The Art and Science of Solution Design

Part 1 of 4 Part Series

By Greg Abbott, SVP DataArt

Part 1 - An Overview

Solution design is the reimagination of development services with a consultative and holistic approach that helps organizations create the most effective solution within their existing constraints to ensure the ultimate success of a project.

Statistics clearly indicate that a startling percentage of IT projects are unsuccessful due to inadequate up-front planning and analysis and insufficient or ineffective involvement of key stakeholders. A 2010-2011 study by software consulting and development firm, Geneca, found that a stunning 75 percent of IT project participants lacked the confidence of success at the beginning of development based on concerns over "fuzzy business objectives, out-of-sync stakeholders, and excessive rework." The same issues were uncovered in a 2011 study by project management consulting company, PM Solutions, which indicated that 37 percent of IT projects fail.

These complications are so problematic that a 2012 study by global management consulting firm, McKinsey & Company, in conjunction with the University of Oxford, found that 17 percent of large scale IT projects can actually threaten the very existence of the company while 56 percent deliver less value than predicted.

Solution design aims to attack and mitigate these risks by utilizing a systematic approach to helping the client determine the optimal solution and path for implementation. This process requires equal parts technical engineering and human engineering to ensure the success of a project from the initial analysis stage through to the final deliverable product.

A thorough evaluation of a client's requirements is the essential starting place when working towards developing the most valuable technological solution. One of the keys to success in the initial phase of a project is consulting with all stakeholders about their needs to both comprehensively understand the range of requirements and help gain consensus for the solution across all parties. Although it may appear that various project members have the same ideas, discussing the details with each of them individually is an extremely effective method for securing adoption throughout the organization.

There is typically a range of potential solutions that exist for every aspect of a project. By working closely with the key stakeholders, the designer can fully understand the goals to determine the best solution that fits within the client's priorities, budget, timeframe and technical constraints. In many circumstances, separate departments at an organization use technology in differing ways that they each believe to be most effective. A designer must be sensitive to the variety of opinions that are present to be successful. Stakeholders who feel that they have participated in designing the solution are far more likely to adopt and champion it.

The process of engaging all of the clients is as important as the outcome, allowing the solution to emerge through the genuine collaboration of all interested parties.

It's important to remember that the vast majority of development projects do not transpire in a vacuum, but instead occur within the existing technological landscape of a company. It is, therefore, essential to leverage the technology that is currently utilized within an organization while understanding the skill sets that they possess in order to support the end solution.

Successful development requires a thorough understanding of both the business and user needs, as well as the technical needs. Clients will often approach a development team by stating that there is something specific that they want to have created. Although this may be the only way that a company knows how to articulate their needs, there are many circumstances where the suggested product is not the best solution to meet their requirements. Effective analysis involves looking beyond their concept to determine what they actually want to do or solve. The key to Solution Design is to delve deeply into those requirements and translate them back to a fundamental understanding of the actual problem that the client wants to solve.

Another essential component for the optimization of a development project is to determine "buy versus build" in the initial analysis stage. As an example, a company may be seeking a guest engagement platform. Although their requirements may be highly accurate, market research should be conducted to determine whether or not there is already a technology supplier or plug-in that is appropriate to serve their needs. Even if a client wants to incorporate a product into their existing technology system, it may often prove to be both more efficient and cost-effective to partner with a third-party as opposed to building an entirely new solution.

Although the ultimate goal is the development of a solution, successful solution design is a collaborative process that involves extensive analysis of both the technical and human aspects of the client's requirements to establish all-encompassing integration and success.

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