

# Emacs Org-mode

a system for  
note taking and project planning  
using plain text files

by Carsten Dominik

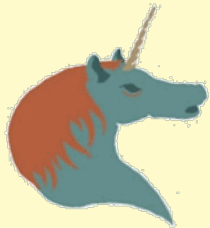


<http://orgmode.org>

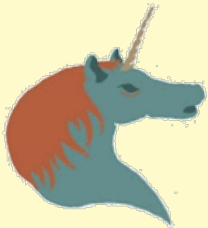


# Working with Text Files?

- The only truly portable format, read and edit anywhere
- *grep* and other UNIX tools
- Process with *perl*, *python*, ...
- Problem-free history with version control
- Synchronize using GIT or any other distributed version control system

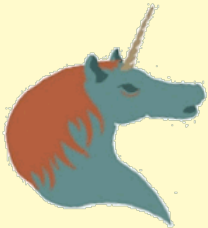


# Notes-based Project Planning



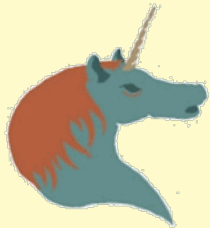
# Notes-based Project Planning

- Planning tools (GTD and other) start with TASKS. Why?



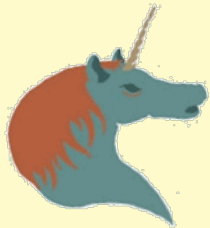
# Notes-based Project Planning

- Planning tools (GTD and other) start with TASKS. Why?
- For me, projects start with brainstorming, note taking, organizing notes.



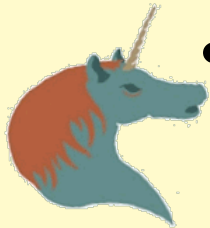
# Notes-based Project Planning

- Planning tools (GTD and other) start with TASKS. Why?
- For me, projects start with brainstorming, note taking, organizing notes.
- Tasks naturally appear and result from this flow. When tasks are done, this must be filtered back into the notes!

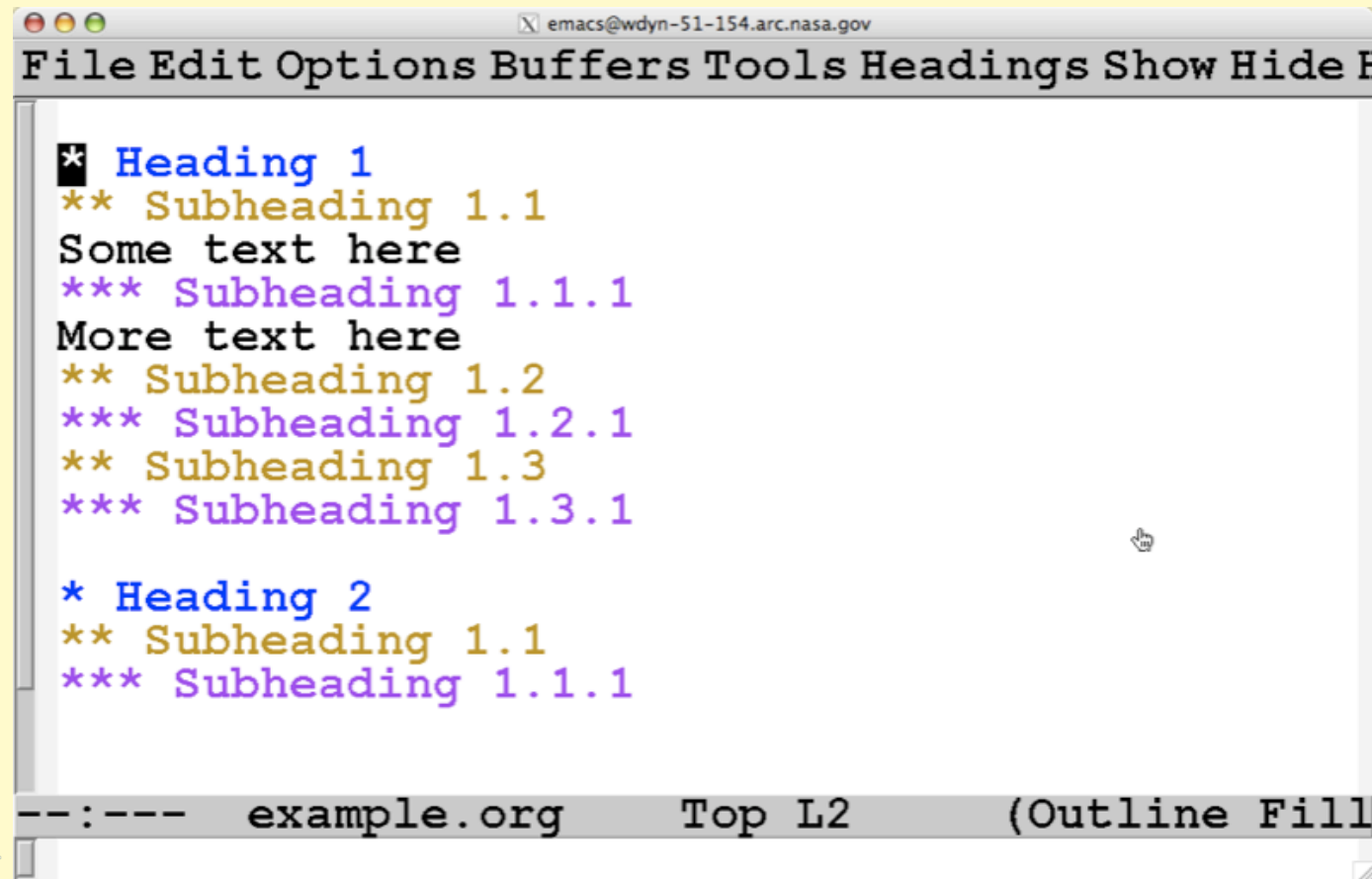


# Notes-based Project Planning

- Planning tools (GTD and other) start with TASKS. Why?
- For me, projects start with brainstorming, note taking, organizing notes.
- Tasks naturally appear and result from this flow. When tasks are done, this must be filtered back into the notes!
- Initial goals of Org-mode development:
  - Make note taking the fundamental action, tie tasks into the notes
  - Avoid separate tools for notes and planning



# Step I: Fixing Outline-Mode - visually

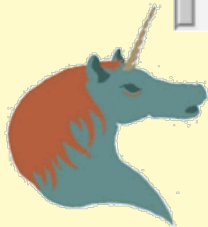


```
File Edit Options Buffers Tools Headings Show Hide F

[*] Heading 1
  ** Subheading 1.1
  Some text here
  *** Subheading 1.1.1
  More text here
  ** Subheading 1.2
  *** Subheading 1.2.1
  ** Subheading 1.3
  *** Subheading 1.3.1

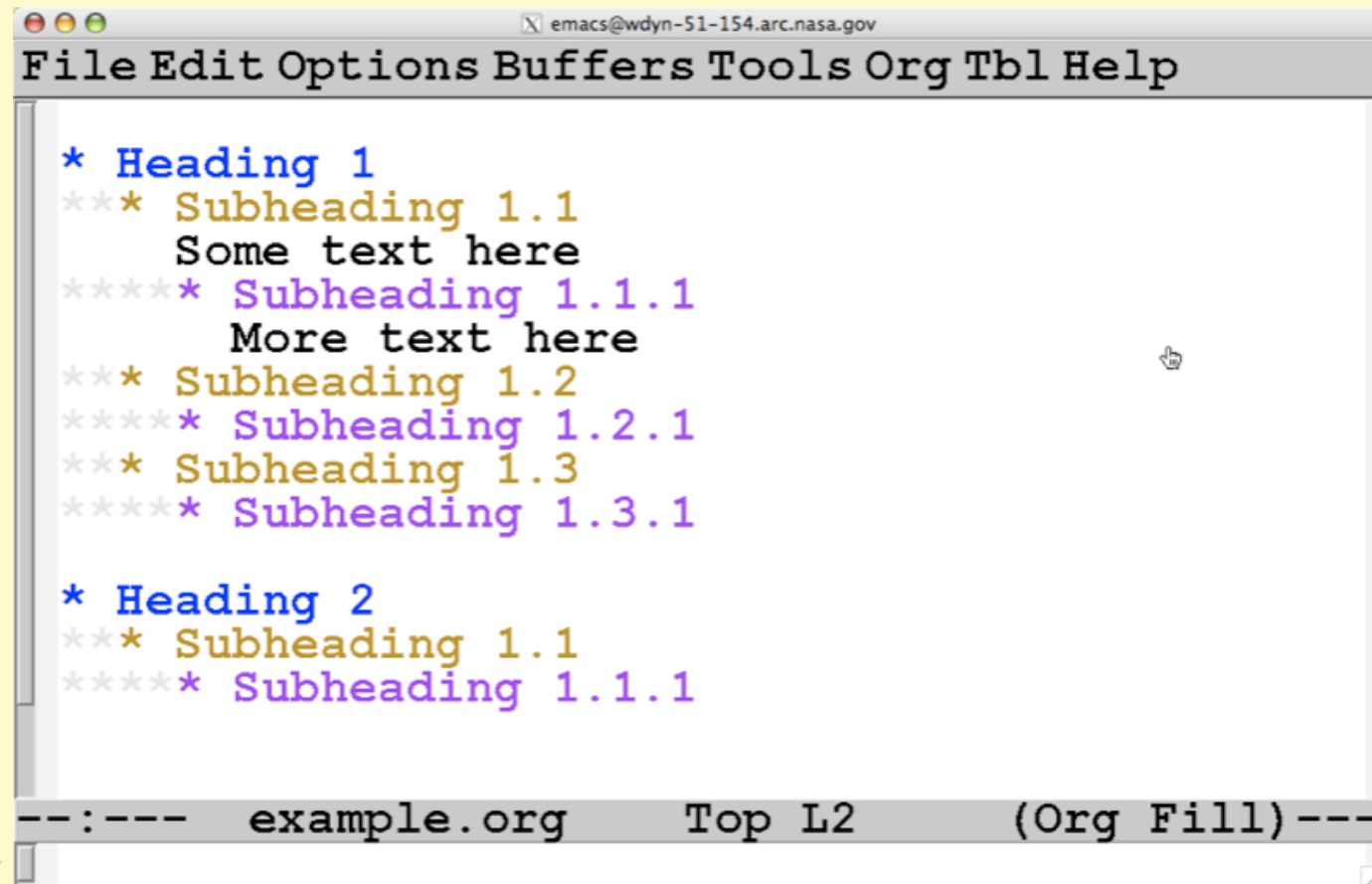
* Heading 2
  ** Subheading 1.1
  *** Subheading 1.1.1

--:--- example.org Top L2 (Outline Fill)
```





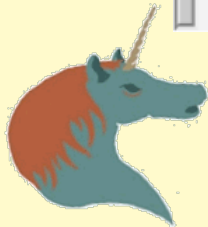
# Step I: Fixing Outline-Mode - visually



```
* Heading 1
*** Subheading 1.1
    Some text here
**** Subheading 1.1.1
    More text here
*** Subheading 1.2
**** Subheading 1.2.1
*** Subheading 1.3
**** Subheading 1.3.1

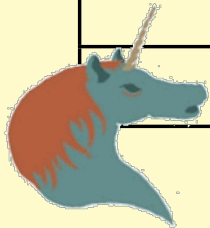
* Heading 2
*** Subheading 1.1
**** Subheading 1.1.1
```

---:--- example.org Top L2 (Org Fill)---



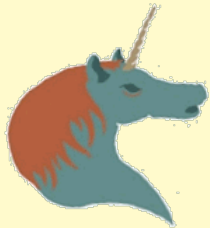
# Step II: Fixing Outline-Mode - Keys

Action	Keys
Hide everything	C-c C-t
Show everything	C-c C-a
Show children	C-c C-i
Show subtree	C-c C-s
Hide subtree	C-c C-d
Show body of current heading	C-c C-e
Hide body of current heading	C-c C-c
Show branches (heading tree)	C-c C-k
Hide leaves	C-c C-l
Hide sublevels	C-c C-q
Hide other	C-c C-o



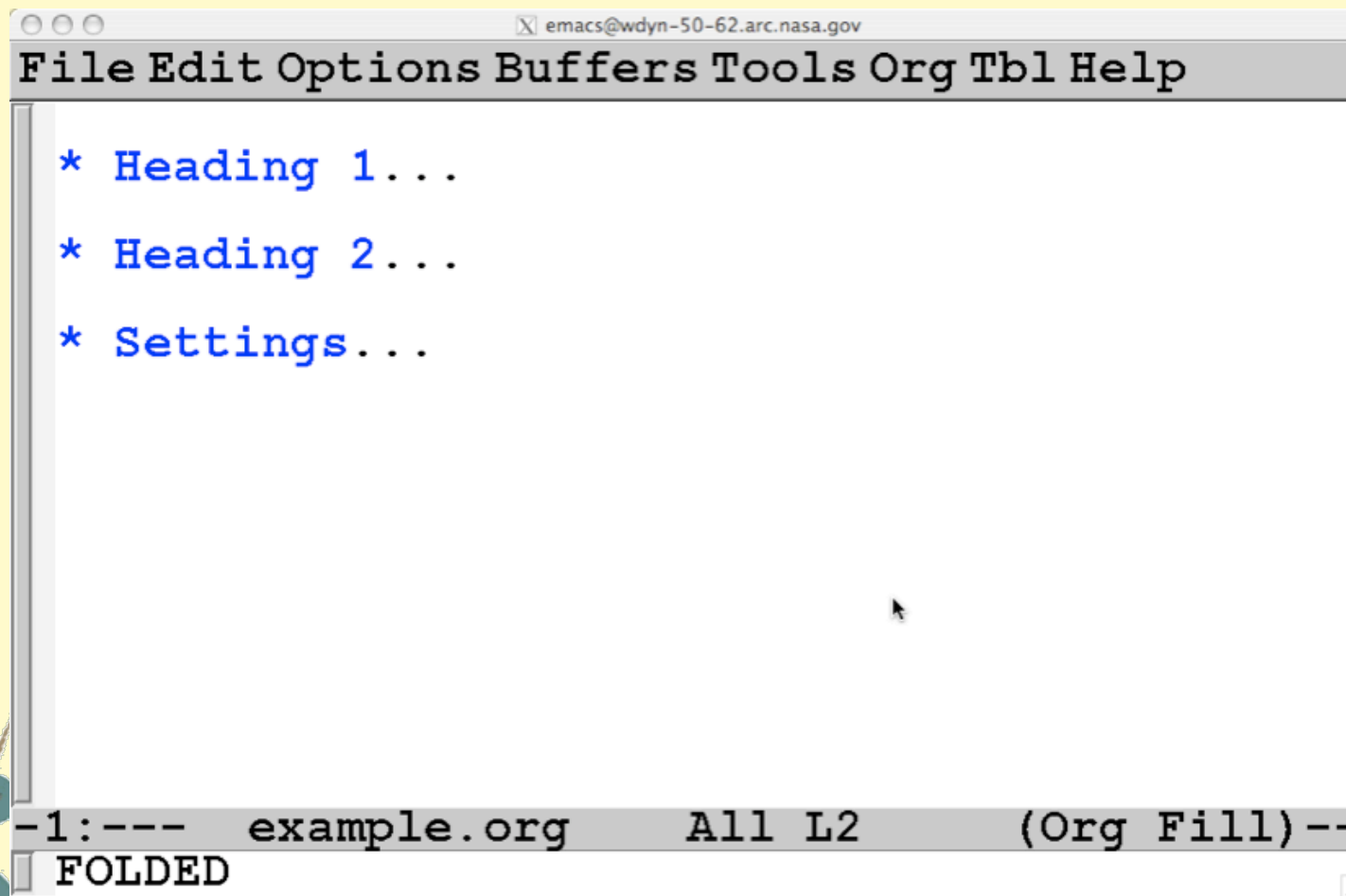
# Step II: Fixing Outline-Mode - Keys

Action	Key
Cycle subtree	TAB
Cycle globally	S-TAB



# Visibility Cycling with just 2 Commands

## 3x TAB, and 3x S-TAB



The image shows an Emacs window titled "emacs@wdyn-50-62.arc.nasa.gov". The menu bar includes "File Edit Options Buffers Tools Org Tbl Help". The main text area contains three lines of Org-mode text, all in blue: "\* Heading 1...", "\* Heading 2...", and "\* Settings...". At the bottom, the status bar shows "-1:--- example.org All L2 (Org Fill)---" and a "FOLDED" indicator on the left. A small mouse cursor is visible in the center of the text area.

```
File Edit Options Buffers Tools Org Tbl Help

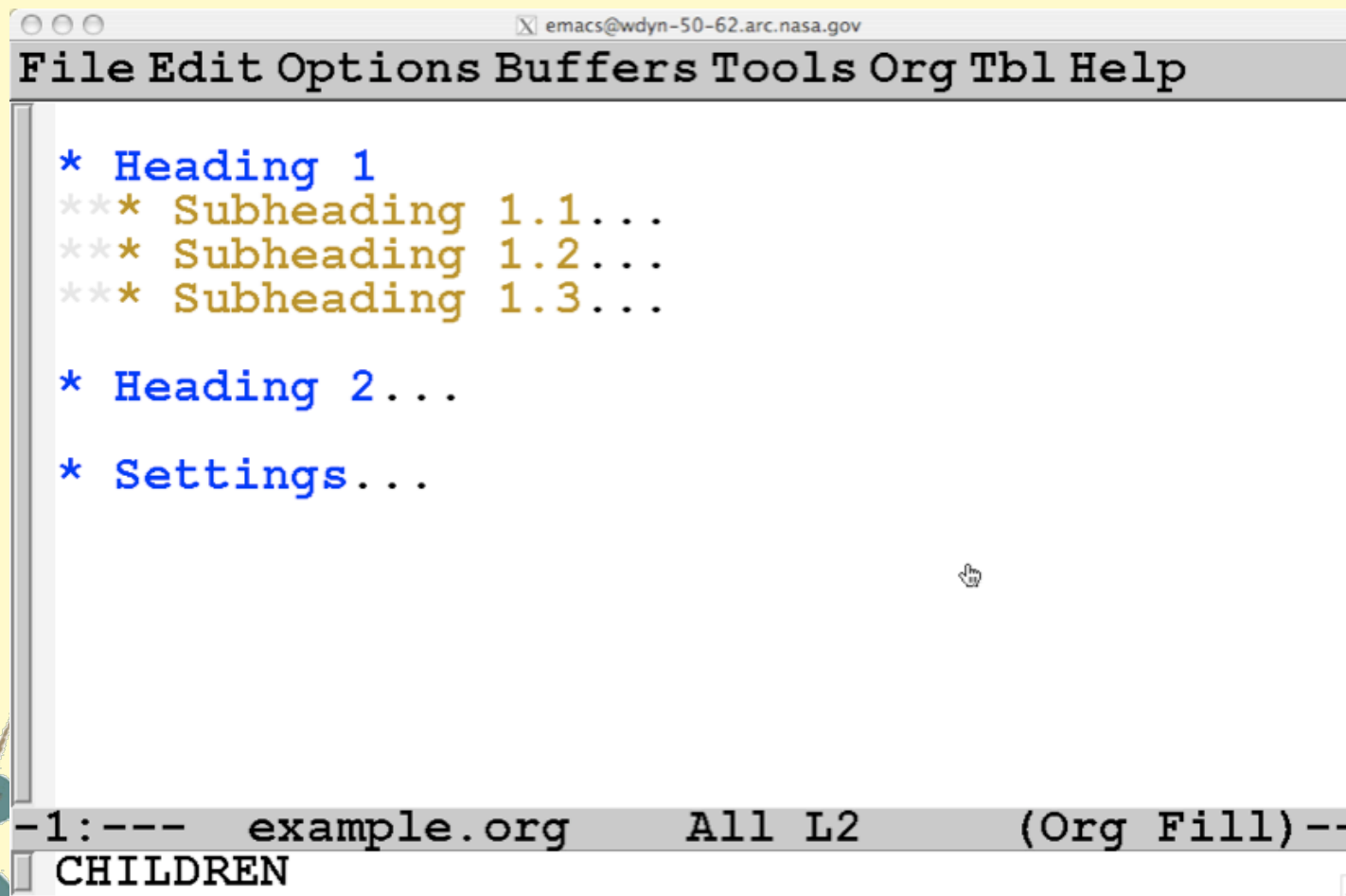
* Heading 1...
* Heading 2...
* Settings...

-1:--- example.org All L2 (Org Fill)---
FOLDED
```



