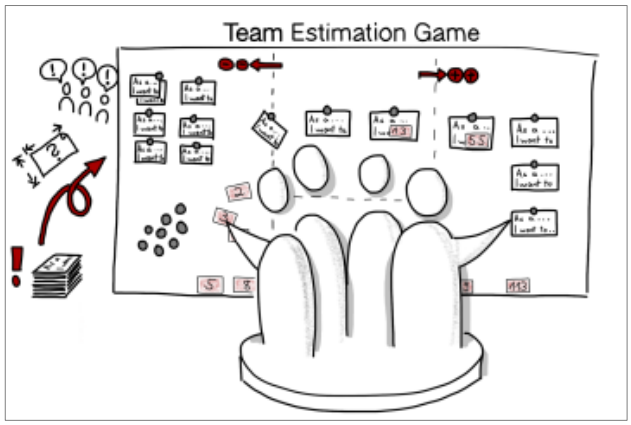
Team Estimation Game



German name	Team Estimation Game

Brief description	The Team Estimation Game facilitates relative effort estimation of a Product Backlog or of project work packages within smaller teams. This method is primarily used in agile process models (such as SCRUM) and enables members of the implementation team to evaluate the work efforts directly. The method is based on the assumption that detailed effort estimations are not feasible for individual tasks of Product Backlog Items or of work packages. The reason for this is that the estimation procedure is very complex by itself, as you have to divide the tasks or Backlog Items into easy-to-asses individual activities. However, by evaluating the User Stories roughly, the team will obtain a more precise result and will save valuable time, as well.

Fields of application	The Team Estimation Game is used for effort estimation from two perspectives: • Identification of the work packages that can be processed within one Sprint (after the minimum principle: "How many User Stories can we complete in the following Sprint?") • Resource evaluation for executing a complete Product Backlog (after the maximum principle: "How much effort do we need to involve for executing all Product Backlog Items?")

Advantages	+ High accuracy of the estimate due to the collective approach as opposed to individual estimations + Assessment from different perspectives, depending on the team configuration + Less work effort involved than in case of dividing the User Stories or work packages into subtasks + Easy setup + Short, intuitive set of rules + New team members who have knowledge of this method can be involved in the assessment sessions right away. + The active participation within the group is encouraged due to its structure as a game (active feedback instead of one-sided discourse).
Drawbacks / risks / boundaries	– Once introduced, this method can be replaced with difficulty. Other assessment methods require other reference values and ranking metrics. – The session will last several minutes if the group size is larger that nine persons. You will not be able to implement individual User Stories or work packages in a timely manner. – If the participants don't have sufficient technical background, their estimation will only be speculative.
Requirements	• A Scrum Team, or a group of persons suitable for processing User Stories • Conference room, where you can carry out the estimations undisturbed; sufficient room for storing and sorting the individual User Stories.
Qualification	• The leader of the workshop must have relevant presentation skills. • All participants must be familiar with the rules of the Team Estimation Games. • If some participants are not familiar with the game rules, you should instruct them briefly.
Required information	• The prioritised Product Backlog from the Product Owner for estimating a project. • Sprint Backlog for reviewing a Sprint. • Participants' expertise for the evaluation task.
Output	• **User Stories sorted by complexity.** The User Stories will be sorted out on a board (or on other surface) according to their complexity (low-high). • **Story-Points for every evaluated User Story.** The individual User Stories of the Product Backlog from the input channel will be evaluated regarding their complexity. • **Indication of uncertainties and lack of transparency.** Emerging uncertainties during the first round will be clarified or put aside for clarification.

Required tools

- Moderation cards with User Stories from the Product or Sprint Backlog.
- Pin board for gathering and sorting out the evaluated User Stories. The cards can be alternatively attached to the wall or displayed on a large table or on the floor.
- Moderation material (cards, pens, pins, adhesive tape, flipchart) for editing and displaying the results.
- Cards with numerical value (e.g. Fibonacci numbers) for evaluating the User Stories at a later stage. The numerical values correspond to the unit Story Point and will be handed over with the User Stories as output values.

Execution

Step 1: Prepare the Team Estimation Game!

As a moderator / Scrum Master you should check if all User Stories are available in the current version, together with the Product Owner. The method includes at least the assessment of a Sprint Backlog, but can also include the assessment of a Product Backlog.

