<Q>
SOFTWARE
упражнения

Осигуряване на качество на софтуера (Q.A.)

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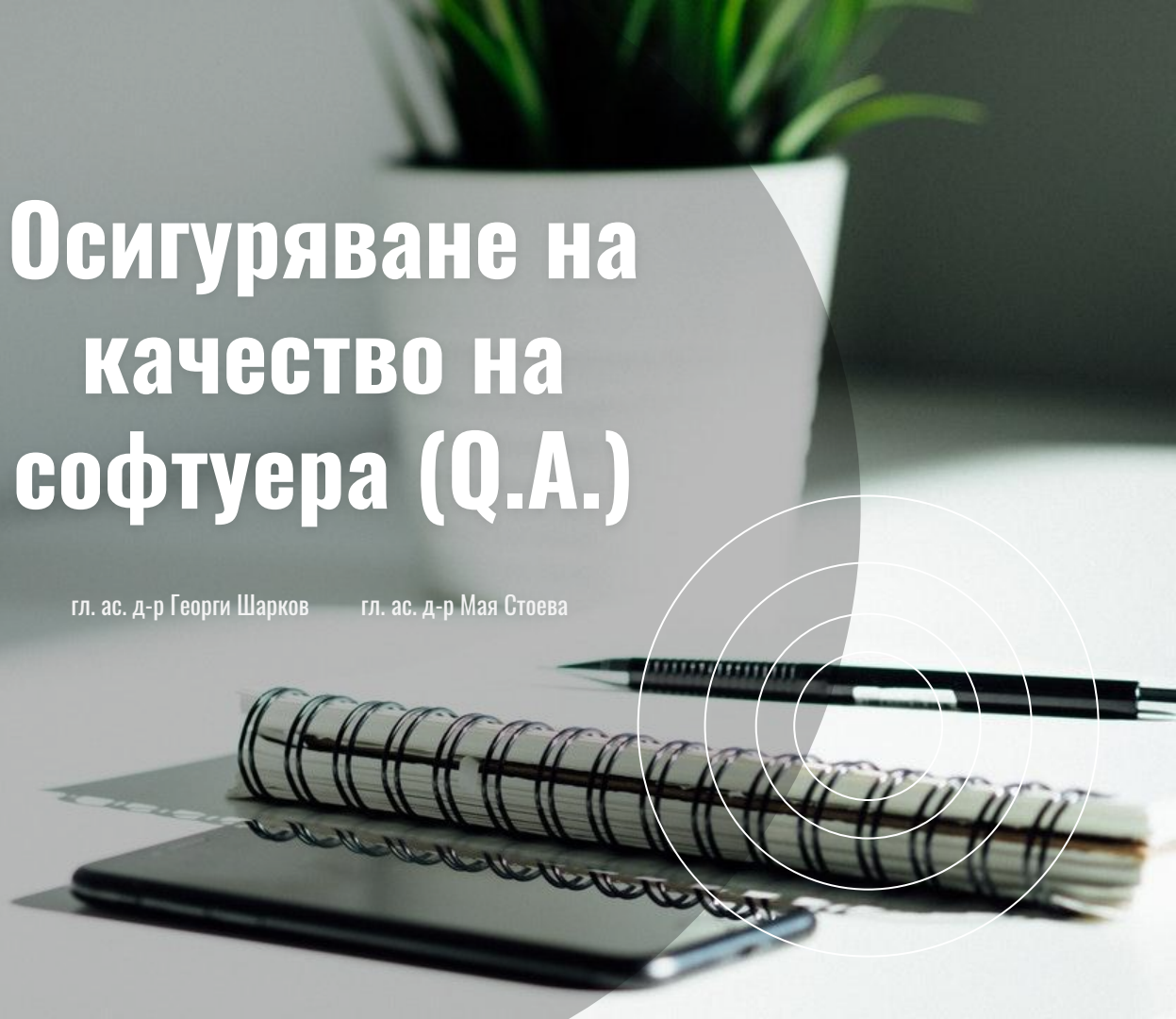

Здравейте!