# Visibility Cycling with just 2 Commands

## 3x TAB, and 3x S-TAB



The image shows an Emacs window titled 'emacs@wdyn-50-62.arc.nasa.gov'. The menu bar includes 'File Edit Options Buffers Tools Org Tbl Help'. The main text area displays an Org-mode document with the following structure:

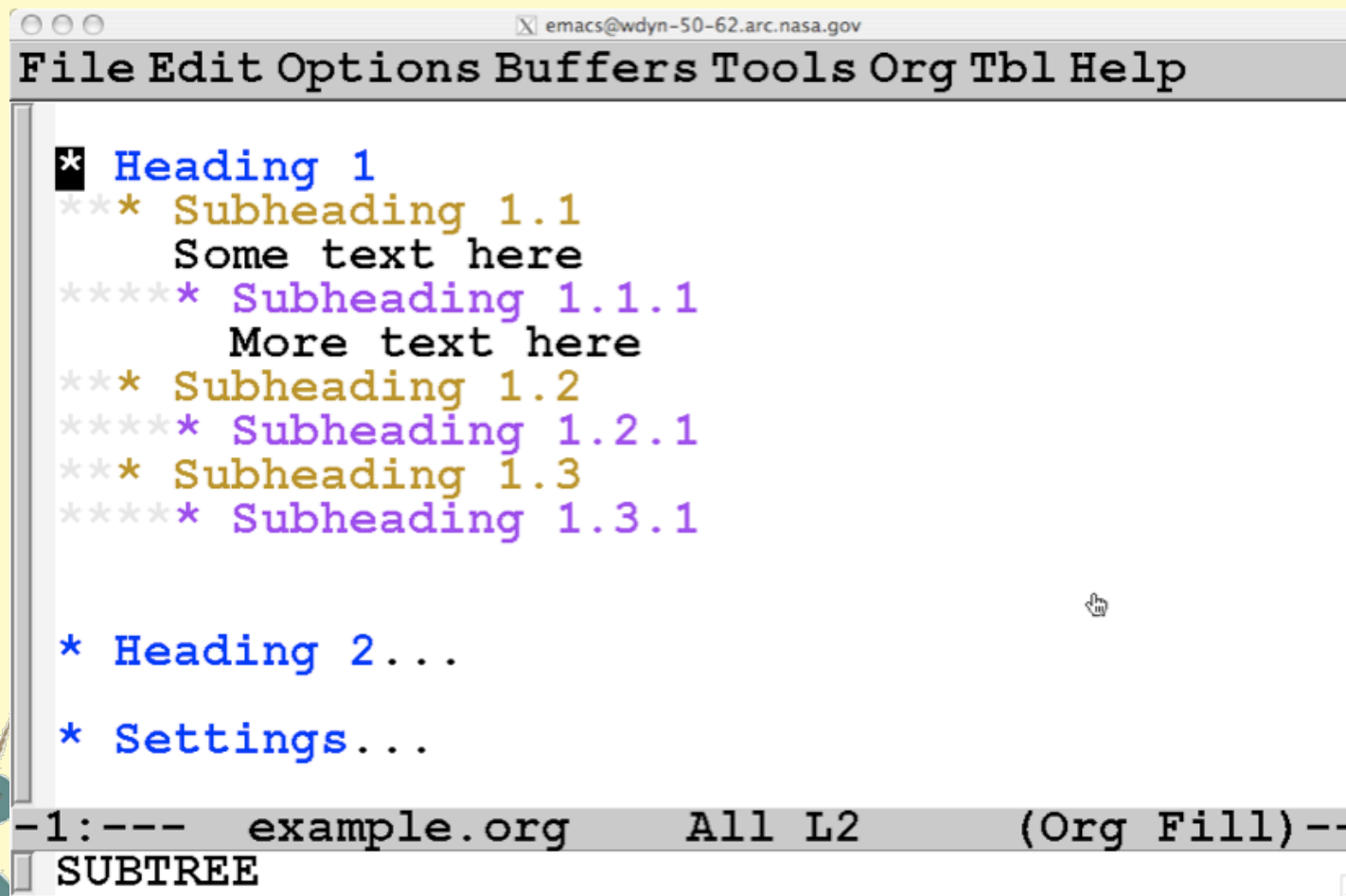
- \* Heading 1
  - \*\*\* Subheading 1.1...
  - \*\*\* Subheading 1.2...
  - \*\*\* Subheading 1.3...
- \* Heading 2...
- \* Settings...

The status bar at the bottom shows '-1:--- example.org All L2 (Org Fill)--' and 'CHILDREN'. A small mouse cursor is visible near the bottom right of the text area.



# Visibility Cycling with just 2 Commands

## 3x TAB, and 3x S-TAB



The image shows an Emacs window titled "emacs@wdyn-50-62.arc.nasa.gov". The menu bar includes "File Edit Options Buffers Tools Org Tbl Help". The main text area displays an Org-mode file with the following structure:

```
* Heading 1
*** Subheading 1.1
    Some text here
***** Subheading 1.1.1
        More text here
*** Subheading 1.2
***** Subheading 1.2.1
*** Subheading 1.3
***** Subheading 1.3.1

* Heading 2...

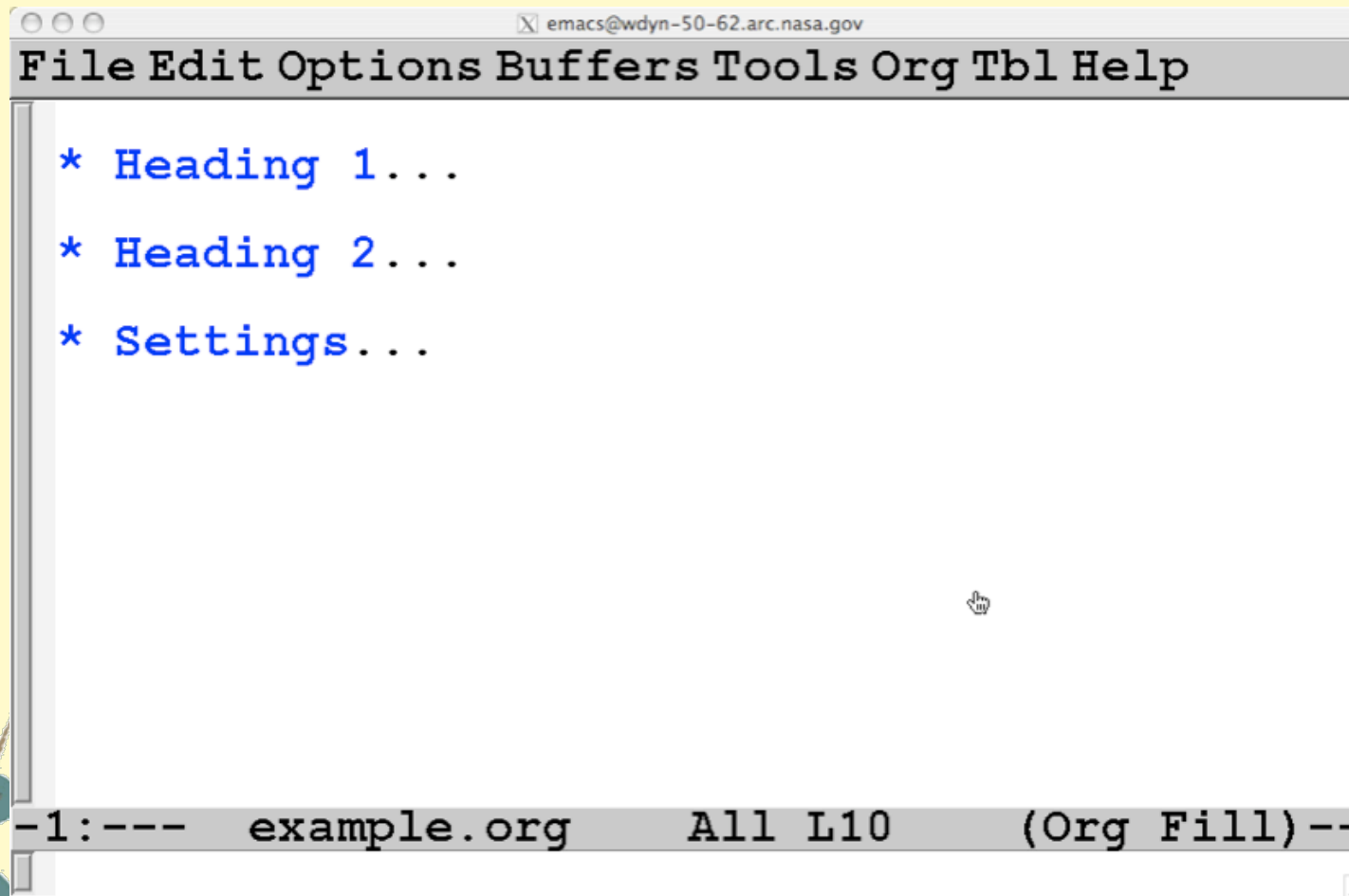
* Settings...
```

The status bar at the bottom shows "-1:--- example.org All L2 (Org Fill)--" and a "SUBTREE" button on the left.



# Visibility Cycling with just 2 Commands

## 3x TAB, and 3x S-TAB



The image shows an Emacs window titled "emacs@wdyn-50-62.arc.nasa.gov". The menu bar includes "File Edit Options Buffers Tools Org Tbl Help". The main text area contains three blue headings: "\* Heading 1...", "\* Heading 2...", and "\* Settings...". The status bar at the bottom displays "-1:--- example.org All L10 (Org Fill)--". A small cursor icon is visible in the text area.

```
File Edit Options Buffers Tools Org Tbl Help

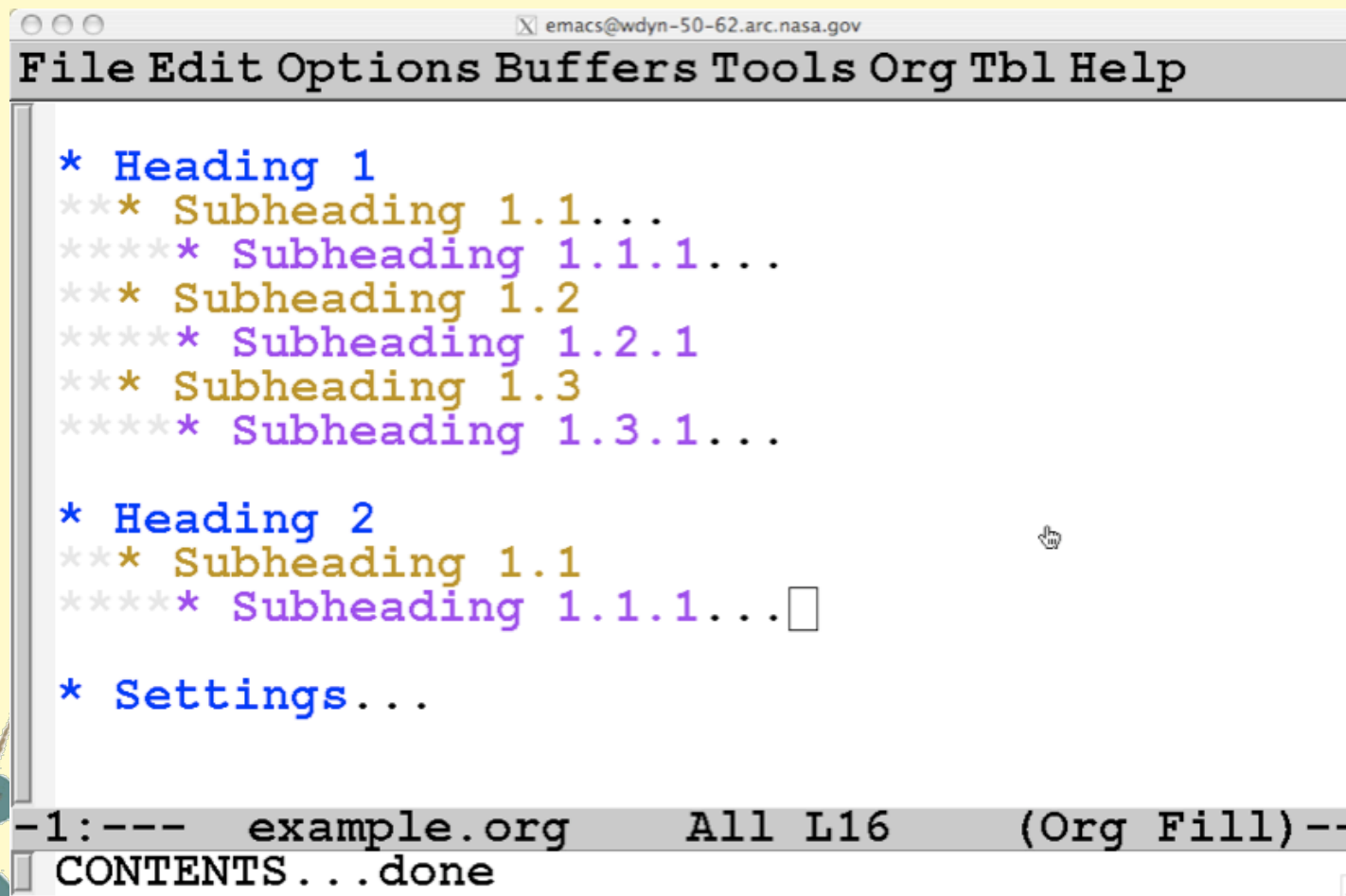
* Heading 1...
* Heading 2...
* Settings...

-1:--- example.org All L10 (Org Fill)--
```



# Visibility Cycling with just 2 Commands

## 3x TAB, and 3x S-TAB



The image shows an Emacs window titled 'emacs@wdyn-50-62.arc.nasa.gov'. The menu bar includes 'File Edit Options Buffers Tools Org Tbl Help'. The main text area displays an Org-mode document with the following structure:

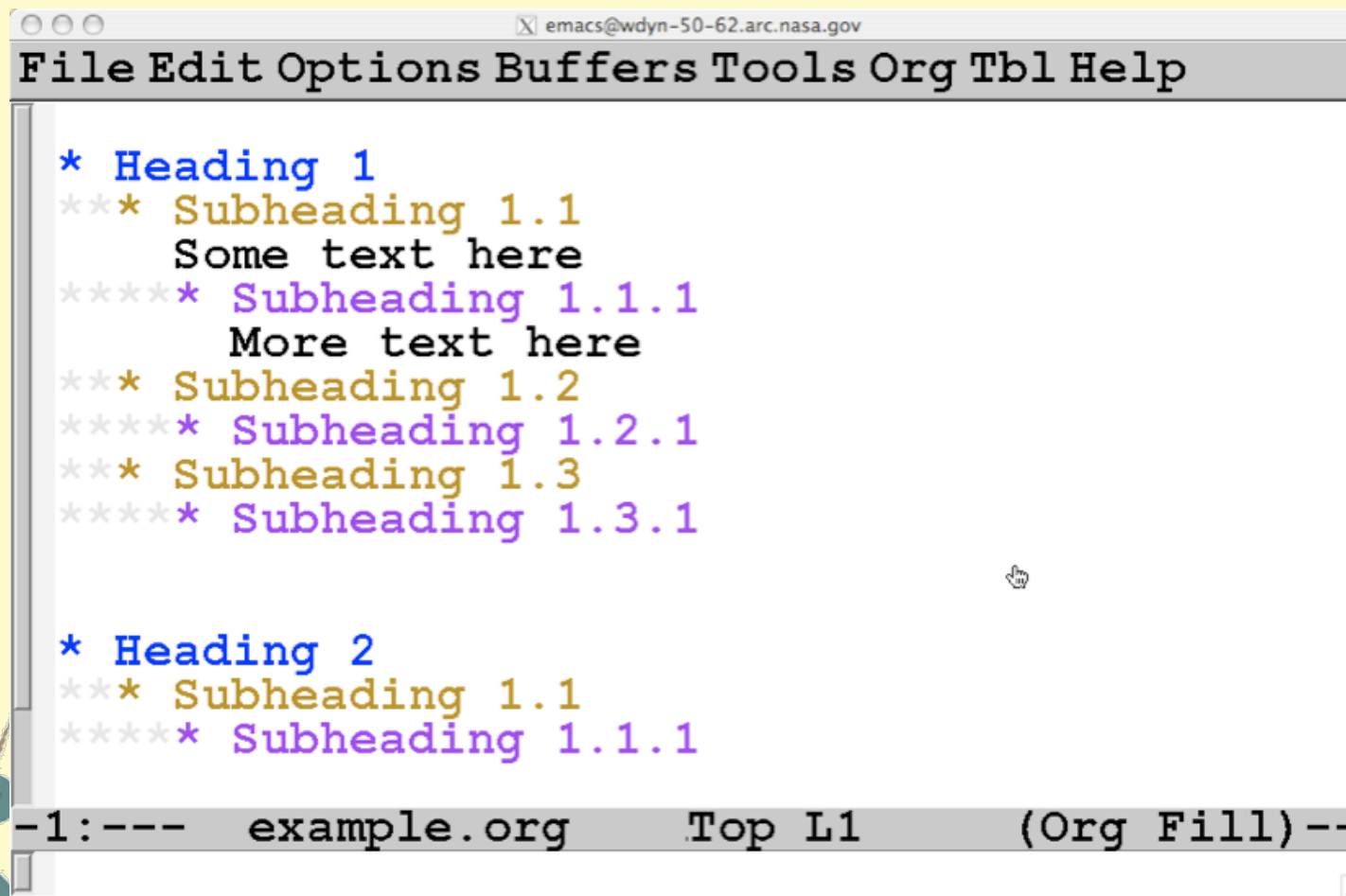
- \* Heading 1
  - \*\*\* Subheading 1.1...
    - \*\*\*\*\* Subheading 1.1.1...
  - \*\*\* Subheading 1.2
    - \*\*\*\*\* Subheading 1.2.1
  - \*\*\* Subheading 1.3
    - \*\*\*\*\* Subheading 1.3.1...
- \* Heading 2
  - \*\*\* Subheading 1.1
    - \*\*\*\*\* Subheading 1.1.1... ☐
- \* Settings...

The status bar at the bottom shows '-1:--- example.org All L16 (Org Fill)--' and 'CONTENTS...done'. A small unicorn icon is visible in the bottom left corner of the Emacs window.



