

Creating a Common Project Vision

Unique Approach to Software Development Brings Welcomed Level of Predictability

By Bob Zimmerman and Cathy Brunsting

Introduction

Lack of predictability in getting a new product or service to market is one of the biggest threats a business can face. This problem is pervasive and many businesses are simply unaware there is a better, more predictable approach to delivering projects.

Let's start with a couple of all too common project scenarios.

Scenario 1: A new IT project is starting up; it's a high priority project with good executive support. The technology team has examined the project definition from the business, and the project estimate has been given: "The Project will cost \$1.3 million and will take 7 months to deliver."

A project team is assembled. They go to work: A project plan is created. Detailed requirements are gathered. Changes are tracked and process is followed.

It's now 7 months later ... and the project isn't done. How much is it really going to cost? How much longer will the project really take?

Scenario 2: A similar project is actually delivered on-time and on-budget by standard measurements. However, in order to make the budget and schedule, half of the functionality has been "de-scoped" and moved to the nebulous "phase 2" of the project. The business stakeholders are upset – the delivered solution isn't what they asked for; it doesn't deliver the business value that was requested.

How do we decide what to include and not include in the project? How do we know that business value is achieved?

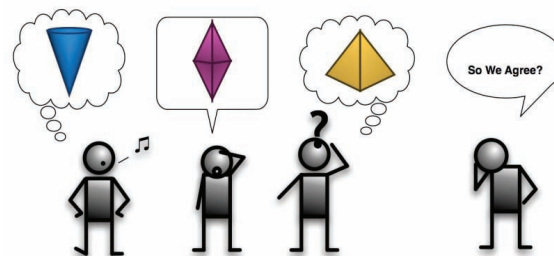
Scenario 3: The same project is now delivered – on-time and on-budget from IT's perspective. Now the business stakeholders are conducting UAT, but they are finding serious issues. The system is not doing what they expected. The project is at risk of being cancelled. IT is upset – they believe that they delivered a high-quality, well-developed and thoroughly tested system. The business stakeholders are upset because what they believe that IT did not deliver what they expected.

How do we insure that what the business expects is what IT delivers? How do we align the development and testing teams with the same vision as the business stakeholders?

How do we turn these situations around and bring predictability into what is delivered and when it is delivered?

Creating a Common Vision

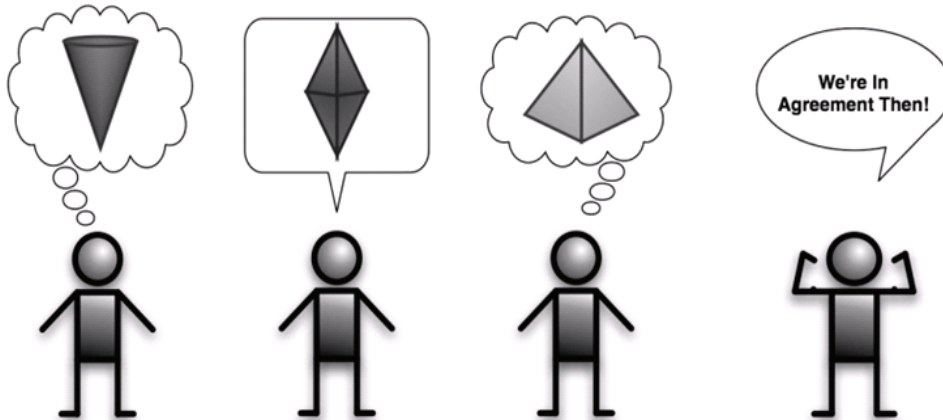
The first step to creating a predictable delivery process is to create a common vision among all business stakeholders. Without a common vision, the various business stakeholders all have different ideas of what the solution should be (refer to Figure 1). If IT is engaged at this point, they will try to find a solution that they think will best meet the needs. But, in doing this, the business stakeholders are abdicating their ownership of the solution that they are paying for and IT is putting itself in a no-win situation.



