



PROJECT MANAGEMENT CENTER FOR EXCELLENCE



A.J. CLARK SCHOOL OF ENGINEERING Civil & Environmental Engineering Department

TANGIBLE STRATEGIES FOR ALIGNING YOUR PROCESSES WITH AGILE

Kim Hobson 2016 Project Management Symposium

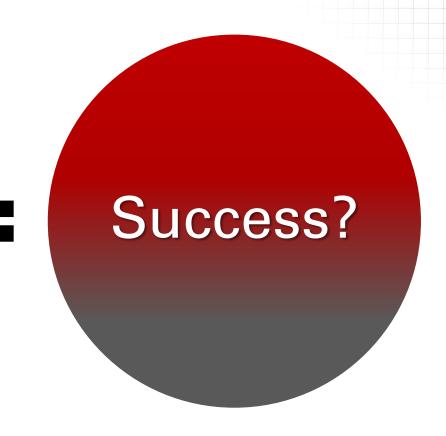


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Government
Guidance
and PMI Best
Practices



Agile Development Methodology





Kim Hobson





- Nearly 30 years of project management and business operations experience, primarily in IT
- Builds relationships,
 actuates performance, and
 analyzes business processes
- PMP, certified SAFe Agilist
- Lifelong Learner



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National Nuclear Security Administration Program Management Information System Generation 2





How many of you are familiar with the Agile development method?



The Agile Manifesto

The Mission Statement

/e Value:	over	
Individuals and Interactions		Process and Tools
Working Software		Comprehensive Documentation
Customer Collaboration		Contract Negotiation
Responding to Change		Following a Plan

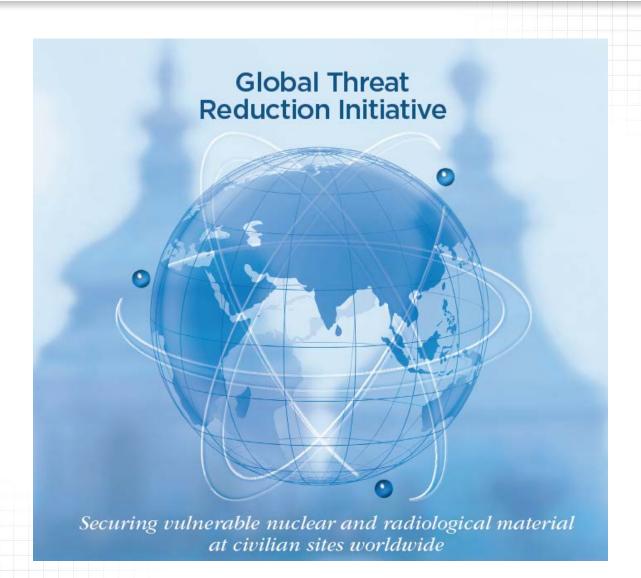
That is, while there is value in the items on the right, we value the items on the left more.



12 Principles of The Agile Manifesto

Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.	Working software is the primary measure of progress.
Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.	Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter time scale.	9 Continuous attention to technical excellence and good design enhances quality.
Business people and developers must work together daily throughout the project.	Simplicity – the art of maximizing the amount of work not done – is essential.
Build project around motivated individuals. Give them the environment and support they need, and trust them to get the job done.	11 The best architectures, requirements, and designs emerge from self-organizing teams.
The most efficient and effective method of conveying information to and within a team is face-to-face conversation.	1 At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

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Aspire greatly; anything less than a commitment to excellence becomes an acceptance of mediocrity.

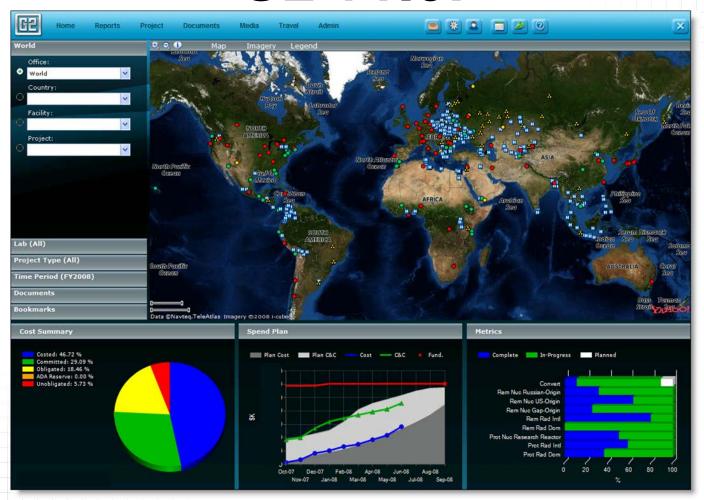
Brian Tracy

ZERODEAN COM



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G2 v1.0!



