



Agile Content Development

A Methodology for Managing
Mobile and Digital Content Development

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Innodata's methodology for mobile and digital content development brings together the technology, content enrichment and user experience into managed and controlled channels of work that can adapt to change and manage risk through early visibility of the product.

Abstract

Of all the changes wrought by the move to digital content one of the most far-reaching is the destruction of the predictive “plan-build” project model for product development. Digital content lives in a world where a predictive model, adopting long cycles of planning and designing according to fixed expectations is no longer possible. When developing digital products that require content at their core, challenges can arise in trying to meet the dynamic needs of the business and reconciling the disparate methodologies — often resulting in failed projects or significant overruns of cost and schedule.

In this paper we describe how Innodata helps overcome these challenges by integrating from the beginning of the project a methodology for content conversion and enrichment, with the user experience and technology. This type of integration creates a common adaptable methodology of control and review points between business / customers, development work and content enrichment.

Introduction

Mobile and digital content development often combines conversion / enrichment, user experience and technology development. To satisfy business requirements, user interface and technology should be based on adaptable frameworks, such as Agile, in order to provide early visibility to business and assume change. However, content enrichment is often approached using more traditional predictive approaches. This partial adoption significantly reduces the benefits and effectiveness in meeting modern day challenges. Worse still, not only does the

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successful delivery of the project become dependent on the predictive “plan-build” methodology of the content enrichment but, the project can degenerate further through conflict and confusion caused by the disparate approaches - often leading to the following problems:

- **Issues materialize late in the project:** Discrepancies between content needs versus application features are revealed late in the project.
- **Priority setting limitations:** Content enrichment is unaware of true priorities – working from a formal content specification there is no direct relationship between high priority product features and the content enrichment work to enable those features.
- **Impaired decision making capability:** Ability to review the content in the context of the application “look and feel” features is not possible until the end, thus impairing the ability to make informed decisions on content enrichment early in the project.
- **Inability to adjust to change:** Ability to adjust to change is time-consuming – involving multiple teams and change orders.

High-Level Solution

Adaptive methodologies for software development such as Agile are well established and adhere to fundamental principles that encourage adaptability. As illustrated in the “Agile Manifest” in Fig 1, these apply a set of principles that encourage adaptability, flexibility and collaboration to meet the demands of modern eProduct development.

Applying these same principles to content conversion – often an essential and major part of any digital product development – are not as easy. Traditional predictive methodologies see content conversion as a single non divisible package of work that must be completed in its entirety before it can be quality assured against the original specification – and then deployed to the “built” product during its final stages of development.

Innodata’s methodology applies adaptive principles (see Fig 2) to the core activities of content modeling and content enrichment. The content enrichment is specified using the same requirements as those for the technology and user experience. These requirements (product backlog items) are used to specify the content enrichment as discrete and atomic components that represent something that can be understood in terms of the functional value and goals.



Figure 1: Agile manifest

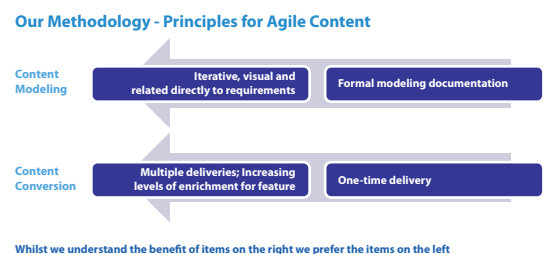


Figure 2: Agile content principles

With technology and user experience being treated similarly, these can be consolidated alongside the discrete components of the content enrichment, then expressed as common “User Stories” (or “Use Cases”) with goals, priorities and estimates. Once established these can be used to manage the work using a common adaptive methodology with integral traceability that incorporates iterative, collaborative and priority-based principles for delivery.

Having established the framework by which all channels of work can operate using a common methodology the following can be implemented to ensure the success of the digital product development process:

- **Early visibility and multiple deliveries:** Delivery of iterations of the digital content can start early and continue as the product features (and content enrichment) are enhanced. This provides early visualisation, identifies issues and enables informed decision-making
- **Consolidated design authority:** Establishment of a combined product design authority structure that incorporates authorities from the content enrichment, user interface and development teams can quickly enable and adjust to change.
- **Collaborative and Integrated:** Establishment of collaborative principles with all parties involved in the project using Agile principles such as daily meetings provides “just enough” documentation across teams.