Initial Stakeholder Vision

Figure 1

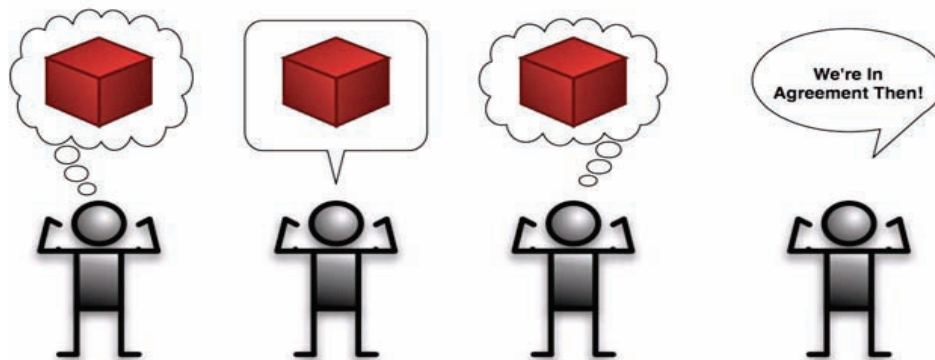
Traditional scope definition and requirements gathering processes can lead a team to believe that they are in agreement and share a common vision, but often have only partially addressed many aspects of the project. While there is an appearance of agreement, project stakeholders each still hold a different view of what a successful project is (refer to Figure 2). This situation is even more treacherous for IT. Everyone believes that they know what has been agreed to, but when the project is delivered, at least some of the stakeholders will be disappointed.



Appearance of Agreement

Figure 2

Clear and common objectives drive alignment, provide transparency, and bring predictability to the project. The key here is to create a common shared vision that is reasonably accurate in a reasonable amount of time. It is important for all project stakeholders to share a common vision of what is and is not being delivered (refer to Figure 3). It is only at this point that a predictable, successful project can be accomplished.

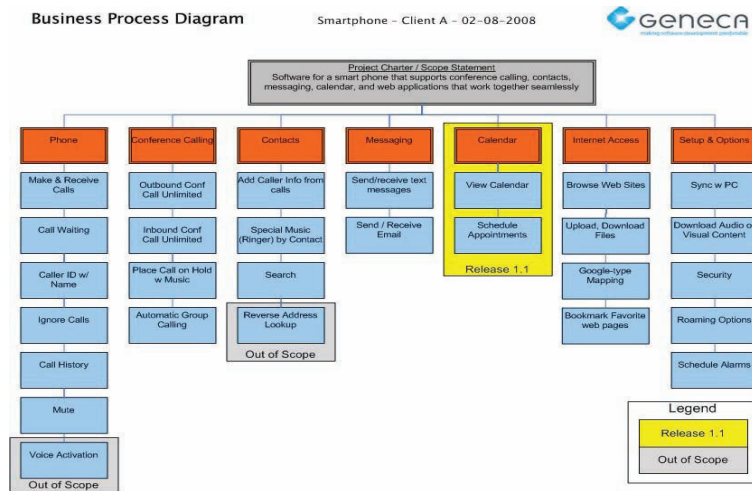


Common Vision

Figure 3

We find that this level of alignment is best achieved through a series of ½ day workshops with business stakeholders over a 2-4 week (rather than months) period, using three core techniques:

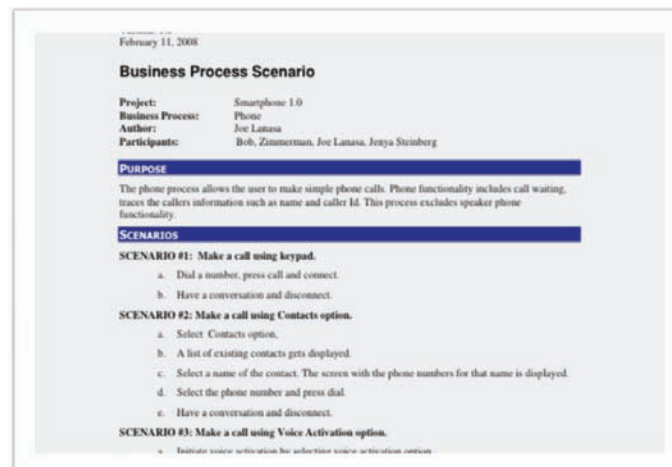
- **Business Process Analysis (BPA)** – Here, business processes are defined along with their associated tasks and activities to create a common vision of the width of the project (refer to Figure 4). It is important to spend time defining both what is in scope and with NOT in scope. Clarifying what is not in scope adds to the common vision of what the project does include. Defining the width of the project gives the entire team a vision of what to expect from the project.



BPA Example

Figure 4

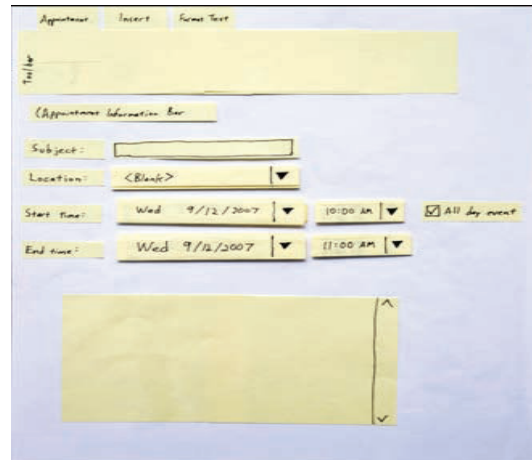
- **Business Process Scenarios (BPS)** – Next, identify the key workflows/scenarios that capture the intent of the system (refer to Figure 5). These scenarios use the activities and tasks identified during the BPA and become the basis for defining the work to be done for this project. They identify what success looks like to the business stakeholders and are expressed in the language of the business. In addition, the scenarios provide high level acceptance tests for the project. And, they provide information that enables QA to create Testing strategy and begin Test planning at the beginning of the project, even before the detailed requirements are collected.



BPS Example

Figure 5

- **Lo-fi Complex Scenarios** – Building paper prototypes of screens and creating Excel mock ups of reports further clarify the more complex business scenarios defined for a system (refer to Figure 6). These are created by the Business Stakeholders to represent their vision of the Functionality requested and to show the intent of the system in more detail. While not needed for every scenario, a lo-fi should be done whenever there appears to be issues or questions around a scenario's intent or when there is disagreement between stakeholders. By doing a paper prototype, a clear vision of what is needed can be done quickly without the need of complex tools or special skill sets.



Lo-Fi Example

Figure 6

Teams using these three core techniques are able to go to a sufficient depth to gain common understanding and agreement to scope of project as well as the information to realistically define the level of effort needed. These techniques are not intended to be used to resolve all open issues or to develop detailed specifications. Rather, they are used to enable the team to define the project in a way that it can be understood and delivered predictably in a partnership with the business stakeholders.

Key Roles in Creating and Applying a Common Vision

There are three primary roles that are needed to create and apply a common vision to establish the scope on a software development project:

- **Business Analyst (BA)** – The Business Analyst is crucial in helping to elicit and define the common vision with the business stakeholders.
- **Architect** – The Architect is responsible for applying metrics against the common vision which are then used to measure the work effort.
- **Project Manager (PM)** – The Project Manager is crucial in both defining the common vision and using the metrics defined by the Architect to create a project release plan by which project progress can be predictably measured.

Role of the Business Analyst

The Business Analyst plays a key role in creating the common vision. The BA needs to be able to represent the business stakeholders' vision to the development team. And, the BA needs to be able to represent the development team's issues to the business stakeholders. It is critical that the BA participate in and fully understand the business vision for the project.

