

Peer assessment at Fontys Campus Venlo

Pieter van den Hombergh

Fontys Hogeschool voor Techniek en Bedrijfsmanagement

30 augustus 2007

- 1 Contents
- 2 Peer assessment
 - Criteria
 - Data processing problems
- 3 peerweb
 - Automation with peerweb
 - Peerweb steps
 - The formulas
 - Individual grade
 - Roles
- 4 Demo

What is it

Peer assessment is about giving your (numerical) opinion on certain performance aspect of your fellows in a project.

What is it

Peer assessment is about giving your (numerical) opinion on certain performance aspect of your fellows in a project.

- Your opinion counts.

What is it

Peer assessment is about giving your (numerical) opinion on certain performance aspect of your fellows in a project.

- Your opinion counts.
- The opinion of your fellows or peers counts.

What is it

Peer assessment is about giving your (numerical) opinion on certain performance aspect of your fellows in a project.

- Your opinion counts.
- The opinion of your fellows or peers counts.
- You do this by giving each other grades on a few aspects or **criteria**.

What is it

Peer assessment is about giving your (numerical) opinion on certain performance aspect of your fellows in a project.

- Your opinion counts.
- The opinion of your fellows or peers counts.
- You do this by giving each other grades on a few aspects or criteria.
- You should be able to give the grade that is right, that is anonymous.

Criteria

To do this efficiently, a number of criteria is listed and for each criterium you give your fellows a grade. Sometimes these criteria list are quite long, like some 20 criteria. But most of the time it boils down to the following:

Criteria

To do this efficiently, a number of criteria is listed and for each criterium you give your fellows a grade. Sometimes these criteria list are quite long, like some 20 criteria. But most of the time it boils down to the following:

- **Quality** of one's contribution to the project.

Criteria

To do this efficiently, a number of criteria is listed and for each criterium you give your fellows a grade. Sometimes these criteria list are quite long, like some 20 criteria. But most of the time it boils down to the following:

- Quality of one's contribution to the project.
- **Quantity** of one's contribution to the project.

Criteria

To do this efficiently, a number of criteria is listed and for each criterium you give your fellows a grade. Sometimes these criteria list are quite long, like some 20 criteria. But most of the time it boils down to the following:

- Quality of one's contribution to the project.
- Quantity of one's contribution to the project.
- **Reliability**: Things like keeping appointments.

Criteria

To do this efficiently, a number of criteria is listed and for each criterium you give your fellows a grade. Sometimes these criteria list are quite long, like some 20 criteria. But most of the time it boils down to the following:

- Quality of one's contribution to the project.
- Quantity of one's contribution to the project.
- Reliability: Things like keeping appointments.
- **Team competence.** His/her membership of the team was valuable for the group process.

Problems with numerical peer assessment

Assume the scenario: groups of approx 13 people. 37 of them in mini 2006.

First approach: Forms filled in by hand.

Problems with numerical peer assessment

Assume the scenario: groups of approx 13 people. 37 of them in mini 2006.

First approach: Forms filled in by hand.

- Creating the forms is easy.

Problems with numerical peer assessment

Assume the scenario: groups of approx 13 people. 37 of them in mini 2006.

First approach: Forms filled in by hand.

- Creating the forms is easy.
- Processing is not:

Hand processing a number of forms from the peers is quite a job. For one group of 13 members with 5 criteria, you have to copy $12 \cdot 13 \cdot 4 = 624$ numbers **per group** plus the students name etc. **Who's job is it anyway: of Bart Titulaer? He thinks not.** He says it's yours, the **HRM**

Problems with numerical peer assessment

Assume the scenario: groups of approx 13 people. 37 of them in mini 2006.

First approach: Forms filled in by hand.

- Creating the forms is easy.
- Processing is not:
Hand processing a number of forms from the peers is quite a job. For one group of 13 members with 5 criteria, you have to copy $12 \cdot 13 \cdot 4 = 624$ numbers per group plus the students name etc. Who's job is it anyway: of Bart Titulaer? He thinks not. He says it's yours, the HRM
- The problem of **anonymity**: If a student (HR manager) would do the processing she would see all the grades given to each and every one.

Peerweb

The peerweb solution:

Peerweb

The peerweb solution:

Simple data We restrict ourselves to numerical data only. No textual feedback, although that is still useful.

Peerweb

The peerweb solution:

- Simple data** We restrict ourselves to numerical data only. No textual feedback, although that is still useful.
- Flexibility** The coordinator defines the number and the definitions of the criteria per project.