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CMMI/AGILE mapping

CMMI и Agile

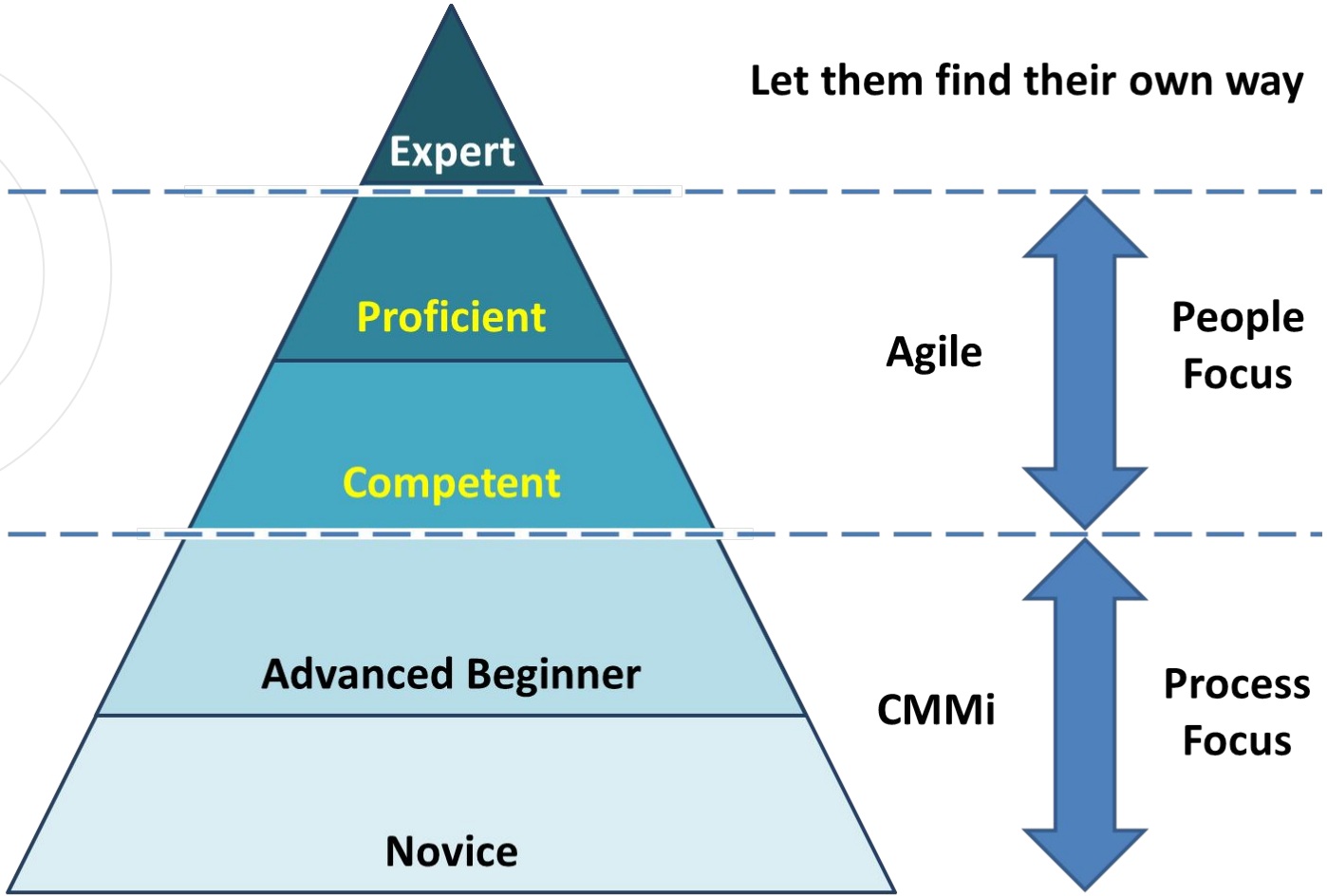
CMMI и **Agile** са потенциално съвместими и в практиката е възможно да се прилагат заедно. Много добра идея е да се приемат дисциплинирани гъвкави стратегии в съществуващата среда на CMMI, въпреки че обратната посока, прилагане на CMMI за Agile среда, е малко спорна.

Следващата таблица показва как процесните области от интегрирания модел на зрялост (CMMI) могат да се подпомогнат от Agile.

