

## Use Agile Planning to Make Your Software Projects Downright “Scrummy.”

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ith much humor and verve, **Mike Cohn** of Mountain Goat Software introduced his audience to the benefits of the Agile Software Development process. Its practitioners refer to it as Scrum, a two-directional approach to change control management. Scrum implies setting goals for the software development team and managing the team to accomplish these team goals.

The Agile approach involves a project's entire set of stakeholders. On the user side, there is the product owner, represented by product management and marketing. On the developer side, there are the programmers, database analysts, testers, and characteristically, one or more user experience designers. In between these two groups there is the project manager, whose function is to lead the team.

As in any project, there are user requirements, but with the Agile method, these are not detailed lists of specifications. Rather, so-called stories express the requirements in the form of short descriptions of functionality told from the point of view of the user that are valuable either to a user of the software or to the customer of the software. For instance, typical stories for a hotel reservation system could start with:

- As a guest, I want to reserve a room.
- As a guest, I want to change the dates of my reservation.
- As a guest, I want to cancel the reservation.
- As a hotel employee, I want to run a revenue-per-available-room report.

In the context of Agile planning, short stories are not mere snippets of narrative text. Instead, they have three components:

1. Written description of the story used for planning and as a reminder
2. Conversations about the story that serve to flesh out the story's details
3. Tests that convey and document when a story is complete

User stories readily serve for project planning. They are written so that each can be given an estimate of how difficult or time-consuming it will be to develop.

The Agile method implements selected stories iteratively rather than in the traditional waterfall. A story is implemented in the course of a single iteration, which typically lasts two to four weeks, whereby it encourages the development team to defer collecting details. Initially, a story serves as a placeholder. Later, when it becomes important to have the details, the placeholder story can be replaced with more detailed stories. The Agile technique makes user stories perfect for time-constrained projects. A team can very quickly write a few dozen stories to gain a feel for the overall system. Then the team members can plunge into the details of a few of the stories and be coding much sooner than if they were to follow the waterfall approach. At the end of each iteration, this incremental approach delivers potentially shippable working software every two to four weeks.

Several stories together form a so-called epic, which can take weeks to implement. For instance, the epic, **“As a VP of Marketing, I want to review the performance of historical promotional campaigns so that I can identify and repeat profitable ones,”** contains implementation-size stories that take only days to implement.

“As a VP of Marketing, I want to select the time frame to use when reviewing the performance of past promotional campaigns, so that I can identify and repeat profitable ones.”

“As a VP of Marketing, I can select which type of campaigns (direct mail, TV, e-mail, radio, etc.) to include when reviewing the performance of historical promotional campaigns.”

“As a VP of Marketing, I want to see information on direct mailings when reviewing historical campaigns.”

“As a VP of Marketing, I want to see information on television advertising when reviewing historical campaigns.”

“As a VP of Marketing, I want to see information on e-mail advertising when reviewing historical campaigns.”



At this point, Mike introduced the daily stand-up meeting, the so-called Scrum meetings. With facilitation by the project managers, the members of the development team brought in answers to:

1. What did you do yesterday?
2. What are you going to do today?
3. What is standing in your way?

The Scrum meeting room has no chairs, though perhaps a few tables. However, it has task boards in which the stories appear on cards affixed to the walls. Everybody discusses the issues at hand while standing. Mike assured his listeners that such meetings remain very focused and end by the stated time.

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Figure 1 shows a typical task board that the members of a software development team would review during a Scrum meeting.

Figure 2 shows how the Agile approach to planning relates user stories, budget, and schedule to iterative development of software product increments.

In practice, stories are traditionally written on note cards, which may be annotated with estimates. The details behind the story come out in conversations with the product owner. Finally, acceptance tests confirm that the story was coded correctly.

The biggest question is always, “How long will it take?” The success of the Agile approach is predicated on how well the team estimates the time to implement a given story, or the epic, of which the story is a part.

Here, Mike exposed his audience to an entertaining and powerful method for deriving time estimates, Planning Poker.

