Requirement Gathering Techniques (Naturalistic Observation, Surveys, Focus groups)

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Requirement Gathering

The goal of the requirements gathering phase it to understand the problem space. This requires that we collect information from the user and about the user to better understand their current practices and their needs.

UX designers need to find out what their clients want from a particular product, service or system. They will express these wants and desires as requirements. A requirement is something the product must do or a quality that the product must have. Designers will **study current activities and gather stories** of use and soon will have generated a great deal of information about the current situation and about people's goals and aspirations. The task now is to turn this into requirements for a new product, system or service.

There has always been much debate about which of the following terms should be used for the requirements activity:

- Requirements gathering: which suggests requirements are lying around waiting to be picked-up, with little interaction between designer and stakeholders
- Requirements generation: which suggests a more creative activity that tends to deemphasize links to current practice (give new ideas)
- Requirements elicitation: which suggests some interaction between stakeholders and designers
- Requirements engineering: often used in software engineering projects, usually a very formal approach.

Requirements specifications increasingly include prototypes, screenshots and other media. They should be expressed in clear and unambiguous language.

Usually, requirements are divided into two types, functional and non-functional. **Functional requirements** are what the **system must do**; **non-functional requirements** are the **qualities that the system must have**. Non-functional requirements cover a number of aspects of design, including images, UI, usability, UX, performance, maintainability, security, cultural acceptability and legal restrictions.

Prioritizing requirements

Requirements should be reviewed with customers or clients and modified as necessary. Decisions will almost always be made about the relative priority of the requirements. One way of doing this is by using the 'MoSCoW rules'. These classify requirements into,

- Must have – fundamental requirements without which the system will be unworkable and useless, effectively the minimum usable subset
- Should have – would be essential if more time were available, but the system will be useful and usable without them
- Could have – of lesser importance, therefore can more easily be left out of the current development
- Want to have but Won't have this time round – can wait until a later development

MoSCoW is an important part of agile development, with the must-have requirements determining the minimum viable (practical) product (MVP) that will be acceptable to a particular development.

Naturalistic Observation

Naturalistic observation is a research method that involves observing subjects in their natural environment. It is a form of qualitative research, which focuses on collecting, evaluating, and describing non-numerical data.

It involves watching how people perform tasks, interact with systems and cope with problems in their natural environment. By observing user behavior and context, you can gain insights into their needs, preferences, challenges and goals.

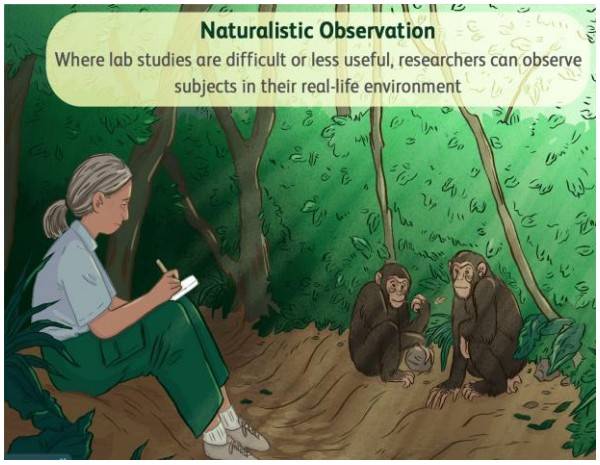
The goal of naturalistic observation is to observe behavior as it occurs in a natural setting without interference or attempts to manipulate variables. Another goal of naturalistic observation is to watch the user in action in their own environment. Rather than asking the user what, when, and where she accomplishes a given task, the designer goes out to where the task takes place and observes the user.

Pros	Cons
More realistic	Inability to manipulate or control variables
More affordable	Cannot explain why behaviors happen
Can detect patterns	Risk of observer bias

Observations are more credible because the behavior occurs in a real. Behavior that could never occur in controlled laboratory environment can lead to new insights. Naturalistic observation also allows for study of events that are deemed unethical to study experimentally. In particular, if subjects know they are being observed they may behave differently than otherwise.