Solution Details

Traditional predictive methodologies follow a waterfall-type approach as illustrated in Fig 3 below. The requirements are gathered and signed-off in a large specification document before design and development work start. For a digital product these sign-offs spawn further activities through which content conversion and enrichment activities are defined and planned against the specification. Post sign-off change is resisted until the work culminates with the final delivery – and the business has visibility of the product. At this stage testing starts and the process of identifying issues and resolving them begins. While simple and straightforward to understand with an emphasis on process and procedure, the dynamic nature of business means this approach often fails to deliver what is required or identifies issues after significant effort and time has already been invested in the project.

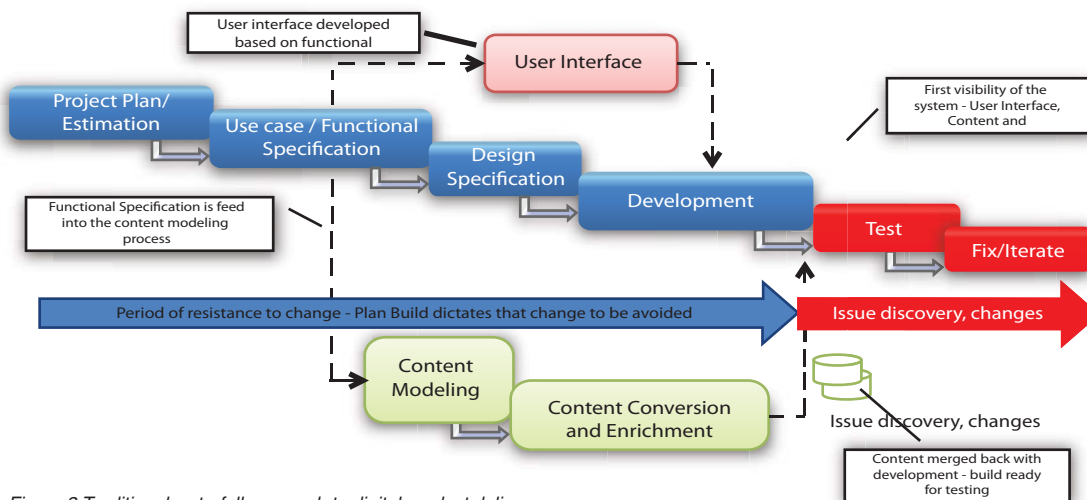


Figure 3 Traditional waterfall approach to digital product delivery

Setting the expectations: the “Social Contract”

At the onset of our method a “Social Contract” is established that sets the goals, practices and the collaborative manner in which the digital product development project will be conducted with all stakeholders.

Creating the project vision

Rather than a lengthy specification, a “project vision” is created by the business owners who define the high level requirements and set the priorities. However it is a “vision” not a specification, thus business owners can subsequently add, change or remove requirements – and shuffle priorities during the development phase. These are coarse grain requirements – they are not in the form of detailed specifications or data models – and do not need to go through a detailed review and steering committee sign-off. As depicted in Fig 4, these requirements (product backlog items) are developed in conjunction with the creation of a basic user interface (wireframe), which re-enforces the capture of the vision and ideas in an interactive (visual) nature that can support the definition of them as requirements.

