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Design Thinking- An effective tool for SaaS implementation

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1. What is Design Thinking?

Design Thinking is an iterative process in which we seek to understand the user, challenge assumptions, and redefine problems in an attempt to identify alternative strategies and solutions that might not be instantly apparent with our initial level of understanding. At the same time, Design Thinking provides a solution-based approach to solving problems. It has a front end that is strongly focused on idea generation, and a back end that is focused on experimentation and testing. Marrying these two stages enables you in a uniquely powerful way to deal with the challenges that organisations are facing today.

Design Thinking helps us in the process of questioning: questioning the problem, questioning the assumptions, and implications.

The three key reasons for adapting to Design Thinking are:

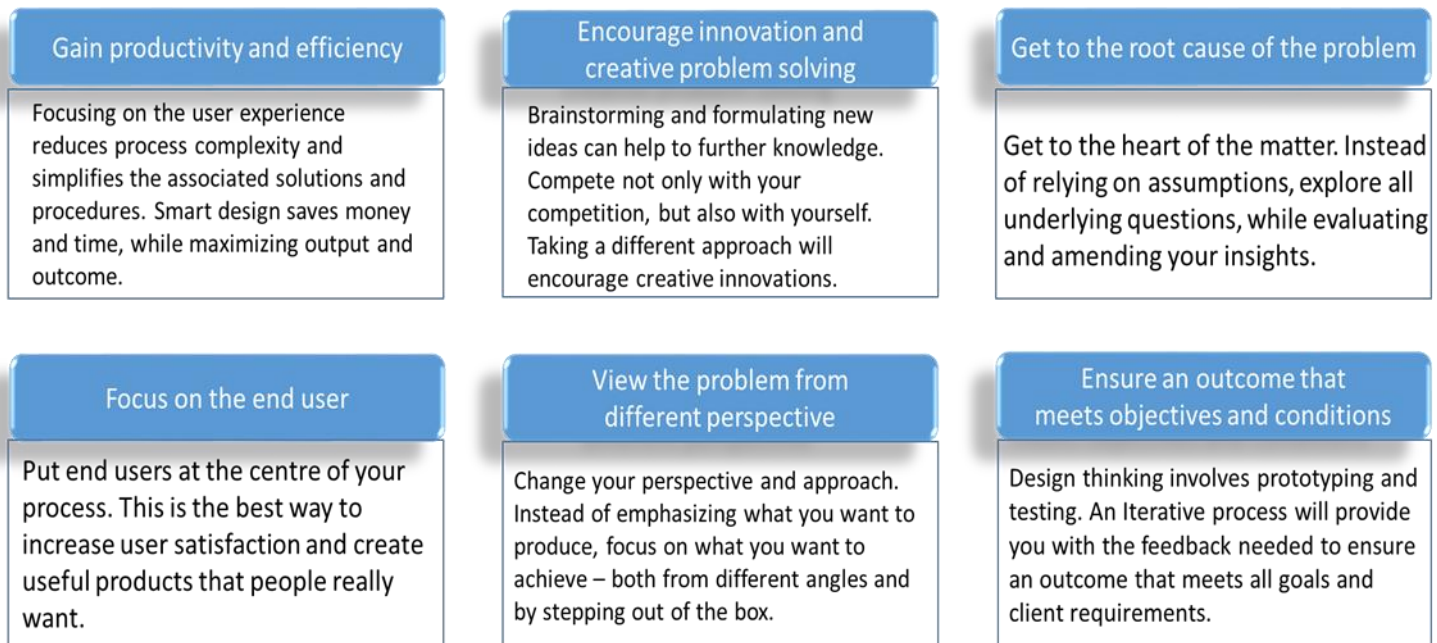
1. *Deal with Failure*- Design Thinking eliminates the risk of ultimate failure by encouraging failure. That is because, we learn far more from failure than we could ever learn without it. Design Thinking is systematically developed to encourage experimentation, coupled with prototyping and feedback, allowing you to fail and fail fast, leading you to recognize and eliminate the weak areas so that you can ultimately succeed.
2. *Connect to people*- Statistics and market research can give certain insights, but when an engineer gets out and spends time with the end-user, the insights become far more tangible. Design Thinking is empathetic and personal in nature and doesn't exist without people. Design thinking keeps you in tune with the real customer with real problems, empowering you to create real solutions.
3. *Flourish innovation*- The times that we live in demand innovation. It is impossible for a business to really make waves without innovating. Design Thinking is the tool kit for innovation. And yet, its laser targeted to focus on the core problem. Times have changed. In order for a business to stay current, they must move with these changes. Design Thinking is like a map...you may not know from the beginning exactly where it will take you, but you can be confident that the destination will be innovative, relevant and amazing!