Jane Goodall's famous research on chimpanzees is a classic example of naturalistic observation. Dr. Goodall spent three decades observing chimpanzees social and family life in their natural environment in East Africa.

She found that "it isn't only human beings who have personality, who are capable of rational thought & emotions like joy and sorrow." She also observed behaviors such as hugs, pats on the back, and even tickling, what we consider "human" actions.



Surveys

Surveys are a technique for gathering statistical information about the attributes, attitudes, or actions of a population by a structured set of questions. In survey method, we get the user to fill out a questionnaire and report on what they do and why they do it.

The **goal** of surveys is to get the user's opinions. Most often, we get them to provide a self-report about their behavior, perceptions, attitudes, feelings, and their opinion about someone else. Surveys do look for **trends, behavior, and the bigger picture.** It is expected that a well-designed survey would **provide qualitative answers**. It can force

users to select from choices, rate something, or have open-ended questions allowing free-form responses. Survey design is hard, questions can **bias the respondents**.

Survey vs. Questionnaire

Questionnaires are research tools comprising sets of questions used to obtain answers (data) from respondents. On the other hand, **surveys are research methods** used to collect and evaluate (analyze) data from predefined participants to gain insights.

	Survey	Questionnaire
Questions		
Single	✔ *	✘ **
Multiple	✔	✔
Closed or open-ended	Any	Any
Process		
Research design	✔	✘
Data collection	✔	✘
Analysis and reporting	✔	✘

Common survey choice ranges include:

- "Excellent, Good, Fair, Poor, N/A"
- "1=Very Bad to 5=Excellent"
- "Strongly Agree, Agree, neutral, Disagree, Strongly Disagree"

Survey Method Advantages	Survey Method Disadvantages
Can have a large number of stakeholders or other sources of information.	Response level is often low, especially to large surveys, with scheduling effort.
Excellent means to gather a significant amount of focused data in a short period of time.	Conflicts and inconsistencies in information from stakeholders require additional analysis to resolve
Survey method can provide good results when used to validate assumptions after the use of the interviewing technique.	Responses are usually limited to field of the questions asked; by this analyst sets their assumptions of the survey.
Survey method is a good implement to gather statistical preference data.	Well-made surveys require trained and experienced personnel to develop.

Focus Group

A focus group is a **gathering of people** who are representative of the users or customers of a product to get feedback. The feedback can be gathered about needs /

opportunities / problems to identify requirements, or can be gathered to **validate and refine already drew requirements**. This involves bringing together a group of stakeholders or users to discuss specific aspects of the project and gather feedback.

This form of research is distinct from brainstorming in that it is a **managed process with specific participants**. Some people believe focus groups are at best ineffective. One risk is that we end up with the lowest common denominator features. Members of the group can **stimulate each other's ideas** and discussion may flow more naturally than in the single-person interview. One key thing to remember is to be **prepared** before starting the process.

Focus groups can be enhanced by the use of **scenarios, prototypes and other stimuli**. For example, we have also used printed scenarios and screenshots of a mock-up automatic teller machine **(ATM)** to generate requirements for personalized ATM services. However, group discussion may inhibit comment about sensitive issues, where people may be reluctant to share their opinions.

There is plenty of plus points to focus groups, such as,

1. Conversation with **expert/domain specialist** person
2. Gaining a **deep understanding** of what key stakeholders are looking for
3. Listening to a **range of perspectives** from different types of users
4. **More focused** than a brainstorming session, with defined outcomes

There are some things to be cautious/risks of:

1. **Formal** conversation
2. Focus groups give **qualitative information**, meaning there will be a layer of processing involved before you're able to analyze the outputs
3. There can be a **crowd mentality** that comes from focus groups, where the outcomes end up appealing to lowest common denominator in the search for consensus
4. A **griping session** can develop when bringing people together from across a business; without a strong guide and good questions, things can get negative