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EtaskMode

Task Management within GNU Emacs

A Short Tutorial

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This document is the tutorial for **EtaskMode**, Test Releases '0.3.xxx', a GNU Emacs extension that supports you in your efforts to define and manage project tasks as well as to manage your todos.

Contents

1 Selected Features

- Keep track of tasks in multiple projects
- Manage your todos
- Organize tasks and todos in subtasks and subtodos
- Archive tasks and todos
- Display Gantt bars for all tasks and todos
- Change the zoom factor of the Gantt chart and scroll it
- Classify each project task according to its criticality:
  - Normal tasks
  - High risk tasks
  - Tasks lying on the critical path
- Make task and todo notes
- Set task-specific progress goals: linear, moderate s-shaped, or s-shaped with tougher requirements for the progress rate during the middle phase. According to the nature of your tasks you can apply a different approach to every task:
  - Linear: after x percent of the time the task must be x percent completed
  - S-Shape-65: takes into account that progress is slow at the start, then reaches its peak, and then slows again during the completion phase; 'S' stands for 'S-shape' and '65' means that after 50 percent you need at least 65 percent completion
  - S-Shape-70: similar to S65 but tougher requirements for the middle phase and therefore more flexibility towards the planned end
- Multilingual (German and English)
- Print detailed project status reports
- Generate LaTeX output for high-quality Gantt charts

2 Conventions

2.1 Keyboard Strokes

Return RET

Space SPC

Control Key C-

Meta Key M-

Something to be typed 'Something to be typed' (type without quotes)

2.2 Other Conventions

File or directory name "filename", "directoryname"

Variable name *variablename*

3 Project Tasks

This section shows you how **EtaskMode** supports you in your efforts to define and manage project tasks.

The process:

1. Establish Your Task Set (see 3.1)
2. Allocate The Costs In Terms Of Effort (see 3.2)
3. Identify Tasks That Form The Critical Path (see 3.3)
4. Identify High Risk Tasks (see 3.4)
5. Schedule The Tasks (see 3.5)
6. Set The Tracking Algorithm (see 3.6)
7. Update The Schedule (see 3.7)
8. Analyze And Present Progress (see 3.8)

Note that there is a convenient **task undo command** available: 'C-x u' (upper case). You can also undo the last n task commands: 'C-u n C-x u' (n is the number of commands that you want to undo).

If you want to **quit a command**, do 'C-g'.

Now let's start.

3.1 Establish Your Task Set

To **start**, do 'M-x etask'.

The tutorial assumes that you use this mode the first time and **EtaskMode** therefore fails to find existing projects.

Choose **(1) Project** to define a project.

Enter a project name. Choose a name that your system accepts as a valid file name. Some systems may not allow more than eight characters, spaces, or some special characters, for example.

Enter the number of project tasks you want to manage. To get the maximum out of this tutorial it is a good idea to accept the default value. Just hit 'RET'.

Name all tasks. Press 'TAB' for some task name suggestions. Then type a few letters and press 'TAB' again for automatic completion. Don't worry about the task name list, it can be customized (just edit the file "tasklist"). Of course, you can also enter task names that are not suggested.

Hint To include a blank in your own task names say 'M-SPC' instead of just 'SPC'.

Hint The variable *case-fold-search* controls case sensitivity. Leading and trailing spaces are not significant. However, if you enter the same name twice the last entry wins.

Hint See the Completion Commands node in the Info manual for more information.

Next to the tasks you can spot some **M** letters. **M** in the Gantt chart means that the task in that line is in fact no task but a milestone (its planned effort is 0 at the moment).

Hint To insert more tasks do 'i'.

Hint Type 'C-u i' to insert a subtask. **EtaskMode** displays subtasks when you do 'C-u n X' where n is the number of levels you want to see including the top level.

3.2 Allocate The Costs In Terms Of Effort

Type '1' to go to your first task. Then **mark all tasks** with 'M' (this command toggles all marks). To mark a single task to 'm' and to unmark a task do 'u'.

Set the planned effort for all marked tasks with 'e'. Set reasonable task durations for every task; for example, enter '2w' for two weeks, '6d' for six days or '21h' for twenty-one hours. **To define a milestone set the planned effort to 0 (zero).** To do this, enter '0h', '0d', or '0w'.

