

# Planning poker

**Planning poker**, also called **Scrum poker**, is a consensus-based technique for estimating, mostly used to estimate effort or relative size of user stories. Wikipedia: Please clarify in software development. In planning poker, members of the group make estimates by playing numbered cards face-down to the table, instead of speaking them aloud. The cards are revealed, and the estimates are then discussed. By hiding the figures in this way, the group can avoid the cognitive bias of anchoring, where the first number spoken aloud sets a precedent for subsequent estimates.

Planning poker is a variation of the Wideband Delphi method. It is most commonly used in agile software development, in particular the Scrum and Extreme Programming methodologies.

The method was first defined and named by James Grenning in 2002 and later popularized by Mike Cohn in the book *Agile Estimating and Planning*, whose company trademarked the term.

## Process

### The reason

The reason to use Planning poker is to avoid the influence of the other participants. If a number is spoken, it can sound like a suggestion and influence the other participants' sizing. Planning poker should force people to think independently and propose their numbers simultaneously. This is accomplished by requiring that all participants show their card at the same time.

### Equipment

Planning poker is based on a list of features to be delivered and several copies of a deck of numbered cards. The feature list, often a list of user stories, describes some software that needs to be developed.

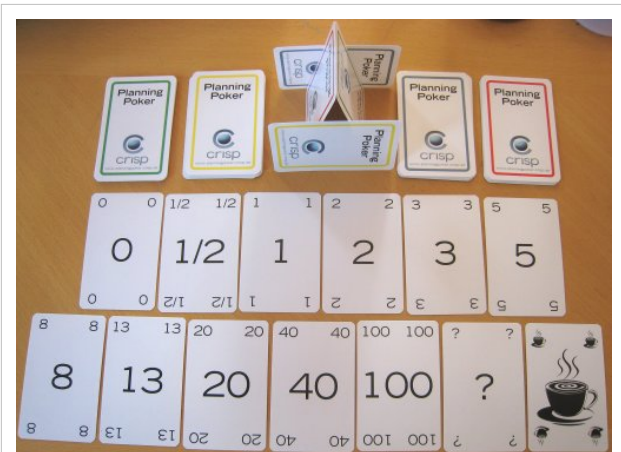
The cards in the deck have numbers on them. A typical deck has cards showing the Fibonacci sequence including a zero: 0, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89; other decks use similar progressions.

The reason for using the Fibonacci sequence is to reflect the inherent uncertainty in estimating larger items.

One commercially-available deck uses the sequence: 0, 1/2, 1, 2, 3, 5, 8, 13, 20, 40, 100, and optionally a ? (unsure) and a coffee cup (I need a break). Some organizations use standard playing cards of Ace, 2, 3, 5, 8 and King. Where King means: "this item is too big or too complicated to estimate." "Throwing a King" ends discussion of the item for the current sprint.

Optionally, an egg timer can be used to limit time spent in discussion of each item.

Smartphones allow developers to use apps instead of physical card decks. When teams are not in the same geographical locations, collaborative software can be used as replacement for physical cards.



Planning Poker card deck

## Procedure

At the estimation meeting, each estimator is given one deck of the cards. All decks have identical sets of cards in them.

The meeting proceeds as follows:

- A Moderator, who will not play, chairs the meeting.
- The Product Manager provides a short overview. The team is given an opportunity to ask questions and discuss to clarify assumptions and risks. A summary of the discussion is recorded by the Project Manager.
- Each individual lays a card face down representing their estimate. Units used vary - they can be days duration, ideal days or story points. During discussion, numbers must not be mentioned at all in relation to feature size to avoid anchoring.
- Everyone calls their cards simultaneously by turning them over.
- People with high estimates and low estimates are given a soap box to offer their justification for their estimate and then discussion continues.
- Repeat the estimation process until a consensus is reached. The developer who was likely to own the deliverable has a large portion of the "consensus vote", although the Moderator can negotiate the consensus.
- An egg timer is used to ensure that discussion is structured; the Moderator or the Project Manager may at any point turn over the egg timer and when it runs out all discussion must cease and another round of poker is played. The structure in the conversation is re-introduced by the soap boxes.

The cards are numbered as they are to account for the fact that the longer an estimate is, the more uncertainty it contains. Thus, if a developer wants to play a 6 he is forced to reconsider and either work through that some of the perceived uncertainty does not exist and play a 5, or accept a conservative estimate accounting for the uncertainty and play an 8.

## Planning poker benefits

Planning poker is a tool for estimating software development projects. It is a technique that minimizes anchoring by asking each team member to play their estimate card such that it cannot be seen by the other players. After each player has selected a card, all cards are exposed at once.

A study by K. Molokken-Ostfold and N.C. Haugen found that estimates obtained through the Planning poker process were less optimistic and more accurate than estimates obtained through mechanical combination of individual estimates for the same tasks.

## Avoid anchoring

Anchoring can occur if a team estimate is based on discussion alone. A team normally has a mix of conservative and optimistic estimators and there may be people who have agendas; developers are likely to want as much time as they can to do the job and the product owner or customer is likely to want it as quickly as possible.

The estimate becomes anchored when the product owner says something like, "I think this is an easy job, I can't see it taking longer than a couple of weeks", or when the developer says something like, "I think we need to be very careful, clearing up the issues we've had in the back end could take months". Whoever starts the estimating conversation with "I think it's 50 days" immediately has an impact on the thinking of the other team members; their estimates have been anchored, i.e. they are all now likely to make at least a subconscious reference to the number 50 in their own estimates. Those who were thinking 100 days are likely to reduce and those who thought 10 are likely to raise. This becomes a particular problem if the 50 is spoken by an influential member of the team when the rest of the team are predominantly thinking higher or lower. Because the remainder of the team have been anchored they may consciously or otherwise fail to express their original unity; in fact they may fail to even discover that they were thinking the same thing. This can be dangerous, resulting in estimates that are influenced by agendas or individual

opinions that are not focused on getting the job done right.

Planning poker exposes the potentially influential team member as being isolated in his or her opinion among the group. It then demands that she or he argue the case against the prevailing opinion. If a group is able to express its unity in this manner they are more likely to have faith in their original estimates. If the influential person has a good case to argue everyone will see sense and follow, but at least the rest of the team won't have been anchored; instead they will have listened to reason.

## References

- Mike Cohn (2005). *Agile Estimating and Planning* (1 edition ed.). Prentice Hall PTR. ISBN 978-0-13-147941-8.

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