Requirement Gathering Techniques – Interviews
(Presenting results, Participant observation, interviewing writing techniques, additional need finding techniques)

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Requirement Gathering - Interview

One of the most effective ways of finding out what people want and what problems they have is to talk to them! Interviews with all the various stakeholders in the domain are a vital way of gathering stories. Designers employ a range of different styles of interview, from a completely structured survey through to a general conversation.

The **structured interview** uses questions that are developed beforehand. The interview follows the wording exactly. Public opinion polls are normally based on structured interviews. Structured interviews are reasonably easy to carry out, simply because of the degree of pre-structuring. However, people are limited to very restricted replies, and it is difficult for the interviewer to follow up on any unexpected response. Here is an extract from a structured interview pro-forma about a student information system.

Thinking about the department's website, about how often would you say that you have used the following during the last week?

Timetable information	not at all ☐	most days ☐	every day ☐	more than once a day ☐
Staff home pages	not at all ☐	most days ☐	every day ☐	more than once a day ☐
Module information	not at all ☐	most days ☐	every day ☐	more than once a day ☐

Designers frequently use **semi-structured interviews**. Sometimes, the interviewer is armed with prepared questions but can reword these as appropriate and explore new topics as they arise. Often the interviewer simply prepares a checklist, sometimes with suitable prompts, such as 'Tell me about the first things you do when you get into the office in the morning'. Clearly, this free-form approach is more demanding for the interviewer, but the data obtained does generally repay the effort.

Completely unstructured interviews are sometimes used, where it is particularly important to minimize designers' preconceptions, or where very little background information is available beforehand. As the term suggests, there are **no pre-set** questions or topics beyond the general subject of the project in question.

Stories, scenarios and early prototyping in interviewing

Scenarios and stories are helpful aids to understanding activities and help avoid having people imagine (or reconstruct) situations in the abstract. Once there is a rough idea of what the new technology might do, discussing a scenario will highlight many issues, from the naming of individual functions to the impact of changes in work practice. **Prototypes,** anything from paper sketches to semi-functioning products, are very often used to embody scenarios in possible technology. For example, in the later stages of analysis for a shared notebook for engineers, we used simple prototypes created in PowerPoint coupled with small usage scenarios. These were projected on a screen and discussed in a small group meeting, prompting discussion about the match between our design ideas and the way the engineers currently disseminated information.

Whether or not a prototype is used, the analyst and the customer 'walk through' the scenario, while the analyst probes (review) for comments, problems, possible alternatives and suggestions in general. Depending on the outcome of the scenario/prototype walkthrough, modifications and further iterations may be desirable. Where many new issues emerge, it may be the case that the early concepts underlying the scenario or prototype are misconceived and should be completely rethought.

Practical considerations in interviewing

Below are some practical **'hints and tips'** from experience of interviewing in a wide variety of situations. As with any aspect of project work, a bit of planning and prototyping of the interview will be bonus.

Preparation

First, you will have to decide **who to interview** and what you hope to get from the interview that will contribute to your understanding. You will need to determine that you can get access to the people you want to talk to. Consider **bringing along some stimuli** for the interview to help people envision what you are trying to understand. See pictures below on preparing a research brief. Get to **know the background** to the project and any organizations involved. **Be clear** about what you want to find out and

whether a structured, semi-structured or unstructured interview will be most effective. Decide whether to **interview people individually or in groups**. Get to know the **context for the interview**. For work activities, background research might include studying company reports, brochures, websites and organization charts or promotional materials. For other activities, **general research** on the internet will help to understand the characteristics of the domain and the activities that people are involved in.

Creating a structured research activity template: After completing the ten steps, you will hopefully have a document that can be used to clearly brief your team, the project stakeholders, your research colleagues or a third-party agency on your research plan.

Step 1 Project background

This step is about providing a **contextual background** to the research activities you want to carry out in terms of the scale and type of project the design activity you are researching for sits within.