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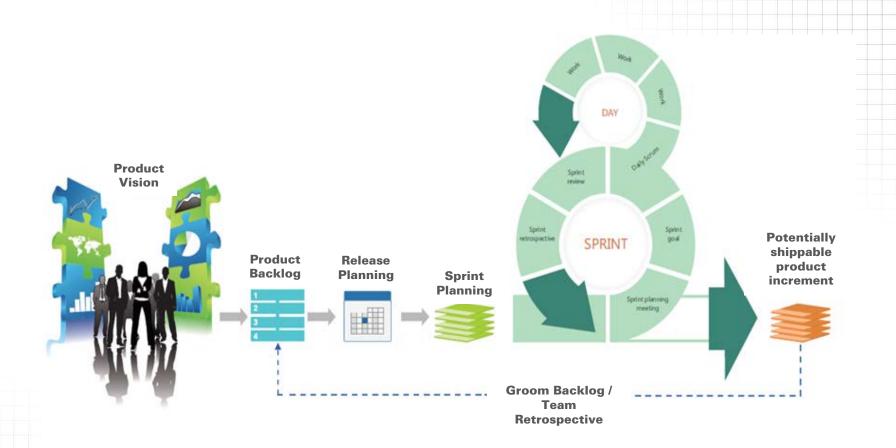


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162	Actions Story Statement of Work (SOW) Add Rad Projects Info	Value (1) High	Planned Release Release 1.10 – Apr 15, 2010	Status QA - Pass	Usext SOW will be identified as DRAFT if status is In Progress, Submitted, or Rejected. SOW will not be identified as DRAFT once status is Approved. This was partally released in 1.9. There is an outstanding enhancement in Issues number 1007.	Team ORNL	1.10 Devi
162	Statement of Work (SOW)		Release 1.10 -	QA -	SOW will be identified as DRAFT if status is In Progress, Submitted, or Rejected. SOW will not be identified as DRAFT once status is Approved. This was partially released in 1.9. There is an outstanding enhancement in Issues number		Dev
	(sow)	(1) High			not be identified as DRAFT once status is Approved. This was partially released in 1.9. There is an outstanding enhancement in Issues number	ORNL	
:180	Add Dad Dynierte Info						
180	Add Rad Projects Info						
180	Add Dad Projects Info				I think we should just close issue 1007 since SPA version and SOW version are really two different numbers.		
	to Building Information Page	(1) High	Release 1.10 – Apr 15, 2010	QA - Pass	Nuclear project information was added to the Building Information page in Release 1.9. Rad project information needs to be added so the user can see what Rad projects the building is tied to.	ORNL	
181	Improve Performance of Security Upgrades	(1) High	Release 1.10 – Apr 15, 2010	QA - Pass	The Security Upgrades takes way too long to save. Modify the code to get increased performance where possible.	ORNL	
					I've modified the code so after the initial save, the subsequent saves should be a little faster. $% \label{eq:condition}$		
182	Update IDD Questionnaire	(1) High	Release 1.10 – Apr 15, 2010	QA - Pass	The questions and format for the IDD have been changed. Need to modify website to accommodate new requirements. See attached files.	ORNL	
					If IDD can't get updated in this release then remove the requirements for IDD to be complete in order to submit SPA:		
					After further clarification, it turns out that HQ does not want an incomplete IDD to keep the user from submitting the SPA. The user needs to be able to submit the SPA regardless of whether the IDD is complete or not.		
186	SPA SOW Updates	(1) High	Release 1.10 – Apr 15, 2010	QA - Pass	See attached document. There needs to be two different SOW reports, one for PRNL and one for Sends (SNL), Each will have begon and language specific to the particular lab. We will know which report to digitally based on a new field (Assessment Team) on the SPA to allow the user to jok which team is doing the assessment (NL RNW, SC, SV). The field will initially be selected based on the geographic region of the state, but can be overriden by the team because the NW team will be doing assessments in the NE region.	ORNL	
189	Add New Role for Inventory Admin	(1) High	Release 1.10 – Apr 15, 2010	QA - Pass	A new role is needed for HQ administration of the Inventory and SPA. Currently, this role would belong to Matt Samples who needs access too all Inventory and SPA data. Currently, we have to assign him Inventory Edit and SPA Edit for every single country - all 193 of them.	ORNL	
	182	of Security Upgrades 182 Update IDD Questionnaire 186 SPA SOW Updates 189 Add New Role for	of Security Upgrades 182 Update IDD Questionnaire (1) High 186 SPA SOW Updates (1) High 189 Add New Role for Inventory Admin (1) High 191 Region Team Lead (1) High	of Security Upgrades	of Security Upgrades	Pass performance where possible. I've modified the code so after the initial save, the subsequent saves should be a little faster. It would be a little faster the subsequent saves should be a little faster. It would be a little faster the subsequent saves should be a little faster. It would be a little faster the subsequent saves should be a little faster. It would be a little faster the subsequent saves should be a little faster. It would be a little faster the subsequent saves should be a little faster. It would be a little faster the subsequent saves should be a little faster. It would be a little faster the subsequent saves should be a little faster. It would be a little faster the subsequent saves should be a little faster. It would be a little faster the subsequent saves should be a little faster. It would be subsequent saves should be a little faster. It would be subsequent saves should be a little faster. It would be subsequent saves should be a little faster. It would be subsequent saves should be a little faster. It would be subsequent saves should be a little faster. It would be subsequent saves should be a little faster. It would be subsequent saves should be a little faster. It would be subsequent saves should be a little faster. It would be subsequent saves should be a little faster. It would be subsequent saves should be a little faster. It would be subsequent saves should be a little faster. It would be subsequent saves should be a little faster. It would not subsequent saves should be a little faster. It would not subsequent saves should be a little faster. It would not subsequent saves should be a little faster. It would not subsequent saves should be a little faster. It would not subsequent saves shou	Pass performance where possible. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be a little faster. I've modified the code so after the initial save, the subsequent saves should be not subsequent the subsequent saves should be a li