Perhaps not surprisingly, Planning Poker is in itself an iterative approach to estimating. Mike distributed sets of playing cards, one to each attendee. On the face of the cards were plain numbers. He then instructed everyone to form into groups of estimators. Either he, the customer or product owner then read a story and had the groups discuss it.

For all these stories, the estimators would each select a card that corresponds to their estimate. The cards would then be turned over so that all could see them. The differences in estimates (that is, in the cards’ face value) engendered brief discussions followed by re-estimates. Interestingly enough, after two or three rounds, the values of the estimates began to converge.



### Planning Poker

Estimator	Round 1	Round 2
Susan	3	5
Vadim	8	5
Ann	2	5
Chris	5	8

## Task Boards

Story	To Do	In Process	To Verify	Done
As a user, I... 8 points	Code the... 9 Code the... 2 Test the... 8	Test the... 8 Code the... 8 Test the... 4	Code the... DC 4 Test the... SC 8	Test the... SC 6 Code the... DC 8 Test the... SC 8 Test the... SC 8 Test the... SC 6
As a user, I... 5 points	Code the... 8 Code the... 4	Test the... 8 Code the... 6	Code the... DC 8	Test the... SC 6 Test the... SC 6 Test the... SC 6

Figure 1 (above): Sample task board. Each day, the note cards are moved from left to right, as the team implements one story after another.

## An Agile Approach to Planning

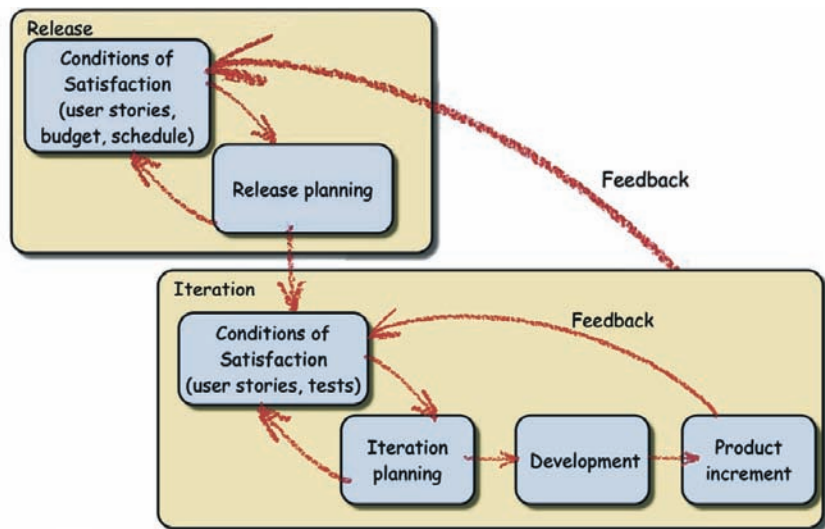


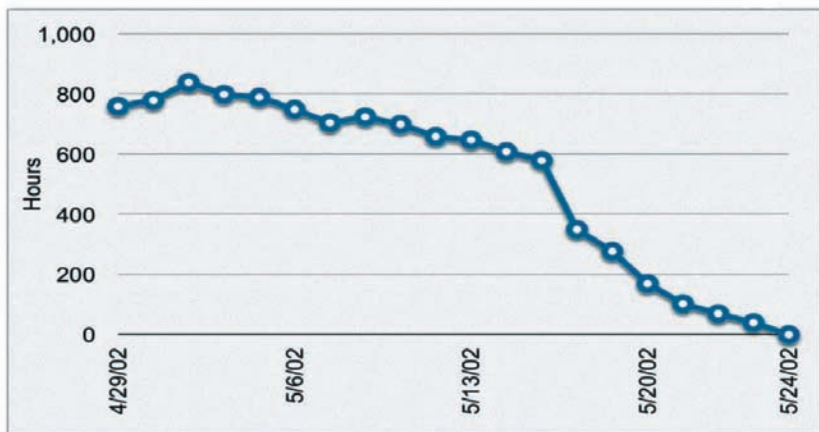
Figure 2 (above): The Agile approach to software development relates conditions of customer satisfaction to iterative software product increments.