BA as Facilitator

A skilled facilitator is required to ensure success with the series of BPA and BPS workshops. The BA is an excellent candidate for this role. Key skills needed for the BPA and BPS facilitation include:

- Ability to draw out all applicable business processes from the business stakeholders.
- Discipline to not drive the business resources to a specific solution. These sessions are there for the business to define their processes, not to be persuaded to use processes that are favored by the IT department.
- Aptitude for encouraging healthy disagreement among the stakeholders. Only by getting all issues on the table for discussion is a transparent, common vision truly reached.
- Skill in organizing and summarizing on the board the points that the business stakeholders make – in the language of the business.
- Capability to encourage the business stakeholders to be truly creative and open in their contributions.
- Analytical enough to offer suggestions for missing processes and scenarios based on the business discussions, without imposing pre-conceived ideas of what the processes should be.
- Ability to drive the business stakeholders to reach a consensus on what is and is NOT in scope for the project.

BA as Scribe

Another key role that a Business Analyst is an excellent candidate for is the Scribe. The Scribe role is critical to a successful BPA and BPS process. Working in conjunction with the Facilitator, the Scribe uses the following skills:

- Capture of the business processes and activities that the Facilitator writes on the board.
- Capture of all Issues and parking lot items in a clear and concise way.
- Provide suggestions to the Facilitator (e.g., “Should this issue go in the parking lot?”) if the session starts to lose focus.
- Coordinate with the Facilitator during breaks to offer suggestions on approach or key areas for the next part of the session.
- Document the BPA and/or BPS components from each session for review and follow-up in the next day’s session.

The Scribe role is critical to a predictable delivery process. Clear, concise and timely documentation of the business processes and scenarios enables the business stakeholders to review their progress and confirm that consensus has been reached:

BA as Mentor

The Business Analyst tends to have a lot of business knowledge and empathy with the business stakeholders. The steps defined in this whitepaper represent a new way of approaching the definition of a project and initially can be uncomfortable for some business stakeholders. The unique perspective of the BA – understating both the business and technical perspectives of a project – enables the BA to be a good resource in working with the business stakeholders in defining their processes, uncovering all key scenarios, and creating efficient lo-fi’s.

It is critical, though, for the BA to enable the business to do the work, not to do the work for them. This fosters a partnership approach to defining the solution and ensures that buy-in is obtained from all stakeholders.

Role of the Architect

Once a common vision is defined, the Architect is responsible for determining the work effort for each scenario in a way that can be understood by both the business partners and the IT team.

Counting the Interfaces

The first thing that is needed is to determine how many interfaces are required to deliver a business scenario. There are four kinds of interfaces that need to be identified:

- **User Interfaces** – Count the number of screens that will be needed in the application. Identifying the user interfaces is aided by the lo-fi's that are created in defining the common vision. Even when a lo-fi is not created, a good Architect can determine where a user interface is going to be needed. And, it is not critical to determine exactly what the final screens will look like. If an Architect plans for three simple screens and ultimately they are combined into one screen of medium or high complexity, the level of effort will remain essentially the same.
- **Reports** – Count the number of reports that the user requires to support the scenario. Even if a physical report is not needed, it is important to note if information needs to be collected that can be used to later generate a report or support user queries.
- **System Interfaces (APIs)** – Count the number of interfaces to any system outside of the current application/system that is being created. This includes true external system – such as credit card bureaus, payment processing systems, etc. It also includes systems with the company that are not in scope for the current application – such as a common company directory for validating users (LDAP), the company's SAP system, etc.
- **Engines** – Count an engine for those cases where some kind of processing is going to be needed. For example, a UI screen might collect the quantity of a product that a user needs. Then, use an engine to calculate the cost of the items, the related tax and delivery costs. Or, if a system interfaces with a credit bureau, it may take the information returned from that system interface and apply internal business rules to determine whether or not an applicant is eligible for credit.