Peerweb

The peerweb solution:

Simple data We restrict ourselves to numerical data only. No textual feedback, although that is still useful.

Flexibility The coordinator defines the number and the definitions of the criteria per project.

Shared workload Each student only enters her own data; that is the grades she wants to give the others. Typing instead of writing, so there not extra work.

Peerweb

The peerweb solution:

Simple data We restrict ourselves to numerical data only. No textual feedback, although that is still useful.

Flexibility The coordinator defines the number and the definitions of the criteria per project.

Shared workload Each student only enters her own data; that is the grades she wants to give the others. Typing instead of writing, so there not extra work.

Privacy The student can do that at her own leisure, for instance at any location with Internet access, like at home.

Peerweb

The peerweb solution:

Simple data We restrict ourselves to numerical data only. No textual feedback, although that is still useful.

Flexibility The coordinator defines the number and the definitions of the criteria per project.

Shared workload Each student only enters her own data; that is the grades she wants to give the others. Typing instead of writing, so there not extra work.

Privacy The student can do that at her own leisure, for instance at any location with Internet access, like at home.

Full anonymity is guaranteed, because the data are not processed by any human.

The peerweb process steps:

The peerweb process steps:

- 1 Data for all students are retrieved from the Fontys student databases and entered into the peerweb database.

The peerweb process steps:

- 1 Data for all students are retrieved from the Fontys student databases and entered into the peerweb database.
- 2 The coordinator (Bart Titular) organizes the groups.

The peerweb process steps:

- 1 Data for all students are retrieved from the Fontys student databases and entered into the peerweb database.
- 2 The coordinator (Bart Titularer) organizes the groups.
- 3 The criteria are defined and entered.

The peerweb process steps:

- 1 Data for all students are retrieved from the Fontys student databases and entered into the peerweb database.
- 2 The coordinator (Bart Titualer) organizes the groups.
- 3 The criteria are defined and entered.

Steps 1 til 3 are done.

The peerweb process steps:

- 1 Data for all students are retrieved from the Fontys student databases and entered into the peerweb database.
- 2 The coordinator (Bart Titualer) organizes the groups.
- 3 The criteria are defined and entered.

Steps 1 til 3 are done.

- 4 Peerweb is introduced to the HR managers.

The peerweb process steps:

- 1 Data for all students are retrieved from the Fontys student databases and entered into the peerweb database.
- 2 The coordinator (Bart Titualer) organizes the groups.
- 3 The criteria are defined and entered.

Steps 1 til 3 are done.

- 4 Peerweb is introduced to the HR managers.
- 5 The HR managers explain it to their groups. *Tip: the software engineering students are well known with this system and have used it before.*

The peerweb process steps:

- 1 Data for all students are retrieved from the Fontys student databases and entered into the peerweb database.
- 2 The coordinator (Bart Titualer) organizes the groups.
- 3 The criteria are defined and entered.

Steps 1 til 3 are done.

- 4 Peerweb is introduced to the HR managers.
- 5 The HR managers explain it to their groups. *Tip: the software engineering students are well known with this system and have used it before.*
- 6 The coordinator opens peerweb for the first milestone and announces this.

The peerweb process steps:

- 1 Data for all students are retrieved from the Fontys student databases and entered into the peerweb database.
- 2 The coordinator (Bart Titualer) organizes the groups.
- 3 The criteria are defined and entered.

Steps 1 til 3 are done.

- 4 Peerweb is introduced to the HR managers.
- 5 The HR managers explain it to their groups. *Tip: the software engineering students are well known with this system and have used it before.*
- 6 The coordinator opens peerweb for the first milestone and announces this.
- 7 All students enter their data. Deadline is one week after the announcement.

The peerweb process steps:

- 1 Data for all students are retrieved from the Fontys student databases and entered into the peerweb database.
- 2 The coordinator (Bart Titularer) organizes the groups.
- 3 The criteria are defined and entered.

Steps 1 til 3 are done.

- 4 Peerweb is introduced to the HR managers.
- 5 The HR managers explain it to their groups. *Tip: the software engineering students are well known with this system and have used it before.*
- 6 The coordinator opens peerweb for the first milestone and announces this.
- 7 All students enter their data. Deadline is one week after the announcement.
- 8 Once the last student in a group entered her data, the results for the group are available instantly.

Calculation of the individual score

The purpose of the whole exercise is of course to get some kind of personal score.

Your personal score depends on what grades you have received from your peers, relative to the whole group, combined with what your tutor thinks your group is worth.