Please make sure that all User Stories to be discussed are printed or written down on moderation cards. Compiled in a deck, the moderation cards will form the basis for the following evaluation. It is not necessary to sort the User Stories in a particular way.

Designate the project to be evaluated (your project, if necessary the individual User Stories, too) when inviting the participants to the Team Estimation Game. You should add notes to the method Team Estimation Game for the initial application. You should be ready to allocate some time for a brief explanation of the method to those participants who are not familiar with it or apply it for the first time. Due to its easy set of rules you will not have to give a comprehensive training.

Make sure that the entire project team is attending. The team roles in detail:

- Product Owner: he represents the client, prioritises the Product Backlog and is in charge for clarifying questions regarding the User Stories to the estimators. The Product Owner will not influence the estimation procedure: he will neither give estimates nor influence the participants.
- Scrum Master: he organises the appointment, makes sure that the participants comply with the rules of the game and moderates the Team Estimation Games. The Scrum Master will not influence the estimates.
- Developers: they will create the User Stories at a later stage. Due to their expertise from other projects, they will have an essential part in the Team Estimation Game. The developers will provide estimates, and, if necessary, also expert estimates (see below).
- Experts: if you are familiar with the fact that the developers lack specialist knowledge, then you can invite experts to the session, who will fill the knowledge gaps. They will support the team by answering technical questions and will participate at the estimations of the User Stories in which they specialise.

The Scrum-Master will propose the order of the participants (e.g.: in turn or voluntarily) and initiate the first assessment session.

Step 2: The first User Story is placed

The first person from the team will read it out loudly and place it in the middle of the provided surface (floor, wall, whiteboard, flip chart…).

Step 3: Two further User Stories are placed

The second person from the team will read out the next story loudly and place it to the left or the right next of the first story:

- LEFT next to a Story means that the player estimated that the work effort for his story is lower than the effort for the story already placed
- RIGHT next to a Story means that the player estimated that the effort for his story is higher.

Note: It is common to place the stories from left to right in the order of their increasing effort. Alternatively, you can place the cards from the bottom (low effort) to the top (high effort). It is irrelevant which order you prefer; you should stick with the same order during the game though, in order to avoid confusions.

The player who is in turn will explain the reasons for his classification in a few sentences. Alternatively, he can also leave his explanation out. It is not compulsory to discuss upon your decision at this stage. However, clarifying understanding issues between developers and experts are allowed.

The third player will place the third User Story similarly to the first two players.

Step 4: Upgrade the set of rules!

Upgrade the rules of the game. Beginning with the fourth User Story it is allowed to:

- The player who is in turn can decide not to place a new Story, but instead to move a Story that has already been positioned. He is allowed to move Story A, which was initially positioned to the left of Story B, to the right for example, so that it is positioned to the right of Story B now. The player can explain this action briefly if necessary, but there will be no discussion for this purpose.
- The person in turn can skip his/her turn if he/she doesn't want to make any changes and if all User Stories have been placed.

User Stories with similar efforts will be solely sorted in a row at this stage. It is not possible to mark the efforts for two User Stories as equal or similar. This will take place only in step 6.

Step 5: The participants place the remaining User Stories

You should carry out the effort estimation for all remaining User Stories after this new set of rules at this point. If you are not able to evaluate a User Story due to the lack of information, you should pass it over to the Scrum Master/ moderator. The Scrum Master/ moderator will document this and return the User story to the Product Owner. This is also available for allocating the User Stories to numerical values in the following step.

You can consider the classification and related evaluation of the user Stories as completed when:

- All User Stories have been placed on the provided surface.
- All participants chose to skip their turn, which means that all participants are satisfied with the estimates.

Step 6: Evaluate the User Stories using numerical values!

You should now position the numerical cards along the already sorted User Stories, so that you get a scale. Place the card with the lowest numerical value to the User Story with the lowest effort estimate. Accordingly, you should position the highest numerical value to the User Story with the highest effort estimate.