Hint You can enter very detailed estimations if you like – for example '2.1h'.

Mark all tasks again and **specify** how many persons are engaged in the tasks, expressed in **full-time equivalents (FTE)** with the command 'f'.

Then do 'z a' to ensure that the Gantt chart shows the whole project.

Note that staff members who work full-time on a task have a full-time equivalence of 1.0. Thus, a person who spends 30 per cent of his or her time on a task and the rest on other activities should be considered as 0.3 FTE for this task. So just sum up the FTE values of all persons working on this task. If, for example, a task's planned effort is 20 days and you enter 0.5 here, then the number of workdays or business days required for completing this task is 40.

Some bars may be longer than expected. Check if there is a weekend or a holiday between the task's begin and its end. Maybe you want to start calendar (do 'M-x calendar') to check this. **EtaskMode** can use calendar days or business days to calculate various dates. To check the current behaviour do 'C-c C-d', and to toggle it do 'C-c d'. **EtaskMode** uses the variables *calendar-holidays* and *etask-holiday-regexp* to identify holidays. You should make sure that they are configured correctly – check this later by typing 'C-h v' followed by these variable names.

Note that the Gantt chart within Emacs can only scale up to a point because the accuracy is limited to the resolution of a text mode. Therefore, tasks with (slightly) different durations may be visualized with bars having the same length. Sometimes a task bar must be stretched to show up at all. Imagine a 2 year project having a task that is very important, almost completed, and only a few days long. This task's bar has at least a width of 2 characters. Otherwise significant information would be eliminated from the chart. 1 character represents the already expended time, and the other character stands for the work that is still to do. If you scroll the chart or

choose a zoom factor that does not show the whole Gantt chart some task bars may be visible only partially. Then these task bars may contain additional information to indicate that some effort has already been expended. But note that these scaling details do not apply to the high quality LaTeX Gantt chart (more about this later), they only apply to the draft Gantt chart within Emacs.

Note also that **EtaskMode** uses the planned effort of a task and the number of business days (entered by the user or calculated automatically) needed to complete this task to calculate its FTE value. Therefore, if a task needs 3 business days, and its planned effort is 18 person hours, the resulting FTE value is 0.75 - even if you entered 1 FTE before. In most cases this should be the right granularity.

3.3 Identify Tasks That Form The Critical Path

Such tasks cannot be delayed or take longer than its estimate without impacting the whole project – at least in theory. However, in practice there are tasks, even critical ones, that require more flexibility – and the tool must be able to handle these (rare?) situations. Therefore, the tool does not warn you when a critical task is scheduled inappropriately because there is no way to figure out automatically what 'scheduled inappropriately' means in the current context.

OK, now **move to a task** that is on the critical path:

- Press 'p', 'C-p', or <up> (arrow up) to move the cursor to the previous task, and 'n', 'C-n', or <down> (arrow down) to go to the next task until the cursor is in the line of this task.

  Hint To jump directly to the last task press 'M-n'; with 'M-p' you can jump to the first task.

  Hint If you have entered enough tasks and your system supports these faces, you can see red characters in the 5th and 9th line at the cursor's column (between the task names and their bars). So you can easily jump to the first 9 tasks directly by just typing its number. You can also jump to a task by pressing 'g' (goto task). To jump to the 4th task you can use 'g' and enter the task number.

  Hint To move from a subtask to its toplevel task do 't'.

  Hint To move within a toplevel task from a subtask to the following subtask at the same level do 'N'. To go back again type 'P'.

- Press 'c' to **make the task a critical one**.

  Hint You can mark all tasks that you want to put on the critical path and then do 'c' only once.

  Note that the task name's color has changed (assuming your system supports this) and the task status contains "(critical)" or "(kritisch)", depending on the selected language (see 6). By the way, don't worry about colors. You can customize a lot of faces.

  Hint To remove the task from the critical path just press 'c' again. To remove more than one task from the critical path you can also mark these tasks and then remove all tasks at once from the critical path by doing 'c'.

- **Complete the critical path** by making other tasks critical as well.

Hint Maybe you want to change the order of the tasks. Just go to the task that you want to move and do ‘C-M-u’ (up) or ‘C-M-d’ (down) to move the whole task including all its sublevel tasks. To cut-and-paste do ‘C-k’ and ‘C-y’.