Determine the Complexity of the Interfaces

Once the interfaces have been identified, the next step is to determine the effort required to implement the interfaces. Some projects may spend days trying to estimate person-hours for this effort, with little benefit from this exercise. A more efficient way to do this is to determine a level of complexity for each interface – such as, low, medium and high level of effort. It is much easier for an Architect (and developers, if they are consulted) to estimate the complexity level than it is to determine actual effort-hours. And, the level of accuracy of estimates at this stage is more useful when expressed in degree of complexity than in the kind of guesstimates that most of us make.

Once the level of complexity is determined, then a level of effort based on person-hours can be assigned to each effort level. The level of effort should take into account all aspects of the development life cycle – detailed requirements, coding, testing, etc. The results of this estimate is can differ from company to company. For example, in a small company, a scenario of low complexity of effort may take one day, medium scenario three days and a complex scenario five days. In a larger company, a low scenario might be one week, a medium scenario four weeks and a complex scenario eight weeks. However, once the level of effort is determined, it can be used over and over for projects. And, if the original estimates for low, medium and high complexity are not entirely accurate, as the project is developed, delivery of early items in the project will expose the inaccuracies. This allows the team to adjust the estimates and communicate the issues very early in the project.

Role of the Project Manager

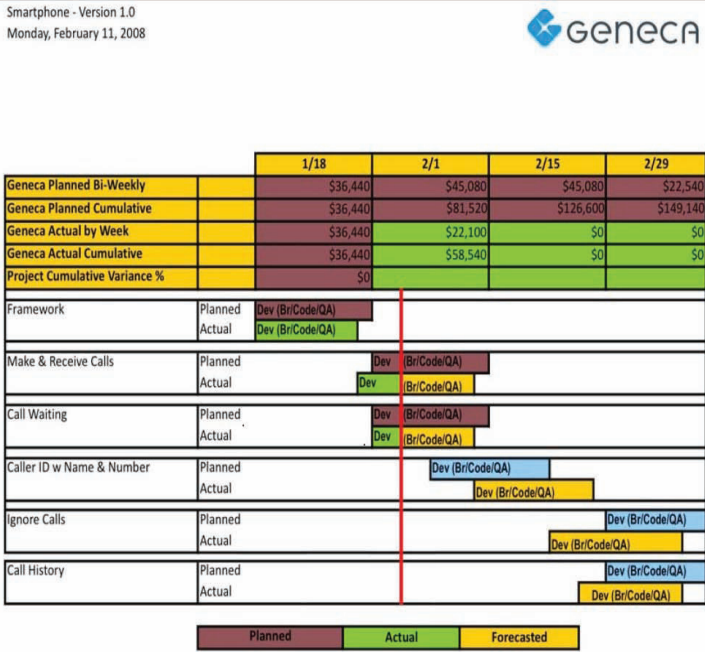
The Project Manager is the final key role needed to both create and apply a common vision to bring needed predictability to a project.

First, the PM can act as either a Facilitator or Scribe, along with the BA, in creating a common project vision. One of the roles (PM or BA) can be the Facilitator while the other is the Scribe. Also, a strong PM can help keep the BA and the Architect focused and timely when creating the common vision and counting interfaces.

Creating a Predictable Release Plan

Once the common vision is created and the number of and complexity of the interfaces are determined, the PM can now create a predictable release plan. Rather than creating a complex, difficult to maintain, detailed project plan for every IT component of the project, the PM can define the project in terms of delivering business scenarios or business processes (refer to Figure 7: Project Release Plan Example). This enables the IT team to define the delivery in terms of business functionality that is understood by the business stakeholders.

In creating the release plan, the PM factors in not only the interface effort that the Architect has defined, but also includes time for risk, dependencies, load and real world execution factors. Availability of business resources, holiday and vacation time, external approval cycles and other process overhead are all factored into the final delivery plan. The plan can also factor in the effort of IT to set up a framework for the development environment (e.g., the "Framework" item in the example plan).



