- **Include how age, gender and culture affect the interaction design**
- **Describe cognitive and social interaction**

Cognition involves:

- Attention
- Perception
- Memory
- Learning
- Reading, speaking, and listening
- Problem-solving, planning, reasoning, and decision-making

Social interaction:

- **Give examples of social mechanisms in conversations**
 - Being Social
 - Face-to-Face Conversations
 - Remote Conversations (telephone, videocall)
 - Co-presence (supporting people in their activities when interacting in the same physical space)
 - Social Engagement (Social engagement refers to participation in the activities of a social group)