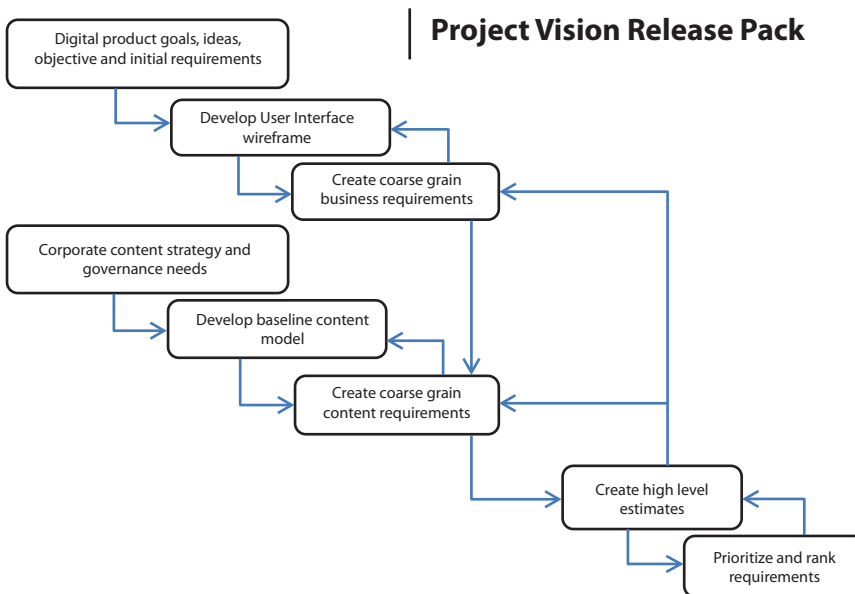


Figure 4: Project vision

During the creation of the Project Vision the content enrichment needs are modeled into a baseline content model that considers the corporate content strategy and data governance. The coarse grain business requirements are fed into this baseline model to analyze and extract the required coarse grain content enrichment requirements against which estimates can be achieved for planning purposes.

Upon completion, the Project Vision has captured the following in the form of a release pack:

- Coarse grained business requirements along with high level wireframe view of the User Interface.
- A baseline content model that adheres to the corporate strategy and data governance.
- Coarse grain content enrichment requirements – linked directly to the Project Vision requirements.
- A set of priorities and ranking for the requirements.
- High level estimates.

The consolidated planning – iterations include all components

The Project Vision release pack is used to plan the initial iterations (for internal visibility and review) and releases (multiple iterations making up a release that could if required be delivered to business / customers). At the onset of the project a set of traceable requirements is established that link the user interface, technology and content enrichment, and ensure that the iteration and release plan is not only cognizant of all the key aspects of the project, but, more importantly, has early and consolidated visibility during the iterations. A typical iteration and release plan is represented in Fig 5 and shows how a rolling plan is created to deliver the business requirements over the course of the project based on the ranking and priority associated with them.