The four principles for the successful implementation of design thinking are:

1. **The human rule**, which states that all design activity is ultimately social in nature, and any social innovation will bring us back to the 'human-centric point of view'.
2. **The ambiguity rule**, in which design thinkers must preserve ambiguity by experimenting at the limits of their knowledge and ability, enabling the freedom to see things differently.
3. **The re-design rule**, where all design is re-design; this comes as a result of changing technology and social circumstances but previously solved, unchanged human needs.
4. **The tangibility rule**; the concept that making ideas tangible always facilitates communication and allows designers to treat prototypes as 'communication media'.

The five stages of Design Thinking, are as follows: Empathise, Define (the problem), Ideate, Prototype, and Test.

The advantages of Design Thinking are:



2. Correlation between Design Thinking and Requirement Gathering

In an enterprise scenario, a Design Thinking approach involves using the sensitivity and perspective of a designer to align user needs with available technology, and tying that into a winning business strategy that has market value. The Business Analysts have been doing this for a while, despite the popular perception that BAs spend their entire time buried in requirements documentation. Design Thinking is good business analysis and requirement gathering tool, applied appropriately.

Instead of defining a solution upfront based on requirements, BAs, designers and developers work together to understand the context better, consider core motivating factors and align them with business goals.

The three areas where analysis can use Design Thinking are:

1. Scope Definition

A Design Thinking approach can help minimize scope creep by implementing more thorough research and modelling of a product or idea in the pre-project kick off stage. (Scope creep is when the parameters of a project shift after initiation – like when unexpected requirements appear out of the blue and schedules/budgets have to adapt.) For example, requirements elicitation could be integrated with a rapid prototyping workshop and design iterations, to help elicit all functional requirements in one fell swoop.

Involving internal stakeholders – those tricky customers who often come up with ‘surprise’ requirements halfway through a project – in design thinking brainstorming sessions will also

squeeze more requirements out of them earlier on, and increase stakeholder engagement much more effectively than asking for feedback on text-based requirement documents.

2. Requirements Elicitation and Analysis

BAs in the requirements elicitation and analysis phase of a project will want to get a coherent idea of stakeholder and user objectives. At this stage, Design Thinking can help gather requirements, define functional requirements and gain a little empathy for end users along the way. Implementing a Design Thinking approach to requirements elicitation and analysis involves:

- conducting early-stage interviews with end-users about their needs
- defining the scope of the challenge
- setting up a cross-functional team of engineers, developers, stakeholders, end-users, functional analysts and project managers
- Facilitating Design Thinking workshops

These Design Thinking-oriented activities work hand in hand with established requirements elicitation techniques, rather than supplanting them. Adding Design Thinking to requirements elicitation means BAs can have complete or near-complete requirements in their hands in a matter of days, not weeks or months.

