In software engineering, understanding user interactions with a system is crucial for successful system design and development. Two often used forms for capturing these interactions are cases and scenarios. While they are connected, they serve diverse objectives and are employed at different stages of the system development process.

A use case is a generalized, structured explanation of how a system interacts with external actors to achieve a certain purpose. It illustrates a whole sequence of events from start to conclusion, including alternate and exception paths. Use cases are commonly used throughout the requirements collecting phase to ensure that developers and stakeholders have a clear understanding of what the system should perform. They are high-level models that define "what" the system will do from a user's point of view, not "how" it will be done.

On the other hand, a scenario is a specific instance or illustration of a use case. It is a concrete story that explains one conceivable sequence of events within a use case. Scenarios help bring use cases to life by showcasing exactly how a user might interact with the system in a certain situation. They are commonly used to clarify confusing requirements, aid with UI design, or test certain aspects of the system.

For example, take a use case titled "Withdraw Cash" in an ATM system. This case would outline the steps a consumer follows to withdraw money: inserting a card, entering a PIN, selecting an account, entering an amount, and receiving the cash. It would also provide alternate processes like entering the erroneous PIN or insufficient cash in the account.

A scenario under this use case could be John inserts his debit card into the ATM, enters his correct PIN, selects "Savings Account", asks €100, and receives the cash successfully. This scenario depicts one successful occurrence of the "Withdraw Cash" use case. Another scenario

would involve Anna typing the wrong PIN three times and getting her card disabled. These examples serve to validate that the system can manage both normal and exceptional behaviors.

Use cases are particularly valuable in describing system needs from a user's perspective. They help software engineers understand customer goals and guarantee the program supports those goals. In contrast, scenarios are more complex and are especially valuable in testing and validating the software's behavior in real-life settings (Sommerville, 2016).

Scenarios also play a key part in user experience (UX) design and usability testing. Designers often use them to envisage how consumers will interact with interfaces in real-world scenarios. By doing so, they can discover possible usability concerns early in the development process. Moreover, developers employ scenarios to construct test cases, ensuring the system operates as predicted under diverse settings (Jacobson et al., 1992).

In summary, a use case is a high-level functional description of a user-system interaction, while a scenario is a specific, concrete instance of a use case. Use cases are vital during requirements collecting and system design, presenting a wide view of system functioning. Scenarios, on the other hand, help in deep analysis, UI design, and testing. Both constructions are crucial in providing software that fulfills user expectations and functions reliably in different real-world circumstances.

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