



Solution Visualization

A Methodology for Providing Early Solution Visibility
in the Print-to-Digital Product Development Process

Solution Visualization

The success of new product development efforts are often impacted by late visibility into the look and feel of print-to-digital products during the development process. Stakeholders often see the “final” product toward the very end of the development cycle, without much time to comment, adjust and improve upon the deliverable. This leads to launch delays, postponed revenue opportunities and lost market share. The alternative to late visibility into the final product is early product visibility (or Solution Visualization), which offers key stakeholders the opportunity to affect product features and functionality without jeopardizing timelines and profitability.

Abstract

Publishing leaders charged with developing new digital products are often challenged by differing expectations between the business product owners and the software development teams (whether in-house or third-parties). Even when business expectations are clearly defined, there is no guarantee that development teams will translate those desires perfectly — or even well enough. Often, this is exacerbated by outmoded product development methodologies which provide business-side stakeholders a late view into the final product’s actual navigation and user interface. A new approach is required to solve this challenge. A Solution Visualization methodology provides visual blueprints and product simulations that help eliminate confusion, drive better estimates and help manage scope and expectations across internal teams, suppliers and customers. The effects can be dramatic, with cost overruns virtually eliminated and deliveries made within agreed timescales. Within this paper we have described the specific challenges that are encountered and the details of how our methodology can help to overcome them.

Introduction: The Challenges

Building new products, applications or expanding an existing product to a new platform or tablet device is top of mind to many media executives. According to a recent Jordan Edmiston survey, 76% of media company executives say launching new

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Busy executives simply do not have the time or inclination to spend hours reading and interpreting requirements documents.



Jordan Edmiston Survey

76% “Launching new products and services will be a key driver of growth over the next 3-5 years.”

73% “...will continue to invest in product development over that same time period.”

2011 Geneca Study

75% “Up to 75% of business and IT executives anticipate their software projects will fail.”

78% “Up to 78% believe the business team is usually or always out of sync.”

products and services will be a key driver of growth over the next 3-5 years. Additionally, 73% say they will continue to invest in product development over that same time period. However, a separate 2011 Geneca study reports that “up to 75% of business and IT executives anticipate their software projects will fail” and “78% believe the business team is usually or always out of sync.”

Bridging the gap between the desire to launch new products and the ability to launch new products may very well be the difference between market success and missed opportunity. To build this bridge, content providers will be well served to examine their current product development processes and take stock of how they can accelerate timelines while maintaining product quality.

One way to do this is to focus on that part of the development process that ensures all stakeholders are aligned on what the final deliverable should achieve.

The old document-based approach for capturing requirements, in lengthy word documents or multi-row spreadsheets, no longer works. Busy executives simply do not have the time or inclination to spend hours reading and interpreting requirements documents. It's too slow and often core details can be overlooked or missed, particularly when most requirements documents have multiple review cycles. Many companies see the unpleasant results of lengthy and detailed requirements documents: cost overruns, change orders, project delays, missed expectations and systems that are not fit for business purposes.

High-Level Solution: Meeting the Challenges

With our Solution Visualization approach, the business gets to see what it needs early in the project lifecycle, enabling them to test the business case early. Using a mix of low fidelity and high fidelity designs, the stakeholders can get early visibility of the product. This enables us to test new concepts, approaches and complex areas earlier and ensure that we get them right. Additionally, the simulation provides an early view of the scope and uses less time for your stakeholders to review and comment. This increases the effectiveness of the delivered product and reduces the need for change orders later in the development cycle.

Our Visualization method reduces the overhead of requirements gathering and enables us to quickly assemble a working simulation of a product using our iterative approach. This means that we know exactly what

The screenshot displays a web application interface for managing agreements. At the top, there is a navigation bar with 'You are at: Home > CP Info > Netting Agreements > Edit Agreement Details' and an 'Admin' dropdown. Below this, a 'Selected Agreement' section shows details: Agreement #: 123456789, Agreement Type: ISDA 92, counterparty: Citibank, Agreement Date: 01/02/2011, and Status: Active. A search bar contains 'Citibank' and an 'Ignore Selected entity' checkbox. Refine Results options include 'Old CIDs only' and 'with CSA'. By Agreement Status options include 'Active', 'Suspended', and 'Terminated'. Below the search bar, it shows 'Show: 20 results per page' and 'Total counterparties selected: 153'. A table lists counterparties with columns: Select, counterparty, CID, Contact Name, Contact Title, Jurisdiction, Entity Type, Business Type, and Address. The table contains six rows of data. At the bottom right, there are 'Delete Selected' and 'Create counterparty' buttons.

