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| |  | | --- | | Technique | | |  | | --- | | Good for what kind of system? | | |  | | --- | | Kind of data (quantitative/ qualitative) | | |  | | --- | | Strong points | | |  | | --- | | Weak points | |
| Analysis of existing systems or documentation, background reading | When similar type of systems already exists or when the project involves  the replacement or enhancement of an existing legacy system. | Qualitative and quantitative | * Creates a strong approach by basing requirements on information which is already verified and established. * Helps identify reusable concepts and components thus saves time and effort. * Useful way of gathering early requirements before meeting stakeholders. | * May have to spend time going through a lot of irrelevant information to find something useful. * May suffer from information overload. |
| Task observation, ethnography | When stakeholders find it difficult to state their needs and when analysts are looking for a better understanding of the context in which the desired product is expected to be used. When investigating collaborative work settings where  the understanding of interactions between different users with the system is important. | Qualitative | * Helps identify implicit system requirements derived from the way the system is used in the real world by stakeholders * Establishes social patterns and relations between different types of stakeholders in the system. * Can be used to validate and verify requirements previously made by some other technique. | * Can not identify new features/innovation that should be added to the system. * It focuses on the end user and does not give information about organizational or domain requirements. * Requires a lot of time and commitment. * Knowing that they are being observed, stakeholders may not act like they normally would. |
| Questionnaires / Surveys | When requirements are to be gathered from stakeholders who are far away and/or large in number.  Generally used to elicit requirements for general purpose software. | Quantitative and qualitative | * Efficient way to collect information from multiple stakeholders quickly. * Used to ensure fundamental elements are established early on in the requirement elicitation process. * Can tailor questions to different stakeholders to address different objectives. | * Can end up with large amounts of redundant or irrelevant information id questions are not focused. * Cannot delve deeper into an idea, ask follow up questions or expand on new ideas that come up in the answers. |
| Interviewing | Good for systems that are used by many stakeholders and it is important to develop an understanding of different requirements. | Quantitative and qualitative | * Interviews are effective for understanding the problems faced by stakeholders within the current system. * Interviews help create an understanding of different stakeholders and how they use the system. | * Stakeholders are unable to express their needs and problems thoroughly and in detail. * Interviews are not effective in eliciting organizational requirements or constraints because the actual structure of power in the organization is not correctly portrayed to the interviewer. * Interviewing has to be done with other elicitation technique as it is liable to miss essential information. |
| Brainstorming | Mostly used for innovative projects which don’t have any set precedents and are open to new and unorthodox methods. Can be used in the early requirements elicitation of any project. | Qualitative | * Leads to discovery of new and innovative solutions to existing problems. * Large amount of information/ideas generated in a short amount of time. * Provides insights and information that may have been lost with other methods. | * Usually does not resolve major issues or make any key decisions. * It is labor intensive as meetings of large groups need to set up, ideas recorded in an organized manner and analyzed to find useful ones. |
| Onsite Visit | When stakeholders find it difficult to state their needs and when analysts are looking for a better understanding of the context in which the desired product is expected to be used | Qualitative | * Gives the initial understanding of system, work flow and organizational culture. * Can resolve or highlight problems in the current system at operating level. | * Requires a lot of analysts’ time and effort. * Does not provide in depth requirements. |
| Prototyping | Particularly useful when developing human-computer interfaces,  or where the stakeholders are unfamiliar with the available solutions. | Quantitative and qualitative | * Checks reliability of possible solutions in an effective way. * Encourages stakeholders to play an active role in developing the requirements. * Works well in agile environments. * Provide a usable system to stakeholders and get their real-time feedback. | * Expensive to produce in terms of time and cost. * Stakeholders may get used to a prototype and resist changes proposed to it. |