The fine print

On the result page, you can read both your individual score (the average a_i of the grades you fellows gave you) and the average a_g for the group of that score. If j (for Jan) is being assessed, he receives a grade g_{ij} from each individual i but himself. Say the group size is k .

How well you did is expressed in the multiplier m_j

$$a_j = \frac{\sum_{i=1}^k g_{ij} \forall i \neq j}{(k-1)} \quad (1)$$

$$a_g = \frac{\sum_{i=1}^k a_i}{k} \quad (2)$$

$$m_j = \frac{a_j}{a_g} \quad (3)$$

If Jan did well with respect to his group, $m_j > 1$, else $m_j < 1$. Jan would be average if $m_j = 1$

Fine print continued, Group grade and multiplier

The grade and especially the multiplier m_j calculated in the described way can be used by your tutor to differentiate between the individual group members. He can use this information in addition to the other inputs he has on the individuals.

Your tutor will determine a group grade G . In that he or she expresses how well you did as a group. You could see this as some kind of grading budget, which is distributed over the group members according to the multiplier m_j . That is the grade g_j our Jan from the example gets is

$$g_j = m_j * G$$

These calculations are be applied to all criteria, as well as to the sum over all criteria, and are performed by peerweb as soon as all data for a group are entered. The effect is that the average grade of the members equals the group grade G .

Is there a grading strategy?

- If all members give each other the same grades on all criteria, all work is useless. This looks fine for a club of friends, but does not provide any realistic data. Note that the tutor can get the raw results and this case is easily spotted. The tutor may decide to give the whole group a lesser grade.

Is there a grading strategy?

- If all members give each other the same grades on all criteria, all work is useless. This looks fine for a club of friends, but does not provide any realistic data. Note that the tutor can get the raw results and this case is easily spotted. The tutor may decide to give the whole group a lesser grade.
- The grade you give has little effect on the individual grades. It is the distance to the average that counts. So if you do want to differentiate, give the average students a 6, the above average a better grade and the below average a lesser grade. It is quite normal that a person scores better on one criteria (good ideas) but less on another (reliability).

Is there a grading strategy?

- If all members give each other the same grades on all criteria, all work is useless. This looks fine for a club of friends, but does not provide any realistic data. Note that the tutor can get the raw results and this case is easily spotted. The tutor may decide to give the whole group a lesser grade.
- The grade you give has little effect on the individual grades. It is the distance to the average that counts. So if you do want to differentiate, give the average students a 6, the above average a better grade and the below average a lesser grade. It is quite normal that a person scores better on one criteria (good ideas) but less on another (reliability).
- You might want to try this one: To improve your own grade, give all other bad grades. This will push the average down, and you may hope that others do not follow the same strategy. This is called the prisoner dilemma in gaming theory. But since the peer assessment is held several times, the next time around the others will play that game with you.

The checking tutor!

- The tutor is allowed, and is likely to do so, to interview you on your reasons to give certain grades, in case he notice any peculiarities in the grades that contradict his expectations.

Roles in the mini

- First of all the role of the HR. The human resource manager can set roles for all other members, including her own. This is your first task.

Roles in the mini

- First of all the role of the HR. The human resource manager can set roles for all other members, including her own. This is your first task.
- With the role come capabilities: to set roles for the HR and to read the computed and totalized results for the whole group and report it to the tutor.

Roles in the mini

- First of all the role of the HR. The human resource manager can set roles for all other members, including her own. This is your first task.
- With the role come capabilities: to set roles for the HR and to read the computed and totalized results for the whole group and report it to the tutor.
- The person with the role GM can also read those data.

Roles in the mini

- First of all the role of the HR. The human resource manager can set roles for all other members, including her own. This is your first task.
- With the role come capabilities: to set roles for the HR and to read the computed and totalized results for the whole group and report it to the tutor.
- The person with the role GM can also read those data.
- All other roles are just informational, but help to select the proper person and his or her role when giving grades

Useable browsers



Peerweb is written in PHP and runs on a linux box. The author strives for html and css correctness, that is: writing standard conforming code and not implementing hacks to please some crappy web browser. This means that the site looks awfully in (k)internetexploder, better known as IE. It works in almost any other (modern) browser, like mozilla, safari, konqueror or firefox. I develop using firefox. so there is some kind of guarantee that this works.

Demo

Demo with mozilla firefox!

If you start using peerweb, install this beast first:



url for demo `https://www.fontysvenlo.org/peer oefen`