CMMI и Agile

Процесна област от CMMI	*Ниво от CMMI*	*Съответствие в Agile*	*Пояснения*
Causal Analysis and Resolution (CAR). Анализ и идентифициране на изводи от постигнатите резултати и предприемане на действия за подобряване на ефективността на процеса.	**5**	Ретроспективи Измерено подобрение Анализ на дефектите, (когато промяната идва от паралелно независимо изследване или производство)	Описанието на CMMI е тежко, те идват при анализа на дефектите и подобряване на процеса
Configuration Management (CM). Създаване и поддръжка на целостта на работните продукти чрез определяне, контрол и отчитане на състоянието на различните части от конфигурацията, както и одити.	**2**		

CMMI with Agile - Demystified					
			Agile Scrum		
Process Area	Specific Goals & Specific Practices	Typical CMMI Artifact	Mapping Agile Artifact	Additional solution Required	Remarks
Requirements Management	**SG 1 Manage Requirements**				
	SP 1.1 Understand Requirements	Requirements Document\ Collection of requirements & mails	Product backlog		
	SP 1.2 Obtain Commitment to Requirements	Sign off on Requirement\agreement on requirements	Release planning meeting	MOM can be captured	
	SP 1.3 Manage Requirements Changes	Change log	change in product back log & CR for scope change		
	SP 1.4 Maintain Bidirectional Traceability of Req			a) Usage of Test& Review tool b) Add additional	



Agile, Offshore and Dreyfus Model of Skill Acquisition

	CMMI	Agile
Приложение	Подобрение на процесите за разработка на софтуер	Разработка на софтуера
Фокус	Съществуващите процеси	Нови процеси и продукти
Основна цел	Организационни подобрения	Бърза разработка на работещи продукти
Мениджмънт процеси (рискове, качество, други)	Стандартизирани	Не са включени

Mapping between agile practices and CMMI process areas

Legend ● – XP match ⊙ – XP moderate match ◉ – XP partial match ○ – XP provides little support		Planning Game	Small Releases	Metaphor	Simple Design	Test Drive Development	Refactoring	Customer Acceptance	Pair Programming	Collective Code Ownership	Continuous Integration	Sustainable Pace	Whole Team	Coding Standards
Causal Analysis And Resolution	CAR	○	○	○	○	⊙	⊙	⊙	○	○	⊙	○	○	⊙
Organizational Innovation & Deployment	OID	◉	◉	◉	◉	◉	◉	◉	◉	◉	◉	◉	◉	◉
Quantitative Project Management	QPM	⊙	○	○	○	○	○	○	○	○	○	○	○	○
Organizational Process Performance	OPP	⊙	○	○	○	○	○	○	○	○	○	○	○	○
Decision Analysis And Resolution	DAR	◉	○	○	○	○	○	◉	○	○	◉	○	○	○

Mapping CMMI Process Areas to XP Practices

Legend
● – XP match
O – XP moderate match
◉ – XP partial match
○ – XP provides little support

		Planning Game	Small Releases	Metaphor	Simple Design	Test Drive Development	Refactoring	Customer Acceptance	Pair Programming	Collective Code Ownership	Continuous Integration	Sustainable Pace	Whole Team	Coding Standards
Risk Management	PM	O	●	○	○	○	○	○	○	○	○	○	○	○
Integrated Project Management	IPM	O	O	○	O	O	O	O	O	O	●		●	
Organizational Training	OT	○	○	○	○	○	○	○	○	○	○	○	○	○
Organizational Process Development	OPD	○	○	○	○	○	○	○	○	○	○	○	○	○
Organizational Process Focus	OPF	●	○	○	○	○	○	○	○	○	○	○	○	○
Validation	VAL	●	●	○	○	●	○	●	●	●	●	○	●	○
Verification	VER	●	●	○	○	●	○	●	●	●	●	○	●	○
Product Integration	PI	○	●	○	●	●	●	●	○	○	●	O	●	O
Technical Solution	TD	●	●	○	●	●	●	●	●	●	●	●	●	●
Requirements Development	RD	●	●	O	O	○	○	○	○	○	○	○	○	○
Configuration Management	CM	O	●	○	O	●	O	●	O	◉	●	O	O	O
Process And Quality Assurance	PQA	○	●	○	●	●	●	●	◉	◉	●	●	●	O
Measurement & Analysis	M&A	●	●	○	○	O	◉	○	○	○	◉	○	○	○
Supplier Agreement Management	SAM	○	◉	○	○	●	○	●	○	○	O	○	○	O
Project Management and Control	PMC	●	●	O	●	●	●	O	O	O	●	●	O	◉
Project Planning	PP	●	●	◉	O	●	O	●	O	◉	●	●	●	◉
Requirements Management	REQM	●	●	◉	●	●	O	●	O	◉	●	●	●	◉

