

## Redmine - Defect #23511

### Progress of parent task should be calculated using total estimated hours of children

2016-08-04 22:59 - Zouheir Najai

<b>Status:</b>	Closed	<b>Start date:</b>	
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>	Jean-Philippe Lang	<b>% Done:</b>	0%
<b>Category:</b>	Issues	<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>	3.4.0	<b>Affected version:</b>	3.2.3
<b>Resolution:</b>	Fixed		

#### Description

Problem of calculating the percentage of completion of a Issue(see the attached file).

When "child" has "sub-child": estimated\_hours is nil, therefore is not accounted in "average" (line 1534).

Issue.total\_estimated\_hours has to be accounted in this estimate.

app/model/issue.rb:

```
1511 def recalculate_attributes_for(issue_id)
1512   if issue_id && p = Issue.find_by_id(issue_id)
1513     if p.priority_derived?
1514       # priority = highest priority of children
1515       if priority_position = p.children.joins(:priority).maximum("#{IssuePriority.
table_name}.position")
1516         p.priority = IssuePriority.find_by_position(priority_position)
1517       end
1518     end
1519
1520     if p.dates_derived?
1521       # start/due dates = lowest/highest dates of children
1522       p.start_date = p.children.minimum(:start_date)
1523       p.due_date = p.children.maximum(:due_date)
1524       if p.start_date && p.due_date && p.due_date < p.start_date
1525         p.start_date, p.due_date = p.due_date, p.start_date
1526       end
1527     end
1528
1529     if p.done_ratio_derived?
1530       # done ratio = weighted average ratio of leaves
1531       unless Issue.use_status_for_done_ratio? && p.status && p.status.default_done_ratio
1532         child_count = p.children.count
1533         if child_count > 0
1534           average = p.children.where("estimated_hours > 0").average(:estimated_hours).
to_f
1535           if average == 0
1536             average = 1
1537           end
1538           done = p.children.joins(:status).
1539             sum(
"COALESCE(CASE WHEN estimated_hours > 0 THEN estimated_hours ELSE NULL END, #{average}) " +
1540               "* (CASE WHEN is_closed = #{self.class.connection.quoted_true}
THEN 100 ELSE COALESCE(done_ratio, 0) END)").to_f
1541           progress = done / (average * child_count)
1542           p.done_ratio = progress.round
1543         end
1544       end
1545     end
1546
1547     # ancestors will be recursively updated
1548     p.save(:validate => false)
1549   end
```

1550 end

#### Possible Fix:

```
--- issue.rb.ori      2016-08-01 11:44:53.220332666 -0400
+++ issue.rb         2016-08-01 11:45:07.395332666 -0400
@@ -1531,13 +1531,12 @@
     unless Issue.use_status_for_done_ratio? && p.status && p.status.default_done_ratio
       child_count = p.children.count
       if child_count > 0
-         average = p.children.where("estimated_hours > 0").average(:estimated_hours).to_f
+         average = p.total_estimated_hours / child_count
         if average == 0
           average = 1
         end
-         done = p.children.joins(:status).
-         sum("COALESCE(CASE WHEN estimated_hours > 0 THEN estimated_hours ELSE NULL END, #{a
verage}) " +
-           "*" (CASE WHEN is_closed = #{self.class.connection.quoted_true} THEN 100 ELSE CO
ALESCE(done_ratio, 0) END)").to_f
+         done = 0
+         p.children.each { |c| done += (c.total_estimated_hours * c.done_ratio) }
+         progress = done / (average * child_count)
+         p.done_ratio = progress.round
       end
     end
```

When one manually enter the estimated time.