# Visibility Cycling with just 2 Commands

## 3x TAB, and 3x S-TAB



The image shows an Emacs window titled 'emacs@wdyn-50-62.arc.nasa.gov'. The menu bar includes 'File Edit Options Buffers Tools Org Tbl Help'. The main text area displays an Org-mode document with two sections. The first section, 'Heading 1', contains three subheadings: 'Subheading 1.1' (with text 'Some text here'), 'Subheading 1.1.1' (with text 'More text here'), and 'Subheading 1.2'. The second section, 'Heading 2', contains two subheadings: 'Subheading 1.1' and 'Subheading 1.1.1'. The text is color-coded: blue for headings, orange for subheadings, and purple for further subheadings. The status bar at the bottom shows '-1:--- example.org Top L1 (Org Fill)--'. A small mouse cursor is visible near the bottom right of the text area.

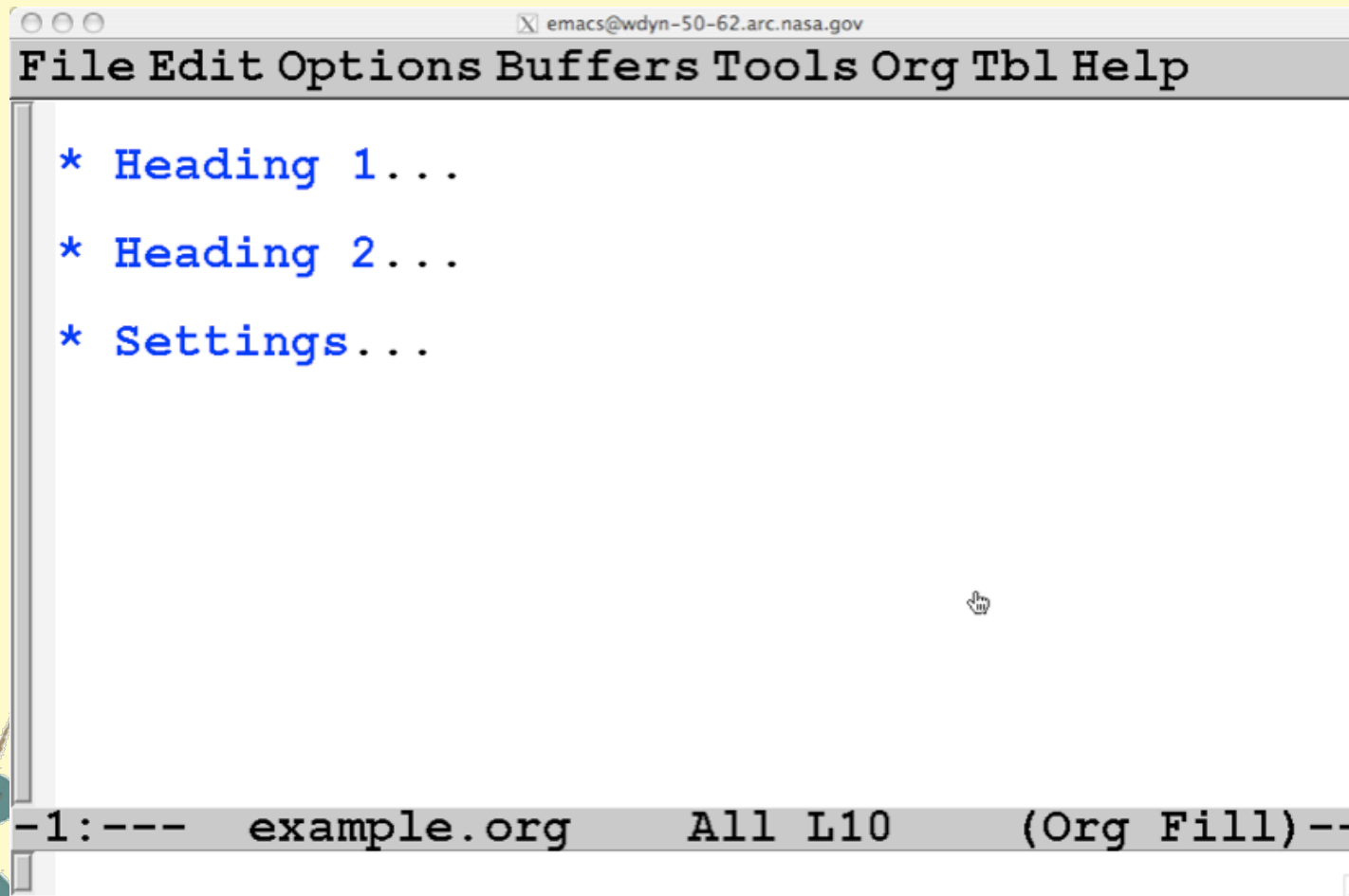
```
* Heading 1
*** Subheading 1.1
    Some text here
**** Subheading 1.1.1
    More text here
*** Subheading 1.2
**** Subheading 1.2.1
*** Subheading 1.3
**** Subheading 1.3.1

* Heading 2
*** Subheading 1.1
**** Subheading 1.1.1
```



# Visibility Cycling with just 2 Commands

## 3x TAB, and 3x S-TAB



A screenshot of an Emacs window titled "emacs@wdyn-50-62.arc.nasa.gov". The menu bar includes "File Edit Options Buffers Tools Org Tbl Help". The main text area shows three lines of Org-mode text: "\* Heading 1...", "\* Heading 2...", and "\* Settings...". The status bar at the bottom displays "-1:--- example.org All L10 (Org Fill)--". A small mouse cursor is visible in the center of the text area.

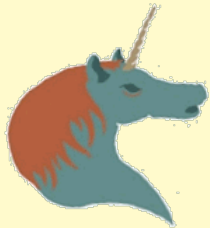
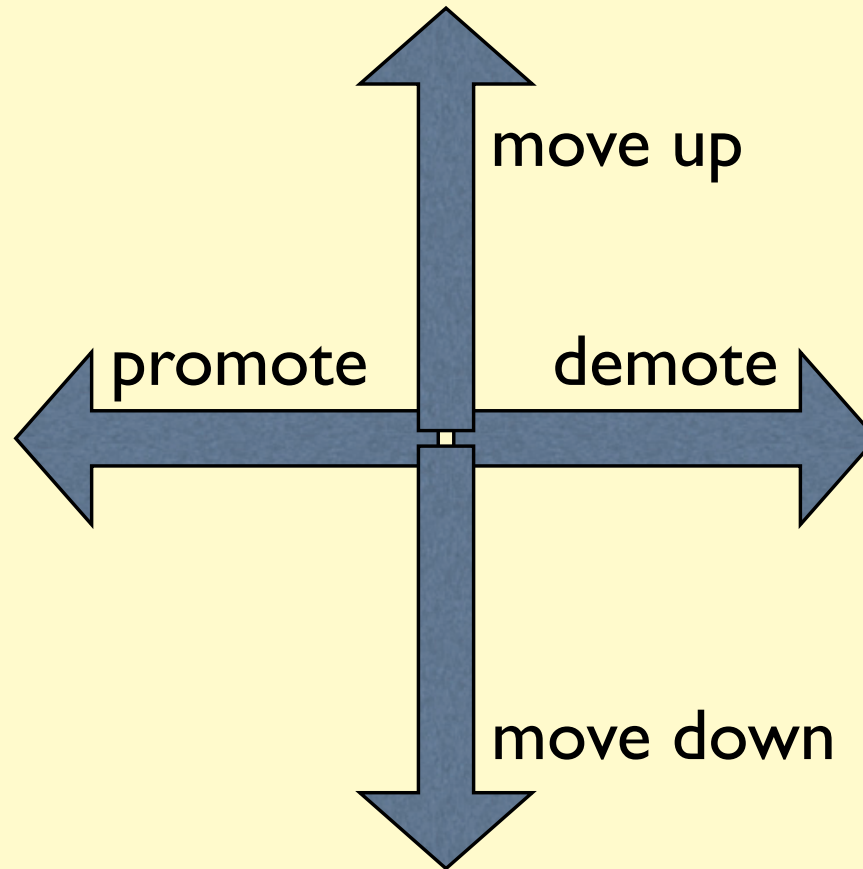
```
File Edit Options Buffers Tools Org Tbl Help

* Heading 1...
* Heading 2...
* Settings...

-1:--- example.org All L10 (Org Fill)--
```



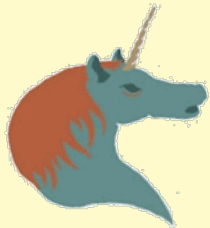
## Step II: Easy Structure Editing



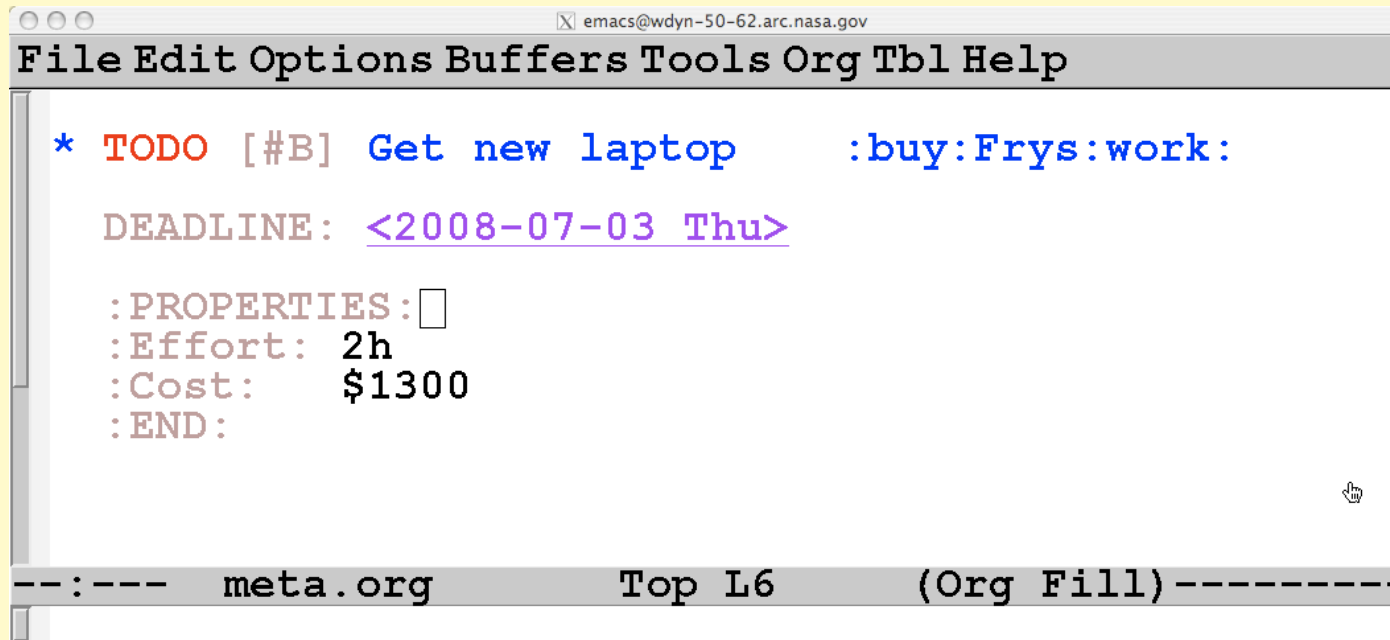
Hold down Meta or M-S while using cursor keys

# Org-mode as a Note Taking Application

- Greatly improves the standard text- and outline-modes
- Supports editing ordered and unordered lists
- Hyperlinks, internal and external  
to gnus, bbdb, all emacs mail programs, files, webpages,  
erc, unix man pages, info pages... - extensible
- Plain-text table editor and spreadsheet
- Embedded LaTeX for taking notes  
during science classes



# Step IV: Meta Data

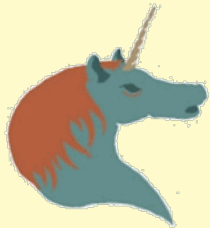


The screenshot shows an Emacs window titled "emacs@wdyn-50-62.arc.nasa.gov". The menu bar includes "File Edit Options Buffers Tools Org Tbl Help". The main text area contains the following Org-mode entry:

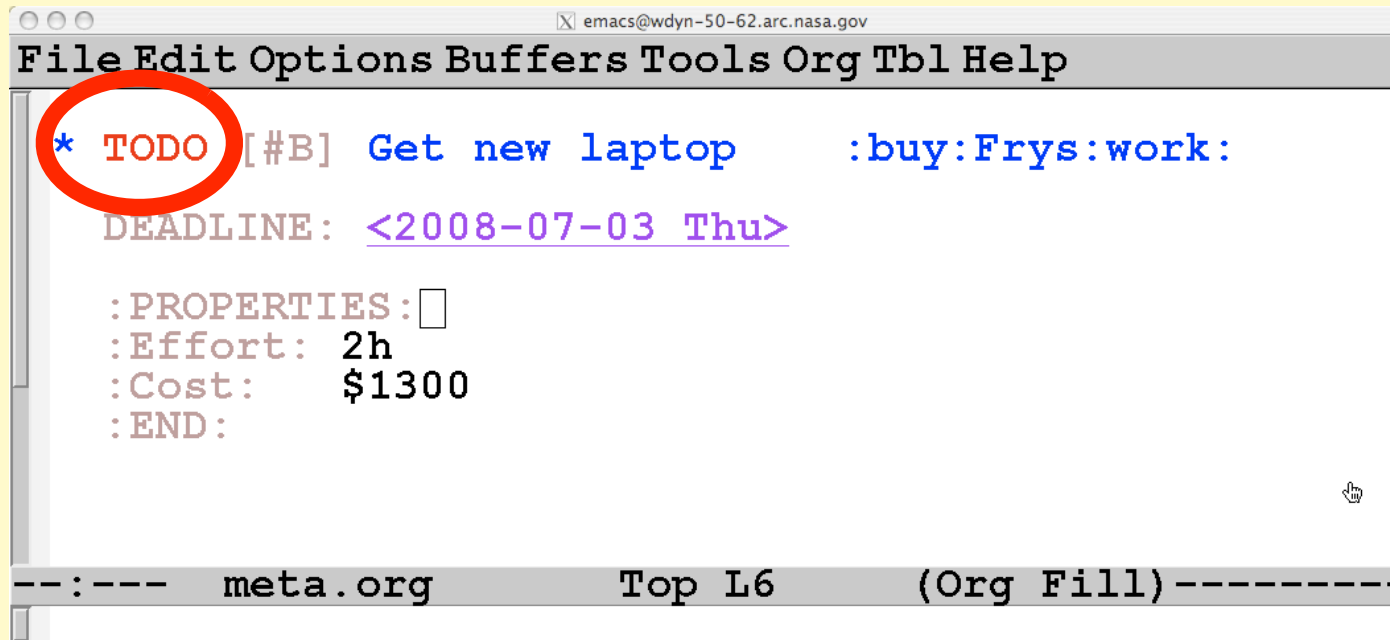
```
* TODO [#B] Get new laptop      :buy:Frys:work:
  DEADLINE: <2008-07-03 Thu>

  :PROPERTIES:
  :Effort: 2h
  :Cost: $1300
  :END:
```

The status bar at the bottom displays "--:--- meta.org Top L6 (Org Fill) -----".



# Step IV: Meta Data

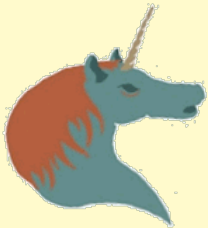


The screenshot shows an Emacs window titled "emacs@wdyn-50-62.arc.nasa.gov". The menu bar includes "File Edit Options Buffers Tools Org Tbl Help". The main text area contains the following Org-mode entry:

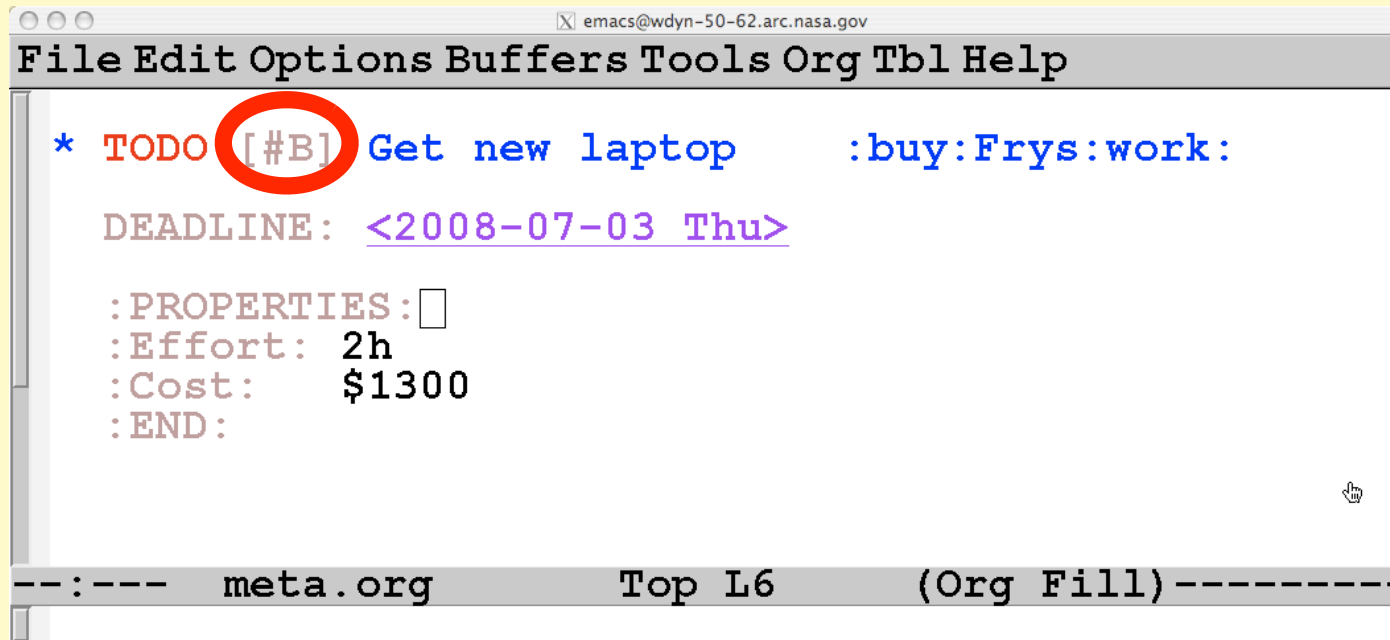
```
* TODO [#B] Get new laptop      :buy:Frys:work:
  DEADLINE: <2008-07-03 Thu>

  :PROPERTIES:
  :Effort: 2h
  :Cost: $1300
  :END:
```

The word "TODO" is circled in red. The status bar at the bottom displays "--:--- meta.org Top L6 (Org Fill) -----".



