Chapter 1
Milestone-Driven Agile Execution

Eduardo Miranda
https://orcid.org/0000-0001-8195-7506
Carnegie Mellon University, USA

ABSTRACT

This chapter introduces a hybrid software development framework, called Milestone-Driven Agile Execution, in which the empirical process control and the just-in-time planning of tasks of agile development are retained but the prioritization of the backlog is done according to a macro or strategic plan that drives the execution of the project. Selecting work items from the product backlog according to a plan instead of following the immediate concerns of a product owner adds visibility, predictability, and structure to the work of the team while preserving the adaptive advantages of agile development.

INTRODUCTION

Whether traditional or agile, any project of any size or consequence needs a high-level plan that allows everyone to contribute towards the desired outcome. According to Brechner (2015), this plan can take many forms but will typically include a vision for what the end product will look like, a technical strategy, and a schedule with the dates of key events (conferences, press announcements, or launch), expected dates for when major product capabilities must come together and target metrics (such as performance, scale, or participation) must be reached.

Without such a plan, project members struggle with what to do next and stakeholders with what to expect when. Cohn (2010), for example, suggests the use of a release plan, without which *teams move endlessly from one iteration to the next* and Cockburn (2004), *a coarse-grained project plan, possibly created from a project map or a set of stories and releases to make sure the project is delivering suitable business value for suitable expense in a suitable time period.*

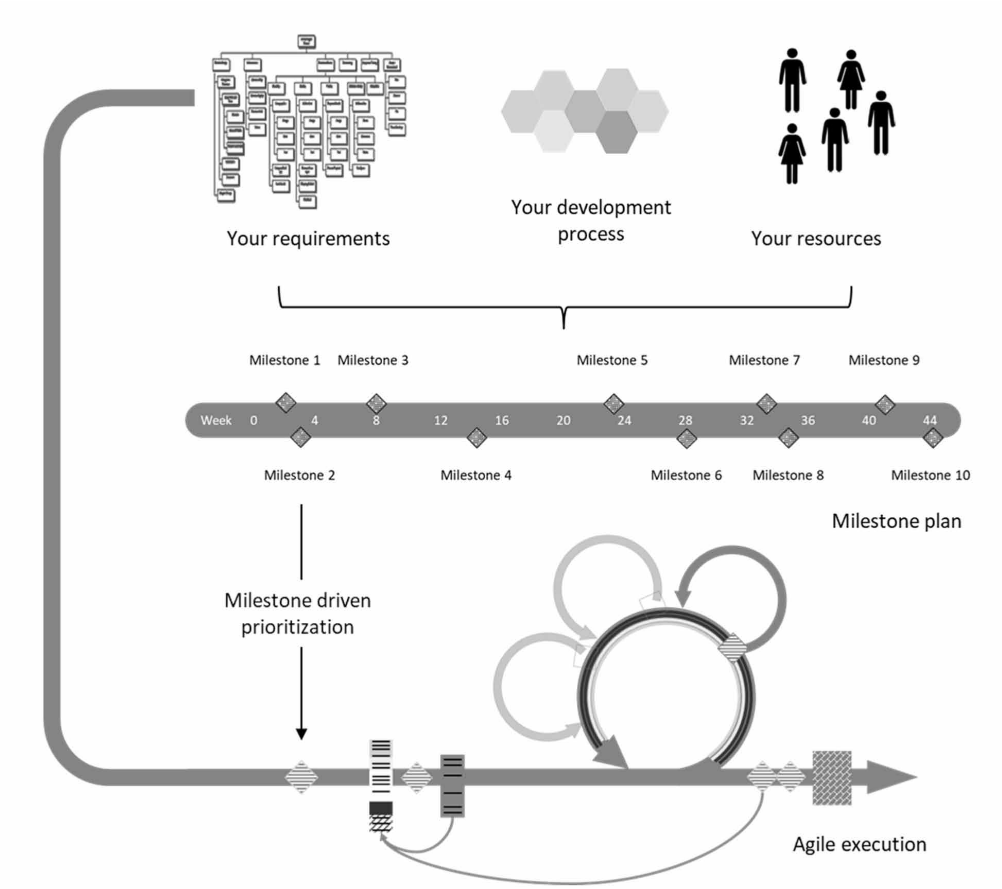
The Milestone Driven Agile Execution (MDAX), see Figure 1, is a hybrid software management framework (Kneuper, 2018; Kuhrmann, et al., 2017) where the empirical process control and the just-in-time planning of tasks advocated by agile methods are retained, but the prioritization of the backlog

DOI: 10.4018/978-1-7998-4165-4.ch001

is done according to a macro or strategic plan instead of being driven by the immediate concerns or impulses of the product owner. Selecting work items from the backlog according to a plan adds visibility, predictability, and structure to the work of the team while preserving the adaptive advantages of agile development. MDAX is method agnostic in the sense that the development approach, much like an app running in a Java Virtual Machine, is not encoded in its mechanics, but rather in the plan that drives it. This allows organizations using MDAX to choose the development approach that suits them best.

The technique proposed to create the macro or strategic plan that will drive the project work is called *milestone planning* (Andersen, 1996; Andersen, Grude, & Haug, 2009). In this planning approach, a plan for a project is formulated not in terms of the tasks that make it up, but in terms of the relevant states or sub-objectives the project must go through on its way to achieving its objective, such as the website information architecture is approved, a basic version of the app is released, a necessary piece of hardware is made available to the project, and so forth. In other words, the plan outlines the chosen strategy but does not dictate the tasks that ought to be executed to realize it, which will be decided as work progresses. As relevant states synthetize the results of the (usually) many tasks necessary to reach them, there will be fewer of them than the corresponding tasks, making milestone plans more robust and easier to produce and communicate.

Figure 1. Milestone driven agile execution



Related Content