BRIEF OVERVIEW TO DENYSYS APPROACH TO INFORMATION SYSTEMS DEVELOPMENT AND SUPPORT

GOALS OF THE FRAMEWORK

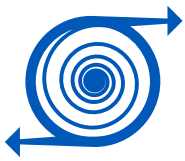
The Denysys Solutions Framework (DSF) is based on a set of software engineering processes, principles, and proven practices intended to enable information technology professionals to achieve success in the Software Development Life Cycle (SDLC). The framework has also been extended to provide best practices for systems operation and support. DSF provides an adaptable guidance, based upon experiences and best practices from inside and outside of large and small firms that deliver large volumes of software support services to their customers. For example, we have used DSF to increase the chance of successful delivery of an information technology solution to our customers. Our approach has allowed us to work faster, decrease the number of people on project teams, reduce project risk profile, while enabling high quality results. Our framework is adapted from the Microsoft Solutions Framework but contains best practices based on our 2 decades of software development experience.

COMPONENTS OF THE FRAMEWORK

Modern approaches to software development and support can be very complex. To simplify the complexity, our approach divides our framework into a few fundamental concepts:

FOUNDATIONAL PRINCIPLES

TEAM MODEL



CYCLES AND ITERATIONS

Our approach to systems development and support provides a high-level framework of guidance and principles which can be mapped to a variety of templates (CMMI, Agile, etc.). Organizations can sometimes have diverging dynamics and contrary priorities during their software development. The best approach is always driven by the needs of the project. some project may need a responsive and adaptable software development environment, while others need a standardized, repeatable and more controlled environment. In some cases, same large organizations with many concurrent projects may require both a SDLC and an Agile approach to meeting the business needs of their organization. To fulfill diverse needs, our approach represents the metamodel of DSF in two prescriptive methodology templates that provide specific process guidance, named Denysys Solutions Framework for Agile Software Development (DSF4ASD) and Denysys Solutions Framework for Capability Maturity Model Integration Process Improvement (DSF4CMMI).

NAICS CODES

541511 - Custom Computer Programming
541512 - Computer Systems Design
541519 - Other Computer Services
541513 - Computer Facility Management
541611 - General Consulting Services
561110 - Office Administrative Services
516112 - Human Resources Consulting
541614 - Logistical Consulting Services
541618 - Other Management Services
541710 - Life Science Research

CREDENTIALS

ISO 9001: 2015 Certified
CMMI Level 3 Certified

ACCEPTS GOVERNMENT PURCHASE CARD

FEDERAL CERTIFICATIONS:

- SBA HUBZONE CERTIFIED
- SMALL DISADVANTAGED BUSINESS

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These software engineering processes can be modified and customized to the preferences of organization, customer, and project team.

Our philosophy holds that there is no single structure or process that optimally applies to the requirements and environments for all projects. Therefore, DSF supports multiple process approaches, so it can be adapted to support any project, regardless of size or complexity. This flexibility means that it can support a wide degree of variation in the implementation of software engineering processes while retaining a set of core principles and mindsets.

The Denysys Solutions Framework Process Model consists of series of short development cycles and iterations. This model embraces rapid iterative development with continuous learning and refinement; due to progressive understanding of the business and project of the stakeholders. Identifying requirements, product development, and testing occur in overlapping iterations resulting in incremental completion to ensure a flow of value of the project. Each iteration has a different focus and result in a stable portion of the overall system.

FOUNDATIONAL PRINCIPLES

The following are the eight foundational principles, which form the backbone for the other models and disciplines of DSF:

1. Foster open communication
2. Work towards a shared vision
3. Empower team members
4. Establish clear accountability and shared responsibility
5. Focus on delivering business value
6. Stay agile, expect change
7. Invest in quality
8. Learn from all experiences