What project does your research activity relate to?
Give a brief summary of the project, including its aims, objectives and the teams involved. Provide links (or titles) to related design briefs if they are available.

What research or other design activities have already taken place within this project?
This helps give context to the work that has been done before and where the design activity you want to inform with research sits within the larger project roadmap.

Step 2 Design objectives

This step is about articulating the **motivation** behind the design work you want to inform with research.

What is the design activity trying to achieve?
Be explicit and try to avoid non-specific expressions like 'to make X better'.

Example:
The design activity is focused on updating the web UI with the aim of reducing confusion and cognitive load for first-time buyers during the online mortgage application process.

How does this align to current business objectives?
Explain whether this design activity is part of a larger collection of related design work or if it stands alone. Are there specific business KPIs that the design activity is intended to achieve?

Step 3 Research rationale

This step is about determining **why** research needs to be undertaken in order to aid the design activity. How will it help you and why are you doing it?

What do we NOT know that is preventing us from making firm design decisions?
State the problems that are preventing you from making informed design choices.

Example:
We need to understand what UI components and/or language are causing confusion or uncertainty for first-time mortgage applicants when using our online service.

How will undertaking research move the design process forward?
Explain your rationale for carrying out research. Is it required to explore and/or validate ideas with current customers, to test design ideas for their ability to produce a desired or intended result, or something else?

Step 4 Insight objectives

This step is about specifying the **insights** required from the data gathered to resolve uncertainties in design decisions that are stopping the design activities from progressing. What do you hope to know **after** the research that you don't know now?

What information do you need to move the design forward?
List the required insights this piece of research needs to deliver to help fulfil the design objective. Be explicit.

Example:
Deliver a ranking of how to visually represent monthly payments in order of user cognitive load from high to low.

Step 5 Confirm the insight knowledge gap

This step is about confirming that information to support the insight objectives identified in Step 4 are currently unknown and that you are certain the information to fill the knowledge gap is **not** obtainable via desktop research methods (such as searching internal repositories or previous research studies).

Has relevant research been carried out before?
Include a reference to any previous related research (brief summary of author, date, project, output, findings) that is relevant or may help but does not close the knowledge gap. This research could have been carried out internally or externally. Also, include the resources you have searched but found no relevant prior work.

Step 6 Research questions

This step is about determining what high-level questions when answered will bridge the knowledge gap and therefore support the insight objectives outlined in Step 4.

What questions do we need to answer to bridge the knowledge gap and fulfil the insight objectives?
Be explicit and consider the format of data that answers the questions. These questions will lead to a list of sub-questions, which you will put to your research participants during the actual study (you don't need to list those sub-questions here).

Examples:

- What factors in the current mortgage application process are different for first-time applicants than for those who have been through the process before?
- What is the impact of different graphical representations of monthly payment on cognitive load?

Step 7 Participants

This step is about determining **who** may be able to help you gather the data required to bridge your knowledge gap. Often, this will be existing customers or competitor customers, but remember, there are other people who can help, such as subject experts.

Who needs to be recruited to take part in the research?
Don't worry at this point about how many participants you will need. Instead focus on describing what demographic variables are important and also which are unimportant (for example, age, occupation, experience, income).

What needs to be included in a participant screener?
A participant screener is used to define who should **not** participate in the study and why. It screens the study for participants who may not be appropriate for reasons like their background, job or experience.

Include specifics about any demographic variables that may bias the data gathered and skew the analysis, like 'works in finance' or 'expert user of mobile technologies'. Explain why you think this will impact the data.

Step 8 Research materials

This step is about determining what research materials need to be given to your participants to help them provide the data that will answer your research questions.

What materials need to be provided to be able to gather the appropriate data?
Specify what materials you need to give the participant to help them answer the research questions and generate the required data (for example, a slide deck introducing the project work, visual representations of design ideas, an interactive prototype).

What fidelity of research material is required and why?
Think along the lines of high, medium or low fidelity and provide your rationale. Do you need a fully realized design or will more simple representations be enough to get the data you need?