Select	counterparty	CID	Contact Name	Contact Title	Jurisdiction	Entity Type	Business Type	Address
<input type="checkbox"/>	counterparty	1234	Contact Name	Contact Title	Jurisdiction	Entity Type	Business Type	Address
<input type="checkbox"/>	counterparty	1234	Contact Name	Contact Title	Jurisdiction	Entity Type	Business Type	Address
<input type="checkbox"/>	counterparty	3456	Contact Name	Contact Title	Jurisdiction	Entity Type	Business Type	Address
<input type="checkbox"/>	counterparty	2345	Contact Name	Contact Title	Jurisdiction	Entity Type	Business Type	Address
<input type="checkbox"/>	counterparty	5678	Contact Name	Contact Title	Jurisdiction	Entity Type	Business Type	Address
<input type="checkbox"/>	counterparty	4567	Contact Name	Contact Title	Jurisdiction	Entity Type	Business Type	Address

Figure 1: HTML Visualization Example

to build and deploy with our onshore and offshore teams, enabling you to take advantage of offshoring while retaining the confidence that the scope is well understood. Stakeholders don't always say or describe what they need in a way that can be captured in written documents. Our visualization provides a contextual view of the requirement in a visual representation.

When we build a simulation, it enables your business, customers and stakeholders to interact with and comment on before committing to development. The simulation looks like the real thing and as a full prototype demonstrates the data interactions and business logic. As the simulations are visual, interactive, and provide unambiguous blueprints for what to build, everyone involved can quickly understand and review the scope. As illustrated in Figure 2, the later in the project that changes are identified, the greater the cost and overall project impact. The simulations serve to eliminate expensive change orders, bringing your project to market on time and ensuring the result will be adopted by end users.