Project Release Plan Example

Figure 7

Advantages of Having a Common Vision

There are several key advantages of creating a common vision that are realized throughout the project lifecycle:

- **Better Business Decisions** – With the business stakeholders defining the business functionality for the scenarios, and IT providing the cost of delivering this functionality, business stakeholders can now evaluate the cost of each scenario and determine whether or not a feature is worth the cost. In addition, when the project is too large in terms of cost or time, business stakeholders can make informed decisions on what to include and what not include, rather than asking IT to decide what they must cut to meet the schedule.
- **Partnership Approach** – There is often an adversarial relationship between IT and the business stakeholders. The business users complain that IT takes too long and then delivers the wrong solution. IT complains that the business users don't know what they want and don't understand what it takes to develop the solution. By creating a common vision and by then expressing the cost and delivery of the solution in terms of that vision, IT and the business become partners in achieving the same, well-understood goals.

- **Tracking Business Functionality** – With a release plan that is defined in terms of delivering business functionality, the progress of the project can now be tracked by this functionality. The business stakeholders are able to see the progress of the project from the perspective of what they are interested in, not in terms of IT components (database layers, widgets, etc.). This enables the project to continue to be a partnership between the business and IT.
- **Efficient Change Management** – Project changes are inevitable in any project of any decent size. With this approach, changes to the market place that impact the project can be seamlessly incorporated into the project. Changes can now be made in terms of adding, changing or removing business functionality, maintaining the common vision of what is to be delivered throughout the change process. If the needs of the business change, the business stakeholders can easily identify which business scenarios are impacted. Then, the cost of the change can be determined using the same metrics established on the original project vision.
- **Better Alignment of the Project Team** – The alignment that is created between IT and the business stakeholders can also create better alignment among members of the IT team. Everyone thinks in terms of delivering business functionality. Developers and testers talk about which business scenario that they are coding and testing. When adding new team members in the middle of the project, they can quickly be aligned to project goals via the business scenarios.
- **Faster Delivery** – While the techniques described here can be used for projects following any development lifecycle methodology (Waterfall, RUP, Agile, etc.), early delivery of business functionality can be achieved using a more iterative approach, since the project is now defined in terms of business functionality. Regardless of whether functionality is deployed into production, it can be demonstrated early to the business stakeholders for feedback and early project adjustments. And, for many projects, iterative deployment of functionality into production can be done – enabling faster delivery to the market place.

Also, team members can be engaged earlier in the process – for example, QA specialists can easily create Test Strategy and start test planning at the beginning of the project, using the business scenarios, rather than waiting for the all of the detailed project requirements to be completed. And, all facets of software delivery (requirements, design, coding, testing) can be engaged throughout the project, making for a more efficient team rhythm and a better understanding by the whole team of what is being delivered.

By defining the project in terms of a common vision of the required business functionality, a true partnership between IT and the Business is achieved. Your investment of three to six weeks at the front of the project can help prevent a 1.2 million dollar project from turning into a 3.5 million dollar one -- as well as go a long way in bringing predictability to a process often plagued with missed expectations and cost overruns.

About the Authors

Bob Zimmerman, Geneca VP and Managing Partner

This whitepaper is based on the teachings of Getting PredictableSM, a collection of software development best practices evolved by Mr. Zimmerman over the past 20 years. Mr. Zimmerman is considered one of the industry's foremost software methodology experts and works tirelessly with CEOs and CIOs to resolve many of the persistent problems affecting IT's ability to deliver business value.

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About Geneca

Chicago-based custom software development firm, Geneca, helps its clients meet their business challenges by bringing predictability to the software development process. Getting PredictableSM, Geneca's pioneering approach to Requirements Definition and Management, has an outstanding success rate in helping its clients drive clear business alignment by identifying project objectives and success criteria. Learn more about Getting PredictableSM and Geneca's other software services at www.geneca.com.

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