



Agile Manifesto: HW Vs. SW

Introduction

The Agile Manifesto for Software includes four foundational philosophy and only needs minor changes to work for Hardware-based solutions. The primary differences are 1) hardware iterations cannot be always “working” product to show progress and 2) while “individual” success is important in both software and software, it’s the collaboration of disciplines and teams that ultimately drive success for hardware solutions.

Visit agilemanifesto.org for the complete manifesto and authors.

	For Software (*)	For Hardware
1	Individuals and interactions over processes and tools	Teams and collaboration over processes and tools
2	Working software over comprehensive documentation	Demonstrable output over comprehensive documentation
3	Customer collaboration over contract negotiation	Stakeholder collaboration over contract negotiation
4	Responding to change over following a plan	Responding to change over following a plan
That is, while there is value in the items not in bold, we value the items in bold more.		

(*) agilemanifesto.org

See below for how the MAHD Framework focuses on five Pillars for Success, which provide the foundational agile-based principles for agile for hardware.

12 Agile Principles

	For Software	For Hardware
1	Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.	Our highest priority is to satisfy the customer through consistent delivery of valuable solutions.
2	Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.	Deliver demonstrable output frequently to align stakeholders, get feedback and adapt to new information.
3	Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.	Welcome, but proactively prioritize, changing requirements to create optimal value for our customers.
4	Business people and developers must work together daily throughout the project.	Business people and developers must collaborate throughout the project.
5	Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.	Give teams the environment, resources, support, and trust needed to get the job done.
6	The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.	The best way to convey information and solve problems is through focused, collaborative conversation.
7	Working software is the primary measure of progress.	Demonstrable output is the primary measure of progress.
8	Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.	Leaders, developers, & users should maintain a steady cadence with cycles of planning, execution, and learning.
9	Continuous attention to technical excellence and good design enhances agility.	Continuous attention to technical excellence, good design and clear priorities enhances agility.
10	Simplicity--the art of maximizing the amount of work not done--is essential.	Simplicity--the art of optimizing customer value and minimizing waste --is essential.
11	The best architectures, requirements, and designs emerge from self-organizing teams.	The best architectures and designs emerge from autonomous and empowered teams.
12	At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.	Teams consistently reflect on how to become more effective, then adjust accordingly.

Note: The twelve Agile Principles generally work for hardware-based solutions, but emphasis needs to be placed more on demonstrable output and solutions vs. working software, collaborative teams vs. individuals and prioritization vs. simplicity. Other changes are designed to be more in line with the nature of hardware development.

MAHD Framework™ Pillars for Success

The MAHD Framework condenses the Agile Manifesto and twelve principles into five Pillars for Success. We have found these five principles to be the most important for hardware development teams while providing practical guidance.

