Requirements Gathering Process

A White Paper

Presented by

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Version <2.0>

January 2004
1 Introduction

An effective requirements gathering process is perhaps the most critical driver of software project success. Getting the requirements right – and getting the right requirements – can mean the difference between a successful project – one that satisfies the needs of its users and is delivered on-time and on-budget – and one that fails.

It should come as no surprise that effective requirements gathering involves much more than asking business users what they want and need. It is a complex process that involves users and system designers in a collaborative effort that explores both functional requirements and the new possibilities that technology offers.

The great challenge of the requirements process is finding a way to uncover and capture the needs of the business and communicate those needs to a software development team in a language and style that facilitates the software design process, producing a result that precisely solves the business problem. This is much easier said than done. All too often the requirements process begins with a few key questions about the business need, and then quickly moves to discussions about parts of the technology solution. Traditional requirements documents are a confusing combination of business and technology language. As a result they are time consuming for the careful reader, misunderstood by most, and generally ineffective as communications devices.

Nevo’s approach to requirements definition departs from this traditional model and instead applies industry-standard tools and techniques that enable us to speak business language to business people, and technology language to technology people. We cross the bridge from the business problem to the technology solution in ways that ensure that everyone along the way clearly understands the goal, the details, and the steps needed to achieve it.

2 Nevo’s Approach

Nevo’s requirements gathering approach is built on the proven techniques of Use Case Analysis. Use Case Analysis focuses on the business processes and the services a system must provide to support those processes. Use Case Analysis is easily understood by participants in group sessions, even if they have never before participated in Use Case sessions.

During the sessions business people identify who uses system (the Actors), and how systems are used to get real work done (the Use Cases). Use Cases are described and then expanded to an appropriate level of detail in an iterative process. Because the participants are talking about the work they do on a day-to-day basis and how that work may be changing due to inside or outside influences, our ability to elicit a complete set of requirements is enhanced.

The Use Case process starts off entirely in the language of business. No technology terms are used unless business people use them to describe their work. If technology people attend the Use Case Sessions they are asked to take a back seat – listening rather than contributing. Even if they have exciting ideas about how to solve a problem or provide a capability, technology people are asked to hold their thoughts to later sessions.

The following diagram illustrates the strong division we seek between the problem domain – where we speak the language of the business – and the solution domain – where we speak the language of technology.
Use Cases may be used as the building blocks of Cross Functional Workflows to explore and document potential changes in work process resulting from changes to software systems.

Through elaboration of the Use Cases, business requirements are thoroughly explored, fully understood and documented. The resulting Use Cases serve as effective bridge from the Business Requirements phase to the System Requirements phase, where a technology team explores the technical components that must be created or changed to meet the needs of the business. Advancing from Business Requirements to System Requirements takes us from a problem domain to a solution domain (see above diagram), where technology is the primary language and the details of the technical solution are designed and documented.
3 The Requirements Process

The diagram below depicts Nevo’s requirements process.

- Capture Bus Goals & Project Vision
- ID Principal Actors & Use Cases
- Map the Business Process
- Develop use case diagram and overview
- Prototype UI
- Explore non-UI use cases
- Define tech arch
- Develop visual model / user experience / style guide
- Conduct UI design review
- Prioritize use cases
- Define releases in terms of use cases
- Develop use cases to level 2
- Create Risk List and Plan
- Create QA Test Plan
- Estimate and schedule next release
- Signoff requirements
- Conduct End of Phase Review

4 Process Details

Nevo works closely with client organizations to gather requirements while mentoring the skills and techniques that make us successful. A typical requirements gathering process includes the following steps.

- A Nevo team leader begins by leading a workshop session to capture high-level business goals and project vision. Client IT staff and business users participate. Business goals and project vision are the guideposts of the requirements process. We cannot expect our team to deliver the right solution at the right time if we do not know the vision and goals of the solution.
We next identify the principal actors and use cases in a Use Case workshop. The Nevo team leader typically leads the session at the start, and gradually turns leadership over to the client’s Business Analysts. The Use Case workshop results in a strong understanding of those who interact with our system (people, roles, other systems, time) and the services they require from our system.

If possible and appropriate, prototyping is introduced. A Nevo architect builds a preliminary prototype based on the requirements revealed in the Use Case Workshop. We will use the prototyping process to explore user interface features. The preliminary prototype represents user interface services to be provided by the system. This may take the form of the menu bars found on most Internet implementations, along with a small amount of functionality that will serve to give business users a taste of the look-and-feel of their system implemented in a browser environment.

If a prototype is built, Nevo’s architect provides mentoring and direction to client IT staff in the creation of the prototype using Nevo’s prototyping architecture.

The Nevo team leader works with client Business Analysts and business users to map the business process, ensuring that we serve all the business goals.

Non-user-interface Use Cases are explored. As we capture Use Cases the Nevo architect carefully documents and explores non-user-interface system services. These are often neglected in other requirements processes and frequently are the cause of budget and schedule overruns. Non-user-interface Use Cases include file conversions, integration with the data or processes of other key systems, data uploads or downloads, batch processes, etc. We use techniques other than prototyping for non-user-interface requirements (generally interviews with key stakeholders and users).

If needed, Nevo works with Business Analysts and users to prioritize functionality into a series of recommended releases. The prototyping process reinforces the notion that systems are iterative and ongoing. Cooperation develops among users who might not, under other circumstances, be willing to defer certain functionality for fear of never seeing it.

The Nevo team lead and architect, in collaboration with client Business Analysts and IT staff, develop preliminary estimates and schedules. We focus on developing accurate estimates for the first release, and higher level, more approximate estimates for subsequent releases. Experience teaches us that working on the first release will yield important sizing information for later releases.

The preliminary Risk Plan is created by the Nevo team leader and the client Business Analysts. Every software project has risks. Knowing what those risks are and planning to proactively manage them is a powerful opportunity to control the project and drive success.

The business users sign-off on business requirements. User participation in prototyping and Use Case exploration produces an interested, active extended team. By the end of the business requirements process users are energized, committed, informed, and ready to move on to a successful implementation phase. Informed, committed users tend to maintain a higher level of involvement throughout the project, and tend to be more cooperative and tolerant of challenges as they inevitably arise. The business requirements are documented and ready to be placed under change control.
• The Nevo team leader leads an End of Phase Review, with participation Nevo and client participants. Every Nevo process is closed with a review. We are committed to learning from every experience and applying our knowledge to every new challenge.

In summary, successful projects are inevitably built on a well-executed requirements gathering process. Nevo’s collaborative requirements process combines Use Case Analysis, Cross Functional Workflows, and prototyping to capture business requirements that are correct, complete, and prioritized. By working closely with Business Analysts and business users Nevo can greatly improve the requirements process and the rate of success of software projects, helping our client organizations achieve their goals predictably and repeatedly.