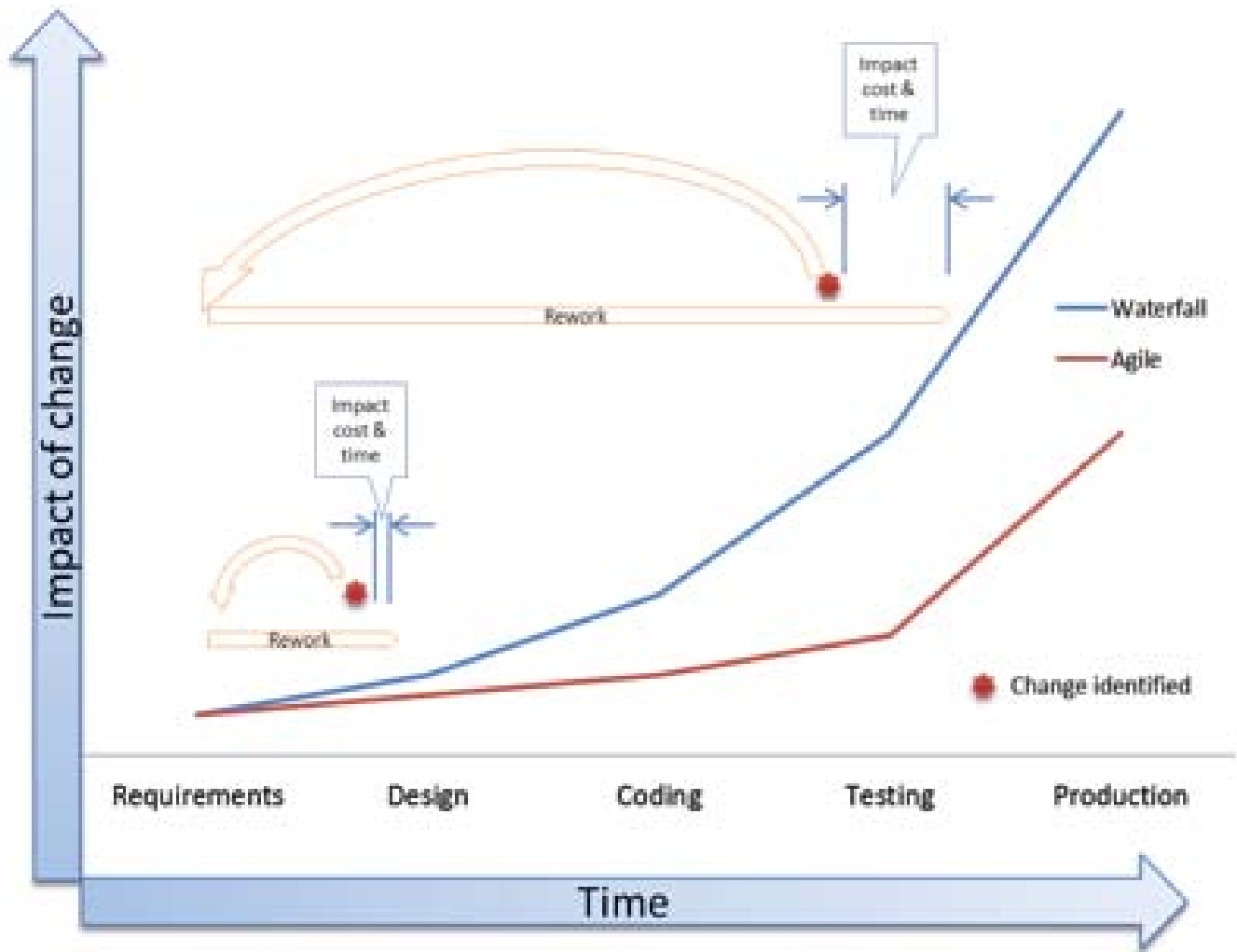


Figure 2: Increasing Impact of Change

Solution Details

Our method is typically completed in four to eight weeks. Larger or complex projects may require further phases to visualize additional areas of scope. In all cases, the project starts with whiteboard or sketch of the rough scope of screens and processes. Thoughtful design is applied to profiles, the users of the product / application, the functional components, the interactions or integrations to other systems or products and the flow of processes across the product with identification of the touch points.

The approach generates the scenarios and the build-up of how the user will interact with the product or system. This will also include modeling the business logic and capturing some sample data to get the simulation in a first review stage for the stakeholders. At this point, the simulation moves through a rapid phase of review and iterates to model how the product reacts to user interaction before a first sign-off, before moving into the development phase.