Figure 3 (left): The estimators Susan, Vadim, Ann, and Chris repeat their estimates until their values converge, typically after two or three iterations.

In this example, Chris increased his estimate from five to eight, whereas his colleagues all converged to five. Mike’s recommendation to the project managers was to say to Chris, “Give us an impassioned plea for your value of eight.” Usually, the ensuing brief dialog brings closure on the discrepancy.

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## An Iteration Burndown Chart



**Figure 4** (above): A typical burndown chart, with the number of hours estimated at the start for implementing the story points decreasing over time, as more and more story points are completed.

Next, Mike explained the primary method for tracking progress, the burndown chart. This chart shows how much work is left at various dates. It is as simple a device as it is practical. The x-axis shows time, or milestone dates, and the y-axis shows either the number of story points implemented, or the number of hours estimated to complete them, See Figure 4.

Another good measure of team efficiency is the so-called velocity, which is the amount of work finished per iteration. In analogy to earned value analysis, there are two types of velocity. The observed velocity is simply the number of story points completed in an iteration (earned value), and the planned velocity is the number of story points planned

to be completed in an iteration (planned value). No partial credit is given to partially implemented story points. Similar to the case with earned value analysis, velocity is a more reliable indicator over the long-term rather than the short-term.

To predict project completion, the Agile method uses the release plan, which is a simple extrapolation from observed velocity data, with completion dates given through heuristic assertions such as:

“At our slowest velocity, we’ll finish by date x.”

“At our long-term average velocity, we’ll finish by date y.”

“At the current velocity, we’ll finish by date z.”

Such a release plan receives periodic updates as better estimates of achieved velocity become available.

Thank you, Mike, for bringing us a most dynamic presentation of a very modern method of iterative software development with inherent change control. It was a delight to experience your passion for the Agile method.

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## The Positive Punch



When it comes to adding spice or seasoning our food, we all have different tastes. Some like it hot; some like it mild. When it comes to how we behave during festive times, we all have different behaviors. Some of us really join the party, and others watch the party goers in amusement. These are just some of the differences that make life interesting. How is it we manage to get along?

Somehow I think awareness and respect help us along.

### Seasoning our Behavior

The 2006 holiday season is here. And the workplace during this time of year can be very interesting indeed. With the same responsibilities and deadlines we now have, plus additional family obligations, additional financial pressures, social obligations and the resulting stomachs, headaches and fatigue. Guess what? Sometimes holidays come with stress.

Hey, what a downer. Should we just cancel the holidays this year? No, of course not. This absolutely can be a time of tremendous joy. And even if these are not the holidays you celebrate; the spirit around you can be positively infectious.

Now the timing of this article may be specific to a culture and location, but the concept is not. As we reach out across the globe we learn about different traditions and beliefs. We may celebrate on different days for different reasons, but we share very human responses to our holiday seasons.

One way to enjoy any holiday season is to be aware of the pressure that comes with the partying. Another tip is to respect the effect of holidays on other people. Maybe YOU are the exact same person during this time, but perhaps some of your team members are not.

Just a few things to consider: Some team members may be less productive during this time of year. Many individuals take their vacations during the holiday season. Others are distracted by obligations and celebrations/ Some team members are more productive

## From Margaret Meloni, PMP

because they want to complete their to-do list by the end of the year. Some people greet the holidays eagerly; others are eager for the holidays to end.

If you work on a global team, do you know which holidays you share and which you do not? For example, if you have an office in Taiwan, do you know when they celebrate Teacher’s Day? Will the office be open on this day? Even those who celebrate the same holiday may do so very differently.

Does this mean we all must become experts about holidays and traditions across the planet? Only if you have a sincere interest. What it does call for is awareness and respect. Be aware of others and respect their beliefs and traditions. Awareness and respect, two themes that will carry you through any holiday season.

A coach for information technology professionals, **Margaret Meloni** publishes *The Positive Punch* eZine each month.

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