Agile effort estimation techniques

There are all kinds of techniques to use when estimating effort in an Agile way. Effective relative effort estimation leads to successful and predictable sprint outcomes, which leads to a successful project overall. Generally speaking, the main steps to Agile estimation are the same, even if the specific approach varies. Some examples of Agile estimation techniques are:

- Planning Poker™
- Dot Voting
- The Bucket System
- Large/Uncertain/Small
- Ordering Method
- Affinity Mapping

Planning Poker™

This particular method is well-known and commonly used when Scrum teams have to make effort estimates for a small number of items (under 10). Planning Poker is consensus-based, meaning that everyone has to agree on the number chosen. In this technique, each individual has a deck of cards with numbers from the Fibonacci sequence on them. The

Fibonacci sequence is where a number is the sum of the last two numbers (e.g., 0, 1, 1, 2, 3, 5, 8, 13, and so on).

Sometimes, Planning Poker decks also include cards with coffee cups and question marks on them. The question mark card means that the person doesn't understand what is being discussed or doesn't have enough information to draw a conclusion. The coffee cup card means that the person needs a break.

The Planning Poker strategy is used in Sprint Planning meetings. As each Product Backlog item/user story is discussed, each team member lays a card face down on the table. Then, everyone turns their card over at the same time and the team discusses the estimates, particularly when they are far apart from one another. By first hiding the estimates, the group avoids any bias that is presented when numbers are said aloud. Sometimes, when hearing numbers aloud, people react to that estimate or the estimator themselves, and it changes what their initial thought may have been. In Planning Poker, teams can easily avoid that bias.

Dot Voting

Dot Voting, like Planning Poker, is also good for sprints with a low number of Sprint Backlog items. In Dot Voting, each team member starts with small dot stickers, color-coded by the estimated effort required (e.g., S=green, M=blue, L=orange, XL=red). The items or user stories are written out on pieces of paper placed around a table or put up on the wall. Then, team members walk around the table and add their colored stickers to the items.

The Bucket System

The Bucket System is helpful for backlogs with many items since it can be done very quickly. In fact, a couple hundred items can be estimated in just one hour with the Bucket System. The Bucket System is an effective strategy for sizing items because it explores each item in terms of pre-determined "buckets" of complexity. Keep in mind that these buckets are metaphorical; this strategy doesn't require the use of actual buckets, and instead uses sticky notes or note cards as buckets.

In this technique, the team starts by setting up a line of note cards down the center of the table, each marked with a number representing a level of effort. Then, the team writes each item or user story on a card. Each person draws and reads a random item, then places it somewhere along the line of numbered note cards. There is no need to discuss further with the team. If a person draws an item that they do not understand, then they can offer it to someone else to place. Additionally, if a person finds an item that they think does not fit where it was placed, they can discuss it with the team until a consensus about a more

accurate placement is reached. Team members should spend no more than 120 seconds on each item.

Large/Uncertain/Small

Large/Uncertain/Small is another quick method of rough estimation. It is great for product backlogs that have several similar or comparable items.

This is the same general idea as the Bucket System, but instead of several buckets, you only use three categories: large, uncertain, and small. Starting with the simpler, more obvious user stories, the team places the items in one of the categories. Then, the team discusses and places more complex items until each is assigned to a category.

Ordering Method

The Ordering Method is ideal for projects with a smaller team and a large number of Product Backlog items. First, a scale is prepared and items are randomly placed ranging from low to high. Then, one at a time, each team member either moves any item one spot lower or higher on the scale or passes their turn. This continues until team members no longer want to move any items.

Affinity Mapping

Affinity Mapping is useful for teams that have more than 20 items in their Product Backlog.

A best practice is to conduct this technique using sticky notes placed onto a wall, whiteboard, or table. Each sticky note features a different user story or item. Using sticky notes allows the team to move user stories around in order to group them by similar theme, group, and pattern. The team begins by placing one sticky note on the board. Then, the team takes the next sticky note and discusses whether it is similar to the first item. Based on the team's assessment, the second sticky note is placed in the first group or into its own group.

After all of the items are grouped (there should be anywhere from 3–10 groups total), the team gives a name to each group that represents the general theme of the items. Then, the groups are prioritized by importance so that the team knows which items to tackle first.

Characteristics of effective estimation

Regardless of which technique your team chooses, there are several important characteristics the techniques share that lead to effective estimation:

- **Avoids gathering false precision of estimates.** In Scrum, assigning rough estimates results in more accuracy across the project. Therefore, if the team

focuses on identifying relative estimates—rather than a team having a lengthy debate about whether a task will take seven or 10 days of work—the team saves time and avoids potentially missing deadlines.

- **Avoids anchoring bias**. Many of these techniques (e.g., Planning Poker) keep the initial estimate private, which allows team members to form an independent opinion on the estimate before sharing their thoughts with the team. This prevents a known phenomenon called *anchoring bias*, where individuals find themselves compelled to put forth estimates similar to others in the room to avoid embarrassment.
- **Promotes inclusivity**. These group estimation techniques not only lead to better estimates but also help the team develop trust and cohesiveness.
- **Leads to effort discovery**. Estimating in these dynamic ways can help the team uncover strategies to get items completed which might otherwise not have been revealed.

Key takeaway

There are several strategies to enlist when it comes to estimating effort and ordering your Product Backlog. Any one of these techniques are useful. Choosing a particular strategy is just a matter of what your team prefers.