3.4 Identify High Risk Tasks

Jump to a task that is not on the critical path but nevertheless a high risk task in your eyes (in terms of cost, schedule, quality, ...).

Press 'h' to **make the task a high risk one**. Its color changes and the task status includes the new information.

Hint You can mark all tasks that you want to classify as a high risk task and then do 'h' only once.

Hint To remove the high risk flag of a task just go to the task and press 'h' again.

3.5 Schedule The Tasks

There are 3 ways to set the begin dates. You can mark several tasks ('l') and link them together ('x'), or move tasks by a relative amount of days, or go through the task list and set these values explicitly (one by one).

Well, enough background information, let's do it:

1. Link Tasks

   This is the preferred way to schedule new tasks. The other ways are usually needed to adjust or refine the schedule afterwards.

   Example: Link all critical tasks to **create the critical path**

   - Go to the critical task that must start first.

     Hint Remember: If you want to change the order of your critical tasks first, you can do this with 'C-M-u' and 'C-M-d'.

   - Do 'b' (set begin) to set its exact begin date.

     Hint When you are not allowed to enter a date you can try 'C-c d' until **EtaskMode** answers "calendar days" or configure **EtaskMode** appropriately – see 3.2, configuration of variables *calendar-holidays* and *etask-holiday-regexp*.

   - Mark all critical tasks including the first one with 'l'.
   - Do 'x'.
   - Finally, **EtaskMode** asks you to specify the relative begin dates.

     Examples for relative begin dates:

     – 0 . . . End of previous task and begin of current task are at the same day

     – 3 . . . Current task starts at the 3rd business day after the end of the previous task (lag time, waiting period after a task before the next linked task can begin)

     – $-2 \ldots 2$ days overlap (lead time, successor task overlaps with its predecessor task)

     Hint If the task bars are not (fully) displayed any more you can change the Gantt chart's zoom factor – do 'z a'.

   In the same way you can easily link all tasks or any subset of them. This procedure is also useful when adding more tasks later. Just place the new task (after specifying effort with 'e' and FTEs with 'f') below its predecessor, mark both with 'l', and finally do 'x'.

2. Move Tasks

   Bring dates forward or postpone them according to your scheduling requirements by using the commands shown below.

   b . . . begin date, d . . . due date, f . . . forward, p . . . postpone

   - 'C-c f b' . . . Bring the task's begin forward
   - 'C-c p b' . . . Postpone the task's begin
   - 'C-c f d' . . . Bring the task's due date forward
   - 'C-c p d' . . . Postpone the task's due date
   - 'C-c f t' . . . Bring whole task forward
   - 'C-c p t' . . . Postpone whole task

   Examples:

   - 'C-c p t' and then '10' postpones a whole task by 10 days
   - 'C-c f t' and then '6' brings a whole task forward by 6 days
   - 'C-c f b' and then '3' brings the task's begin forward by 3 days
   - 'C-c p d' and then '16' postpones the task's due date by 16 days

   Hint Just do 'r' to repeat the last command.

   Hint If you want to postpone dates or bring them forward **by calendar days rather than by business days** you must say 'C-c d' before typing one of the commands above.

3. Set Begin Dates Explicitly

   To **set begin dates explicitly** go to a task, do 'b', and enter the begin date.

   Hint When entering a month name completion reading is enabled. TAB shows you all possible completions.

   Hint Remember the command 'C-c d' if you are not allowed to enter a date.

   Hint Type 'x' to **refresh the display**, adjust its size to new buffer content, or to clear the minibuffer; these things are done automatically most of the time, but sometimes you will need this command.

3.6 Set The Tracking Algorithm

Type 'T' and press 'TAB' to **choose an algorithm** for the task in the current line. Note that this feature is just for tasks, not for milestones.

Note that the task status section starting with the string ">> STATUS" shows the algorithm that is currently used inside two square brackets, for example: "[Tracking: S-Shape-65]"

Hint To get the detailed completion requirements of an algorithm type 'C-h f etask-calculate-taskstatus- TAB' and choose a possible completion.

Hint Mark tasks to set the algorithm for several or all tasks at once.