# Step IV: Meta Data

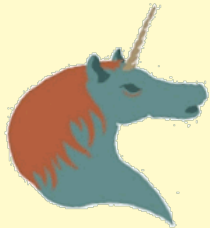


The screenshot shows an Emacs window titled "emacs@wdyn-50-62.arc.nasa.gov". The menu bar includes "File Edit Options Buffers Tools Org Tbl Help". The main text area contains the following Org-mode entry:

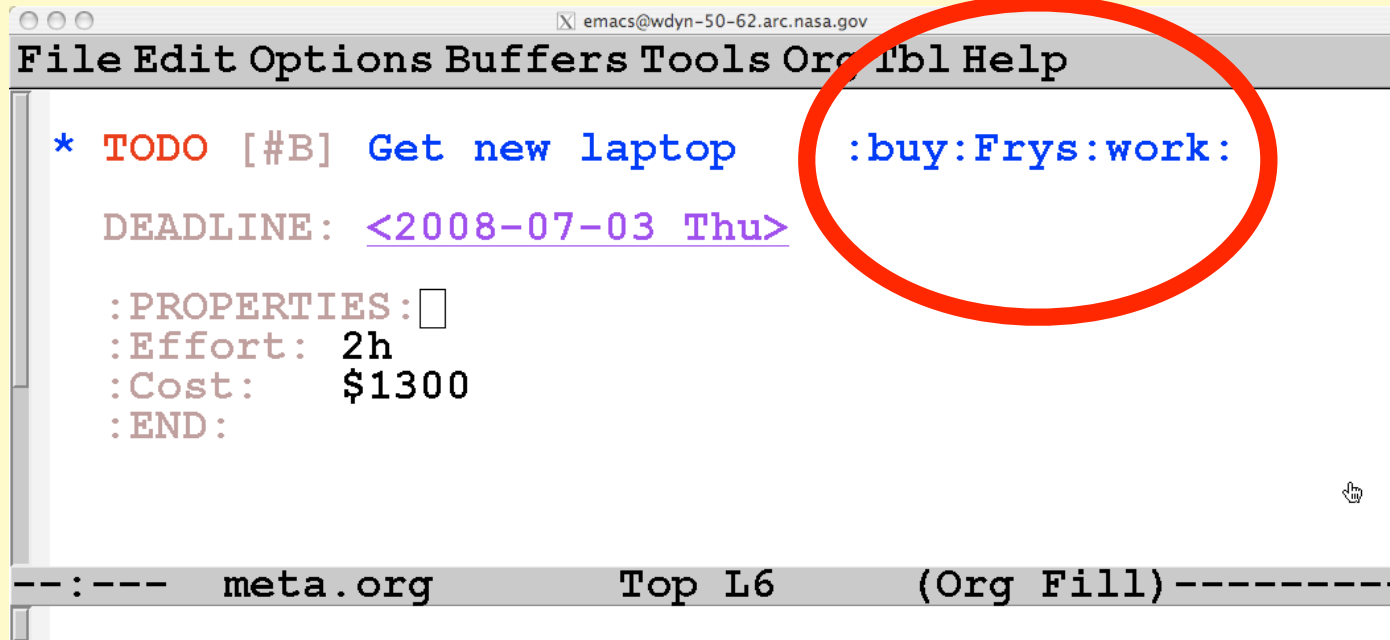
```
* TODO [#B] Get new laptop      :buy:Frys:work:
  DEADLINE: <2008-07-03 Thu>

  :PROPERTIES:
  :Effort: 2h
  :Cost: $1300
  :END:
```

The "[#B]" is circled in red. The status bar at the bottom displays "--:--- meta.org Top L6 (Org Fill) -----".



# Step IV: Meta Data

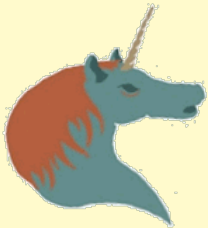


```
emacs@wdyn-50-62.arc.nasa.gov
File Edit Options Buffers Tools Orgtbl Help

* TODO [#B] Get new laptop :buy:Frys:work:
  DEADLINE: <2008-07-03 Thu>

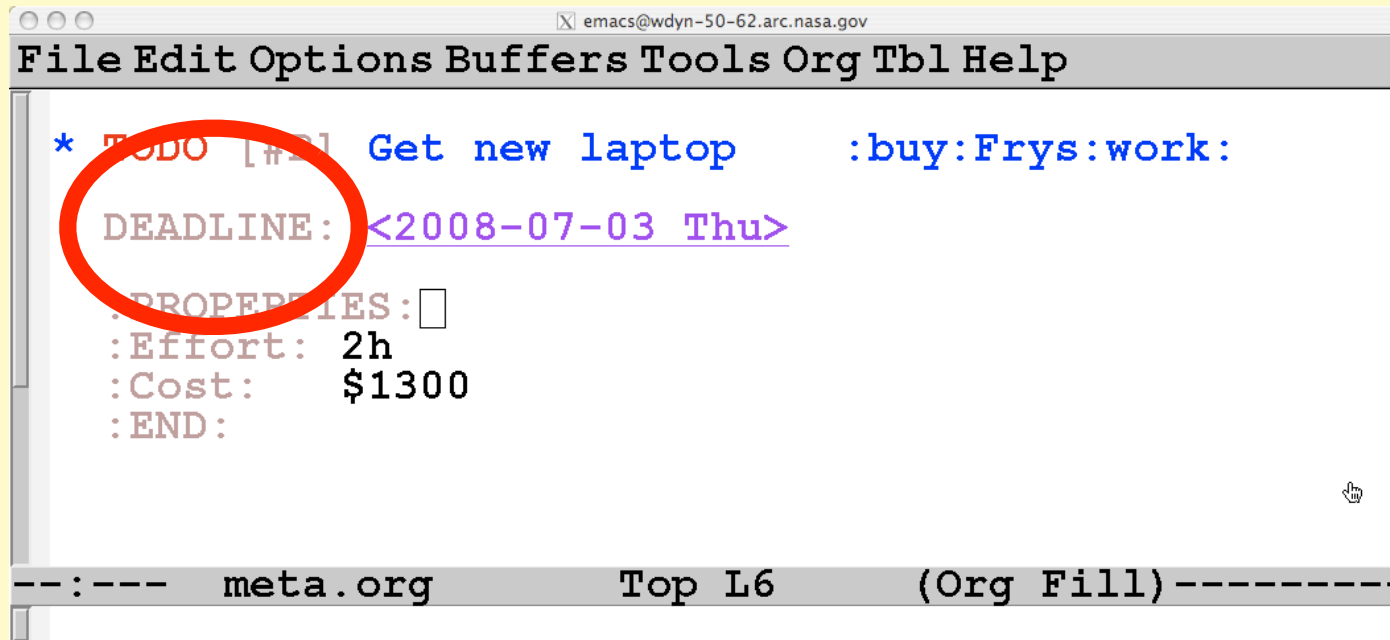
  :PROPERTIES:
  :Effort: 2h
  :Cost: $1300
  :END:

--:-- meta.org Top L6 (Org Fill) -----
```





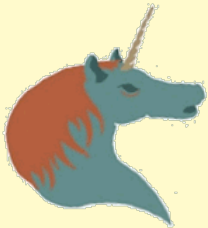
# Step IV: Meta Data



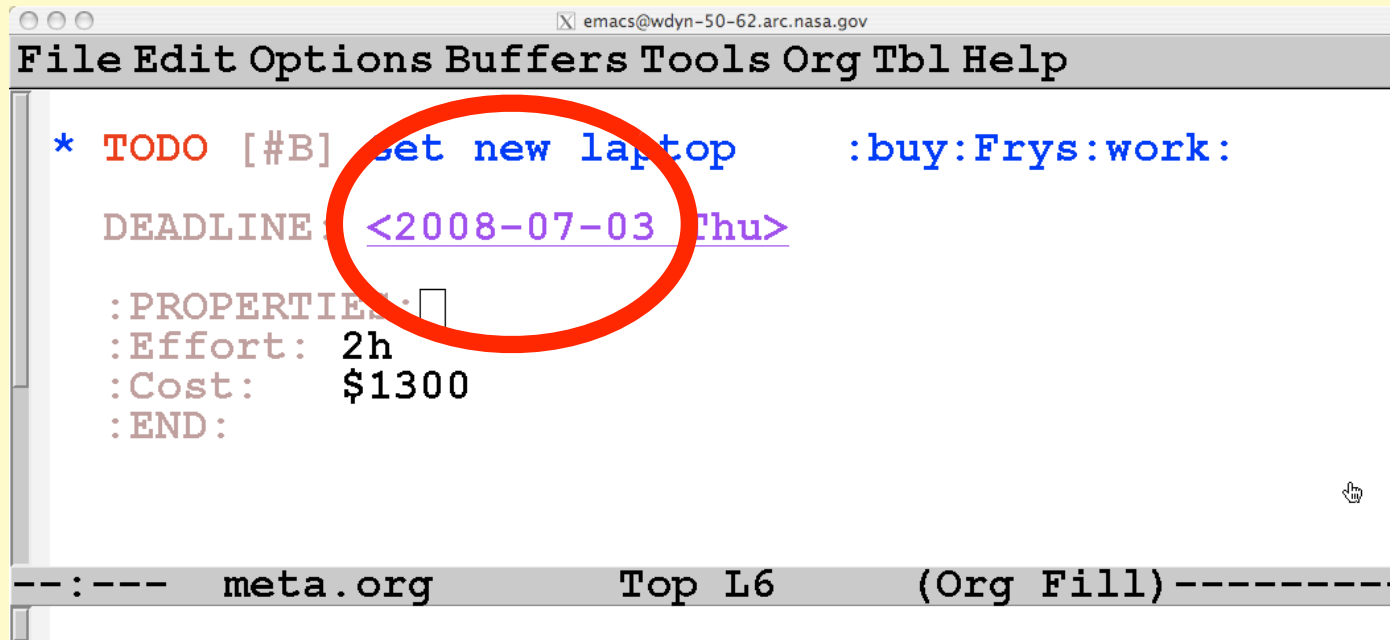
The screenshot shows an Emacs window titled "emacs@wdyn-50-62.arc.nasa.gov". The menu bar includes "File Edit Options Buffers Tools Org Tbl Help". The main text area contains the following Org-mode entry:

```
* TODO [#A] Get new laptop      :buy:Frys:work:
  DEADLINE: <2008-07-03 Thu>
  .PROPERTIES: ☐
  :Effort: 2h
  :Cost: $1300
  :END:
```

A red circle highlights the "DEADLINE:" field. The status bar at the bottom displays "--:--- meta.org Top L6 (Org Fill) -----".



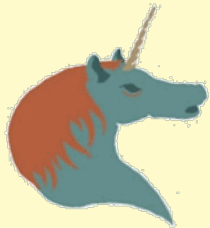
# Step IV: Meta Data



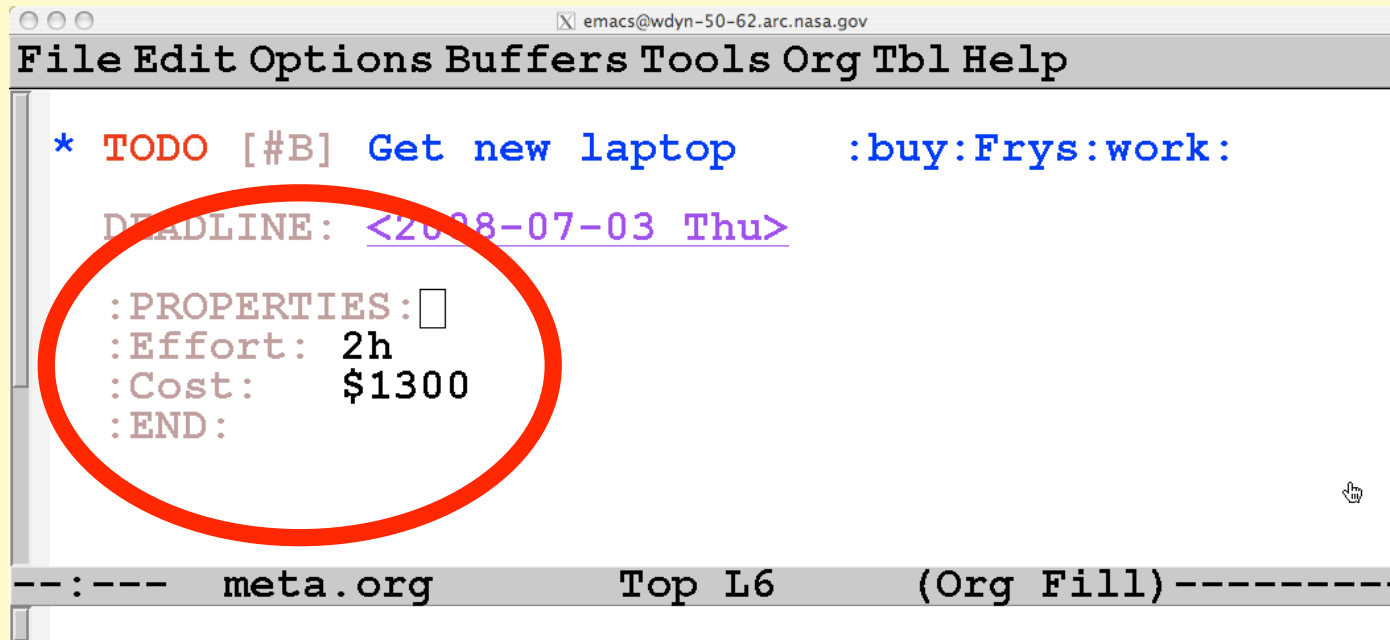
The screenshot shows an Emacs window titled "emacs@wdyn-50-62.arc.nasa.gov". The menu bar includes "File Edit Options Buffers Tools Org Tbl Help". The main text area contains the following Org-mode entry:

```
* TODO [#B] set new laptop :buy:Frys:work:
  DEADLINE: <2008-07-03 Thu>
  :PROPERTIES:
  :Effort: 2h
  :Cost: $1300
  :END:
```

A red circle highlights the date in the DEADLINE field: <2008-07-03 Thu>. The status bar at the bottom displays: `--:--- meta.org Top L6 (Org Fill) -----`.



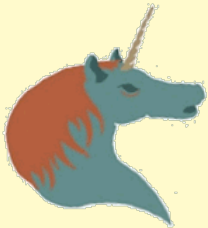
# Step IV: Meta Data



The screenshot shows an Emacs window titled "emacs@wdyn-50-62.arc.nasa.gov". The menu bar includes "File Edit Options Buffers Tools Org Tbl Help". The main text area contains the following Org-mode entry:

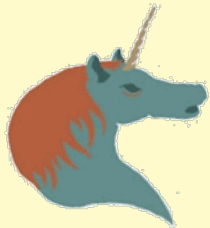
```
* TODO [#B] Get new laptop      :buy:Frys:work:
  DEADLINE: <2008-07-03 Thu>
  :PROPERTIES:
  :Effort: 2h
  :Cost: $1300
  :END:
```

A red circle highlights the meta-data section starting with `:PROPERTIES:`. The status bar at the bottom displays `--:--- meta.org Top L6 (Org Fill) -----`.



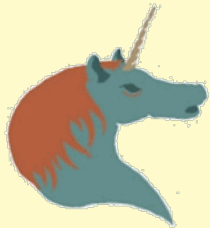
# Meta Data in a Hierarchical Document

- Downward propagation: **Inheritance**
  - Parent tags can be inherited by children
  - Parent properties can be inherited as well
- Upward propagation: **Accumulation**
  - Certain properties like numbers, times, or status flags can be summed automatically



# Special Interfaces for Meta Data

- Org-mode has special, very fast interfaces for setting and changing meta data
  - one-key-per-*tag* interface
  - *completion* wherever useful
  - a *date/time*-reading function second to none
  - *column view* for fast tabular editing of meta data in the outline hierarchy



# Special Interfaces: Date/Time

```
emacs@wdyn-50-47.arc.nasa.gov
File Edit Options Buffers Tools Minibuf Help

      June 2008
Su Mo Tu We Th Fr Sa
  1  2  3  4  5  6  7
  8  9 10 11 12 13 14
 15 16 17 18 19 20 21
 22 23 24 25 26 27 28
 29 30

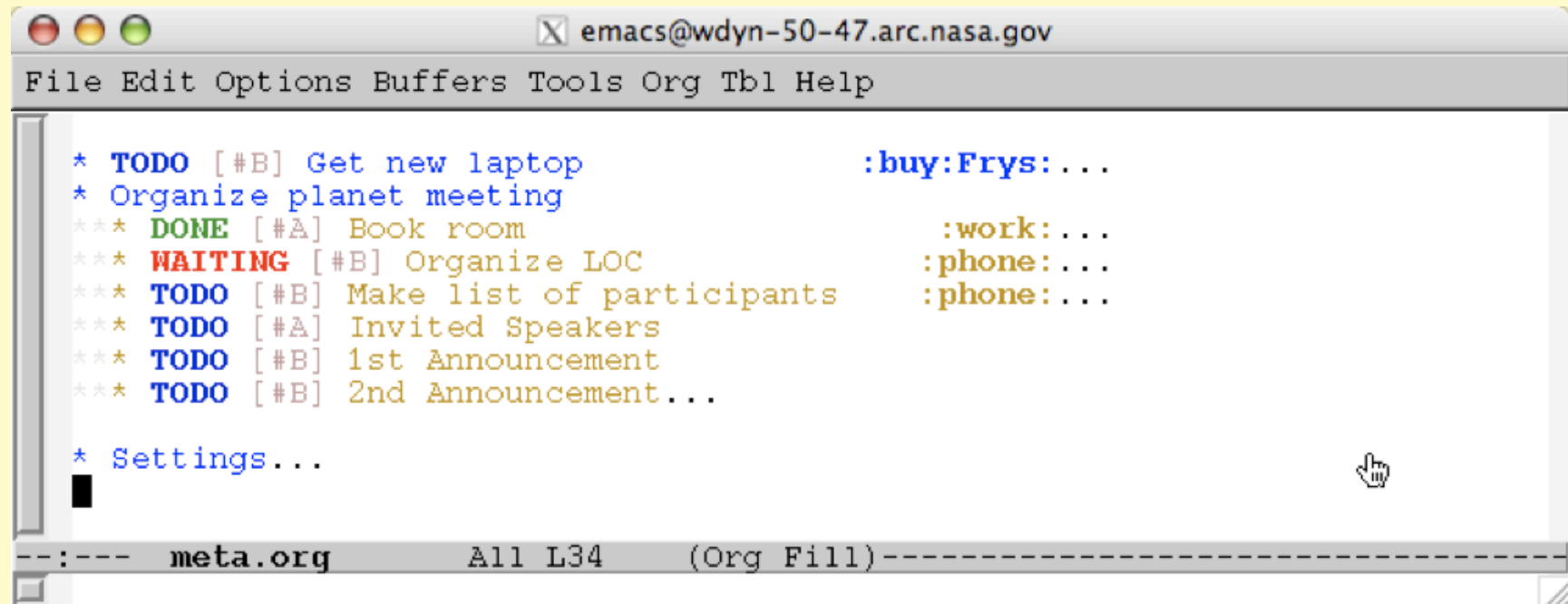
      July 2008
Su Mo Tu We Th Fr Sa
   6  7  8  9 10 11 12
  13 14 15 16 17 18 19
  20 21 22 23 24 25 26
  27 28 29 30 31

      Au>
Su Mo>
  3  4>
 10 11>
 17 18>
 24 25>
 31

< Calendar ? info / o other / . today Mon, 7 Jul 2008 >
Date+time [2008-07-07]: +2sun 2pm => <2008-07-20 Sun 14:00>
```



# Special Interfaces: Column View

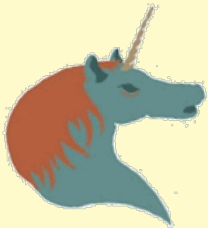


The screenshot shows an Emacs window titled 'emacs@wdyn-50-47.arc.nasa.gov'. The menu bar includes 'File Edit Options Buffers Tools Org Tbl Help'. The main text area displays an Org mode column view with the following content:

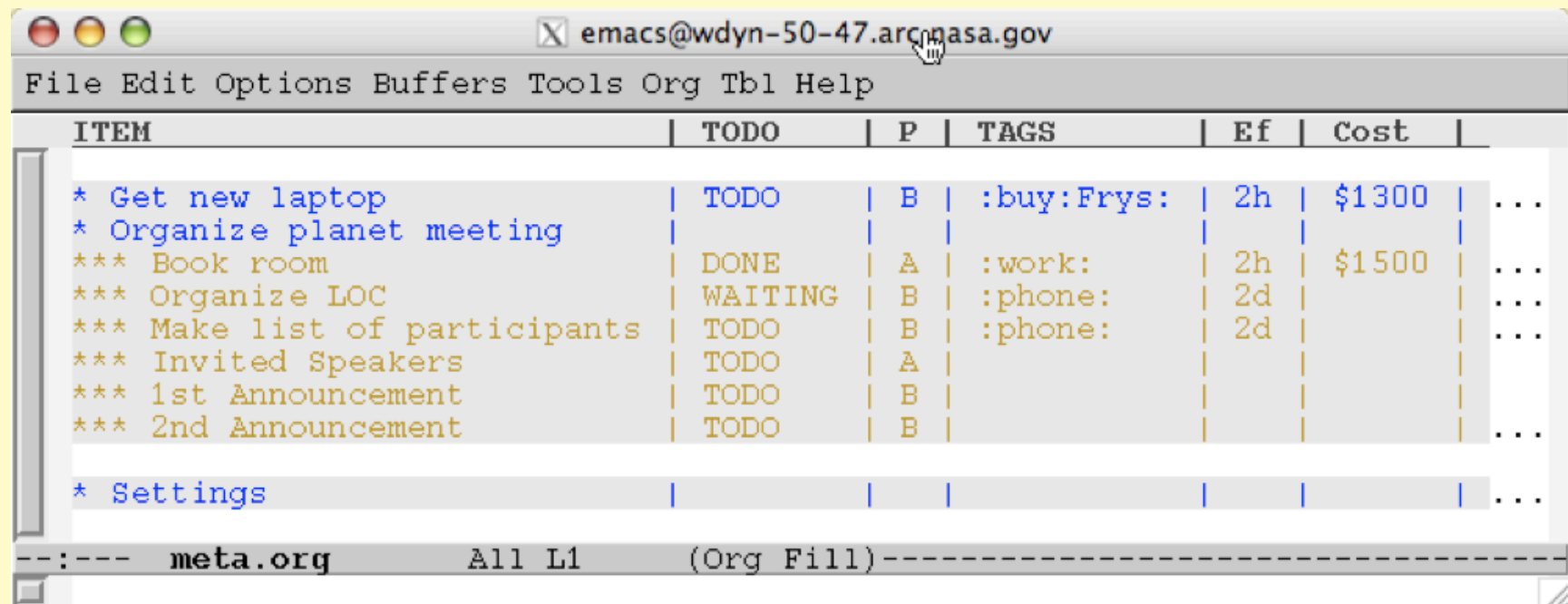
```
* TODO [#B] Get new laptop           :buy:Frys:...
* Organize planet meeting
*** DONE [#A] Book room              :work:...
*** WAITING [#B] Organize LOC         :phone:...
*** TODO [#B] Make list of participants :phone:...
*** TODO [#A] Invited Speakers
*** TODO [#B] 1st Announcement
*** TODO [#B] 2nd Announcement...

* Settings...
```

The status bar at the bottom shows 'meta.org', 'All L34', and '(Org Fill)'.



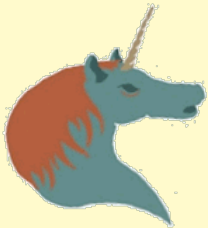
# Special Interfaces: Column View



The screenshot shows an Emacs window titled 'emacs@wdyn-50-47.arc.nasa.gov'. The menu bar includes 'File Edit Options Buffers Tools Org Tbl Help'. The main content area displays an Org mode table in column view. The table has columns: ITEM, TODO, P, TAGS, Ef, Cost, and an ellipsis column. The rows are as follows:

ITEM	TODO	P	TAGS	Ef	Cost	
* Get new laptop	TODO	B	:buy:Frys:	2h	\$1300	...
* Organize planet meeting						
*** Book room	DONE	A	:work:	2h	\$1500	...
*** Organize LOC	WAITING	B	:phone:	2d		...
*** Make list of participants	TODO	B	:phone:	2d		...
*** Invited Speakers	TODO	A				
*** 1st Announcement	TODO	B				
*** 2nd Announcement	TODO	B				...
* Settings						...

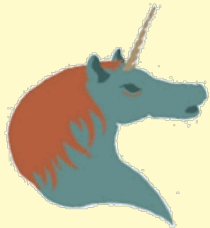
At the bottom of the window, the status bar shows 'meta.org', 'All L1', and '(Org Fill)'.



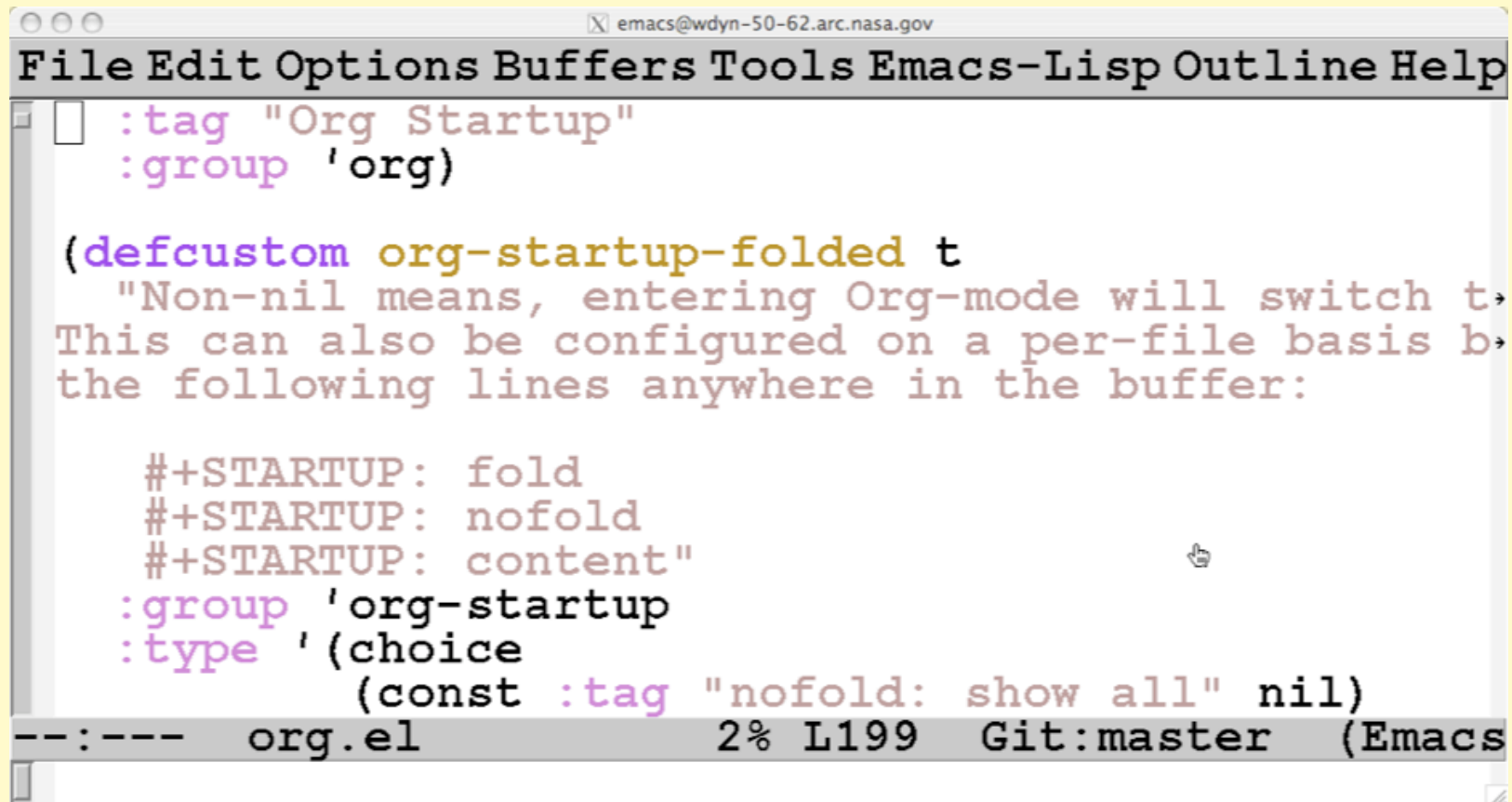


## Step V: Capture with *remember.el*

- *remember.el* by John Wiegley is the ultimate capture tool for Emacs
- Org-mode allows to set up templates for remember
- Templates define content and meta data like
  - a TODO headline
  - a link to context
  - a target location for the note



# Step V: Capture with *remember.el*



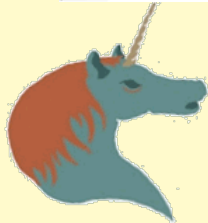
The screenshot shows an Emacs window with the title bar "emacs@wdyn-50-62.arc.nasa.gov". The menu bar includes "File Edit Options Buffers Tools Emacs-Lisp Outline Help". The main text area contains the following Emacs Lisp code:

```
:tag "Org Startup"
:group 'org)

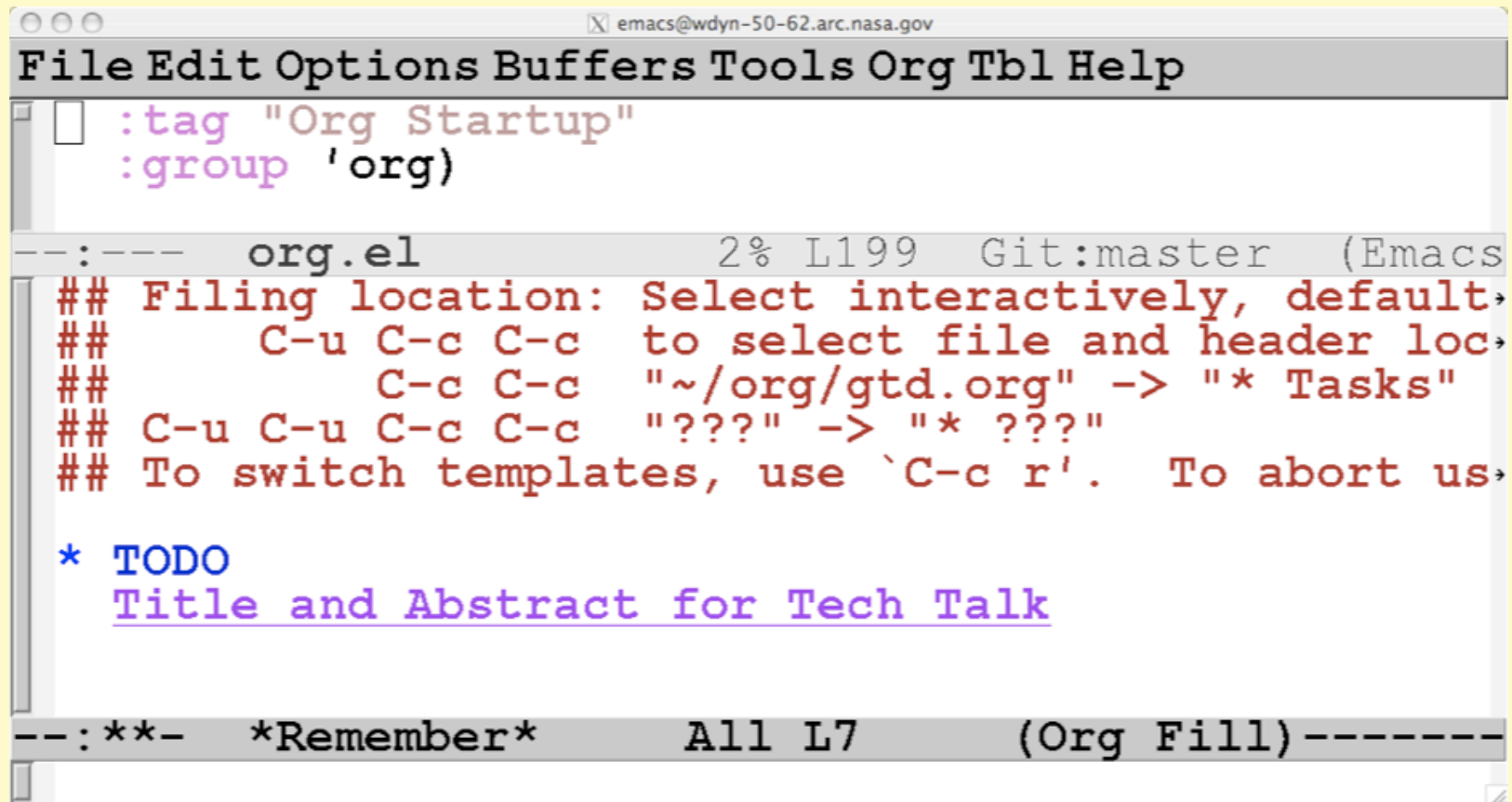
(defcustom org-startup-folded t
  "Non-nil means, entering Org-mode will switch t,
  This can also be configured on a per-file basis b,
  the following lines anywhere in the buffer:

  #+STARTUP: fold
  #+STARTUP: nofold
  #+STARTUP: content"
  :group 'org-startup
  :type '(choice
    (const :tag "nofold: show all" nil)
    (const :tag "fold" t)))
```

The status bar at the bottom shows "--:--- org.el 2% L199 Git:master (Emacs".



# Step V: Capture with *remember.el*



The screenshot shows an Emacs window with the title bar "emacs@wdyn-50-62.arc.nasa.gov". The menu bar includes "File Edit Options Buffers Tools Org Tbl Help". The main text area contains Org mode code:

```
☐ :tag "Org Startup"
:group 'org)
```

Below the code is a status bar showing "org.el", "2% L199", "Git:master", and "(Emacs".

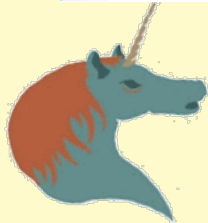
The code includes comments in red:

```
## Filing location: Select interactively, default
## C-u C-c C-c to select file and header loc
## C-c C-c "~/org/gtd.org" -> "* Tasks"
## C-u C-u C-c C-c "???" -> "* ???"
## To switch templates, use `C-c r'. To abort us
```

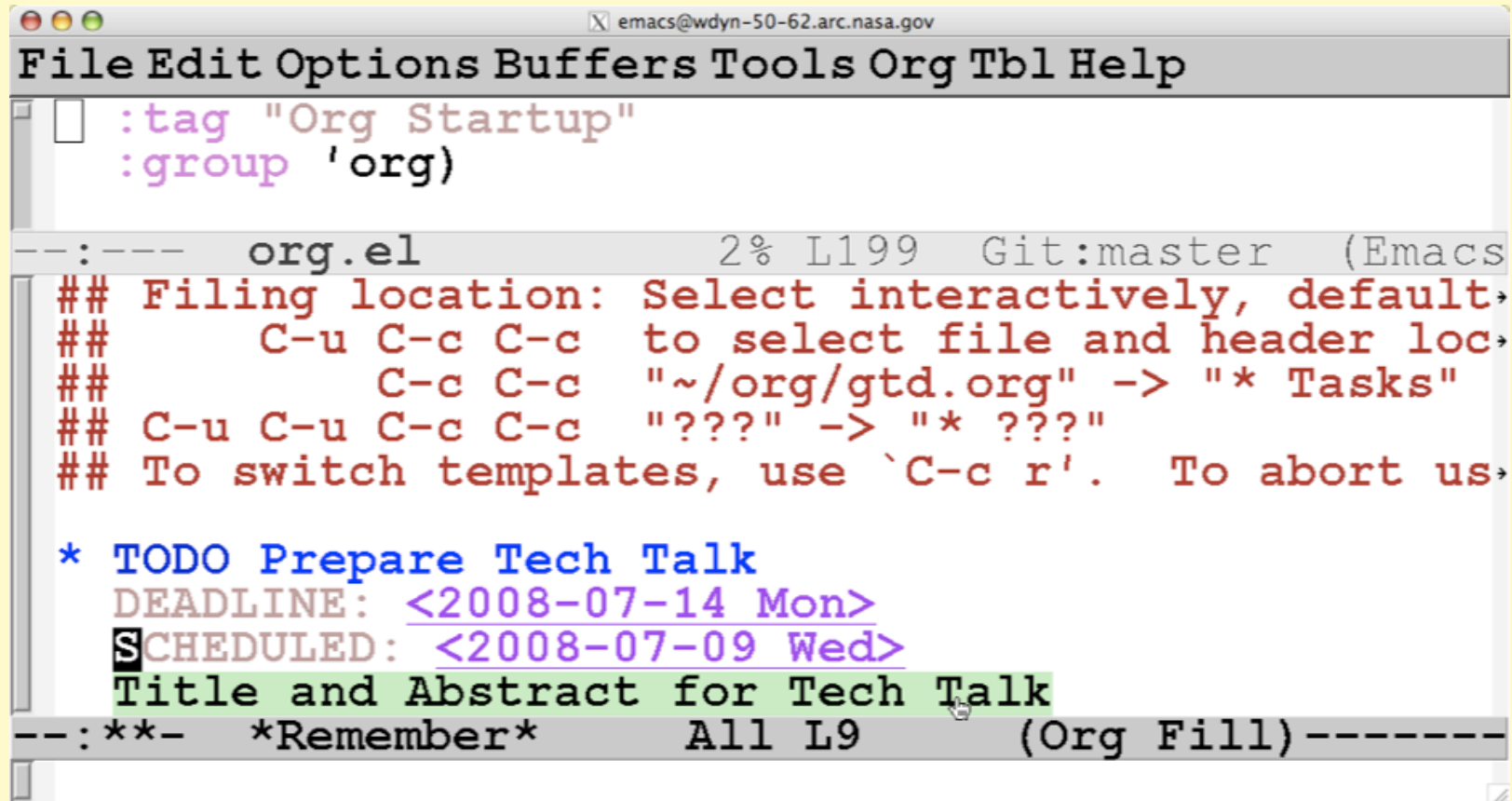
Below the comments is a todo list item in blue:

```
* TODO
  Title and Abstract for Tech Talk
```

At the bottom is another status bar showing "--: \*\*- \*Remember\* All L7 (Org Fill)-----".