Differences

- **"Characteristics"**

CMMI	AGILE METHODS
→ Committees	→ Individuals
→ Customer Trust - In Process Infrastructure	→ Customer Trust - Working SW, Participants
→ Front Loaded - Move to Right	→ Test Driven - Move to Left
→ Scope of View [Stakeholder, Product] - Broad - Inclusive - Organizational	→ Scope of View [Stakeholder, Product] - Small - Focused
→ Level of Discussion - Words - Definitions - Enduring - Comprehensive	→ Level of Discussion - Job at Hand

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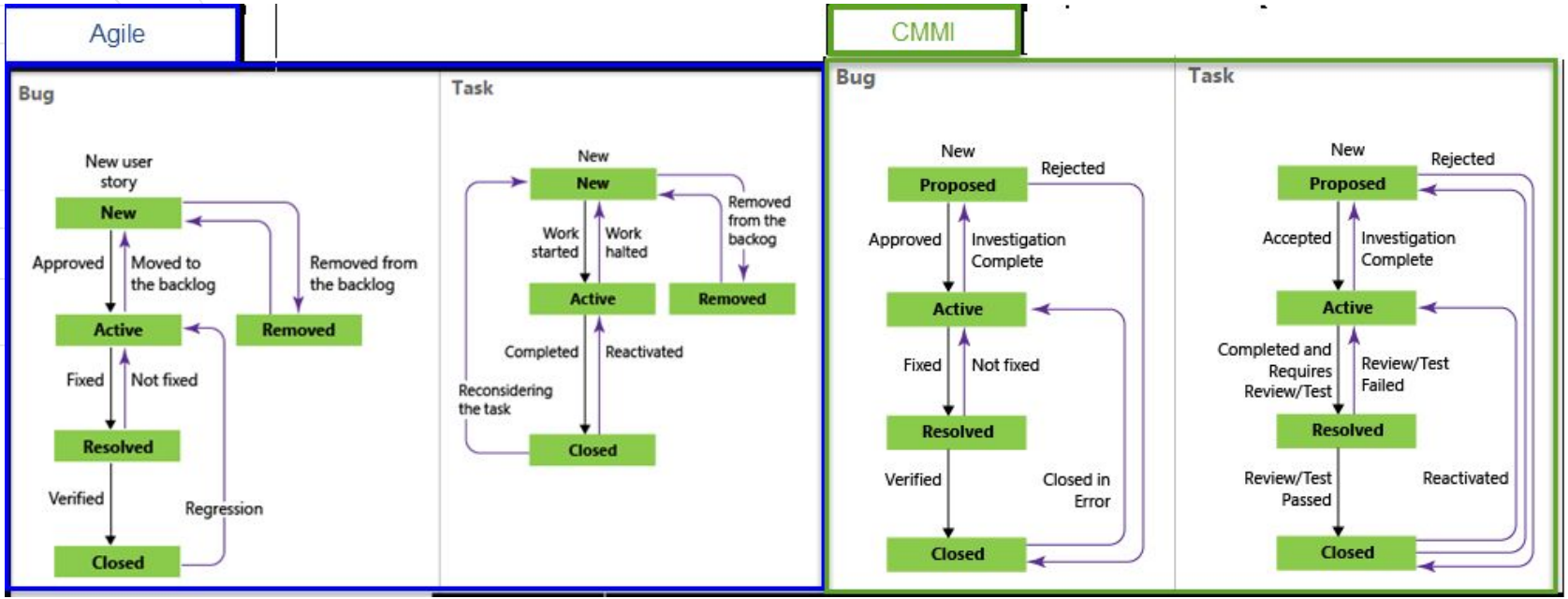
[**Ref**: USC ARR 2002]


Agile
CMMI
Bug
New user story
New
Approved
Moved to the backlog
Removed from the backlog
Active
Removed
Fixed
Not fixed
Resolved
Verified
Regression
Closed
Task
New
New
Work started
Work halted
Removed from the backog
Active
Removed
Completed
Reactivated
Reconsidering the task
Closed
Bug
New
Proposed
Rejected
Approved
Investigation Complete
Active
Fixed
Not fixed
Resolved
Verified
Closed in Error
Closed
Task
New
Proposed
Rejected
Accepted
Investigation Complete
Active
Completed and Requires Review/Test
Review/Test Failed
Resolved
Review/Test Passed
Reactivated
Closed

2

CMMI/SCRUM

REQM	CMMI Practice	Scrum Practice
SP 1.1	Develop an understanding with the requirements providers on the meaning of the requirements.	• Review of Product Backlog (requirements) with Product owner and team.
SP 1.2	Obtain commitment to the requirements from the project participants.	• Release planning and Sprint planning sessions that seek team member commitment.
SP 1.3	Manage changes to the requirements as they evolve during the project.	• Add requirements changes to the Product Backlog. • Manage changes in the next Sprint planning meeting.
SP 1.5	Identify inconsistencies between the project plans and work products and the requirements.	• Daily standup meeting to identify issues. • Release planning and Sprint planning sessions to address inconsistencies. • Sprint burndown chart that tracks effort remaining. • Release burndown chart that tracks story points that have been completed. This shows how much of the product functionality is left to complete.

