Emacs tricks
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Agenda

- What is Emacs
- Installation
- Basic use
- Simple tricks
- Advanced tricks

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What is Emacs

- Emacs is an open-source editor
- But if I call Emacs just an editor...

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- Then this is just a car...

Meet the Koenigsegg CCXR 2008

- And this is just a truck.

Meet the largest truck in the world.

Swiss army chainsaw

- Emacs started in the 1976
- Written by Richard Stallman
- Now in its 26th version
- Multi-platform
- Used to be a hog, now who cares
- Programmable
- Has modules for everything

Emacs (Editor MACros) v 1 was released in 1976.
It was co-authored by Richard Stallman, Mr. GNU
himself.
GNU Emacs development started in 1984 and is
quite active.
Emacs is very customizable. It can be programmed in
Elisp, a variant of LISP.
A small core is written in easily portable C, the rest is
Elisp.
Out of the box, Emacs has 2000 functions. You can
add more.
Emacs lets you define and record key macros if you
don't want to touch Elisp
Vast libraries of modules give you access to
specialized functions and "modes" for every kind of
editing, language, text formats, etc.

Installing Emacs

- On Debian-like Linux:
  apt-get install emacs
- On RedHat-like Linux:
  yum install emacs
- Some popular modules have been packaged for most distros.
- You can install a text-only version.

Emacs is pre-packaged in most Linux distros.
You can also install popular modules (Elisp files, really) from Linux repos.
Example: The Ubuntu repo has 317 packages containing the word "emacs".
There are also Emacs forks such as xemacs – not useful for beginners.
Emacs starts in window mode on desktops by default.
You can force a text version with emacs -nw
Systems with no graphics card can use emacs-nox which doesn't install X11.
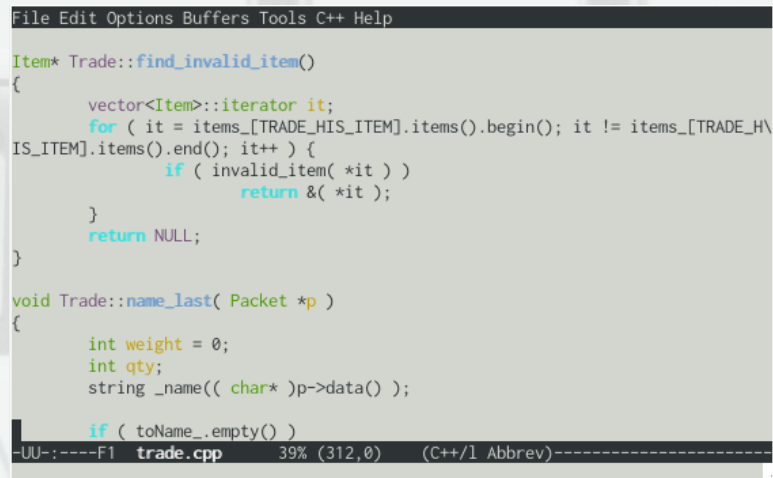
Starting Emacs

- Click the desktop icon, or...

- From a terminal, run emacs myfile

- At startup, Emacs loads the installed modules, then reads your ~/.emacs file.

- That's where your customization resides.

- Life savers:

    - **C-x C-s** Saves current buffer

    - **C-x C-c** Quit Emacs

    - **C-g** Cancel an ongoing command

    - **C-_** Undo

"Dangerous" commands that can result in data loss are prefixed by **C-x** to minimize accidental key strokes.
Undo is unlimited

Emacs in text mode

```
File Edit Options Buffers Tools C++ Help

Item* Trade::find_invalid_item()
{
        vector<Item>::iterator it;
        for ( it = items_[TRADE_HIS_ITEM].items().begin(); it != items_[TRADE_H\
IS_ITEM].items().end(); it++ ) {
                if ( invalid_item( *it ) )
                        return &( *it );
        }
        return NULL;
}

void Trade::name_last( Packet *p )
{
        int weight = 0;
        int qty;
        string _name(( char* )p->data() );

        if ( toName_.empty() )
-UU-:----F1   trade.cpp       39% (312,0)    (C++/l Abbrev)----------------------
```

Here, we open a C++ file in a terminal without X

Notice the syntax highlighting

Notice the line mode at the bottom. It contains interesting info: Buffer name, character set, current line and column, mode

Here, the mode is C++ (auto-detected from file extensions)

Notice now the top menu. It contains standard entries as well as mode-related entries (here, C++ mode)

Modes offer specific functions for a certain type of files.

Most modes are agnostic (work in graphic and text mode). A few modes are graphic-only.

