

CSci 435/535: Software Engineering

Project Grading

Summary

There are two key questions to be asked when evaluating a student's project grade:

- How much of the overall work was completed?
- To what extent did the student do their share of the work?

The grading system in this class determines the answers to these two questions using a *group grade* and an *individual grade*. Once these grades are known, they are combined to determine a student's project grade.

As the project goes on, work that needs to be done is entered into the class issue-tracking system, either by managers (graduate students) or developers (undergraduate students). Each issue has a number of points associated with it. Students assign issues to themselves to indicate that they are working on them. After the issue is complete, the manager closes the issue, thereby indicating that the associated points have been earned.

The group grade is easy to compute—it is simply the percentage of the total number of completed points, relative to the total number of points. For example, if there are 50 points for all issues, and 45 points for closed issues, the group grade is $45/50 * 100 = 90$.

The individual grade is the percentage of points earned, relative to the average earnable points per person. For example, if there are 50 points and 10 people, the average earnable points is 5. If a student earns 4 points, their individual grade is $4/5 * 100 = 80$.

The overall project grade is 50% group, 50% individual. From the examples above, the student's project grade would be $90 * 50 / 100 + 80 * 50 / 100 = 85$.

At any time, you can determine your project grade by using issue-tracker to generate a "Performance Score" report for the current milestone and the Developer group.

Milestone Grades

Milestone grades are determined by doing the above grading for the tasks created for the given milestone. The milestone grade can be computed by selecting the appropriate milestone from the report form in the issue tracker.

Details

Earnable Points

If a manager completes the work for an issue, the manager will assign the task to him- or herself before closing it. The points for this task are counted toward the overall group grade. However, note the effect of this on the individual grades: because the points for this task can't be earned by a developer, it makes it harder for people to earn the points

they need. In other words, the manager has “stolen” points from the developers. (To avoid this, make sure managers don’t need to do development work.)

On the other hand, any work done by a student who drops the class is not counted. The student’s account will be marked “inactive”, and the points they have earned will count toward the group grade only.

Therefore, the *earnable points* are computed by subtracting points earned by inactive developers from the total project points.

Computing Points for Issues

Managers set the difficulty and the priority for each task. The product of these two values gives the baseline points. Managers can modify the baseline points by adding a positive or negative modifier number.

If a developer performs some work and feels that the difficulty or priority estimates were incorrect, the developer may ask the manager for the task to review these values, providing some justification for why they need to be changed.

Teamwork

Multiple people can sign up for the same task, in which case the total number of points will be divided evenly amongst the developers. Developers are encouraged to work in pairs. **You can often get things done more than twice as fast with a partner.**

Overachievers

Some people may do more than their share of the work. For example, a student may already have a 100 individual score, but a 70 group score. So the student decides to help the group by doing extra work.

In this case, the additional points earned by such a student beyond the expected average are called *overachiever points*, and should not count as earnable points. (Otherwise overachievers would “steal” earnable points from people who need them.) In this case, the total overachiever points earned by all overachievers are deducted from the earnable points to compute the *adjusted earnable points*.

The adjusted earnable points are used instead of the total points to compute each person’s share of the work. So the *target points per person* is the adjusted earnable points divided by the number of developers. The *individual grade* is then the percentage of points earned, relative to the target points per person.

Overall Grade

The overall grade is 50% group grade, 50% individual grade. If a person does absolutely nothing for the project, the best grade they can hope for is a 75. If a person gets a 100 individual grade for the project and no one else does anything, the best grade the person can hope for is slightly higher than a 75.

Example

This section shows a sample performance score report. As a developer, you will only be able to view the details related to yourself. As a result, your report will look slightly different.

Developers Report				
Performance Score				
Group members (4 total)				
developer_1	developer_2	developer_3_overachiever	developer_4	
Non-Group Members (8 total)				
admin	inactive	gothmog	pkchak	rjw
trillian	joed	jhaddock		

First we break the user list into developers and non-developers.