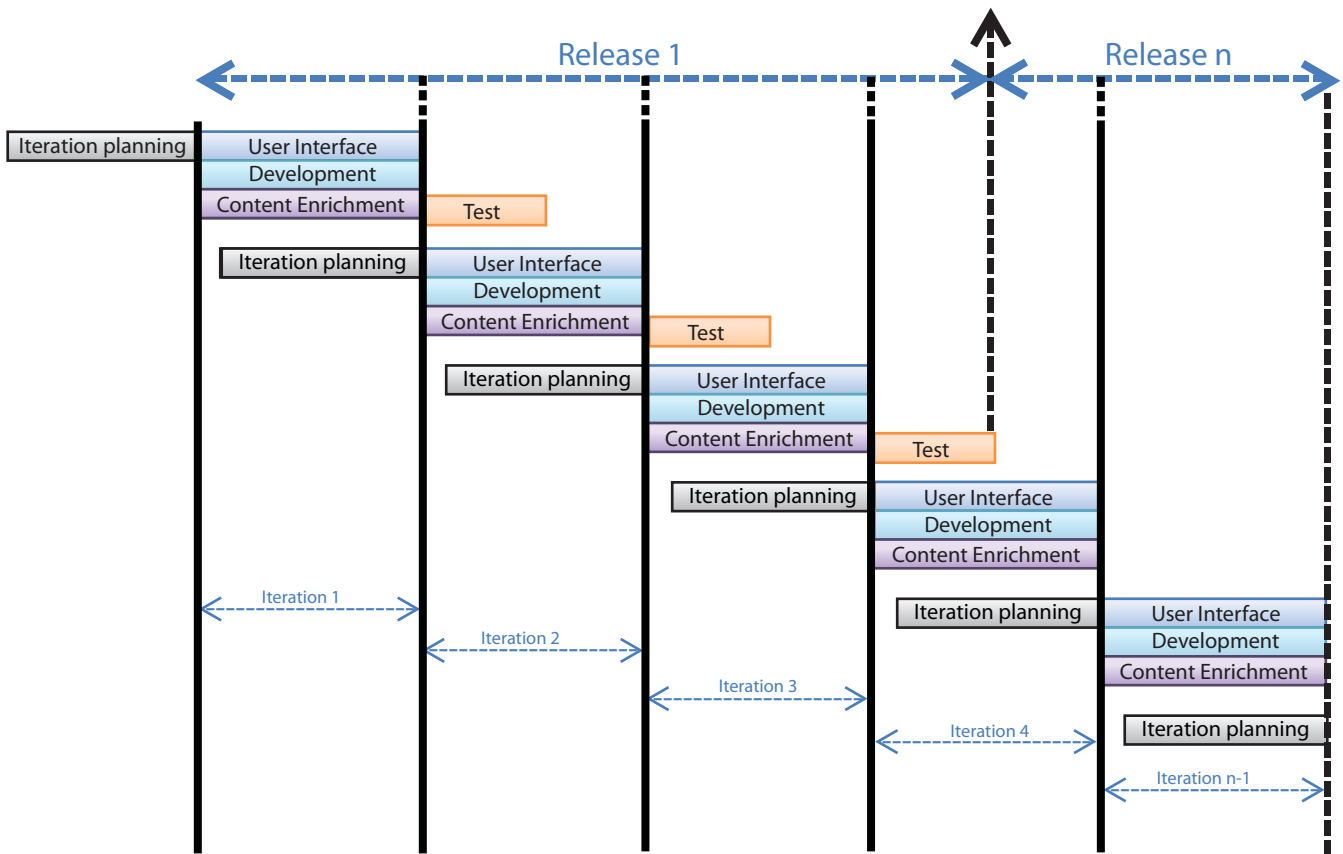


Figure 5: Rolling implementation plan example

Refining the consolidated requirements throughout the project

During each of these iterations the coarse grain requirements are elaborated and refined to form the fine grain requirements that are delivered in each of the iterations and releases. Fig 6 illustrates the elaboration process that performs the refinement throughout the iterations with consideration of the user interface, technology and content enrichment.