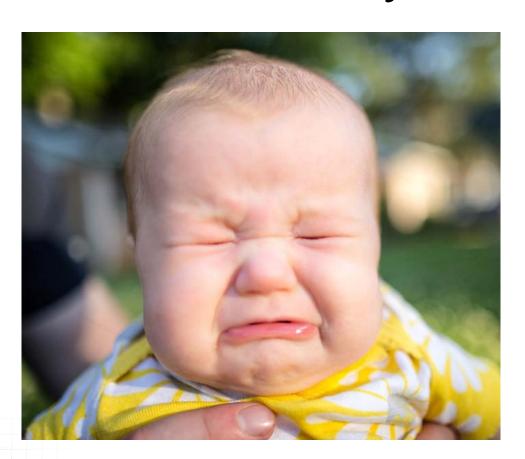
PA Edit for	every single co	ountry - all 193 of		_	Description	Comments	User Group	Priority	(CS)	Notes
				7	Admi	in				
plicitly rece	ive the Invento	ory Edit and SPA Edit	ORNL		add ability for users to view their roles and the projects to which they have access		All	С		
1.7	Admin	Project Member Role	3.3	June 2012	identify everyone at a lab involved in a project so that these people could receive certain notifications. Lab finance people could assign this roll- These people inglish red permission to unsubscribe to email notifications. Le., FinPlan approve notification		All	c		wanted this so that lab folks can receive financial notification emails (and maybe others). What are all the notifications that the role would qualify for? Could the individual opt injout or would the lab finance person do this for their staff to control who would even have possibility of getting the email
1.8	Admin	Cost Forecast Module	3.3	June 2012	Create a cost forecast module that will allow labs to forecast costs for the FY.	to work with on UI and functionality.	All	8		to review mockup.
1.13	Admin	Notification Option	3.2	May 2012	Give users option to chose between standard emails vs. calendar invites for FinPlan email notifications.		All	В		
1.14	Admin	Drop Down List Changes	3.1	Apr 2012	Add a "check all" box to the Person admin access screens, including PM/PMID, inventory/SPA, and Country Officer. Change drop down lists to pick lists so multiple selections can be made at the same time.		Project Controls	А		
1.17	Admin	Lab POC Role	3.3	June 2012	new project-based role; would allow multiple people per role per project, lab budget POC would have permissions to manage this role for their lab	would not fit current person admin model; would require new UI; maybe preference screen similar to PMD management	Lab	с	Low	
1.19	Admin	Spend Plan Admin Module	3.2	May 2012	New ability for Project Controls to "refresh" spend plans at the beginning of each fiscal year.		Lab	А	Low	
1.20	Admin	Sync Project Admin and Planning	3.2		When planning module is open, changes made in the project admin area are not synced with the planning area. Need to develop mechanism to facilitate this process.		Project Controls	А	Low	
1.21	Admin	PM Access control	3.2	May 2012	Provide ability for PM/CO's to add SPA/Inventory privileges to users.		PM/COs	А	1 max	
1.22	Admin	Project Templates	3.1	Apr 2012	Give project controls ability to add LOE template type to any project.		Project Controls	А	A	
1.23	Admin	User Bug Submission	3.2	May 2012	Give project controls ability to add LOE template type to any project.		Project Controls	A	Mt	
2					BCR	S.				
2.2	BCRs	Explanation History	3.2	May 2012	Add ability to view history of explanations		PM/COs	8	Hig	
2.6	BCRs	Approval/Rejection Comments	3.2	May 2012	Ability for approvers to write comments, which will be included in the approval/rejection notification email.		AADA/ODs	8-		
2.8	BCRs	Redesign BCR Screen	3.2		Combine the Schedule and Scope tabs on the BCR screen and organize tasks/buildings by Site. Combine task schedule, task metric, remove task, and cancel task functionality into a single popup, adding scope and outyear funding would remain separate tabs;	User request. When users make a change on the scope tab the change isn't reflected on the schedule tab, and on long, complex 8CRs this can become confusing. It would be easier if the Schedule and Scope tabs were combined so those changes are all on one screen.	PM/COs	В	Low	

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Process is a Dirty Word



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DOE G 200.1-1A

Department of Energy (DOE)

Systems Engineering Methodology Version 3

The DOE Systems Development Lifecycle (SDLC) for Information Technology Investments