Issues					
ID	Summary	Points [Diff*Priority+Mod]	Points Per Person	Status	Assigned To
1	test1	3 (3*1+0)	3	Closed	developer_1
2	issue2	8 (4*1+4)	8	In Progress	developer_1
3	issue3	1 (1*1+0)	1	In Progress	admin
4	issue4	2 (2*1+0)	2	Closed	developer_2
5	issue5	8 (2*3+2)	8	In Progress	developer_2
6	issue6	21 (3*7+0)	10.5	Closed	developer_1 developer_3_overachiever
7	issue7	6 (2*3+0)	6	In Progress	inactive
9	unclaimed1	10 (1*9+1)	10	In Progress	
10	over1	89 (10*8+9)	89	Closed	developer_3_overachiever
11	over2	8 (2*4+0)	8	Closed	developer_3_overachiever
12	over3	13 (3*4+1)	13	Closed	developer_3_overachiever
13	over4	21 (3*7+0)	21	Closed	developer_3_overachiever
14	over5	9 (6*8+3)	3	Closed	admin developer_3_overachiever developer_4
15	How do I change my password on this thing?	6 (3*1+3)	6	Closed	developer_4
16	Simulation has gone mad	3 (3*1+0)	3	Closed	
18	awef	8 (4*1+4)	8	Closed	developer_4
21	password1	11 (2*5+1)	11	Closed	admin
22	foo	31 (5*6+1)	31	Closed	developer_2
23	new	32 (4*8+0)	16	Waiting for Manager	developer_1 developer_4
24	new2	32 (8*4+0)	32	Closed	developer_1
25	new3	10 (5*2+0)	10	New	
26	newcat	40 (5*8+0)	40	Waiting for Manager	developer_4
27	newcat2	48 (6*8+0)	48	Closed	developer_1
28	newcat3	24 (3*8+0)	24	Closed	developer_4
29	waefwafe	42 (7*6+0)	42	Closed	developer_4
30	awefwaf	3 (1*3+0)	3	New	

Next, for each task, we compute the associated points per person. Note that only closed tasks count toward your score. (“admin” is bold because this report was generated by the admin user.)

Group Grade [Completed Points / Total Points * 100]	
Completed Points: 371	Total Points: 489
Group Grade: 76	

The overall group grade is simply the percentage of total points completed.

Earnable Points [Total Points - Points for Tasks Completed by Non-Group Members]	
Total Points: 489	Non-Group Member Points: 6
Total Earnable Points: 483	

Since issue #7 was completed by someone who is no longer in the class, the points they earned do not count towards the total points that are earnable by individuals. Note that the points associated with the admin account (a manager) **do not** get deducted.

Target Points Per Person	
Unadjusted Points Per Group Member: [Earnable Points / Number of Group Members]	120.75
Overachiever Points:	developer_3_overachiever: 23.75
Total Overachiever Points: [Sum of excess points earned by each group member]	23.75
Adjusted Earnable Points: [Total Points - Total Overachiever Points]	459.25
Target Points Per Person: [Adjusted Earnable Points / Number of Group Members]	114.81

Now we compute the points earned by overachievers, and the resulting adjusted points per person. Here, developer_3_overachiever has earned 23.75 points beyond the average 120.75. So we deduct 23.75 from the total earnable points of 483, getting 459.25. The new points per person is then 114.81 instead of 120.75.

Individual Grades [Points Earned / Target Points Per Person * 100 (Max 100)]			
Username	Points Earned	Target Points	Individual Grade
developer_1	93.5	114.81	81
developer_2	33	114.81	29
developer_3_overachiever	144.5	114.81	100
developer_4	83	114.81	72

The individual grade is the percentage of target points earned.

Final Grades [Group Grade * 50/100 + Individual Grade * 50/100]			
Username	Individual Grade	Group Grade	Final Grade
developer_1	81	76	79
developer_2	29	76	52
developer_3_overachiever	100	76	88
developer_4	72	76	74

The final grade is the average of the individual and group grades.

FAQ

1. How many tasks can I claim? What happens if someone assigns all the tasks to themselves? What if someone joins my task but isn't working on it?

As a rule, please limit yourself to 2 or 3 tasks at a time. If you want to join a task with other developers already working on it, make sure it's okay with them. If you see someone abusing the task list, please notify the task manager.

2. What if someone sneaks into a task just before it is completed?

You should get an email notification if anyone modifies a task. You should talk to the person, and contact the task manager if that doesn't work.

3. What if a task isn't really completed?

Managers will have three options. If the task is incomplete due to gross negligence, the manager can reopen it, in which case the developers will lose the points until they complete it. If the developers do not wish to continue working on a task, the manager can leave the task closed but lower the number of points. If the task is done but could be done better, the manager can add a new task.

4. What if someone actually completes all the "good" tasks?

Early in the semester, you can be assured that there will be many more tasks added to the system. Late in the semester there may be no "good" tasks (or any at all!). The overachiever adjustment will help you in this case, making your target points per person lower. For peace of mind, it's better to earn your points early.

5. Hey! I had a good grade and the manager added more tasks, and now my grade is bad!

Managers add tasks for work that needs to be done. If there's more work for the developer group, then you need to do more work yourself to maintain your grade.

6. What if a manager isn't assigning points fairly? What if a manager isn't closing issues?

You can tell the manager why you think the points should be adjusted. If you are unhappy with their decision, you can appeal to the professor. Decisions the professor makes are final.

If you have any problems with a manager not managing tasks properly, you can notify the professor. You'll also have a chance to evaluate all the managers at the end of the project.

7. Another student joined my task late. It's okay by me, but do I really have to give them half the points? How about we both get 60% of the points?

Yes. Sorry, but the system is complicated enough already.