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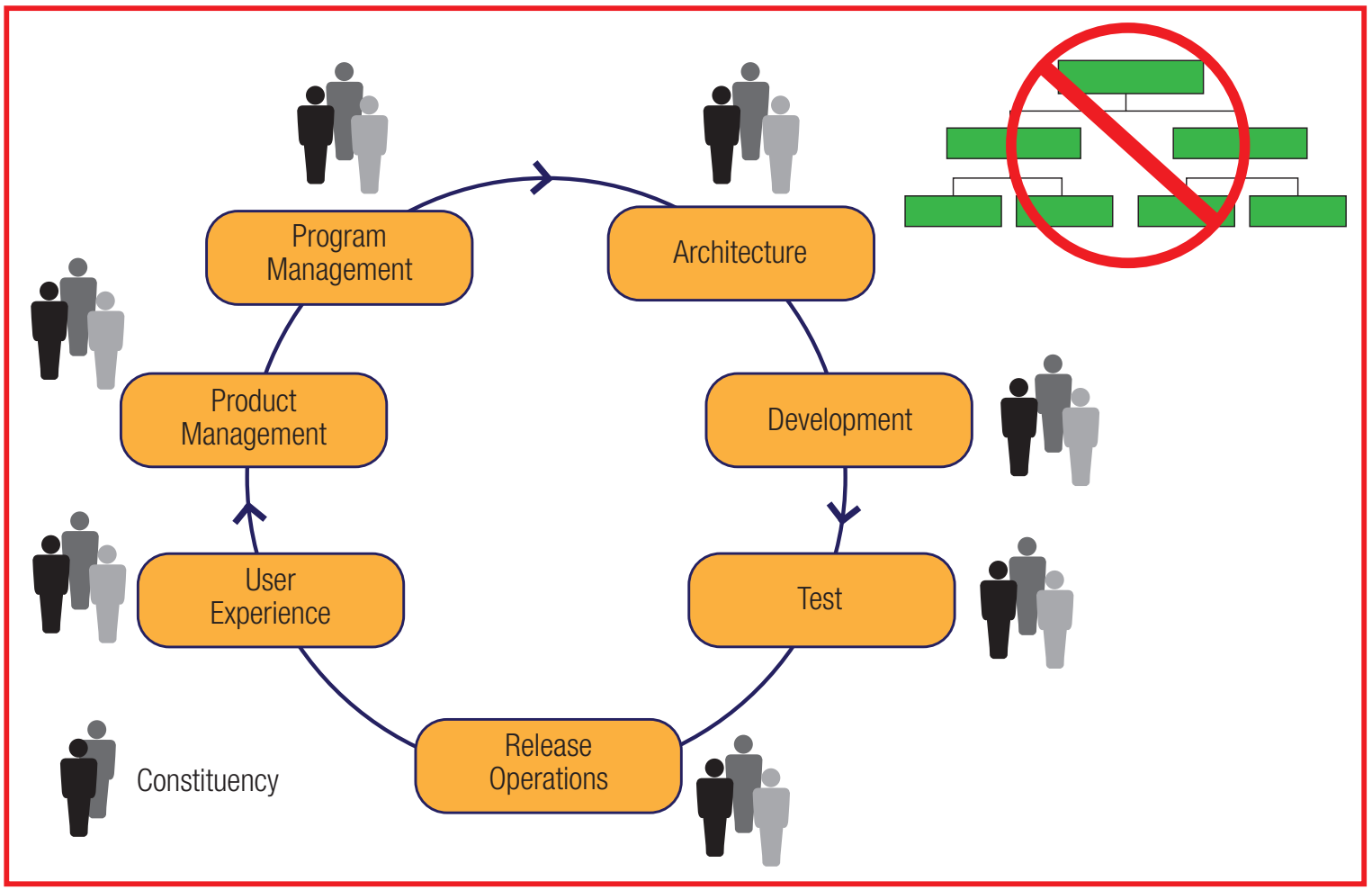
DSF MODELS
DSF CONSISTS OF TWO MODELS:

1. DSF Team Model.

This describes the role of various team members in a software development project.
The members of this team would be:

- Product Management: Mainly deals with customers and define project requirements, also ensures that customer expectations are met.
- Program Management: Maintains project development and delivery to the customer
- Architecture: Responsible for solution design, making sure the solution design optimally satisfies all needs and expectations
- Development: Develops according to the specifications.
- Test: Tests and assures product quality
- Release/Operations: Ensures smooth deployment and operations of the software
- User Experience: Supports issues of the users.

One person may be assigned to perform multiple roles. DSF also has suggestions on how to combine responsibilities such as the developer should not be assigned to any other role.