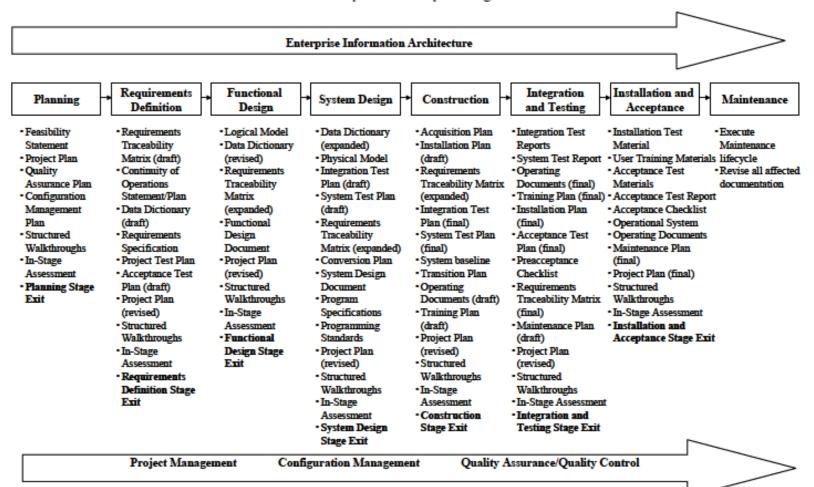
September 2002

U. S. DEPARTMENT OF ENERGY Office of the Chief Information Officer



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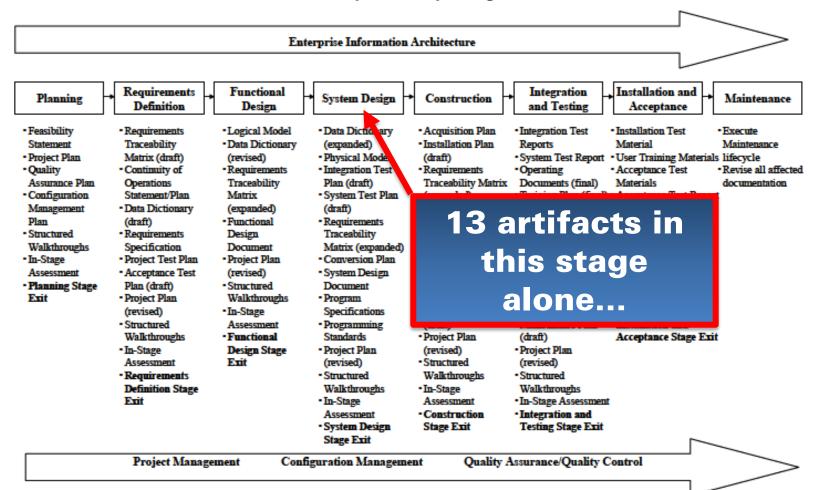
Exhibit 2.0-1. Information Systems Lifecycle Stages and Deliverables



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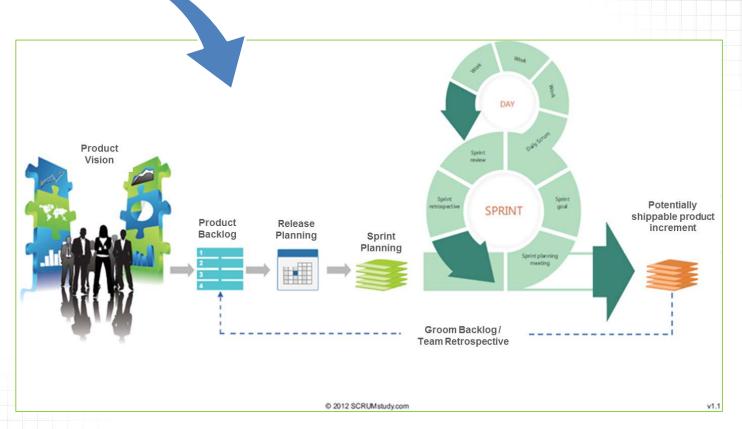
Exhibit 2.0-1. Information Systems Lifecycle Stages and Deliverables





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Agile Principle 12

"At regular intervals,

the team reflects on how to become more effective,

then tunes and adjusts its behavior according by "Agile Manifesto



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The most important question that can be asked when making decisions about a project's process is:

Does this make sense for us?





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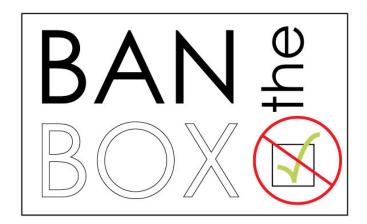
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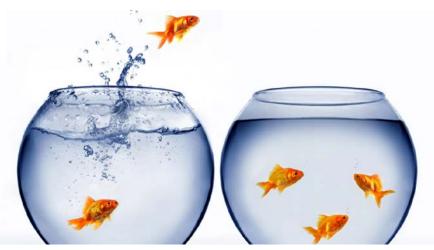
Does this make sense for us?





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So what is truly critical to successful change?