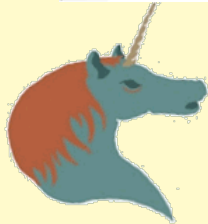
# Step V: Capture with *remember.el*



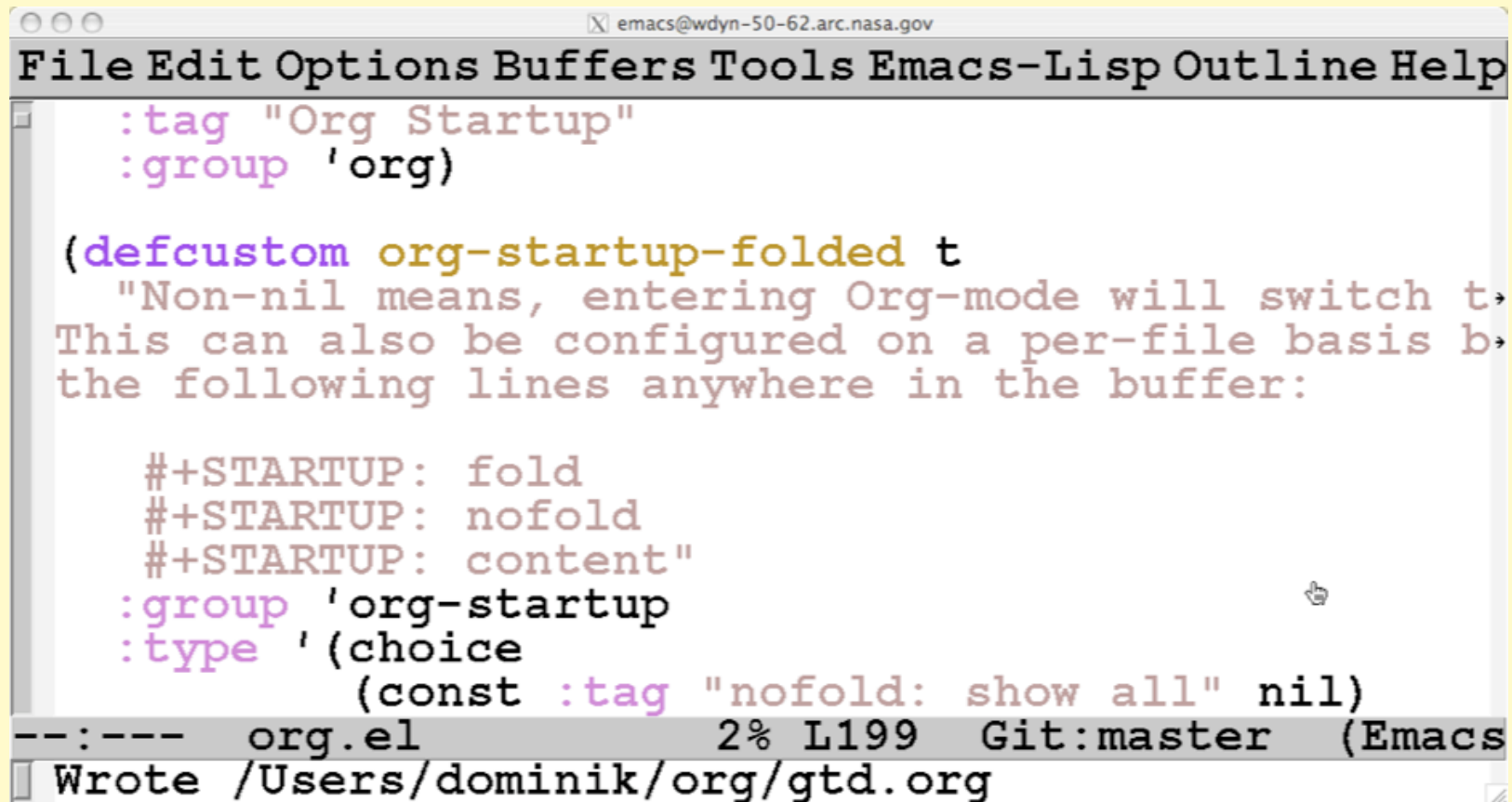
```
File Edit Options Buffers Tools Org Tbl Help

:tag "Org Startup"
:group 'org)

--:--- org.el 2% L199 Git:master (Emacs
## Filing location: Select interactively, default
## C-u C-c C-c to select file and header loc
## C-c C-c "~/org/gtd.org" -> "* Tasks"
## C-u C-u C-c C-c "???" -> "* ??"
## To switch templates, use `C-c r'. To abort us
* TODO Prepare Tech Talk
DEADLINE: <2008-07-14 Mon>
SCHEDULED: <2008-07-09 Wed>
Title and Abstract for Tech Talk
--:**- *Remember* All L9 (Org Fill)-----
```



# Step V: Capture with *remember.el*



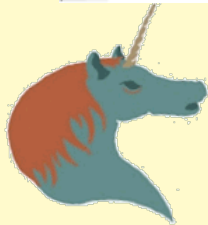
```
File Edit Options Buffers Tools Emacs-Lisp Outline Help

:tag "Org Startup"
:group 'org)

(defcustom org-startup-folded t
  "Non-nil means, entering Org-mode will switch t,
This can also be configured on a per-file basis b,
the following lines anywhere in the buffer:

#+STARTUP: fold
#+STARTUP: nofold
#+STARTUP: content"
  :group 'org-startup
  :type '(choice
    (const :tag "nofold: show all" nil)
    (const :tag "fold" t)
    (const :tag "show all" nil)))

--:--- org.el 2% L199 Git:master (Emacs
Wrote /Users/dominik/org/gtd.org
```

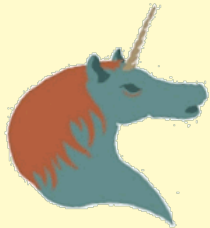


# Step VI: Collect and Display

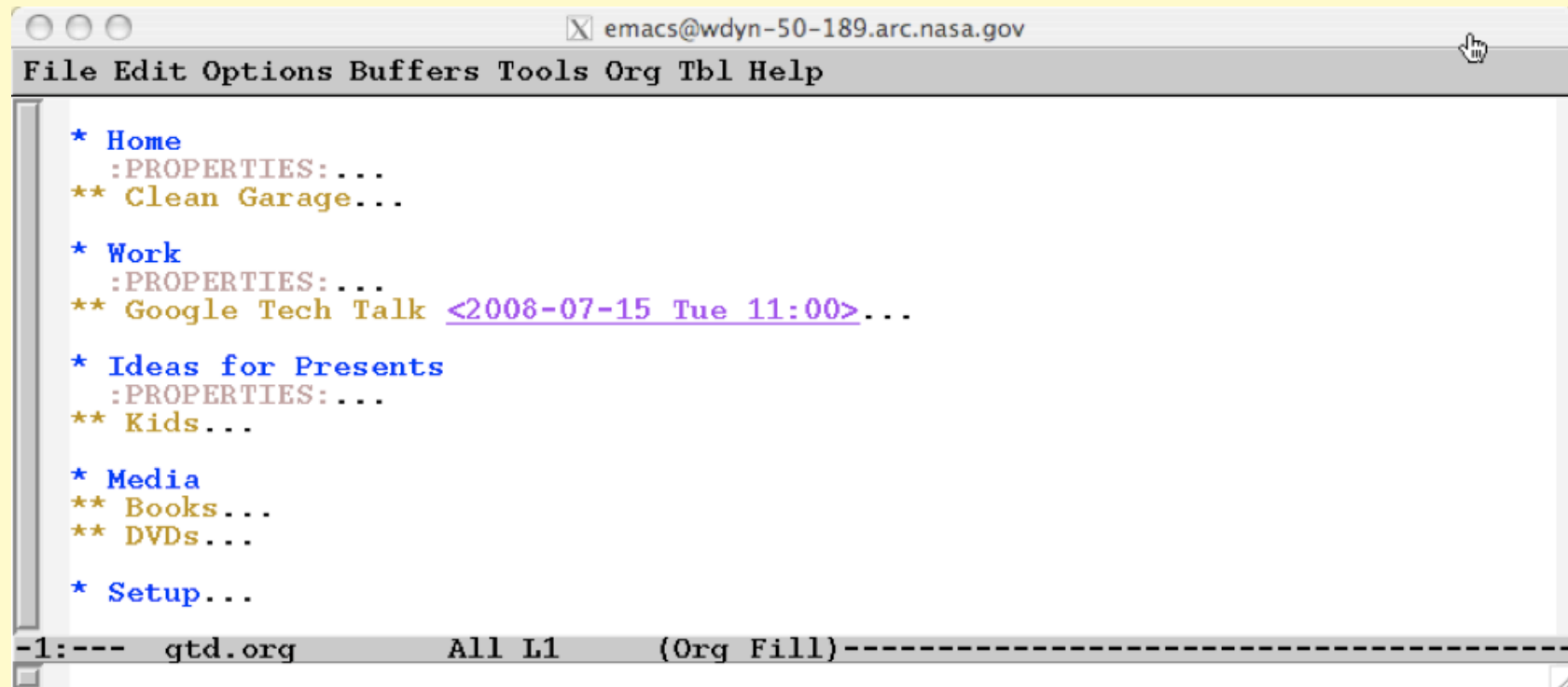
- Tasks can be in special lists
- Tasks can be scattered over many large files
- How to find the stuff that matters now?

Use simple or complex queries  
on text and/or meta data

- **Sparse trees**
  - Find stuff in the outline structure
- **Agenda views**
  - Projection of outline nodes into a *flat* list



# Step VI: Sparse Tree and Agenda Views



The screenshot shows an Emacs window titled "emacs@wdyn-50-189.arc.nasa.gov". The menu bar includes "File", "Edit", "Options", "Buffers", "Tools", "Org", "Tbl", and "Help". The main text area displays an Org-mode agenda view with the following content:

```
* Home
  :PROPERTIES:...
  ** Clean Garage...

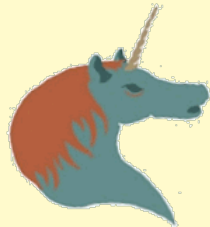
* Work
  :PROPERTIES:...
  ** Google Tech Talk <2008-07-15 Tue 11:00>...

* Ideas for Presents
  :PROPERTIES:...
  ** Kids...

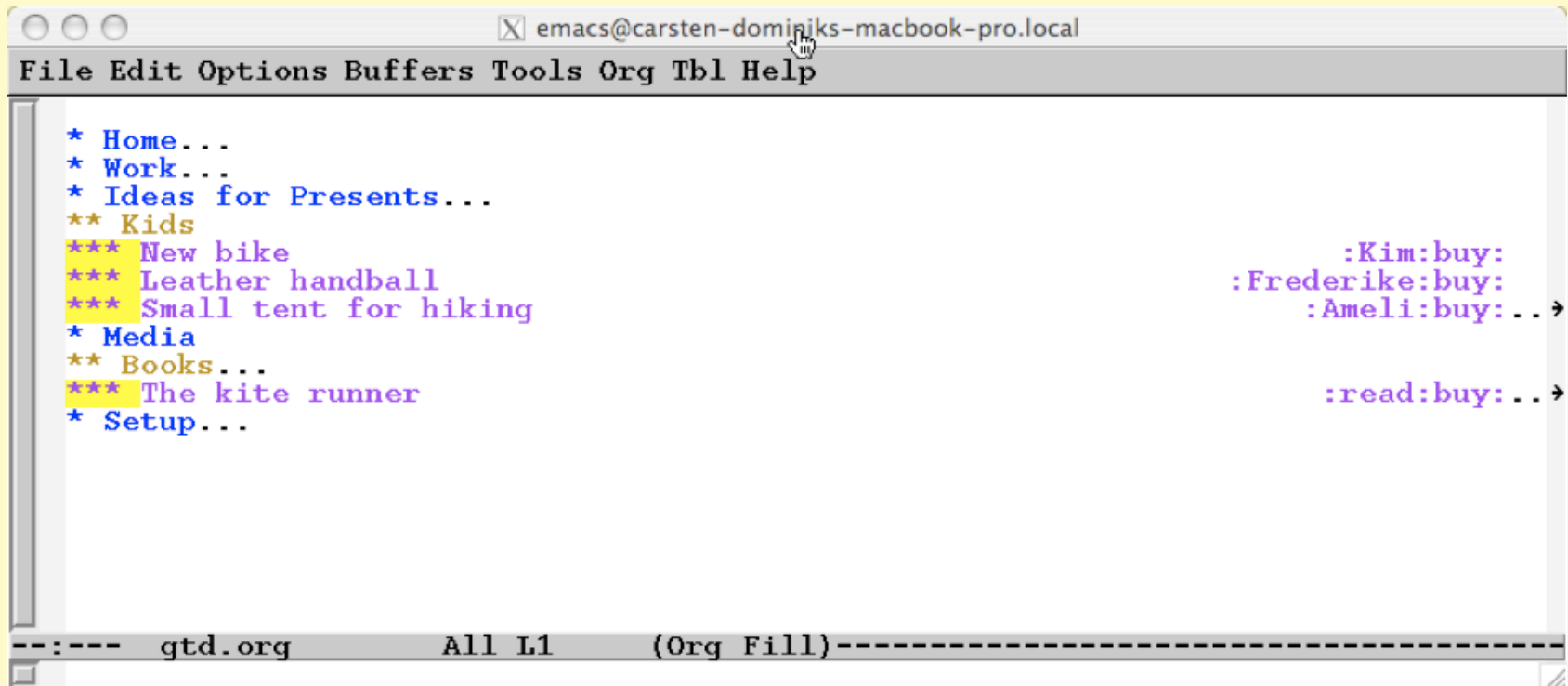
* Media
  ** Books...
  ** DVDs...

* Setup...
```

At the bottom of the window, a status bar shows "-1:--- gtd.org All L1 (Org Fill)-----".



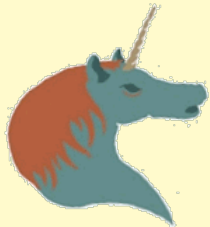
# Step VI: Sparse Tree and Agenda Views



The screenshot shows an Emacs window titled "emacs@carsten-dominiks-macbook-pro.local". The menu bar includes "File", "Edit", "Options", "Buffers", "Tools", "Org", "Tbl", and "Help". The main text area displays a Sparse Tree view of an Org file. The tree structure is as follows:

- \* Home...
- \* Work...
- \* Ideas for Presents...
- \*\* Kids
  - \*\*\* New bike :Kim:buy:
  - \*\*\* Leather handball :Frederike:buy:
  - \*\*\* Small tent for hiking :Ameli:buy:.. →
- \* Media
- \*\* Books...
  - \*\*\* The kite runner :read:buy:.. →
- \* Setup...

The status bar at the bottom shows "gtd.org", "All L1", and "(Org Fill)".





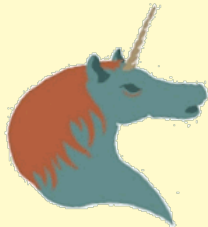
# Step VI: Sparse Tree and Agenda Views

```
emacs@wdyn-50-189.arc.nasa.gov
File Edit Options Buffers Tools Agenda Help
Week-agenda (W29):
Monday 14 July 2008 W29
    8:00..... -----
    10:00..... -----
    12:00..... -----
    14:00..... -----
    home: 14:30..... Scheduled:  WAITING Garbage Container      :phone:rd→
    16:00..... -----
    18:00..... -----
    20:00..... -----
    home:  In 19 d.:  TODO Build new rack
Tuesday 15 July 2008
    work: 11:00..... Google Tech Talk
Wednesday 16 July 2008
Thursday 17 July 2008
Friday 18 July 2008
Saturday 19 July 2008
Sunday 20 July 2008
--:~*- *Org Agenda* All L2 (Org-Agenda Week Grid)-----
```

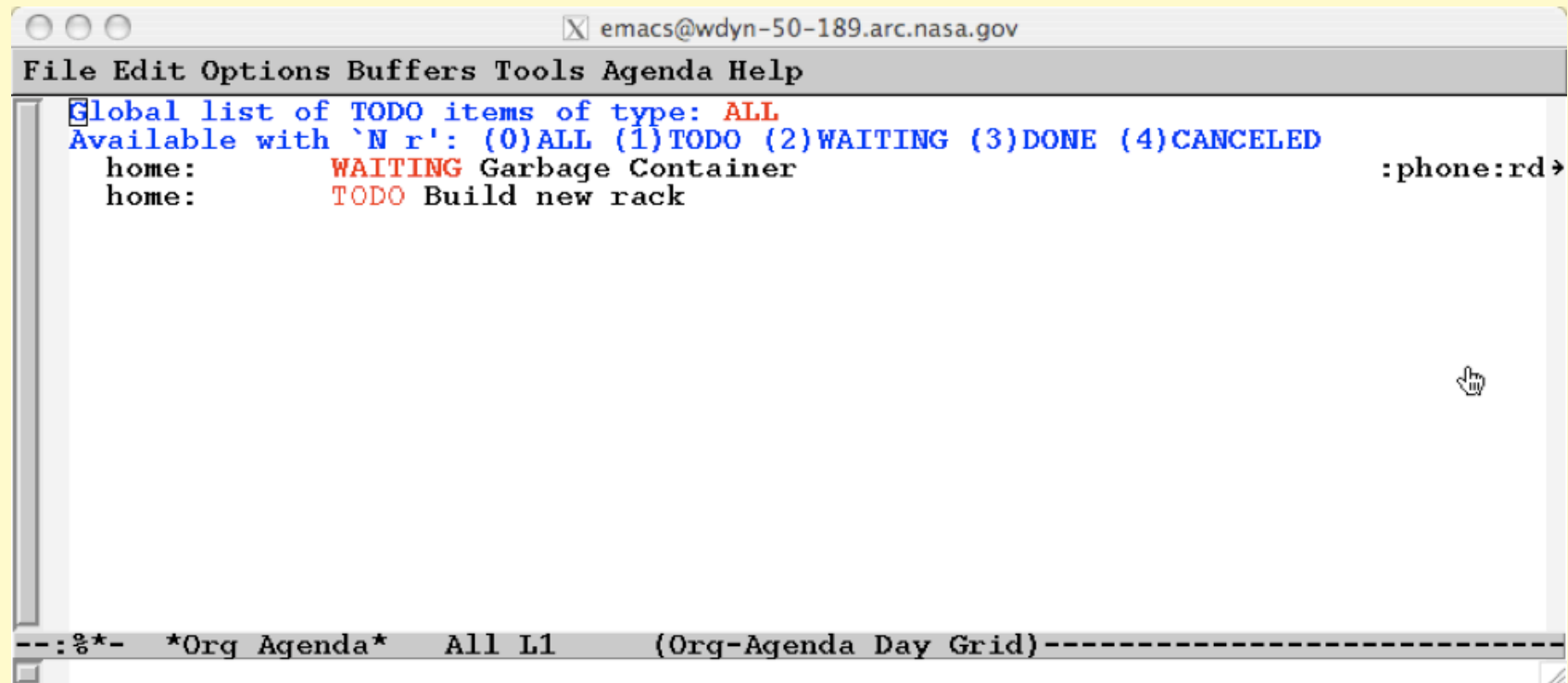


# Step VI: Sparse Tree and Agenda Views

```
emacs@wdyn-50-189.arc.nasa.gov
File Edit Options Buffers Tools Agenda Help
Day-agenda (W29):
Monday 14 July 2008 W29
      8:00..... -----
      10:00..... -----
      12:00..... -----
      14:00..... -----
home: 14:30..... Scheduled:  WAITING Garbage Container      :phone:rd→
      16:00..... -----
      18:00..... -----
      20:00..... -----
home:  In 19 d.:  TODO Build new rack
--:~*- *Org Agenda* All L2 (Org-Agenda Day Grid)-----
Switched to day view
```



# Step VI: Sparse Tree and Agenda Views



```
emacs@wdyn-50-189.arc.nasa.gov
File Edit Options Buffers Tools Agenda Help
Global list of TODO items of type: ALL
Available with `N r`: (0)ALL (1)TODO (2)WAITING (3)DONE (4)CANCELED
home: WAITING Garbage Container
home: TODO Build new rack
:phone:rd→
--: %*-* *Org Agenda* All L1 (Org-Agenda Day Grid)-----
```



# Step VI: Sparse Tree and Agenda Views

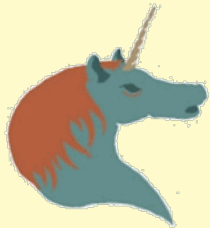
```
emacs@carsten-dominiks-macbook-pro.local
File Edit Options Buffers Tools Agenda Help
Headlines with TAGS match: buy
Press 'C-u r' to search again with new search string
lists:      ..New bike                                :Kim:buy→
lists:      ..Leather handball                        :Frederike:buy→
lists:      ..Small tent for hiking                   :Ameli:buy→
books:      ..The kite runner                         :read:buy→

--:~*-  *Org Agenda*  All L1  (Org-Agenda Week Grid)-----
```