Background:
Note that the question of how to track a task or a whole project is a tough one to answer. But there is little doubt that the rate of progress is not always linear. It may even vary significantly in different phases of a task or project. Often, its real shape is typically of an increasing and then decreasing slope, which vaguely looks like an S shape.

That's why you can choose between three alternatives:

- The "Linear" way (50% completion after 50% of the time):

  When, for example, half of the time for the task has elapsed, it must be 50% completed. After 70% of the time you need 70% completion.

- The "S-Shape-65" way (65% completion after 50% of the time):

  This approach takes into account that progress is slow at the start, then reaches its peak, and then slows again during the completion phase. In other words, when assessing the task status, an S-shape curve is used. For example, after 20% of the time the task must be 15% completed, and after 50% you need at least 65% completion.

- The "S-Shape-70" way (70% completion after 50% of the time):

  Till about 30% of the task's time the completion requirements are very similar to those of "S-Shape-65". But in order to have more flexibility towards the planned task end the requirements for the middle phase are tougher. For example, after 70% of the time the task must be 90% completed.

3.7 Update The Schedule

You can **update a task status** with the following commands:

- '%' ... Set the task's completion in percent
  Example: '% 10'
- '+' ... Add some effort in hours, days, or weeks
  Example: '+ 10d'
- '-' ... Subtract some effort in hours, days, or weeks
  Example: '- 1w'

Note that you can **customize the progress bar faces** of the different task categories (normal, high risk, critical).

Hint You can mark some tasks and apply your input to all marked tasks at once.

If you want to **insert a new task** go to the line where you want to insert it, type 'i' (insert task) or 'C-u i' (insert subtask), then 'e' to specify the planned effort, and 'f' to set its FTE value. After that use 'u' or 'd' to move the task to the right place.

Hint Note that the right place to insert a task is somewhere below its predecessor (if any) to link these tasks easily. If you want to insert a subtask go to the line of the task or subtask that the new subtask is going to be aligned to.

To **delete a task** go to the task, type 'd', and finally delete it with 'x'.

You can also **archive tasks**: Mark the tasks to be archived with 'a', and then do 'x'. Switch between the project and its archive with 'A'. Note that some operations are not allowed in the archive view.

To **change a task's name** do 'E'.

3.8 Analyze And Present Progress

EtaskMode provides you with all the information needed for a comprehensive status review. It includes a draft Gantt chart to quickly assess the overall status of your tasks, their criticality, and their dependencies. Additionally, the detailed status of the task in the current line is shown in the task status section below the bar chart. This section starts with ">> STATUS:".

Do 'R' to **generate a detailed status report** for all or all marked tasks. See 6 how to quickly change the report language.

Hint Applied faces will be lost if saved as plain text.

Do 'C' (upper case) for a **high-quality Gantt chart**.
Note that you must configure the variable *etask-tex-processing-script* to fully automate this step. Do 'C-h v' and enter the variable's name to see how to do that. Otherwise you have to deal with a LaTeX file manually. Then you can do 'M-x tex-file' in the file's buffer to generate a pdf file, for example. To do this you should customize the variable *latex-run-command*. Check also *tex-default-mode*.

Hint You can customize almost everything after doing 'M-x customize-group RET etask RET'.

Hint When you see the "Chart Label" prompt a default value is available via the down-arrow key if you have configured variable *etask-tex-default-label*. Up-arrow shows the history.

Hint Mark some tasks to include only a subset of the tasks.

Hint The chart scales automatically. When there is enough space you can spot all iso calendar week numbers and all holidays.

Hint Use the hook 'etask-tex-hook' to append your own LaTeX code.

4 Todos

This section shows you how **EtaskMode** supports you in your efforts to define and manage todo lists.

Do **'C-c a'** and choose **(2) Todo** to define a todo list. **EtaskMode** lets you define as many todo categories as you like.

After that, **enter your first todo** by specifying its name, priority, planned effort, and due date and time.

4.1 Shape

A todo looks like this in the chart:
———>(1)

The length of the arrow is determined by the todo's planned effort:

—> ... todo's planned effort <= 5 minutes
——> ... todo's planned effort <= 15 minutes
———> ... todo's planned effort <= 30 minutes
————> ... todo's planned effort <= 1 hour
—————> ... todo's planned effort <= 2 hours
——————> ... todo's planned effort > 2 hours

The shape of a todo arrow is determined by its status:

— . . . started
∼ . . . in progress
= . . . completed

The number enclosed by '(' and ')' is the todo's priority.