Ensuring that each team member's concerns are not only heard but considered



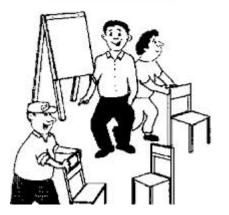


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Define & use a process for instituting

change

Define a common goal

Provide a conducive environment for change

Include team members

Provide opportunities for feedback (and don't judge)

Be aware of the need for iterations and refinements of the process

Live the Lessons Learned process





How We Defined Our Process

Sensible adherence to SEM while maintaining our Agile roots

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Engage leadership

Involve the entire team

Ask, ask, ask,... and then listen Iterate with intention
Update the process

Use retrospectives
Practice engaged listening



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The Outcome

Annual Review

- 1. Project Plan
- 2. System Requirements Specification
- 3. Configuration Management and Software Change Control Plan
- 4. Software Quality Assurance Plan
- 5. Cyber Security Plan
- 6. Deployment Guide
- 7. Nondisclosure Agreement

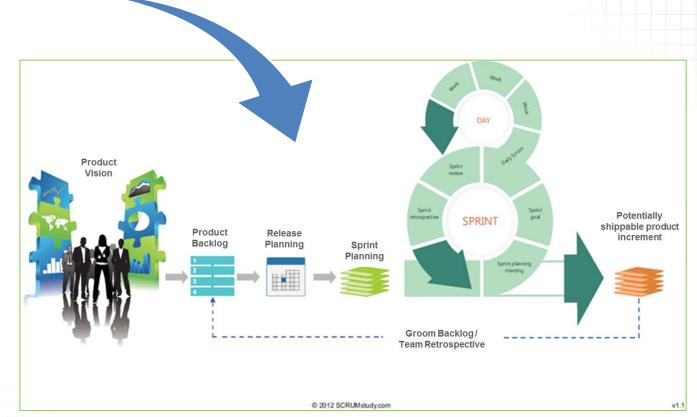
Ongoing

- 1. Backlog
- 2. Coding Standards
- 3. Functional System Design Documents
- 4. As-developed Architecture
- 5. Organization Chart
- 6. Setup and Configuration Processes
- 7. Release-based Test Plans
- 8. Online Help/User's Guide
- 9. Release Notes

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Software Engineering Methodology





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Find a straightforward way to document what you've done and why







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PMI Knowledge Areas	PMI Project Management Process Groups					
Arreas	Initiating	Planning	Executing	Monitoring and Controlling	Closing	
Project Integration Management	• G2 Project Charter	G2 Project Plan Product Roadmap	 Daily Scrum Weekly Team Meetings G2 Project's SharePoint Site User Training Materials G2 User Guide and Online Help 	Daily Scrum Weekly Team Meetings Retrospectives	Release Notes User Acceptance Verification User Training	
Project Scope Management		 G2 SRS G2 CM and Software Change Control Plan Backlog (and Backlog grooming) Release Planning Meetings 	Design Documents RTM Source Code and Deployed Code Customer Demos Deployment Guide	 Meetings with Executive Sponsor QA Testing UAT 		
Project Time Management		Backlog (and Backlog grooming) Release Planning Meetings		Backlog (and Backlog grooming)		
Project Cost Management		• EAC		EAC ReviewsMonthly Cost Reporting		
Project Quality Management		• G2 SQA Plan	Application Test Plans and Reports QA Testing Code Reviews Peer Review	Defect Reporting Process Audits		
Project Human Resource Management		 G2 Project Plan G2 Organization Chart G2 Project, Nondisclosure Agreement 	G2 Project Plan Daily Scrum Backlog (and Backlog grooming)			
Project Communications Management		G2 Project PlanG2 SRS	Daily Scrum Weekly Team Meetings G2 Project's SharePoint Site	Daily Scrum Weekly Team Meetings G2 Project's SharePoint Site		
Project Risk Management		G2 Project Plan G2 Failover Plan ORNL Cyber Security Program Plan Supplement: Nonproliferation Systems Hosted Applications Product Roadmap Backlog (and Backlog grooming) Release Planning Daily Scrum Weekly Team Meetings Retrospectives Task Board Interconnection Security Agreement between G2 and the National Security Alarm Training (NSAT) system		Daily Scrum Weekly Team Meetings		
Project Procurement Management		 G2 Project Plan SOWs Source Selection Criteria 	Subcontracting Agreements Internal agreements with ORNL IT Services Division	Contract Compliance Receipt of Deliverables	Contract Termination De-obligation of Funds	
Project Stakeholder Management	• G2 Project Charter	The Agile development method (used on this project) is based on routine and continuous stakeholder engagement spanning the Planning, Executing, and Monitoring and Controlling Project Management Process Groups				