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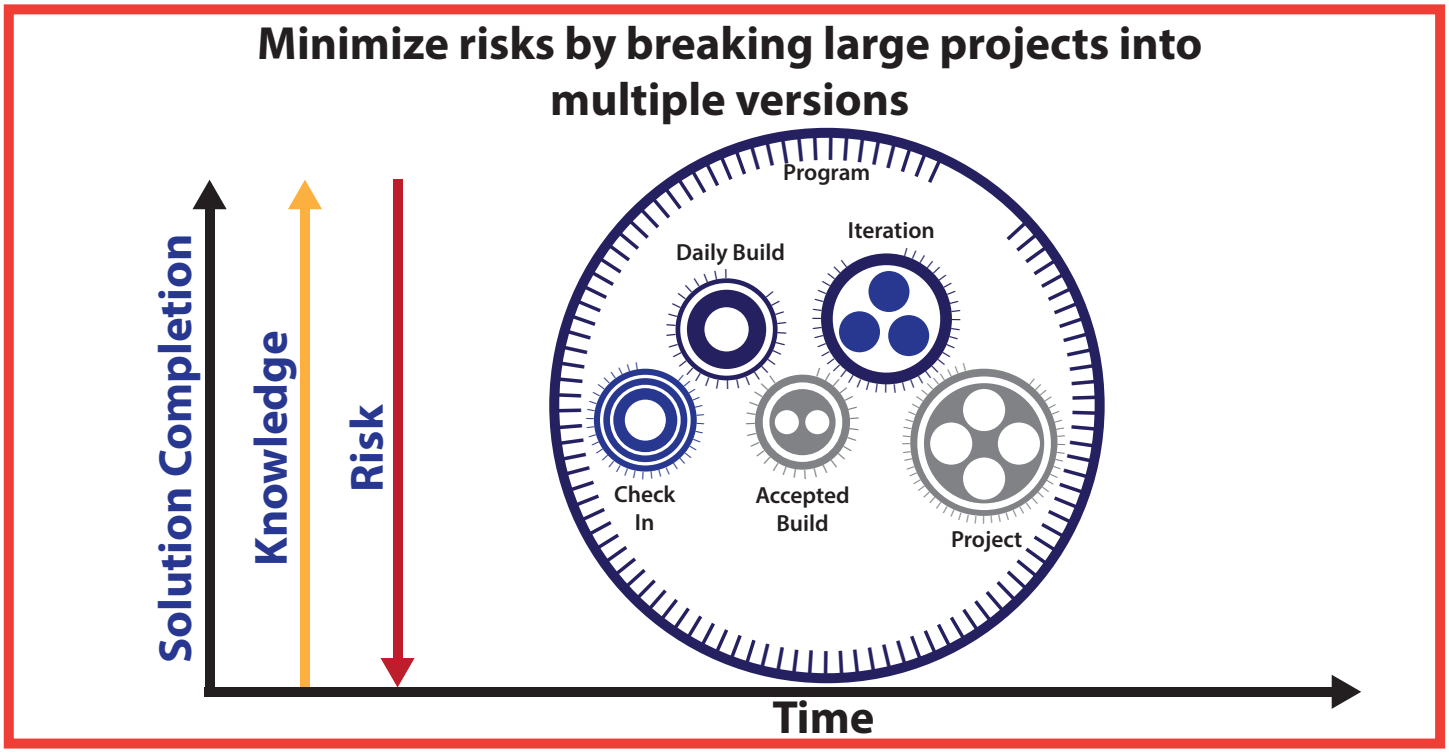
DSF FOR AGILE SOFTWARE DEVELOPMENT

The DSF for Agile Software Development (DSF4ASD) is a light weight, iterative, and adaptable process.

The DSF4ASD uses the principles of the agile development approach formulated by the Agile Alliance. The DSF4ASD provides a process guidance that focuses on the people and changes. It includes learning opportunities by using iterations and evaluations in each iteration.



The DSF for Capability Maturity Model Integration Process Improvement (DSF4CMMI) has more artifacts, more processes, more signoffs, more planning and is intended for projects that require a higher degree of formality and ceremony.

The Capability Maturity Model was created at the Software Engineering Institute of Carnegie Mellon University and is a process improvement approach that provides organizations with the essential elements of continuous process improvement resulting in a reduced SDLC, improved ability to meet cost and schedule targets, while building high quality products. The DSF4CMMI has extended and customized the software development guidance with additional formality, reviews, verifications and audits. This results in a software development that relies on process and conformance to process rather than relying purely on trust and the ability of the individual team members. The DSF4CMMI has more mandatory documents and reports than the agile version, and this more formal development process reduces risk on large software projects and provides a measurable status. One of the benefits of using the CMMI process is the standard evaluation by which one can compare the ability to develop software in other organizations.

CONCLUSION

The DSF can be adapted to a variety of methodologies including Agile, cleanroom, iterative, Rapid Application Development (RAD), IBM Rational Unified Process (RUP), Spiral, Waterfall, XP, Lean, Scrum, V-model, and Test Driven Development (TDD). The best methodology will be driven by the needs of the project and the culture of the organization.

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