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Introduction to Agile Methodologies

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1. Time to market and quality are more important than ever before

2. Requirements stability is a thing of the past

Program Managers want to improve software delivery in this ever changing environment

Traditional processes are too rigid to address these concerns

US Army Photo, NASA logo from website
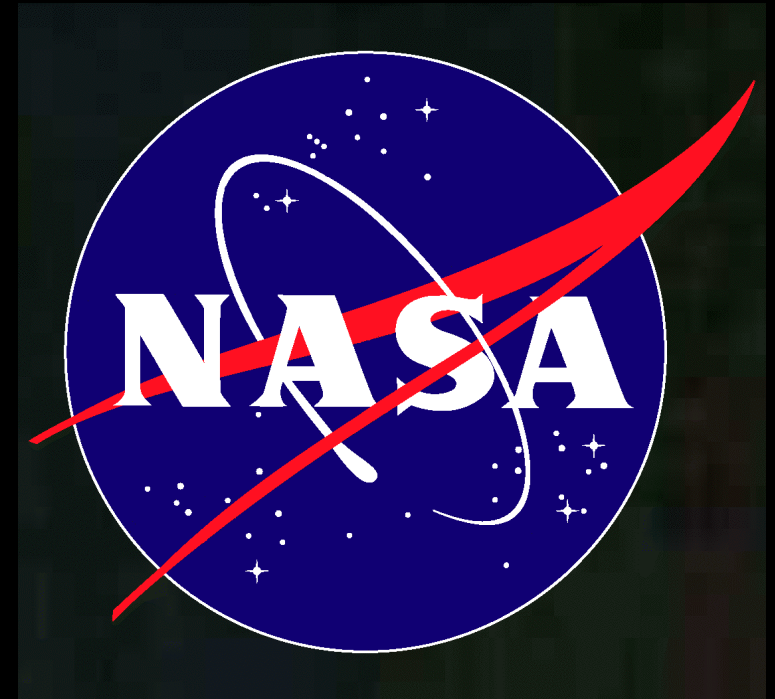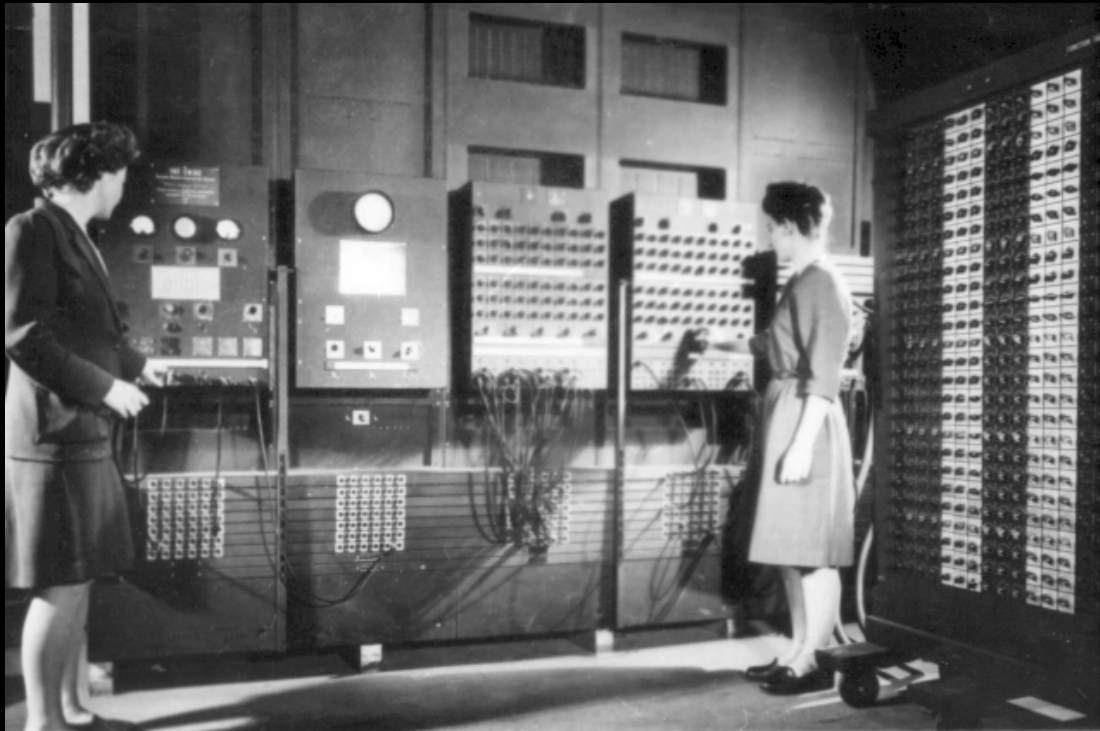
Agile software development is creating new ways of developing and delivering software

Photos by Simon Baker

Scrum
Extreme Programming
Feature Driven Development
Lean Software Development
DSDM
Crystal

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

Individuals and interactions
over **processes and tools**

Working software
over **comprehensive documentation**

Customer collaboration
over **contract negotiation**

Responding to change
over **following a plan**

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

Lets compare traditional and agile approaches to software development

| 1. Requirements | 2. Scheduling | 3. Quality |

Do you really know that you are building the right software?

| 1. Requirements | 2. Scheduling | 3. Quality |

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1. Requirements change midway or can be unclear

2. There is only one person who has any clue what the software should do (and it's usually not you)

| 1. Requirements | 2. Scheduling | 3. Quality |

Traditional Processes...

      Try to restrict change

      Try to create predictive plans

Agile Processes...

      Try to embrace change

      Try to be adaptive

How well do you know the current state of the project?

| 1. Requirements | 2. Scheduling | 3. Quality |

Traditional processes are structured in phases

Requirements
Design
Coding
Test
Deploy

1. Requirements	**2. Scheduling**	3. Quality

Agile processes are structured by feature

R	D	C	T	D

1. Requirements	2. Scheduling	3. Quality

Traditional Processes...
       Harder to measure progress

Agile Processes...
       Easier to measure progress

| 1. Requirements | **2. Scheduling** | 3. Quality |

What is the quality level of your project?

Traditional processes do testing at the end of the project (it's too late!)

Agile processes embrace continuous testing, integration and reviews

| 1. Requirements | 2. Scheduling | **3. Quality** |

Practices like pair programming, unit testing, continuous integration and automated tests keep quality level high

Can companies adapt to the new market?

New requirements present new opportunities

Agile software development enables companies to take advantage of these opportunities

Epilogue

Being agile is a mindset that you have, not a set of practices that you do

Some Practices To Discuss

. Timeboxed iterations
. Frequent releases
. Retrospective
. Regular feedback

. Pair programming
. Appropriate documentation
. Refactoring
. Truck factor

. Burndown charts
. Daily standup meeting

. Agile (velocity) estimation
. T-shirt estimation
. Delphi estimation
. Planning poker

. Co-located teams
. Team focus
. Small teams
. Cross functional teams
. On-site customer/expert
. Open workspace
. Self organising teams

. User stories
. Feature prioritization
. MoSCoW prioritization
. Adaptive scope

. Test driven development
. Automated testing
. One click build
. Continuous integration

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That's It! Thank You!

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