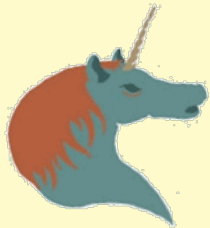
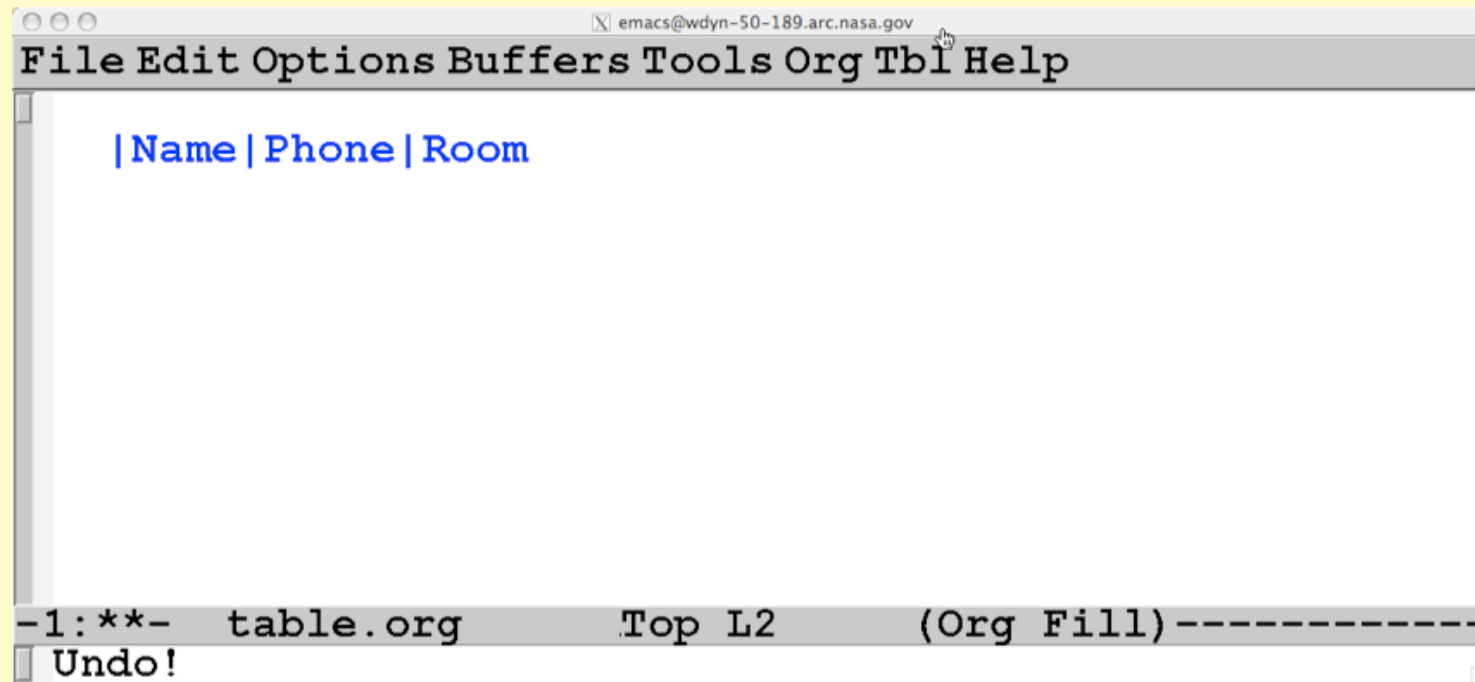


# Exporting and Publishing

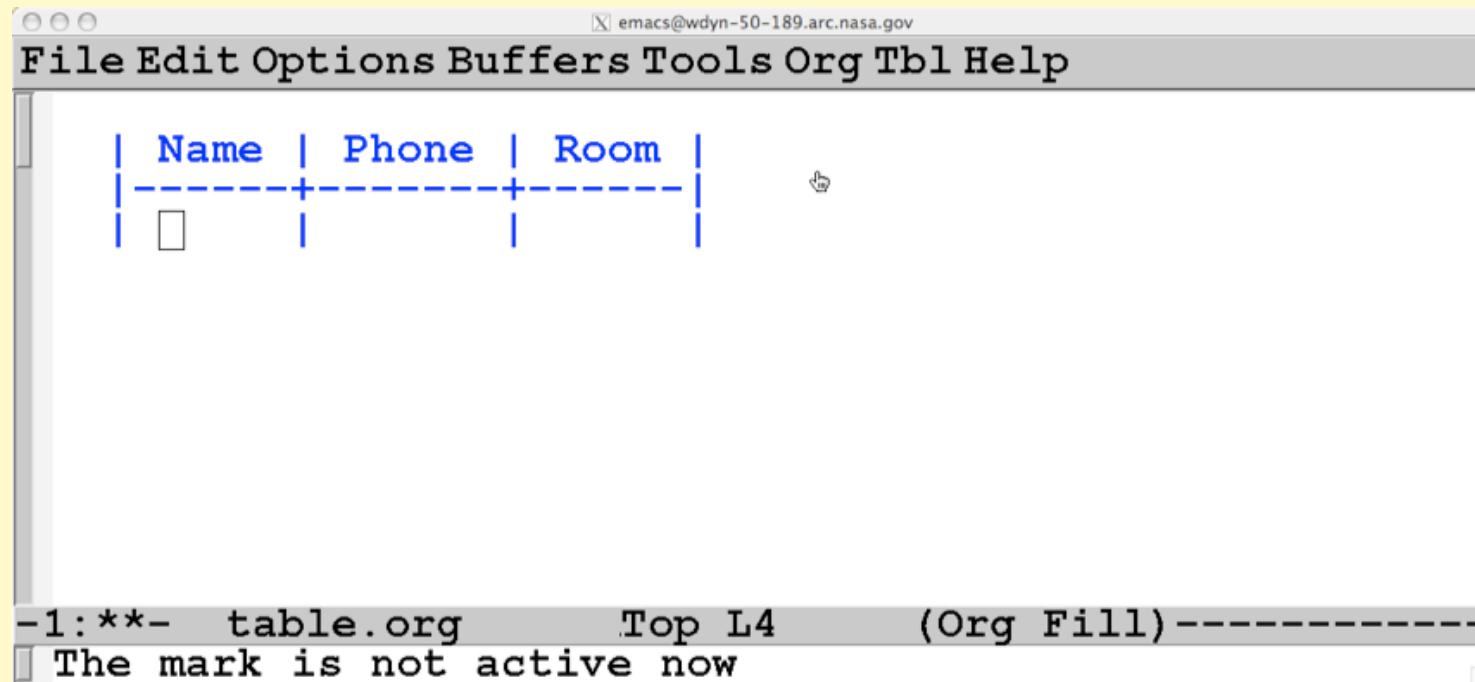
- HTML, with JavaScript support for reading documents like Emacs Info, but on the Web
  - Example: <http://orgmode.org/Changes.html>
- LaTeX, as gateway to PDF, great for scientific notes
- ASCII, are very readable email format
- Sets of documents can be linked to a publishing project



# Tricks: Tables

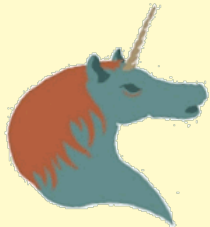


# Tricks: Tables

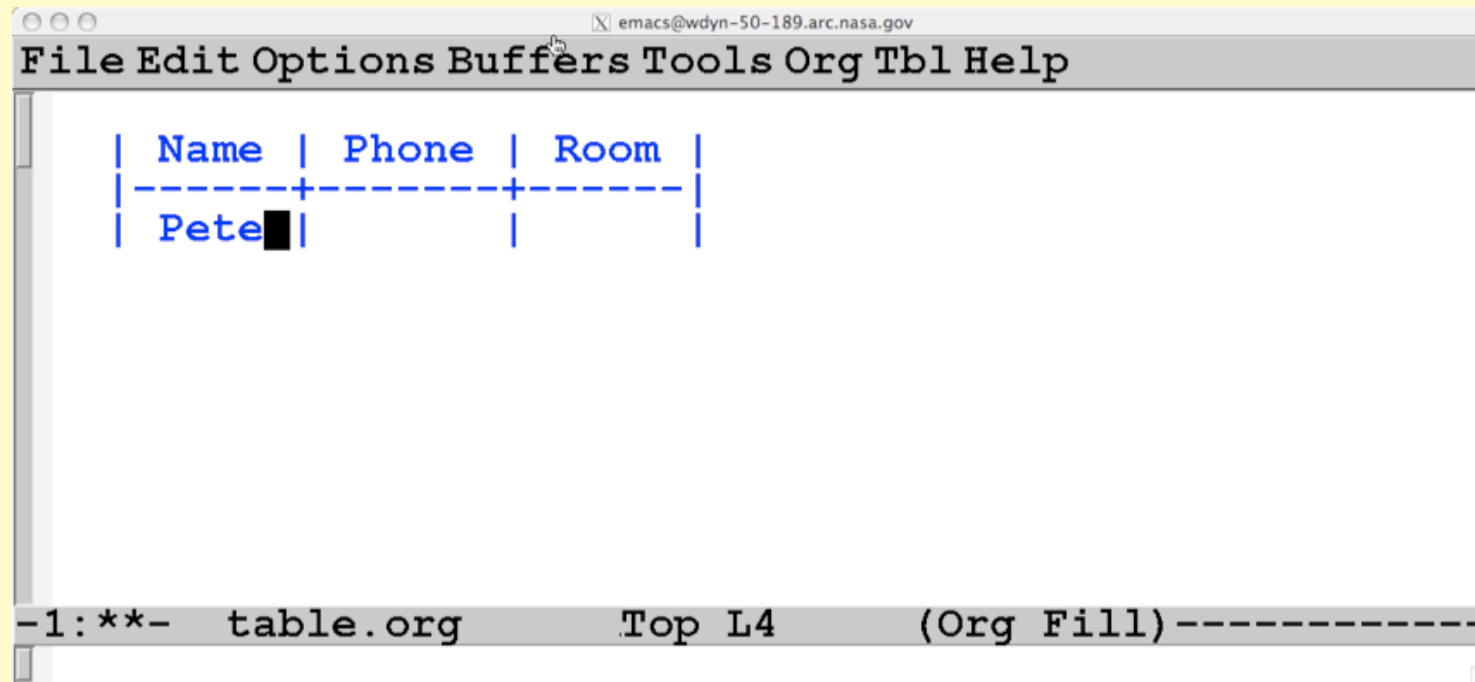


The screenshot shows an Emacs window with the title bar "emacs@wdyn-50-189.arc.nasa.gov". The menu bar includes "File Edit Options Buffers Tools Org Tbl Help". The main text area displays a table with three columns: "Name", "Phone", and "Room". The first row of the table is highlighted with a blue background. The second row is empty, with a small white square in the "Name" column. The status bar at the bottom shows "-1:\*\*- table.org Top L4 (Org Fill)-----" and a message "The mark is not active now".

Name	Phone	Room

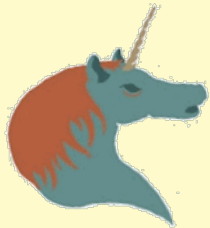


# Tricks: Tables



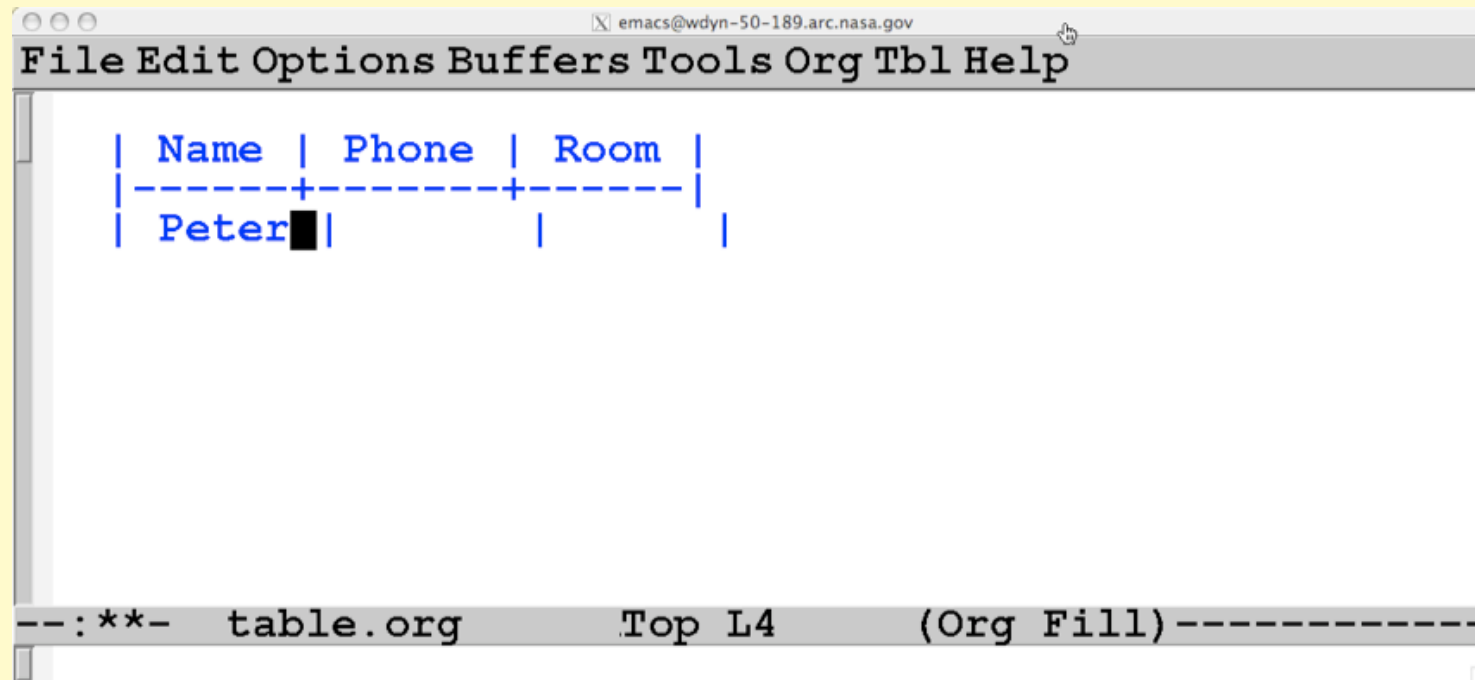
The screenshot shows an Emacs window with the title bar "emacs@wdyn-50-189.arc.nasa.gov". The menu bar includes "File Edit Options Buffers Tools Org Tbl Help". The main text area displays a table with three columns: "Name", "Phone", and "Room". The first row of the table contains the text "Pete" in the "Name" column, followed by a black cursor. The status bar at the bottom shows "-1:\*\*- table.org Top L4 (Org Fill)-----".

Name	Phone	Room
Pete		



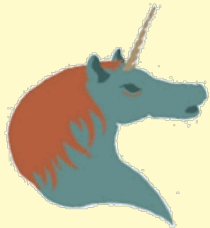


# Tricks: Tables

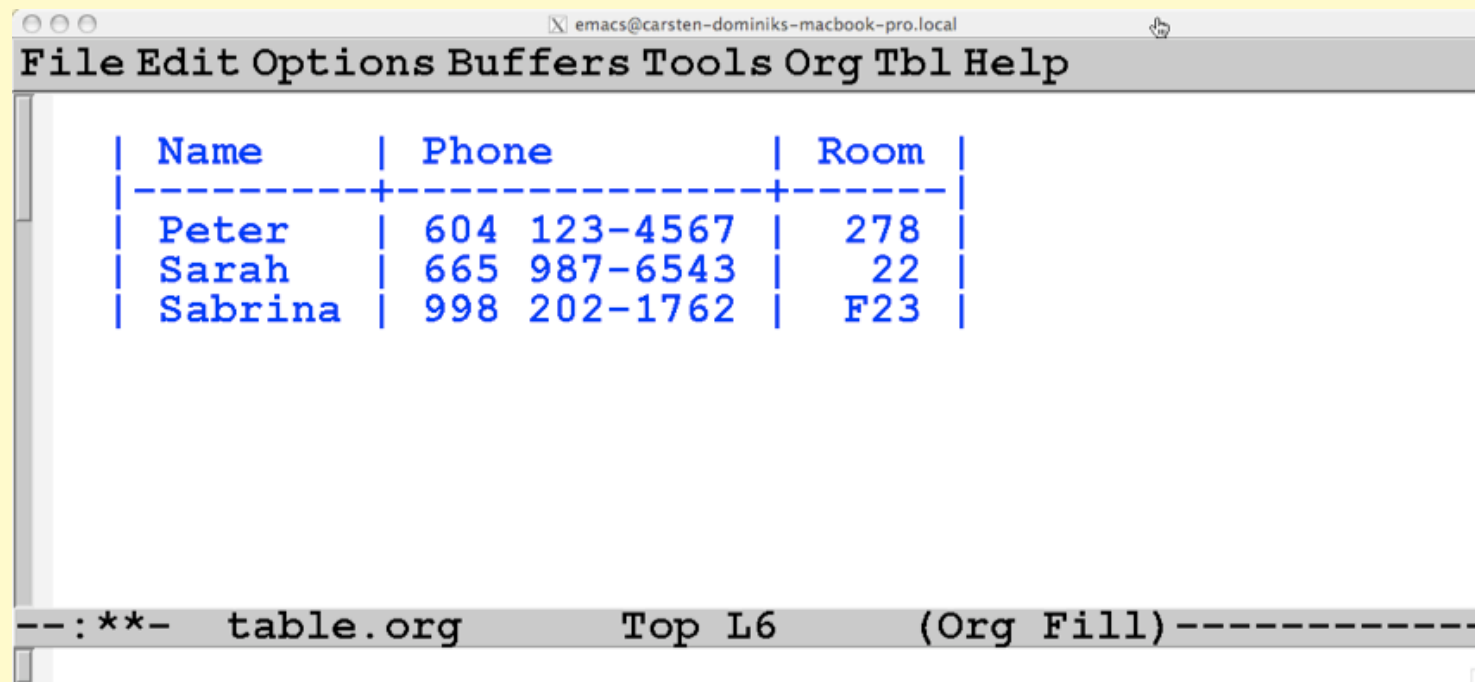


The screenshot shows an Emacs window with the title bar "emacs@wdyn-50-189.arc.nasa.gov". The menu bar includes "File Edit Options Buffers Tools Org Tbl Help". The main text area displays a table with three columns: "Name", "Phone", and "Room". The first row of the table contains the name "Peter" in the "Name" column, followed by empty cells in the "Phone" and "Room" columns. The table is rendered with blue text and dashed lines for the borders. The status bar at the bottom of the window shows "--:\*\*- table.org Top L4 (Org Fill)-----".