4.2 Calendar View

By doing 'z' and then choosing any option but 'p' you **enter the calendar view**. The calendar view's time unit is "day".

If a day's width in the chart is longer than the length of the todo it is centered. If not, then the ')' is at the end of the due day of the todo. The rest of the todo may overlap with earlier days – depending on the chosen zoom factor.

A reverse arrowhead indicates that the due date is one or more days before the day the ')' points to.

Example: ———<(2) – just go to the todo and do ‘,’ to scroll the chart appropriately.

As soon as the todo’s planned effort does not fit between current time and todo deadline anymore, the todo’s priority is displayed in another face to indicate that the todo will probably miss its deadline.
Example: ———>(1)

4.3 Day Planner View

Enter the day planner view by doing ‘z p’. The day planner view’s time unit is “hour”.

Within the day planner view you can scroll one hour backward, one hour forward, and to the begin or end of the day with the commands ‘j’, ‘k’, ‘J’, and ‘K’, respectively.

The command ‘.’ makes the current time visible.

4.4 Tips

Do ‘z d’ to **view all todos of the first visible chart day** and ‘z p’ to plan that day hour by hour.

Edit a todo with the command ‘E’. The commands ‘e’, ‘b’, ‘C-c f t’, ‘C-c p t’, ‘%’, ‘t’, ‘+’, and ‘-’ work according to the description in 3. Note that ‘b’ lets you enter the todo’s due date.

Say ‘i’ (insert) or ‘C-u i’ (insert subtodo) to **enter another todo**.

To **switch to another category**, do ‘C-c s’.

5 Events

To be written... and to be programmed. However, you can already experiment a little bit.

6 Advanced EtaskMode Commands

Here are some more **EtaskMode** commands that make it easier to manage your project tasks.

More projects or todo categories Add, remove, or rename projects or categories with 'C-c a'. After adding some projects or categories you can do 'C-c s' to switch to a particular project or category. Note that when you delete a project or category **EtaskMode** does not delete the related files, it just disables the access – you must delete them manually if you really want to get rid of it. Therefore you can, for example, easily restore a project: Just re-enter the old accidentially deleted project name and then switch to this project.

Notes Go to the task or todo, do 'I', and start writing your notes or reading your existing notes.

Zoom factor Choose the number of days in the draft Gantt chart with 'z'. Enter a number for a particular number of days, or 'a' to display the whole project or category, 'w' to see one week, 'd' for one day, and 'p' to enter the day planner view.

Chart begin Set the chart's begin date with 'B'.

Chart scrolling Scroll to the beginning or end of the chart with '<' and '>'. To move forward or back just one day use 'C-f' and 'C-b', to move forward or back one week use 'M-f' and 'M-b', and to move forward or back one month use 'C-M-f' and 'C-M-b'. Do ',' and 'C-u ,' to scroll to the first or last day of a task or todo and '.' to go to the current date.

Language Set the language with 'L' (upper case). You can easily print a report in another supported language and then switch back to your favourite language: 'L R L'. You can customize the variable 'etask-set-calendar-language-p' in the finetuning group to change the language of the calendar dates, too.

Frame height - GNU Emacs only If you run EtaskMode in its own frame and this frame is too small for your EtaskMode Buffer to be completely visible, this is indicated by the POS part in the Mode Line as well as by a lonely ^ character in the minibuffer. Doing '^' increases the frame height accordingly. You can also provide a prefix value by typing 'C-u n'q first where n is the number of lines. If the frame is bigger than necessary the same command decreases the frame height.

7 And Finally ...

Get the latest version at
http://members.chello.at/rene.weichselbaum/etask.html.

EtaskMode is free software – free as in freedom, and also free as in beer.

I would like to ask you, dear **EtaskMode** user, for your collaboration. I kindly invite you to send me your comments, suggestions, or remarks – just do 'C-c C-f' within **EtaskMode** or go to
http://members.chello.at/rene.weichselbaum/contact.html.

If you encounter failures, please report them by doing 'C-c C-b'.

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