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Management

Project Management center for excellence

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PMI Knowledge Areas		V	PMI Project Management Process Groups				
	Initiating	Planning	Executing	Monitoring and Controlling	Closing		
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Project Quality Management		• G2 SQA Plan	Application Test Plans and Repor QA Testing Code Reviews Peer Review	• Defect Reporting • Process Audits			
Project Human Resource Management		• G2 Project Plan • G2 Organization Chart • C2 Project Nondisclosure Agr	G2 Project Plan Daily Scrum Backlog (and Backlog grooming)				
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Project Stakeholder	G2 Project Charter		ised on this project) is based on routine and continuous stake ting, and Monitoring and Controlling Project Management				





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PMI Knowledge Areas		PMI Project Management Process Groups					
HI GIS	Initiating	Planning	Executing	Monitoring and Controlling	Closing		
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Project Scope Management		G2 SRS CA CM and Software Change Control Plan Backlog (and Backlog grooming) Release Planning Meetings	Design Documents RTM Source Code and Deployed Code Customer Demos Deployment Guide	Meetings with Executive Sponsor QA Testing UAT			
Project Time Management Project Cost		Backlog (and Backlog grooming) Release Planning Meetings		Backlog (and Backlog grooming)			
Project Cost Management	/	· Exc	A	EAC Reviews Monthly Cost Reporting			
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Project Procurement Management		G2 Project Plan SOWs Source Selection Criteria	Subcontracting Agreements Internal agreements with ORNL IT Services Division	Contract Compliance Receipt of Deliverables	Contract Termination De-obligation Funds		
Project Stakeholder Management	• G2 Projekt Charter	The Agile development method (used on this project Executing, and Monitor	ct) is based on routine and continuous stakeholder ring and Controlling Project Management Process				



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How many of you ever thought something was on auto-pilot only to have a monkey wrench thrown in?



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2010 PMI Distinguished Project Award





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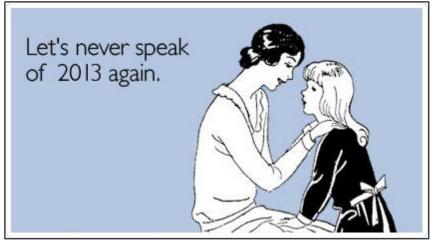
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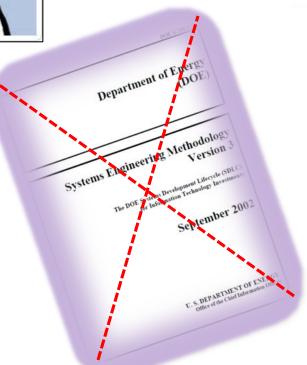


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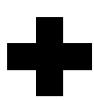


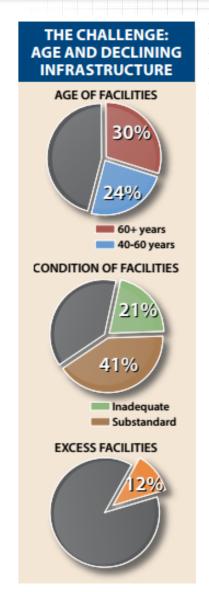




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Tangible Strategies for Aligning Your

Annual Review

- 1. Project Plan
- 2. System Requirements Specification
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- 4. Software Quality Assurance Plan
- 5. Cyber Security Plan
- 6. Deployment Guide
- 7. Nondisclosure Agreement

Ongoing

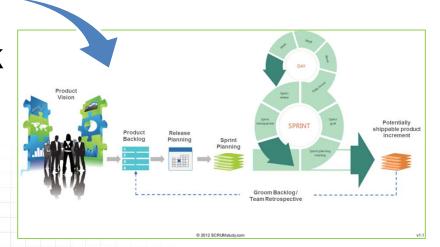
- 1. Backlog
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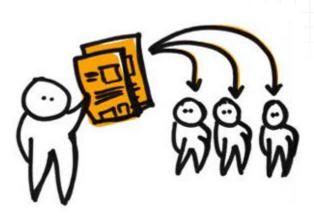
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PMBOK





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U.S. Department of Energy Washington, D.C.

ORDER

DOE O 415.1

Approved: 12-3-2012

SUBJECT: INFORMATION TECHNOLOGY PROJECT MANAGEMENT

- PURPOSE. To provide the Department of Energy (DOE) Elements, including the National Nuclear Security Administration (NNSA), with Information Technology (IT) Project Management guidance for the acquisition and management of IT projects and initiatives. Common IT Project Management requirements will ensure that IT projects are delivered within the original performance baseline, cost, and schedule and fully meet Mission performance, safety, safeguards, and security standards in alignment with section 5123 of Public Law (P.L.) 104-106, Performance and Results Based Management.
 - a. To responsibly manage IT projects that will improve the efficiency and effectiveness of DOE operations and, as appropriate, the delivery of services to the public;
 - b. To establish communications within the Office of the Chief Information Officer (OCIO) and across all DOE Elements for DOE Enterprise-wide IT projects;
 - c. To align decision making within the OCIO and across all DOE Elements for Department—wide IT projects; and
 - d. To reduce duplication of effort and the Total Cost of Ownership (TCO) for DOE IT projects.
 - <u>CANCELLATION</u>. DOE Guide (G) 200.1-1, Software Engineering Methodology Guide, dated 5-21-97.