Text mode menu

- In text mode, **F10** or **M-`** to access the Emacs menu

```
File Edit Options Buffers Tools Minibuf Help
        int weight = 0;
        int qty;
        string _name(( char* )p->data() );

        if ( toName_.empty() )
                return;
        Item &i = *( toName_.back() );

-UU-:----F1  trade.cpp      41% (312,0)    (C++/l Abbrev)---------------------
Press PageUp key to reach this buffer from the minibuffer.
Alternatively, you can use Up/Down keys (or your History keys) to change
the item in the minibuffer, and press RET when you are done, or press the
marked letters to pick up your choice.  Type C-g or ESC ESC ESC to cancel.
In this buffer, type RET to select the completion near point.

Possible completions are:
f==>File                e==>Edit                o==>Options
b==>Buffers             t==>Tools               c==>C++
h==>Help
-UU1:%*--F1  *Completions*   All (1,0)      (Completion List)------------------
Menu bar (up/down to change, PgUp to menu): f==>File
```

The Emacs doc denotes the Meta key as M. This is mapped to Alt or Esc on PC keyboards.

It shows the control key as C. So

C-x = Control-x

M-x = Alt-x

While you can use the menus in text mode, you are highly encourage to learn the shortcuts, or to use function names.
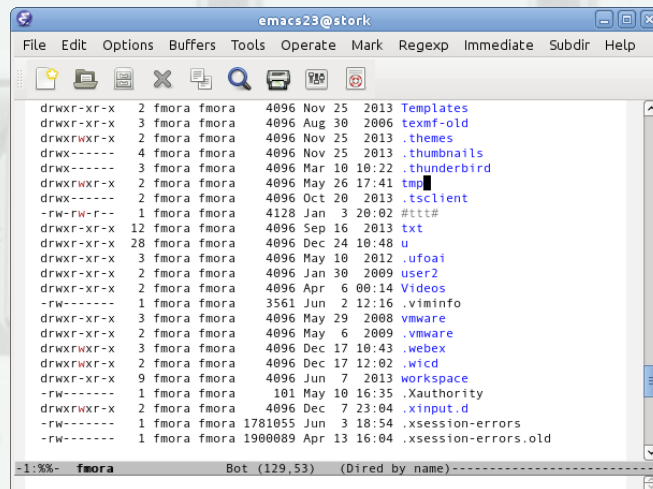
Emacs start-up screen, graphics mode
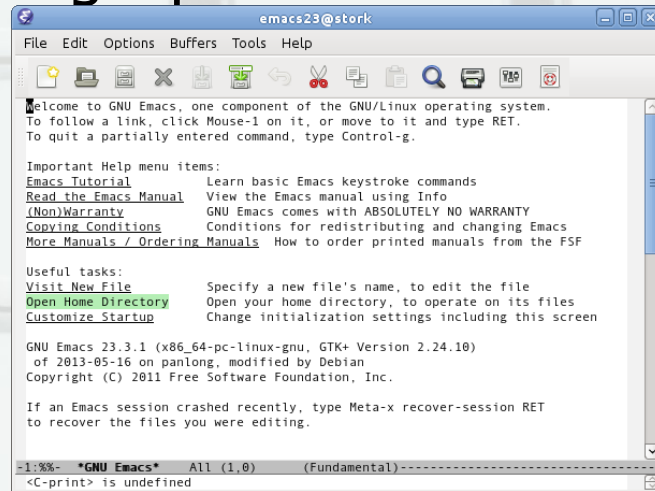
The default start-up screen offers a tutorial that is highly recommended.

Interesting options are "Visit new file" ("visit" is Emacs jargon for "open in a buffer"° and "Open Home Directory". This, by itself, is a nice "trick". Let's look at it.