In between these extremes you will have to group the individual User Stories and to assign each group a number. In doing so, it's your choice if you leave the User Stories in the same classification as in step 5, or if you re-group identical effort estimates (e.g. among each other for the left-right-classification). The following example shows the allocation that has been left unmodified:

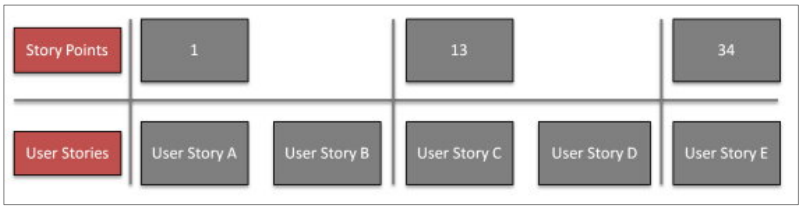


Image 1: Outcome for the Team Estimation Games

Note: it is recommended to use the Fibonacci sequence (1, 1, 2, 3, 5, 8, 13 etc.) for the numerical scale, as this features a clear distinction between the numerical values. Furthermore, it enables a clear differentiation between User Stories that were evaluated as complex and those that were not.

The team members will also carry out the allocation in turn. Each person is allowed to do only one allocation or rearrangement during one estimation session (analogue to step 5). The estimation sessions come to an end when:

- Each User Story was assigned a numerical value,
- All participants agree with the assessment.

Step 7: Transfer the results to the interfaces!

- Transfer the results (the User Stories including the consensus estimates) to the Product Backlog.
- Interpret the assessment results for the resource and operational planning or for your risk management.
- Pass on your documentation of the uncertainties to the Product Owner (technical for the individual User Stories and/or the requirement from a relevant expert) as long as you haven't already done this during the implementation.

Practical tips

Adopt a pragmatic approach

When classifying the User Stories it is not relevant if a User Story is "only a little" more or less complex that a User Story B. Make this clear to the participants and put an end to every discussion regarding this subject. Thus, it is essential to make a mere classification between more, less or (as in step 6) equally complex User Stories.

Mind your numerical scale

It is recommended that you classify the User Stories from step 6 into seven to nine categories. This has been found to be feasible in many reports.

At any rate you should expect to broaden the scale in the following estimation workshops, as there will be new tasks to be classified beyond the limits of the previous scale. This is due to the following reasons:

- A Product Backlog assessment is already available. During the following assessment of a Sprint Backlog you may realise that the current numerical scale is not sufficient.
- If you evaluate several Sprints in a row, you will come to the conclusion that it is necessary to broaden the scale due to conscious or unconscious comparisons with previous Sprints.
- If a Sprint is cancelled and a new assessment is to be performed after a review. One or more User Stories will be classified beyond the previous scale due to new insights.

Alternative versions

Dynamic Team Estimation

Dynamic Team Estimation is suitable for larger teams who are already proficient with the Team Estimation Game (up to three multiplied by nine persons; nine is the maximum size of a Team Estimation Game group). As opposed to the classic version, the User Stories of the Product Backlog will not be processed sequentially, but rather simultaneously in the Dynamic Team Estimation. This means that the User Stories will be reviewed in small working groups and there will be a change of opinions and arguments.

You should evenly distribute the User Stories to be dealt with within the teams before starting the work. You will have to submit your estimates on a common surface. At the beginning of the Dynamic Team Estimation Games each group will have to choose three representatives (corresponding to the maximum group size of three multiplied by three persons). They will be responsible for submitting the estimates.

Important: if a participant places a User Story on the working surface and explains the reasons behind his choice, the other groups will have to interrupt their work in order to take notice of the positioning and relevant arguments.

The deviation from the strong sequential approach of the Team Estimation Game enables a higher throughput of User Stories. The disadvantage of the Dynamic Team Estimation would be that the participants must be highly disciplined. In order to benefit from the advantages of this method, the participants should manage to interrupt their work and concentrate on the arguments and classification of a particular User Story. This requires goal-oriented moderation and, if necessary, a direct intervention in the process in case of violating the additional rules of the game.

Further reading (German language)

Die Alternative zum Planning Poker: Das Team Estimation Game

article – edition 02/2013 – by Tord Björsne, Ivan Kostial and Klaus-Dieter Schmatz

Gesamtaufwände in agilen Projekten schätzen – darauf müssen Sie achten

article – edition 21/2013 – by Dorian Gloski

Origin

The method goes back to Steve Bockman, who applied it in 2008 for the first time. (Agile Unlimited, http://agileunlimited.com/whoweare.php, as consulted online on 19.8.2015).

Author: Daniel Reinold

created on: 18.9.2015

Click here for the online version (German language):

www.projektmagazin.de/methoden/team-estimation-game

The online version additionally provides:

- Additional comments from our readers
- Complete list of our publications of Projekt Magazin on methods
- Further service information on software, books, services, courses and events