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U.S. Department of Energy Washington, D.C.

ORDER

DOE O 415.1

Approved: 12-3-2012

SUBJECT: INFORMATION TECHNOLOGY PROJECT MANAGEMENT

choose and implement one or more of these...

Recommended in the Order	Applies To
ANSI/ASME NQA-1	Does not apply to NS projects - organizational certification program for those companies supplying items or services that provide a safety function for nuclear facilities.
ISO 9000 Series	For organizational certification, not projects. At ORNL, SBMS is the ISO 9001:2008 certified Quality Management System (QMS), the major component of 9001:2008 certification. Currently, no ITPM-specific guidance is included in SBMS.
IAEA 50-G-Q Safety Guide Series	Does not apply to NS projects – this series provides quality assurance information and management pertaining to safety in nuclear power plants and other nuclear installations.
РМВОК	From the PMBOK: "provides guidelines for managing individual projects and defines project management related concepts. It also describes the project management life cycle and its related processes, as well as the project life cycle. The PMBOK contains the globally recognized standard and guide for the project management profession (found in Annex A1)."







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PMI Knowledge Areas	PMI Project Management Process Groups					
	Initiating	Planning	Executing	Monitoring and Controlling	Closing	
Project Integration Management	• G2 Project Charter	G2 Project Plan Product Roadmap	Daily Scrum Weekly Team Meetings G2 Project's SharePoint Site User Training Materials G2 User Guide and Online Help	Daily Scrum Weekly Team Meetings Retrospectives	Release Notes User Acceptance Verification User Training	
Project Scope Management		 G2 SRS G2 CM and Software Change Control Plan Backlog (and Backlog grooming) Release Planning Meetings 	Design Documents RTM Source Code and Deployed Code Customer Demos Deployment Guide	Meetings with Executive Sponsor QA Testing UAT		
Project Time Management		Backlog (and Backlog grooming) Release Planning Meetings		Backlog (and Backlog grooming)		
Project Cost Management		• EAC		EAC Reviews Monthly Cost Reporting		
Project Quality Management		G2 SQA Plan	Application Test Plans and Reports QA Testing Code Reviews Peer Review	Defect Reporting Process Audits		
Project Human Resource Management		G2 Project Plan G2 Organization Chart G2 Project, Nondisclosure Agreement	G2 Project Plan Daily Scrum Backlog (and Backlog grooming)			
Project Communications Management		• G2 Project Plan • G2 SRS	Daily Scrum Weekly Team Meetings G2 Project's SharePoint Site	Daily Scrum Weekly Team Meetings G2 Project's SharePoint Site		
Project Risk Management		G2 Project Plan G2 Failover Plan ORNL Cyber Security Program Plan Supplement: Nonproliferation Systems Hosted Applications Product Roadmap Backlog (and Backlog grooming) Release Planning Daily Scrum Weekly Team Meetings Retrospectives Task Board Interconnection Security Agreement between G2 and the National Security Alarm Training (NSAT) system		Daily Scrum Weekly Team Meetings		
Project Procurement Management		G2 Project Plan SOWs Source Selection Criteria	Subcontracting Agreements Internal agreements with ORNL IT Services Division	Contract Compliance Receipt of Deliverables	Contract Termination De-obligation Funds	

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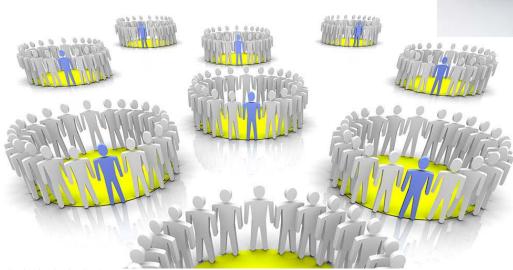
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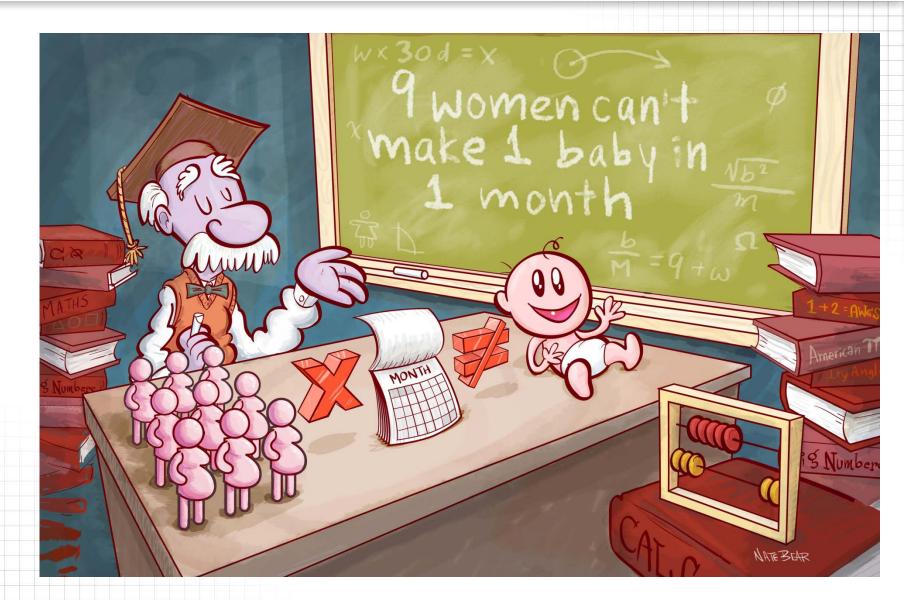
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Remember...