In the original program, based on the average of other tasks to calculate progress. I keep the same approach in the patch :

```
--- issue.rb.ori      2016-08-01 11:44:53.220332666 -0400
+++ issue.rb         2016-08-01 13:42:18.138330460 -0400
@@ -1531,13 +1531,19 @@
     unless Issue.use_status_for_done_ratio? && p.status && p.status.default_done_ratio
       child_count = p.children.count
       if child_count > 0
-         average = p.children.where("estimated_hours > 0").average(:estimated_hours).to_f
+         average = (p.total_estimated_hours||=0) / child_count
         if average == 0
           average = 1
         end
-         done = p.children.joins(:status).
-         sum("COALESCE(CASE WHEN estimated_hours > 0 THEN estimated_hours ELSE NULL END, #{a
verage}) " +
-           "*" (CASE WHEN is_closed = #{self.class.connection.quoted_true} THEN 100 ELSE CO
ALESCE(done_ratio, 0) END)").to_f
+         done = 0
+         p.children.each do |c|
+           dr = c.closed_on.nil? ? (c.done_ratio||=0) : 100
+           unless c.total_estimated_hours.nil? || c.total_estimated_hours == 0
+             done += (c.total_estimated_hours * c.done_ratio)
+           else
+             done += average * c.done_ratio
+           end
+         end
+         progress = done / (average * child_count)
+         p.done_ratio = progress.round
       end
     end
```

#### Related issues:

Related to Redmine - Defect #20995: Automatic done ratio calculation in issue...	Closed
Related to Redmine - Defect #24457: Progress of version should be calculated ...	Closed
Has duplicate Redmine - Defect #24213: % Done is not correct for parent to pa...	Closed
Has duplicate Redmine - Defect #23151: done_ratio calculation with multi-leve...	Closed

#### Associated revisions

## Revision 15802 - 2016-09-01 19:03 - Jean-Philippe Lang

Fixed that progress of parent should be calculated with total estimated hours of children (#23511).

### History

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#### #1 - 2016-08-23 04:41 - Jens Krämer

- File 0001-test-case-for-grandchildren-s-done-percentages.patch added
- File 0002-fix-attempt-for-23511.patch added

This is a valid problem.

Given

```
Settings.issue_done_ratio == 'issue_field'  
Settings.parent_issue_done_ratio == 'derived'
```

and issues like this:

- parent issue
  - child 1 (2h estd, 0% done)
  - child 2
    - child a (2h estd, 50% done)
    - child b (2h estd, 50% done)

so in total 2h of 6h are done, which means the parent should have a done ratio of 33%. Redmine 3.2 and current master show 25% instead (average of 50% from child 2 and 0% from child 1).

It looks like this new issue has been introduced with my fix for [#20995](#) which changed the calculation from leaves to children in the first place to solve another problem.

I don't have an idea how to solve this without breaking anything else right now. For now I'll attach a failing test case illustrating the problem and a second patch containing the fix attempt from this issue's description, which solves the problem at hand but breaks some other test cases.

#### #2 - 2016-08-23 15:20 - Toshi MARUYAMA

- Description updated

#### #3 - 2016-08-23 15:24 - Toshi MARUYAMA

- Related to Defect #20995: Automatic done ratio calculation in issue tree is wrong in some cases added

#### #4 - 2016-08-23 15:24 - Toshi MARUYAMA

- Target version set to 3.4.0

#### #5 - 2016-09-01 19:05 - Jean-Philippe Lang

- Subject changed from Problem of calculating the percentage of completion of a Issue to Progress of parent task should be calculated using total estimated hours of children
- Status changed from New to Closed
- Assignee set to Jean-Philippe Lang
- Resolution set to Fixed

Fixed in [r15802](#) by calculating the progress of parent task using the total estimated hours of children as proposed by Zouheir Najai. I've included the test provided by Jens.  
Thanks to both of you.

#### #6 - 2016-11-21 14:02 - Toshi MARUYAMA

- Has duplicate Defect #24213: % Done is not correct for parent to parents when calculated from subtasks added

#### #7 - 2016-11-25 15:41 - Toshi MARUYAMA

- Related to Defect #24457: Progress of version should be calculated the same way as parent tasks added

#### #8 - 2017-07-09 05:24 - Go MAEDA

- Has duplicate Defect #23151: done\_ratio calculation with multi-level sub tasks and estimated hours added

### Files

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Problem in calculating percentage.pdf	96 KB	2016-08-04	Zouheir Najai
0001-test-case-for-grandchildren-s-done-percentages.patch	1.29 KB	2016-08-23	Jens Krämer
0002-fix-attempt-for-23511.patch	1.76 KB	2016-08-23	Jens Krämer