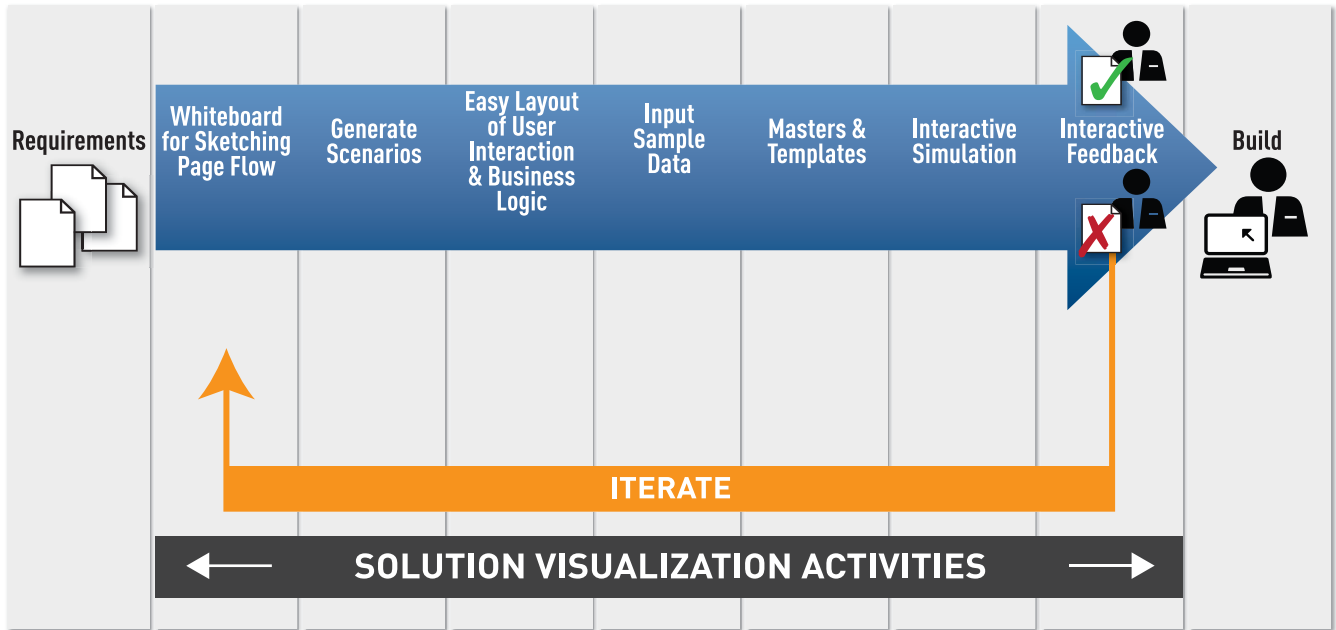


Figure 3: Activities With Our Solution Visualization

Our method enables us to quickly assemble a working simulation of the system and adapt it quickly as it evolves, using our agile and iterative approach. We build a simulation that enables your business, end users and stakeholders to interact with the system before development. The simulation looks and behaves (in a high fidelity model) like the real thing, including data interactions and business logic, so everyone involved can understand what is required.

The activities described below are executed in a highly dynamic manner (see Figure 4), often in parallel and with only partial components of the full requirements, to ensure that the initial whiteboard designs are quickly turned into interactive simulations. By executing in this manner, feedback from the simulations can be quickly applied.

Whiteboarding

This involves our experts quickly sketching out the requirements in the form of basic screens with members of your team — stakeholders, key customers and subject matter experts. These can be linked together to present basic flows and navigation. Being in sketch form, the pages can be easily changed to reflect the development of ideas as they are reviewed. Restrictions are not applied to the whiteboarding in order to ensure that all requirements are identified.

Scenarios

With the page sketches, specific business scenarios are identified to break the design work into manageable chunks that can be easily understood. These scenarios should cover all aspects of the page sketches with some priorities assigned.