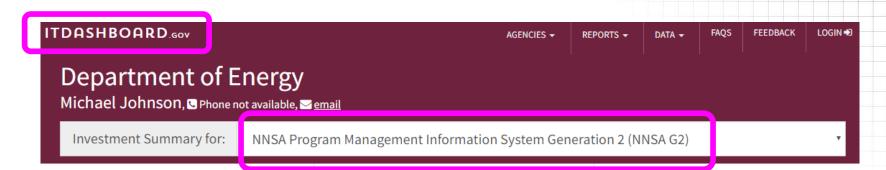


Does this make sense for us?





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Summary

Total FY2016 Spending \$10.5 M

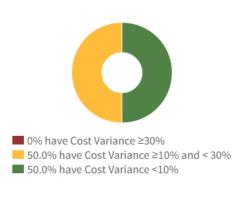
Current CIO Rating 5 Low Risk

Number of Projects 2

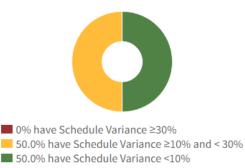
Number of FY2016 Gov.
FTES 0% Spending on FY2016
Gov. FTES

Download Business Case PDF

Cost Variance



Schedule Variance





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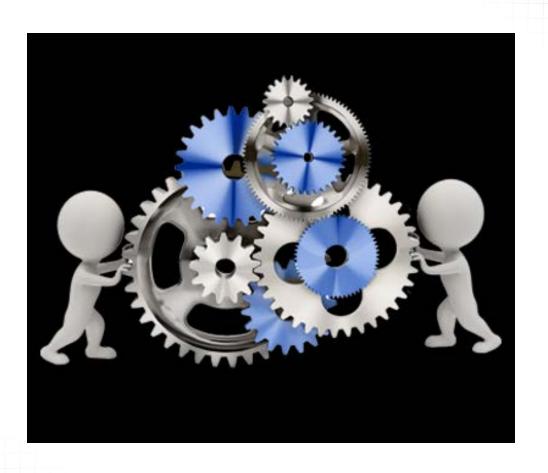
To improve a highly functioning Agile team:

Listen, gather necessary data, and proceed with intention





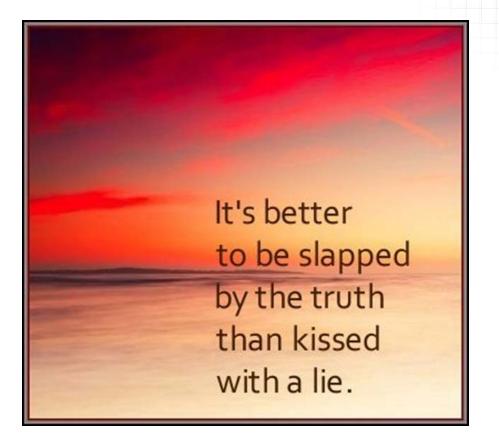
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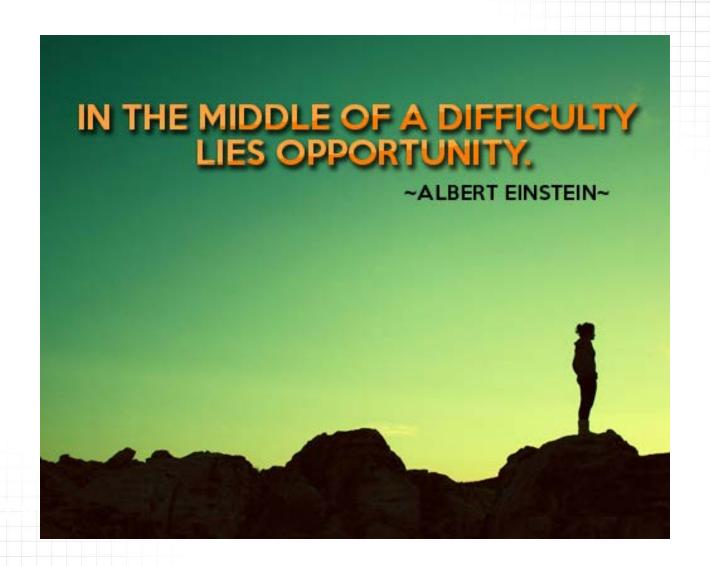


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I'm a great believer in LUCK, and I find the harder I WORK, the more I have of it.

~ Thomas Jefferson

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Thank you for attending...

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Kim Hobson 2016 Project Management Symposium