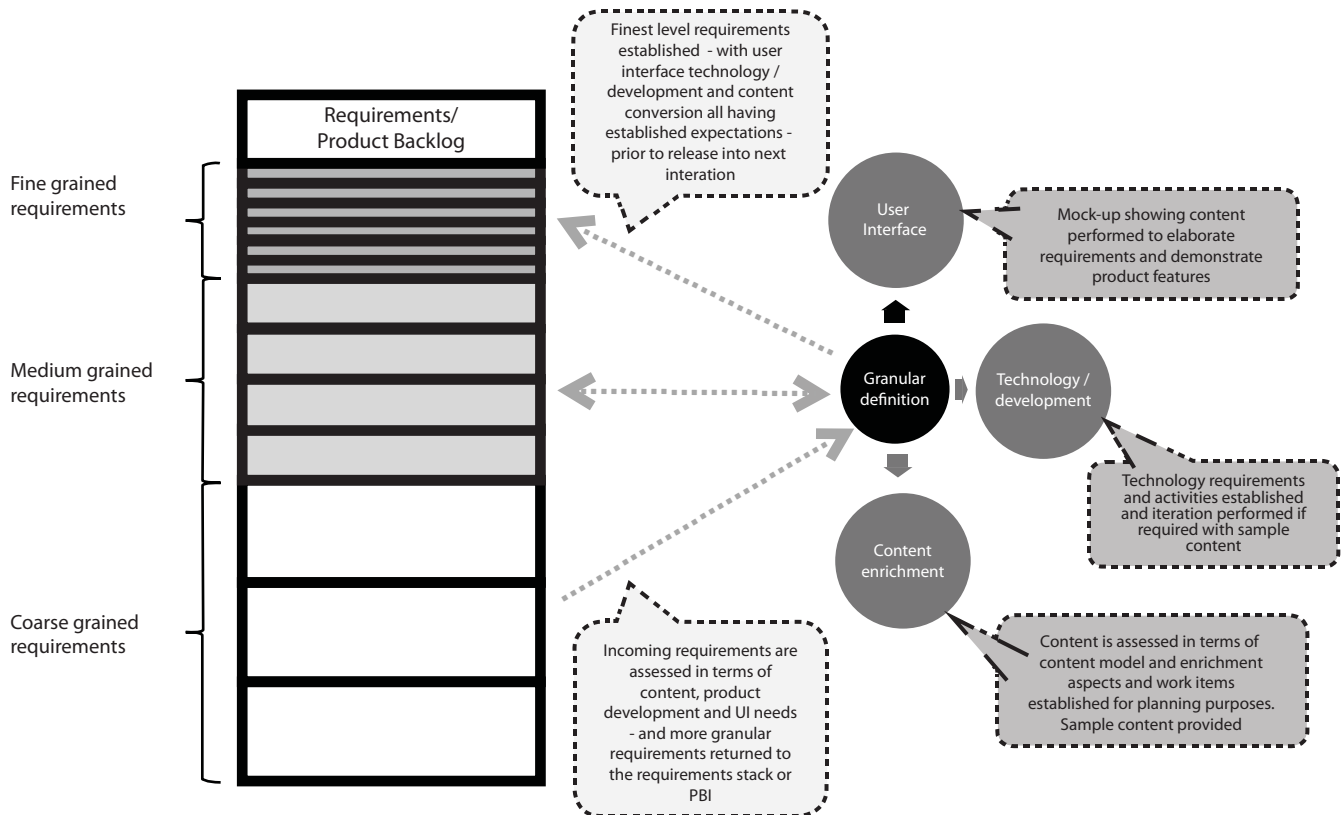


Figure 6: Elaboration of requirements across iterations and releases

Business Benefits

Traditional methodologies commonly used for content enrichment presume predictability. From the beginning, the development of a new digital product is hampered with creating detailed upfront specifications that leads to a pretense of accuracy that sets unrealistic expectations, resulting in lengthy documents that stakeholders neither consume nor understand. Our method integrates the content enrichment process into an adaptive methodology that by comparison) gathers what is known at the time and moves priority requirements to the “top of the pile”. Coupled with the technology and user interface work the emphasis is on developing practical things that can be reviewed visually, rather than theoretical reviews of "epic specifications" that are time consuming and difficult to comprehend.