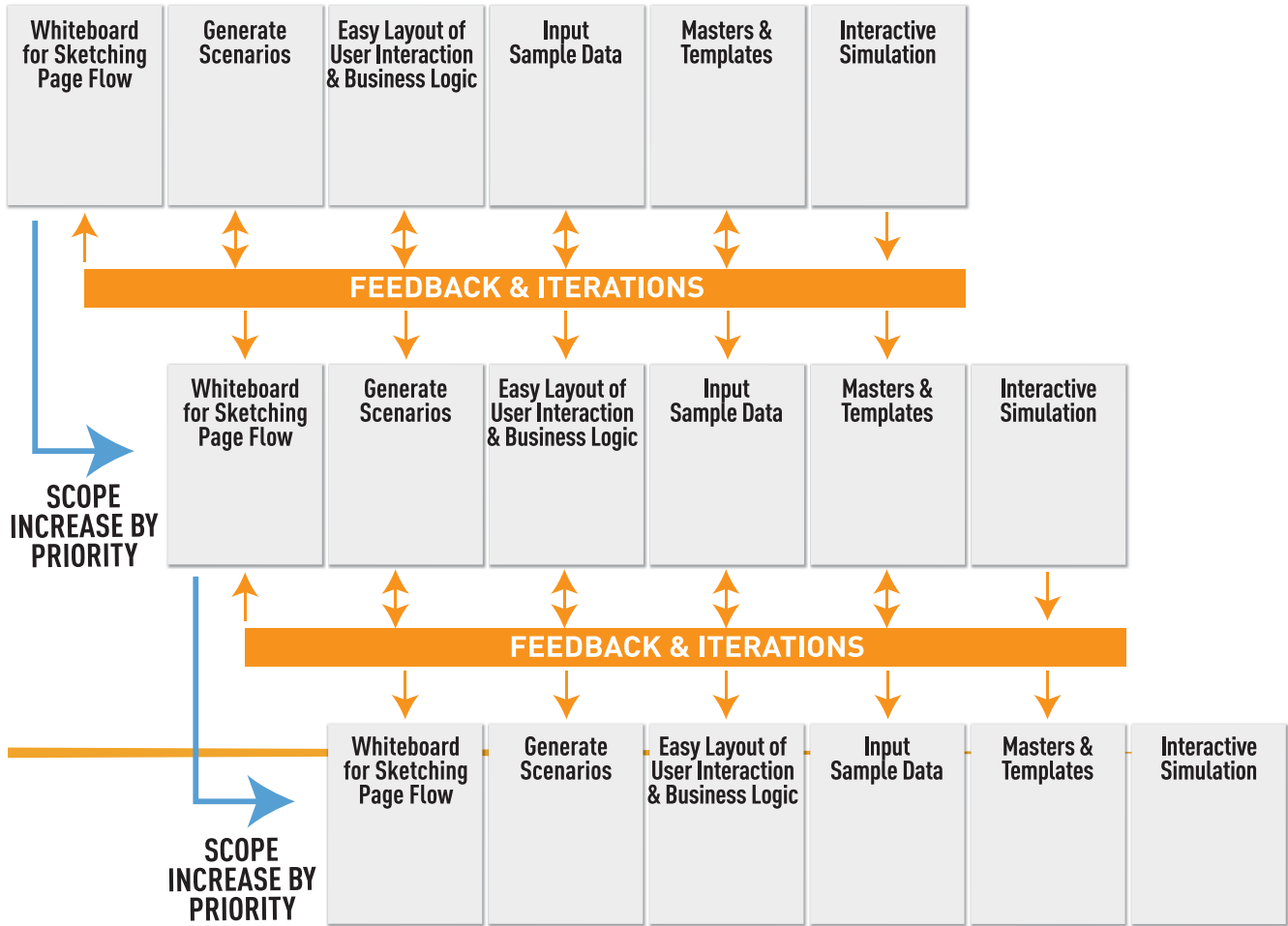


Figure 4: Feedback and Iterations — Increasing Scope by Priority

Layout of User Interaction

At this stage, the scenarios are built into basic screen layouts using standardized widgets and screen components against which basic business logic can be applied. This provides a feel for the actual layout of the screens and the functionality.

Sample Data

Using a spreadsheet, similar representative data is added to the system to give it a more realistic feel. With basic screens and representative data, business experts can start to understand what the initial whiteboarding and scenarios actually look like.

Master & Templates

The basic screen designs are enhanced into a richer look and feel. Using standard page templates and functions (such as Login) the business experts can start to visualize how the final system will look — and how the functionality will be navigated.

Interactive Simulation

The screens with the page templates and sample data will be provided with further levels of interaction to allow more navigation through the application. These simulations, while also providing visibility, can be provided to the developers as the final specifications and for re-use in the build process.

Business Benefits

The simulations are interactive and unambiguous *what-you-see-is-what-you-get* blueprints to ensure that what is built will meet the customer need. It is performed using a tiered approach that can address grey areas and both identify and resolve complexities early. The rapid iterations from the simulations provide early and extensive feedback that creates accuracy in terms of what is required and expected. This helps us to eliminate expensive change orders, bringing your project to market on time and ensuring the final result will be adopted by end users. The result is a thorough understanding of what to build the first time. We can then implement the system using our multi-shoring approach, leveraging our global resource pool based on skills and cost.

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With our Software Visualization methodology, the business gets to see what it needs.

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Summary

Building new digital products is a key ingredient for media executives. However, many product development projects do not meet the business needs when they are delivered. One way to address this challenge is to focus on smaller problem areas and embrace new methodologies that clear the roadblocks to success. A Solution Visualization methodology that allows for an early view into the final user experience should be considered to avoid project delays and missed opportunities. This methodology also allows stakeholders to iterate the system design and functionality without disrupting developer productivity in a variety of on-shore, off-shore and hybrid configurations.

About Innodata

Innodata is a leading provider of business process, technology and consulting services, as well as products and solutions that help our valued clients create, manage, use and distribute digital information. Propelled by a culture that emphasizes quality, service and innovation, we have developed a client base that includes many of the world's preeminent media, publishing and information services companies, as well as leading enterprises in information-intensive industries such as aerospace, defense, financial services, government, healthcare, high technology, insurance, intelligence, manufacturing and law.

More Information

For more information about Solution Visualization, please visit www.innodata.com, call us at 201-371-8000 or contact us at solutions@innodata.com.

We also encourage you to read these other papers in our *New Product Development in a Print-to-Digital World* white paper series which you can find at www.innodata.com

- Content Profiling
- Agile Content Development
- Progressive Release Management
- Publishing Consultancy
- Technology Blueprinting



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