Example:
We need a high-fidelity, clickable prototype with considered copy in place, to determine how the language used influences which sections the users click on at specific points in the journey.

Do we need to show something complete or can we show parts of a design?
Is it critical that a prototype shows representations of every page to validate specifics of a user journey or can they be shown components separately?

How much of this is currently available, how much needs to be created and who will provide it?
Specify what is currently available to the project team, what needs to be generated and who will do this.

Step 9 Research data

This step is about specifying the anticipated **data output** that will be generated by the research activities.

What type of data is expected or needed?
Be clear about the format of the data you need to answer your research questions successfully. Is it qualitative, quantitative or a combination of both? For example, quotes from users (qualitative), time to complete tasks (quantitative).

What is your rationale for this type of data?
Briefly assess the benefits of why you require this type of data to best inform your research questions and therefore support your insight objectives.

Step 10 Research Deliverables and Outputs

This step is about making sure the agency or research team are clear about:

- What data is needed
- Why it is needed and how it is relevant to the design
- How the data and analysis should be shared and curated
- Who should receive the data, analysis and insights.

How should the data generated and the analysis carried out be reported?
Define the formats you will be sharing the information in. This helps manage and align expectations about what will be delivered and by whom.

Example:
An analysis document plus a spreadsheet of raw data.

What is the research project timeline?
Establish and articulate a timeline for the research activity that includes the following milestones and anticipated durations:

- Participant recruitment (if needed)
- Data collection
- Data analysis
- Analysis reporting
- Analysis and insight distribution.

Keeping track of the interview

Interviewing is hard work and more effective if carried out by a pair of interviewers. One person can take the lead while the other **makes notes**. Of course, the note-taking burden is relieved if the interview is audio or video recorded. In this case, make sure

you **check the equipment before** each session and periodically during the interview. Even when the interview is recorded, notes are still useful and will help you to find key points. Interviews can be recorded and used as the basis of a grounded theory analysis. However, this is a **time-consuming form of analysis** and often just watching a video or listening to the audio of an interview is sufficient. Keep the interview on time. **Know** what you want to understand and ensure that you **cover** all that you need to.

Structuring the interview

Many interviews (unless completely structured interviews, such as surveys) will use a mixture of open and closed questions. Begin with some **general questions** to help settle the interviewee down. Beware of using too much **jargon (slang)** and ask your interviewee to explain any jargon or acronyms that they use. **Do not** be afraid of **appearing foolish**. If you have done your preparation, people should be willing to explain the detail to you. Ask the interviewee to **tell stories about their activities**. As listeners, designers are looking for any problems that people are currently experiencing and scope for improvements or endorsements of early design ideas. As storytellers, people will provide details that may seem irrelevant, but will often contain valuable context that designers need to understand. Make sure that you **round off the interview** by asking whether you have missed anything important, and leave the way open for further discussions and clarifications.

Reflection and exploration

Reflecting during the interview helps confirm that you have understood what has been said. It is often a good idea to ask the interviewee to **review a summary of the interview** that you can email after you have written it up. You should also look over the **notes of the interview** to identify any points that need clarification.

General-purpose exploratory questions

These help the interview along, especially in the early stages or with a reserved (silent) interviewee. Some we have found useful are:

- ‘Tell me about your typical day.’

- ‘Tell me three good things about . . .’ ‘. . . and three bad things.’
- ‘What if you had three wishes to make the service better?’
- ‘What has gone wrong with the service recently? How did you cope?’
- ‘What else should we have asked about?’

When to stop

Deciding when you have conducted enough interviews means balancing practical constraints against the comprehensiveness of the data you need for your research. Certainly, all significant stakeholder groups must be covered – two or three interviewees per type of stakeholder should be enough. There may be a need to look at different types of organization or contexts of use. In many cases, client resources limit the process. With unlimited resources, the general rule is to stop once you are obtaining no new insights.