

Brandon Penman

I pledge my honor, I have abided by the Stevens honor system. - Brandon Penman

1. Brainstorming - gatherings between customers, stakeholders, and developers in order to create the general idea for the product. This is most useful very early on before any vision for the product has been created or the mission statement is still unknown.
 - a. Brainstorming can be conducted when the requirements engineer and domain experts are far away from each other through video calls. Because of how informal the practice is, it can take many forms, it does not only have to be in person.
2. Domain Analysis - the practice of observing similar existing products in the target domain. By looking at similar solutions, one is able to identify commonalities to determine key functionalities and features.
 - a. Nothing different will need to be done for long-distance domain analysis. Almost all information utilized in the practice can be found online or in journals.
3. Ethnographic Observation - observing the target demographic's behaviors and activities to draw insights on product requirements. This is done on a very detailed level and involves spending time passively observing the subject in their natural environment to gain authentic understanding of a demographic's habits and desires.
 - a. This practice would not work if the constituents are geographically distant. The very practice depends on observing a demographic in their natural lives, this cannot be done through remote correspondence.
4. Interviews - practice of asking questions to someone of the target demographic or domain experts in order to obtain useful information about a product solution. There are three main styles, unstructured (no predefined questions, free form), structured (predefined questions and topics), and semi-structured (mixture of prior two).
 - a. Interviews can be conducted over long distances through video calls or even text correspondence. Long distance favors a structured format due to the unstructured format's nature placing more emphasis on reading the interviewee's facial expressions and emotions in order to pace and keep the conversation going.
5. Prototyping - creating a minimal viable version of a product in order to gain feedback from experts and users on desired functionality. This is also useful to gauge product performance and demand. Prototypes can either be functional or non-functional (mockup GUIs and simulated behaviors).
 - a. For software solutions, prototyping works wonderfully over long distances if the product being developed is capable of being run on an end-user's own hardware or is something like a website. For solutions that rely on specialized hardware and systems, the required physical components will need to be mailed or otherwise transported to the geographically distant expert/end-user.
6. Questionnaires - When the target domain is understood, a list of questions consisting of open-ended or closed variations can be created and distributed in mass to the target demographic/customer. Typically used during early stages to gather information relating to the boundaries of a project.

- a. Questionnaires are very easy to conduct over long distances as that is typically what they are designed to do in the first place. Questionnaires can be distributed very easily over the internet and, as such, are not limited geographically, at least in most developed nations.
- 7. Scenarios - when a domain is relatively unknown/unexplored, stories are created to help visualize and/or demonstrate how a new system will behave in a given situation. Very useful in providing a very high level of understanding for a system and its types of users.
 - a. When the requirements engineer and the domain experts are far away from each other, scenarios can be conducted simply over text or voice communication. Since scenarios are language based, they can easily be written down and sent over the internet.
- 8. Workshops - gatherings of developers, experts, customers, and other stakeholders to find and fix problems in requirements. There are formal (pre-planned topics) and informal (less planning, more freeform) styles of meetings.
 - a. Workshops benefit greatly from being in person, but can still be conducted over long distances through video call. Using the formal style of workshop can help to alleviate some of the friction due to the video conferencing format by outlining beforehand what will be talked about and gone over in an environment where freeform conversation does not come as naturally.