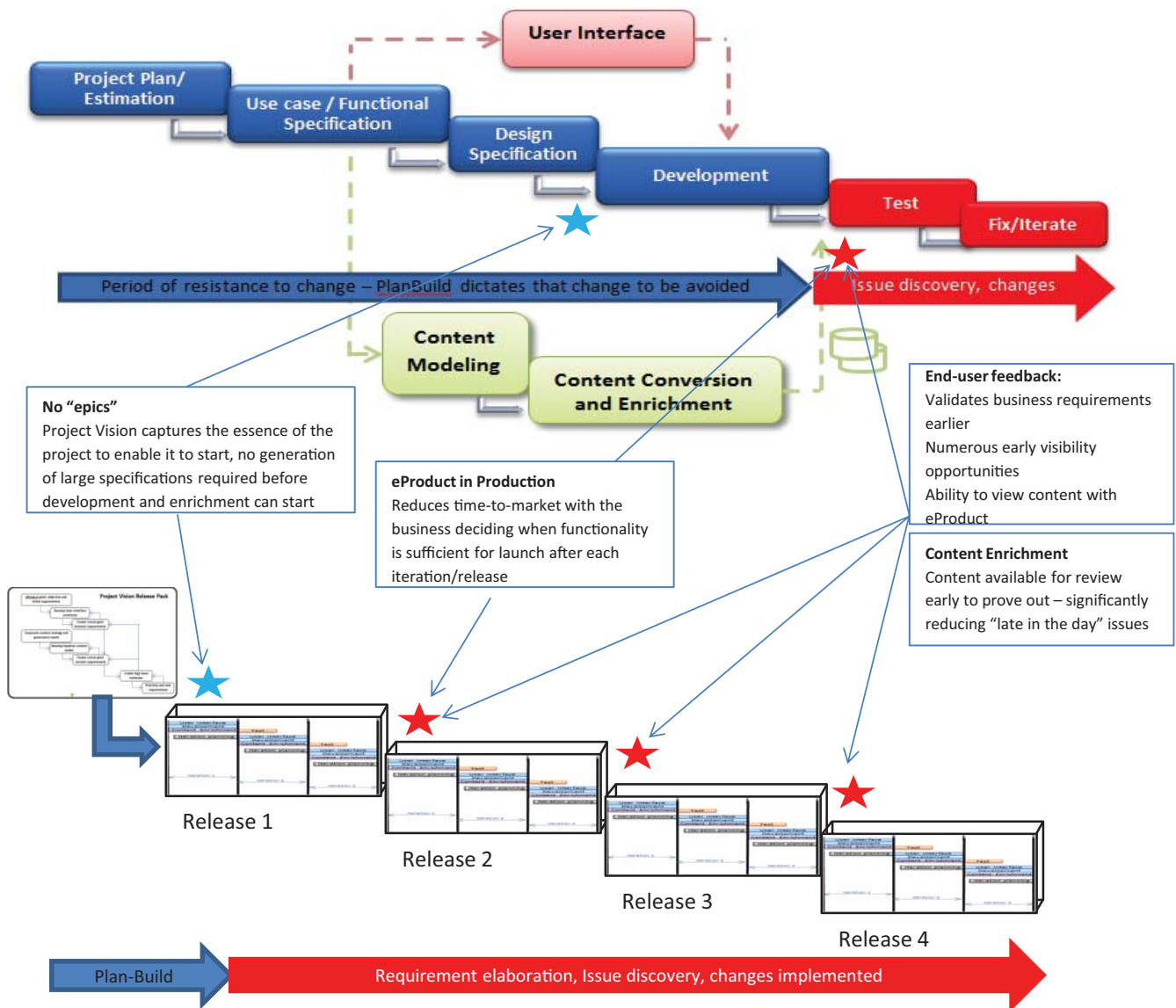


Figure X: Comparison of traditional predictive methodology

Furthermore, the Innodata Agile methodology anticipates change. Take the example of a large issue or new requirements that entail incorporating a significant change that could impact the release plan, requirements or schedule. With a traditional approach this unexpectedly arises late in the project – and quickly results in a blame game as to who got it wrong, who missed it etc. – degenerating further with schedule and cost overruns that put the whole project in jeopardy.

By allowing an adaptive methodology to be used from the outset the project recognizes that change will happen, those potential changes are recognized early in the project through the iterative nature of the delivery (based on priorities) and the necessary controls /traceability are already in place to allow the project to adapt to the change. In summary, an adaptive methodology provides solutions to the problems that can lead to project failure, control, schedule and cost overrun, such as:

Issues materialize late in the project:

- **Solution:** Delivery of mobile and digital content starts early in the project with repeated deliveries as the features evolve

Cannot Adjust to change:

- **Solution:** Consolidated design authority with common and shared digital content requirements allow consolidated priority setting across the project teams

Impaired decision making capability (not aligned with eProduct needs):

- **Solution:** Early and multiple deliveries combine with common and shared digital content requirements

Summary

Many digital product development projects fail to meet business needs when they are delivered. A Geneca study in 2011 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”

The modern business environment filled with increasing uncertainty and shortened business cycles doesn't tolerate effort to exert excessive control throughout a project. Doing so is a sure path to failure. Traditional content enrichment methodologies can burden projects with a Plan-Build predictive approach that cannot handle the dynamic nature of changing business needs and requirement throughout the project lifecycle. eProduct development with content enrichment developed using inflexible Plan-Build methods require schedule, cost, and scope of work baselines (as well as others) that wind up becoming project constraints because they are resistant to dynamic change. Furthermore, the technology development aspects are often in conflict with the content enrichment leading to issues that materialize late in the project.

The Innodata Agile Content methodology focuses on establishing content enrichment within a common project adaptive methodology that can be used across all activity channels of the project. By dividing the content conversion into discrete components linked to a common set of requirements the business value can be understood, priorities can be managed, and impact can be assessed allowing for informed decision making. The digital product development project becomes one that can be delivered in regular iterations/releases and can adapt to change - thereby mitigating the risk of “late in day” non-delivery and significant issues that result in project failure and schedule/cost overruns.

About Innodata

Innodata (NASDAQ: INOD) 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 Agile Content Development, 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 *Enhancing Customer Engagement in the Post-PC Age* white paper series which you can find at www.innodata.com

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