PP	CMMI Practice	Scrum Practice
SP 1.1	Establish a top-level work breakdown structure (WBS) to estimate the scope of the project.	• The standard tasks used in a Scrum process combined with specific project tasks (Scrum Backlog).
SP 1.2	Establish and maintain estimates of the attributes of the work products and tasks.	• Story points, used to estimate the difficulty (or relative size) of a Story (requirement).
SP 1.3	Define the project life-cycle phases upon which to scope the planning effort.	• The Scrum process.
SP 1.4	Estimate the project effort and cost for the work products and tasks based on estimation rationale.	• Scrum Ideal Time estimate (similar to billable hours or Full-time Equivalents).
SP 2.1	Establish and maintain the project's budget and schedule.	• Scrum estimates (in Ideal Time). • Estimates of what work will be in each release. • Sprint Backlog. • Project Taskboard.
SP 2.4	Plan for necessary resources to perform the project.	• Scrum estimates in Ideal Time • Release plan, Sprint Backlog and assignments.
SP 2.6	Plan the involvement of identified stakeholders.	• Scrum process roles (including team, Scrum Master, Product Owner). • [Note: The stakeholders listed in Scrum might not be the complete list of stakeholders for the project, e.g., customers, other impacted teams.]
SP 2.7	Establish and maintain the overall project plan content.	• Scrum release plan. • Sprint Backlog. • Project Taskboard. • [Note: The term "plan" in CMMI refers to additional plan components (such as risks and data management) that are not called out specifically in Scrum.]
SP 3.1	Review all plans that affect the project to understand project commitments.	• Sprint planning meeting. • Daily Scrum meeting.
SP 3.2	Reconcile the project plan to reflect	• Sprint planning meeting.
	available and estimated resources.	• Daily Scrum meeting.
SP 3.3	Obtain commitment from relevant stakeholders responsible for performing and supporting plan execution.	• Sprint planning meeting. • Daily Scrum meeting. • [Note: The stakeholders listed in Scrum might not be the complete list of stakeholders for the project.]

PMC	CMMI Practice	Scrum Practice
SP 1.1	Monitor the actual values of the project planning parameters against the project plan.	• Sprint burndown chart that tracks effort remaining. • Release burndown chart that tracks completed story points. This shows how much of the product functionality is left to complete. • Project Task Board used to track stories (requirements) that are done, in progress, or ones that need verification.
SP 1.2	Monitor commitments against those identified in the project plan.	• Discussions on team commitments at the: – Daily Scrum meeting. – Sprint review meeting. • Sprint burndown chart that tracks effort remaining. • Release burndown chart that tracks story points that have been completed. This shows how much of the product functionality is left to complete.
SP 1.5	Monitor stakeholder involvement against the project plan.	• Discussions at the: – Daily Scrum meeting. – Sprint review meeting. • [Note: The stakeholders listed in Scrum might not be the complete list of stakeholders for the project, e.g., customers, other impacted teams.]
SP 1.6	Periodically review the project's progress, performance, and issues.	• Daily Scrum meeting. • Sprint review meeting. • Retrospectives.
SP 1.7	Review the accomplishments and results of the project at selected project milestones.	• Sprint review meeting.
SP 2.1	Collect and analyze the issues and determine the corrective actions necessary to address the issues.	• Notes from the: – Daily Scrum meeting. – Sprint review meeting. [Note: Some teams track their outstanding actions on the Product Backlog. It doesn't matter where or how the items are tracked, as long as they are.]
SP 2.2	Take corrective action on identified issues.	• Actions from the: – Daily Scrum meeting. – Sprint review meeting.
SP 2.3	Manage corrective actions to closure.	• Tracking of actions from: – Daily Scrum meeting. – Sprint review meeting. • [Note: This assumes that teams will track (and not lose) actions.]

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