3. Approval of Decisions

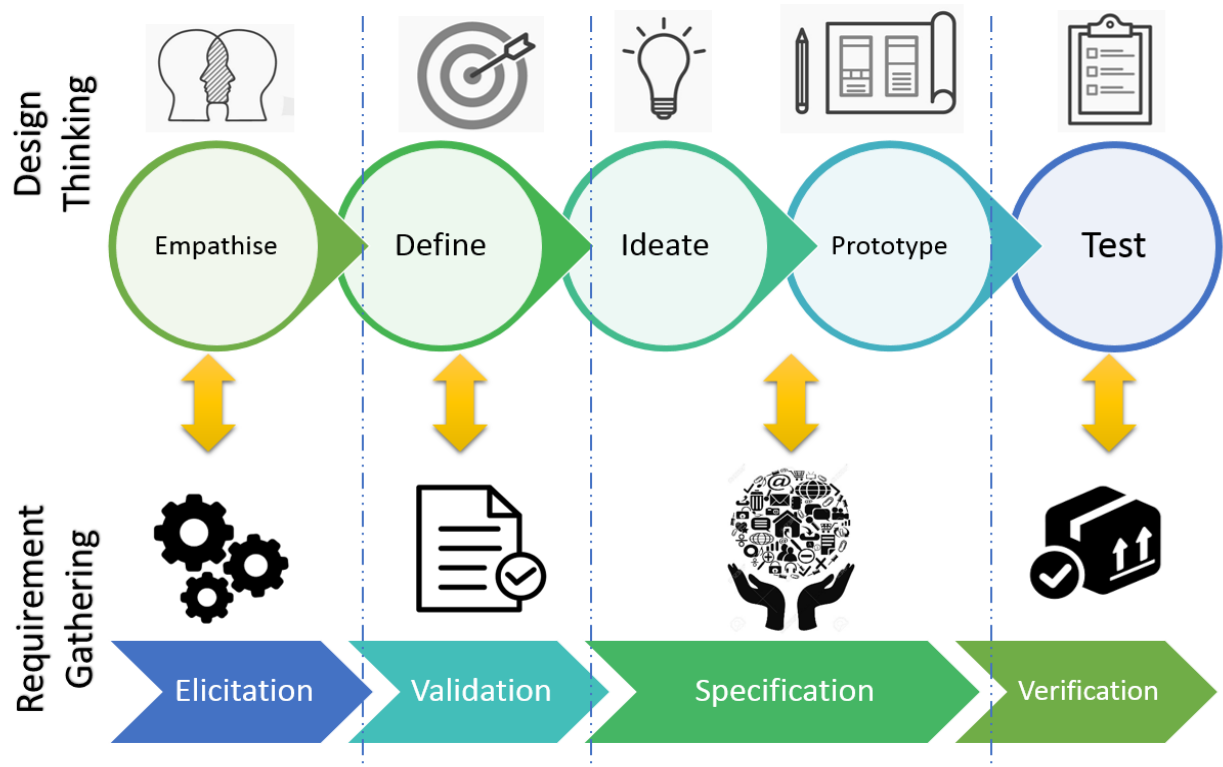
Design Thinking establishes an empirical approach to decision-making, meaning that when it comes to justifying decisions to the development team, or to stakeholders, BAs can present hard facts instead of hunches. Design Thinking ideation sessions allow the whole team to ideate and prototype as many solutions as they can, and then work to find the best solution for the business context. Using that evidence later helps cool the temperature of difficult stakeholder discussions, validate all choices and, eventually, deliver a great product.

A Closer Look

The four steps of gathering requirements are:

- I. Elicitation
- II. Validation
- III. Specification
- IV. Verification

We can correlate these steps with those of Design Thinking process as shown below:



1. Elicitation

The Elicitation step is where the requirements are first gathered. To elicit accurate requirements, the analyst must ask the right kind of questions and then listen carefully to the answers. There are a number of techniques for eliciting requirements and your project may need to use multiple techniques depending on the circumstances. This includes interviews, facilitated sessions, prototypes, questionnaires and more. We can compare this phase with the ‘*empathise*’ phase of the Design Thinking process. Empathising involves consulting experts to find out more about the area of concern through observing, engaging and empathizing with people to understand their experiences and motivations, as well as immersing yourself in the physical environment to have a deeper personal understanding of the issues involved.

Depending on time constraints, a substantial amount of information is gathered at this stage to use during the next stage and to develop the best possible understanding of the users, their needs, and the problems that underlie the development of that particular product.

2. Validation

The Validation step is where the “analyzing” starts. The purpose of validation is to make certain that the information conveyed during elicitation accurately represents the needs and expectations of the clients and stakeholders. The work here includes consolidating requirements, rationalizing them, looking for overlaps and gaps and creating models to help visualize processes. This stage is similar to the ‘*define*’ stage of the Design thinking process. As during the define stage, we analyze the observations and synthesize them in order to define the core problems that the team has identified up to this point. The Define stage helps the designers to gather great ideas to establish features, functions, and any other elements that will allow them to solve the problems or, at the very least, allow users to resolve issues themselves with the minimum of difficulty.

3. Specification:

During this step, the analyst prioritizes and formally documents the requirements in a Requirements Definition Report. The requirements are also numbered in a way that allows them to be tracked through the rest of the lifecycle. Finally, they are checked to make sure that they can ultimately be tested. This stage can be compared to a combination of '*ideation*' and '*prototype*' stage of Design Thinking. As in the ideate stage we start generating ideas based on the observations of the above stages. The team members start to 'think outside the box' to identify new solutions to the problem statement created previously and look for alternative ways to solve the problem. There are hundreds of Ideation techniques such as Brainstorm, Brainwrite, worst possible idea scamper, etc.

In the prototype stage, design team produces a number of inexpensive, scaled down versions of the product or specific features found within the product, and has a better idea of the constraints inherent within the product, the problems that are present, and have a better/more informed perspective of how real users would behave, think, and feel when interacting with the end product.

4. Verification

The final step in the requirements gathering process is verifying that the documented requirements accurately and completely communicate the needs and expectations of the client. The requirements are reviewed and formally approved. During this step, the analyst can also develop acceptance criteria and start to write test cases for the final solution.

This step can be compared to the last, '*test*' step of Design Thinking process, in which Designers or evaluators rigorously test the complete product using the best solutions identified during the above phases