Name	Phone	Room
Peter		



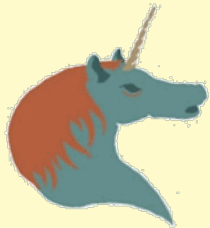
# Tricks: Tables



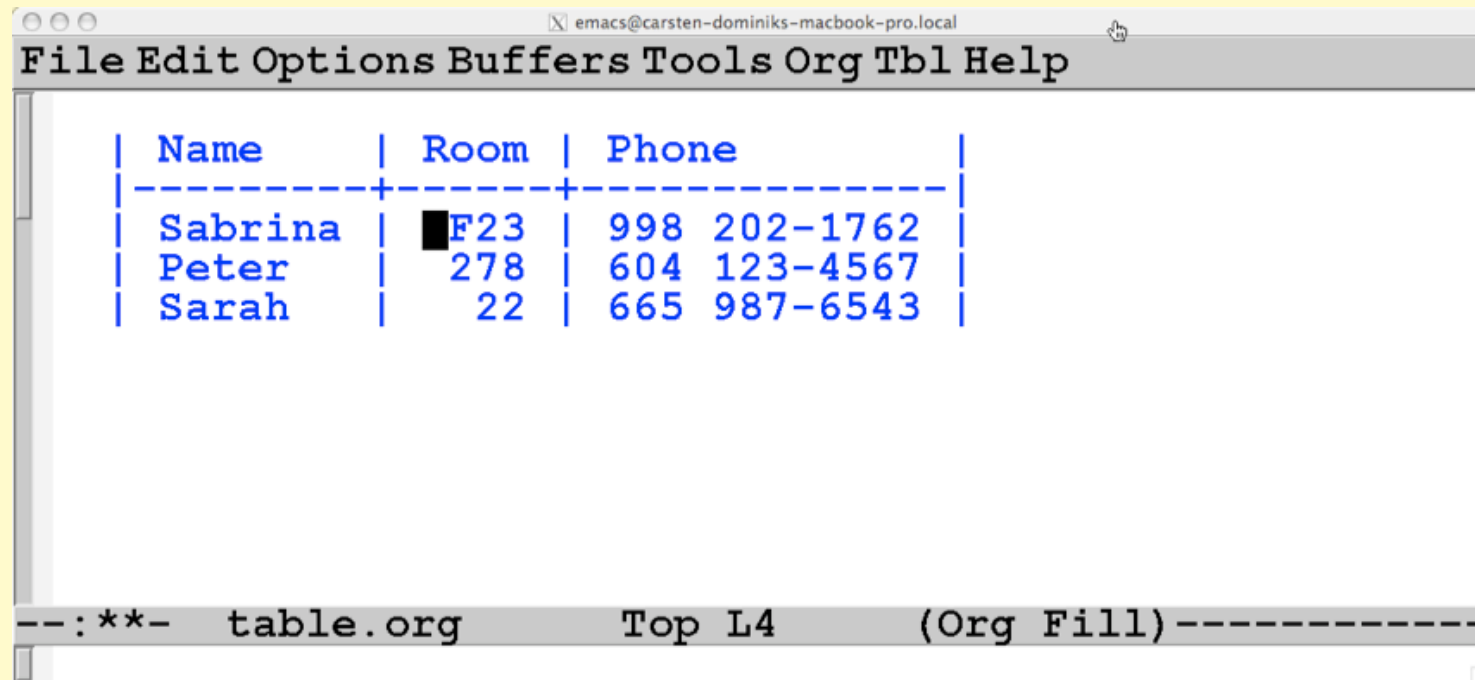
The screenshot shows an Emacs window titled "emacs@carsten-dominiks-macbook-pro.local". The menu bar includes "File Edit Options Buffers Tools Org Tbl Help". The main content area displays an Org table with three columns: "Name", "Phone", and "Room". The table contains three rows of data: Peter (604 123-4567, 278), Sarah (665 987-6543, 22), and Sabrina (998 202-1762, F23). The status bar at the bottom shows "--:\*\*- table.org Top L6 (Org Fill)-----".

Name	Phone	Room
Peter	604 123-4567	278
Sarah	665 987-6543	22
Sabrina	998 202-1762	F23

--:\*\*- table.org Top L6 (Org Fill)-----

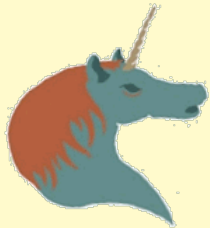


# Tricks: Tables



The screenshot shows an Emacs window titled "emacs@carsten-dominiks-macbook-pro.local". The menu bar includes "File Edit Options Buffers Tools Org Tbl Help". The main content area displays a table with three columns: "Name", "Room", and "Phone". The table is rendered with blue text and dashed lines. The data rows are: Sabrina (Room F23, Phone 998 202-1762), Peter (Room 278, Phone 604 123-4567), and Sarah (Room 22, Phone 665 987-6543). A cursor is positioned at the start of the "Room" column for the first row. The status bar at the bottom shows "--:\*\*- table.org Top L4 (Org Fill)-----".

Name	Room	Phone
Sabrina	F23	998 202-1762
Peter	278	604 123-4567
Sarah	22	665 987-6543



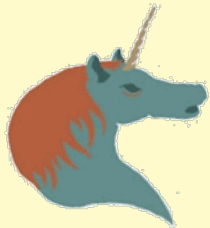
# Tricks: Tables

emac@wdyn-50-189.arc.nsl.gov

File Edit Options Buffers Tools Org Tbl Help

Func	n	x	Result
exp(x)	1	x	=taylor(\$1,\$3,\$2);n3
exp(x)	2	x	
exp(x)	3	x	
x^2+sqrt(x)	1	x=0	
x^2+sqrt(x)	1	x=1	
tan(x)	3	x	

-1:\*\*- table.org All L1 (Org Fill)-----



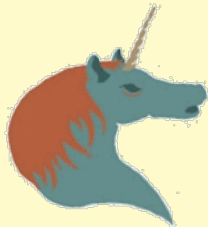
# Tricks: Tables

```
emac@wdyn-50-189.arc.nasa.gov
File Edit Options Buffers Tools Org Tbl Help

|-----+-----+-----+-----|
| Func      | n | x | Result |
|-----+-----+-----+-----|
| exp(x)     | 1 | x | 1 + x   |
| exp(x)     | 2 | x | 1 + x + x^2 / 2 |
| exp(x)     | 3 | x | 1 + x + x^2 / 2 + x^3 / 6 |
| x^2+sqrt(x) | 1 | x=0 | x*(0.5 / 0) |
| x^2+sqrt(x) | 1 | x=1 | 2 + 2.5 x - 2.5 |
| tan(x)     | 3 | x | 0.0175 x + 1.77e-6 x^3 |
|-----+-----+-----+-----|

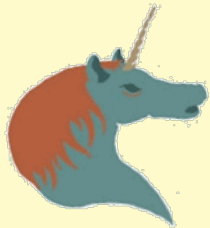
#+TBLFM: $4=taylor($1,$3,$2);n3

-1:**- table.org All L6 (Org Fill)-----
Re-applying formulas...done
```




# Tricks: Radio Tables

- Allows to embed an Org-mode table in the comment of an arbitrary file (C, Javascript, LaTeX...)
- Define a translation on how to convert the table into the correct format
- Define a location where the transformed table should be inserted
- As the Org-mode table is edited, the translated one will be changed, too



# Tricks: Radio Tables



Version 6.06 (in preparation)

- Overview
- Incompatible changes
- Details

Version 6.05

- Overview
- Incompatible changes
- Details

Version 6.04

- Overview
- Incompatible changes
- Details

Version 6.03

- Overview
- Incompatible changes
- Details

Version 6.02

## Org-mode list of user-visible changes

Press any key to proceed.

### Keyboard Shortcuts

---

? / **?** show this help screen

---

#### Moving around

n / p goto the next / previous section  
t / **T** goto the first / last section  
g goto section...  
u go one level up (parent section)  
i show table of contents  
b / **B** go back to last / forward to next visited section.  
h / **H** go to main index in this directory / link HOME page

---

#### View

m toggle the view mode between info and plain  
f / **F** fold current section / whole document (plain view only)

---

#### Searching

s / **r** search forward / backward....  
S / **R** search again forward / backward  
o occur-mode

---

#### Misc

l / **L** display HTML link / Org link  
v / **V** scroll down / up



# Tricks: Radio Tables

```
emacs@wdyn-50-47.arc.nasa.gov
File Edit Options Buffers Tools Java OrgTbl Help

this.last_view_mode = this.VIEW;
this.infoView(true);
this.WINDOW.innerHTML = '<h2>Keyboard Shortcuts</h2>'
    + '<table cellpadding="3" rules="groups" frame="hside>'
    + '<tbody>'
    // BEGIN RECEIVE ORGTBL Shortcuts
    + '<tr><td><code><b>?</b></code></td><td>show this he>'
    + '</tbody><tbody>'
    + '<tr><td><code><b></b></code></td><td><b>Moving aro>'
    + '<tr><td><code><b>n / p</b></code></td><td>goto the>'
    + '<tr><td><code><b>t / E</b></code></td><td>goto the>'
    + '<tr><td><code><b>g</b></code></td><td>goto section>'
    + '<tr><td><code><b>u</b></code></td><td>go one level>'
    + '<tr><td><code><b>i</b></code></td><td>show table o>'
    + '<tr><td><code><b>b</b></code></td><td>go back to l>'
    + '<tr><td><code><b>h / H</b></code></td><td>go to ma>'
    // END RECEIVE ORGTBL Shortcuts
    + '</tbody>'

--:--- radio.js          49% L20      (Java/l OrgTbl Abbrev)-----
```





# Tricks: Radio Tables

```
emacs@wdyn-50-47.arc.nasa.gov
File Edit Options Buffers Tools Java OrgTbl Help

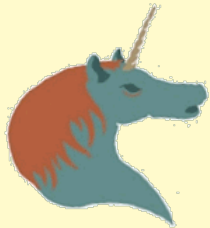
/*
#+ORGTBL: SEND Shortcuts orgtbl-to-generic :splice t :skip 2
| Key | Function |
|-----+-----|
| ? | show this help screen |
|-----+-----|
| n / p | <b>Moving around</b> |
| t / E | goto the next / previous section |
| g | goto the first / last section |
| u | goto section... |
| i | go one level up (parent section) |
| b | show table of contents |
| h / H | go back to last visited section. |
| h / H | go to main index / HOME page |
*/
this.HELPING = this.HELPING ? 0 : 1;
if (this.HELPING) {
  this.last_view_mode = this.VIEW;
}
--:**- radio.js 10% L4 (Java/1 OrgTbl Abbrev)-----
```



# Internals: Context-sensitive Keys

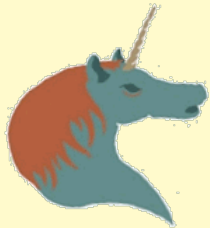
Many keys behave differently in Org-mode, depending on context.  
Examples:

- **Meta + cursor**
  - Structure editing on headlines
  - Table structure editing in tables
- **C-c C-c** :“Look and update” in 12 different variations
- **TAB**
  - Visibility cycling in headline
  - Motion and evaluation in tables
  - LaTeX template expansion in normal text
- **All printing characters**
  - automatic overwrite mode in tables

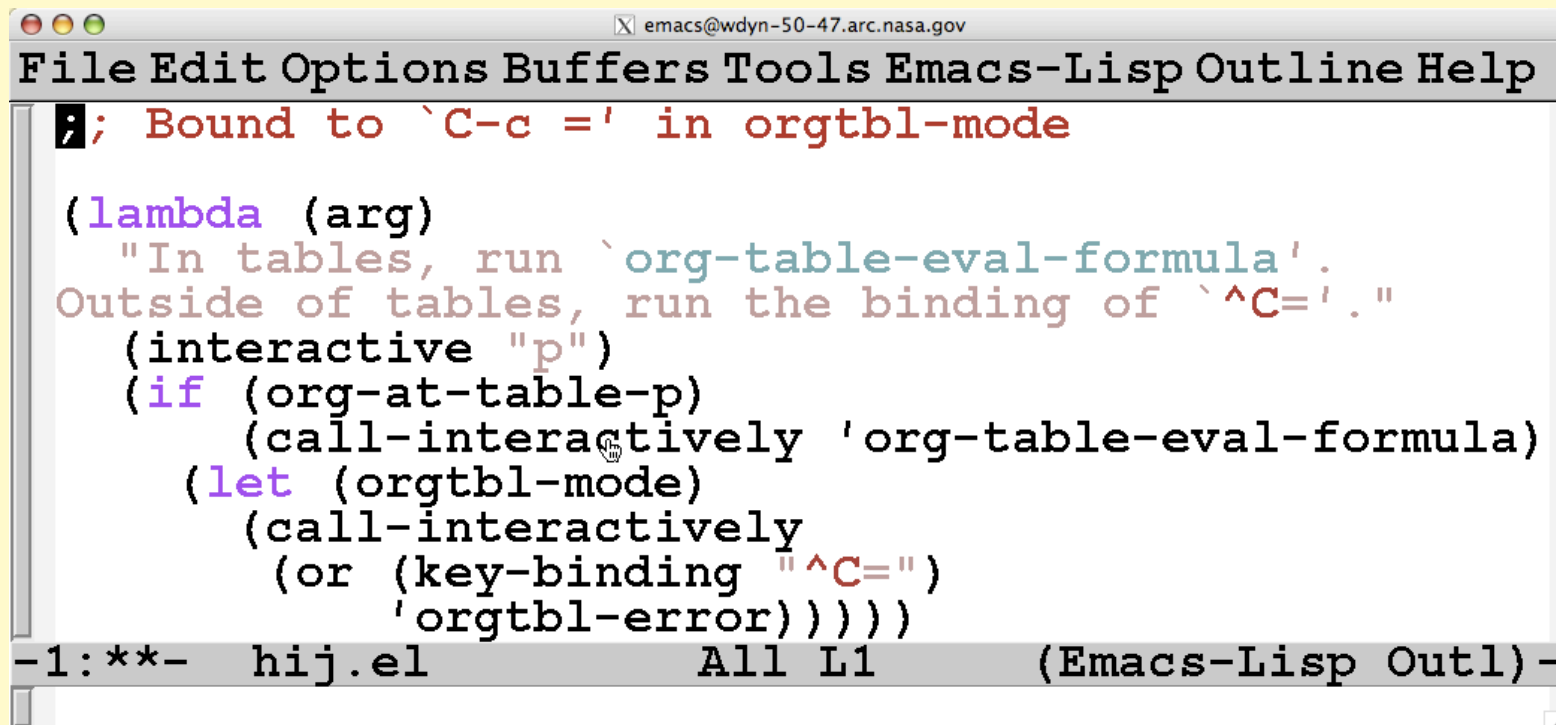


# Internals: Context-sensitive Keys

- In Org-mode, special functions check for context
- But some of this functionality is exported as a minor mode into other major modes
- Solution
  - Bind keys in a minor-mode-map to a wrapper
  - Wrapper checks context
  - When in desired context, execute the Org-mode command
  - When not, turn off minor mode and do a key lookup, execute the appropriate command



# Internals: Context-sensitive Keys

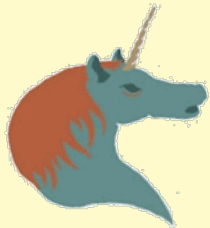


The screenshot shows an Emacs window with the title bar "emacs@wdyn-50-47.arc.nasa.gov". The menu bar includes "File Edit Options Buffers Tools Emacs-Lisp Outline Help". The main text area contains a comment and a lambda function definition. The comment is "; Bound to `C-c =' in orgtbl-mode". The function is a lambda (arg) that takes an argument and returns a string describing its behavior. It uses an if statement to check if the cursor is at a table. If so, it calls org-table-eval-formula interactively. Otherwise, it enters orgtbl-mode and calls a key-binding function. The status bar at the bottom shows "-1:\*\*- hij.el All L1 (Emacs-Lisp Outl)-".

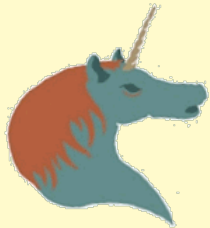
```
; Bound to `C-c =' in orgtbl-mode

(lambda (arg)
  "In tables, run `org-table-eval-formula'.
  Outside of tables, run the binding of `^C='."
  (interactive "p")
  (if (org-at-table-p)
      (call-interactively 'org-table-eval-formula)
      (let (orgtbl-mode)
        (call-interactively
         (or (key-binding "^C=")
             'orgtbl-error))))))

-1:**-  hij.el          All L1      (Emacs-Lisp Outl)-
```

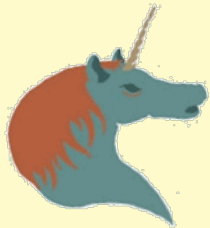


# How Org-mode is being used today



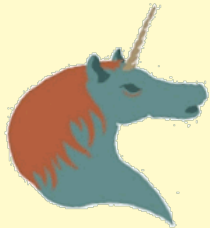
# How Org-mode is being used today

- Taking notes



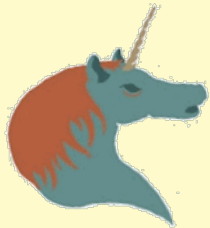
# How Org-mode is being used today

- Taking notes
- Tasks and planning
  - Simple TODO list manager
  - Like a day-planner (schedule every task)
  - GTD (Getting Things Done à la David Allen)
    - TODO states or tags for main GTD lists
    - Tags for contexts and agendas
  - Detailed time planning and accounting



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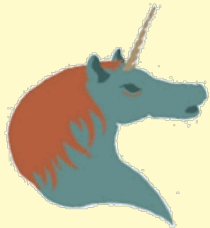
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- A small database





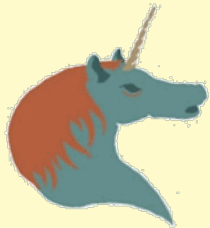
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- Basis for constructing web pages



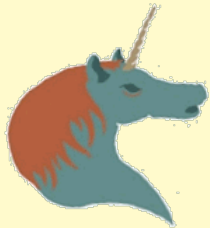
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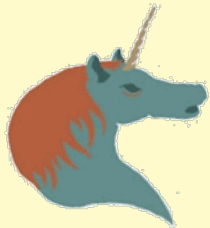
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- Swiss Army Knife

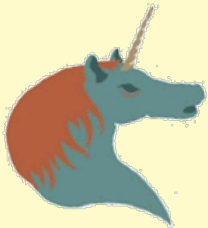


# Org-mode is *NOT*

- **fiddle-free**
  - but if you are like me, you require your computer environment to function *exactly* as you want. I *want* to fiddle.
- for the **masses**
  - but in the Emacs community, the user base is growing quickly
- for **vi** users, sorry folks...
  - only few people switch to Emacs because of Org-mode - *however, some do!*

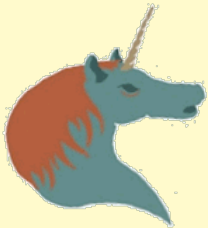


# Evolved Software



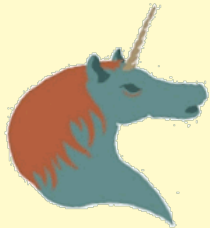
# Evolved Software

- Org-mode started as a small personal hack
  - Original scope: Notes and Tasks



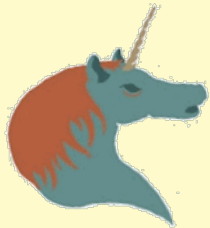
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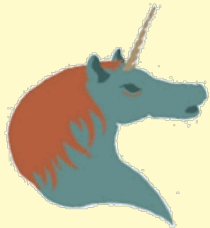
- Org-mode started as a small personal hack
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  - Keep the simple core intact
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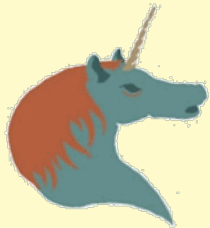
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# Evolved Software

- Org-mode started as a small personal hack
  - Original scope: Notes and Tasks
- 95% of features were added later
- Overruling principles
  - Keep the simple core intact
  - Never impose unwanted complexity
- Org-mode does not offer a finished and closed solution
- Instead, Org-mode facilitates a learning and development process



# Acknowledgements

- The people on `emacs-orgmode@gnu.org`  
for enthusiasm, criticism,  
and a constant stream of ideas
- Bastien Guerry  
for being the second man on the ship
- Andrew Hyatt, T.V. Raman, and Google  
for giving me the opportunity to speak here

