POINTS ESTIMATING

Outcome

Points Estimating is a technique to help judge the relative size of work items by assigning a number of points to each. It is used as a convenient way of comparing groups of items. The points themselves can be used to represent any one of a number of measures: value, effort, complexity, risk or cost, for example. By far the most common, however, is effort – how hard it would be for a given team to get the work item completed.

Function

The points have no absolute meaning. If we assign 5 points to one work item and 10 points to another work item, it means that it will take twice as much effort to complete second as to complete the first. The points do not reveal how long either will take. Points are neither a 'number of man days' measure nor a dollar value of development cost. This explains why the points are sometimes called 'Nebulous Units of Time' ('NUTs') or even 'gummi bears' – a tongue-in-cheek dramatisation of their meaningless as an absolute unit.

Benefit

Despite this, Points Estimating is useful because we tend to be much better at estimating relative effort, than absolute effort. A new team, for example, or an experienced team facing a new product with new development technologies and environments, might be uncertain how long any single requirement would take. However, we can relatively easily compare one requirement with another and estimate how relatively big or small it is. You might have no idea, for example, how many metres tall an office building was – but you would have a very good idea of whether the building next to it were smaller or taller. We would find the proportional difference relatively easy to estimate ("oh, it's about two-thirds as tall").

Who

As soon as work is underway, the points system make it easy to estimate how long items will take depending on the rate established for past items. If a team gets through 30 points worth of work in two weeks, unless circumstances change significantly, it's reasonable to predict that in the following two weeks, the team will manage to finish 30 weeks worth of points.

Point Estimating benefits:

- Avoids setting false expectations of accuracy, or implying excessive confidence in our estimates.
- Is much quicker, easier and more accurate than attempting 'man-day' estimates.
- As a relative rather than an absolute measurement, it evens out the difference in velocity rates between individuals or teams, especially if the estimation is being done by a different person to the one who will do the work.
- You are able to project the anticipated rate of progress based on progress to date.

Scaling Factors

Implementation

Prerequisite

Difficulty

- A set of work items to estimate and a group of people who are competent to assess the relative effort involved in completing the work items. Ideally they should be the same group of people who will actually complete the work.

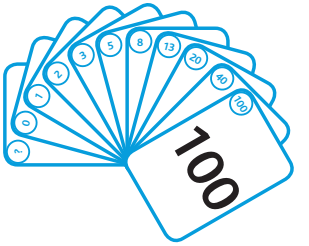
- A simple sorting approach to relative sizing can be used before beginning point estimation. For example, 't-shirt sizing', based on 'Small, Medium, Large'. Anything 'Xtra-Large' needs to be broken into smaller pieces before beginning.

Doing Points Estimating

1. Establish a baseline work item. Select an item more or less at random and assign a number of points to it. In practice it is better to end up with a simple, sensible set of points, expressed in small integer values, so it makes sense to choose a fairly small item and assign it a fairly small number of points (e.g. 5).
2. Select another item, and size it relative to the first, by asking how much more or less effort it would require. There might be many aspects to discuss, including algorithmic and technical complexity or the difficulty of testing the item once developed. But ultimately, assign another simple points value (e.g. 10 if it will require twice as much effort as the 5 point item).
3. Keep count of how many points get done in each work period. Use this basis to predict how long it might take to finish future requirements.

Potential pitfalls

- Stakeholders can struggle with appreciating that points have no absolute meaning. Instead they mentally convert the points to units of time – 5 days for 5 points, for example.
- Teams can assume that points are the only technique they will need. Actually, indicative estimates are often required before there is a backlog of requirements with which to do Points Estimates or before we have enough actual data to permit real prediction.
- Teams can get bogged down arguing about small points differences between work items. In the bigger picture, such pinpoint accuracy is meaningless. To avoid this, use values which get further apart the bigger they are (e.g. using a Fibonacci sequence of numbers (1, 2, 3, 5, 8, 13, 21, 34) or a rounded 'pseudo-Fibonacci' to avoid implying spurious accuracy (e.g. 1, 2, 3, 5, 8, 10, 15, 20, 30, 50).
- Time is wasted if the work items are so large that they are unlikely to be completed in any case. Estimating such items is pointless. If a 1 point story takes a day (the usual minimum), a 50 point story would take 5 weeks. 5 weeks is too long a period to be a reasonable work item – so requirements of large size should be broken down further.



If you want to learn more, consider reading:
Agile Estimating and Planning by Mike Cohn