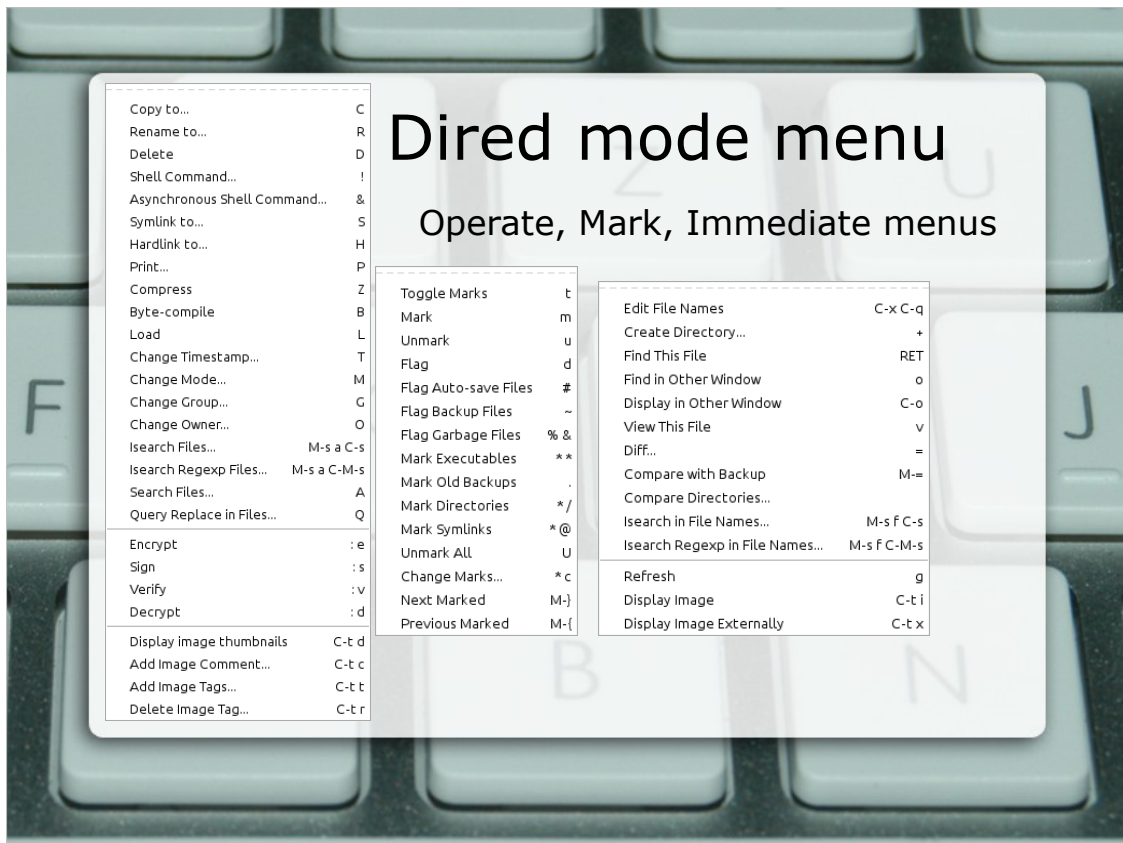In graphics mode, just click on the option.

Directory edit (dired) mode

The mode line tells us we are in Dired mode, sorted by name.
Note the mode-specific menus. We can operate on files, create subdirs, search files, etc. This is very similar to file explorer programs.

Dired mode menu

Operate, Mark, Immediate menus

Copy to...	C
Rename to...	R
Delete	D
Shell Command...	!
Asynchronous Shell Command...	&
Symlink to...	S
Hardlink to...	H
Print...	P
Compress	Z
Byte-compile	B
Load	L
Change Timestamp...	T
Change Mode...	M
Change Group...	G
Change Owner...	O
Isearch Files...	M-s a C-s
Isearch Regexp Files...	M-s a C-M-s
Search Files...	A
Query Replace in Files...	Q
Encrypt	: e
Sign	: s
Verify	: v
Decrypt	: d
Display image thumbnails	C-t d
Add Image Comment...	C-t c
Add Image Tags...	C-t t
Delete Image Tag...	C-t r

Toggle Marks	t
Mark	m
Unmark	u
Flag	d
Flag Auto-save Files	#
Flag Backup Files	~
Flag Garbage Files	% &
Mark Executables	* *
Mark Old Backups	.
Mark Directories	* /
Mark Symlinks	* @
Unmark All	U
Change Marks...	* c
Next Marked	M-)
Previous Marked	M-{

|	
Edit File Names	C-x C-q
Create Directory...	+
Find This File	RET
Find in Other Window	o
Display in Other Window	C-o
View This File	v
Diff...	=
Compare with Backup	M-=
Compare Directories...	
Isearch in File Names...	M-s f C-s
Isearch Regexp in File Names...	M-s f C-M-s
Refresh	g
Display Image	C-t i
Display Image Externally	C-t x

Here is a sample of the menus available in the Dired mode.

Users that are still intimidated by the shell will find equivalent for most of the usual shell functions.

More generally, this gives you an idea of the depth of available Emacs modules.
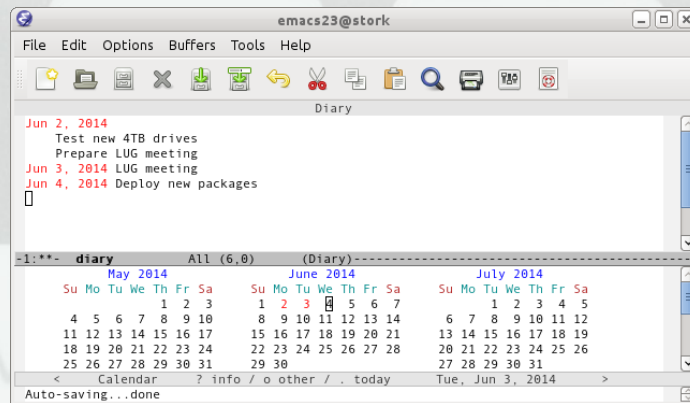
Dired mode (cont'd)
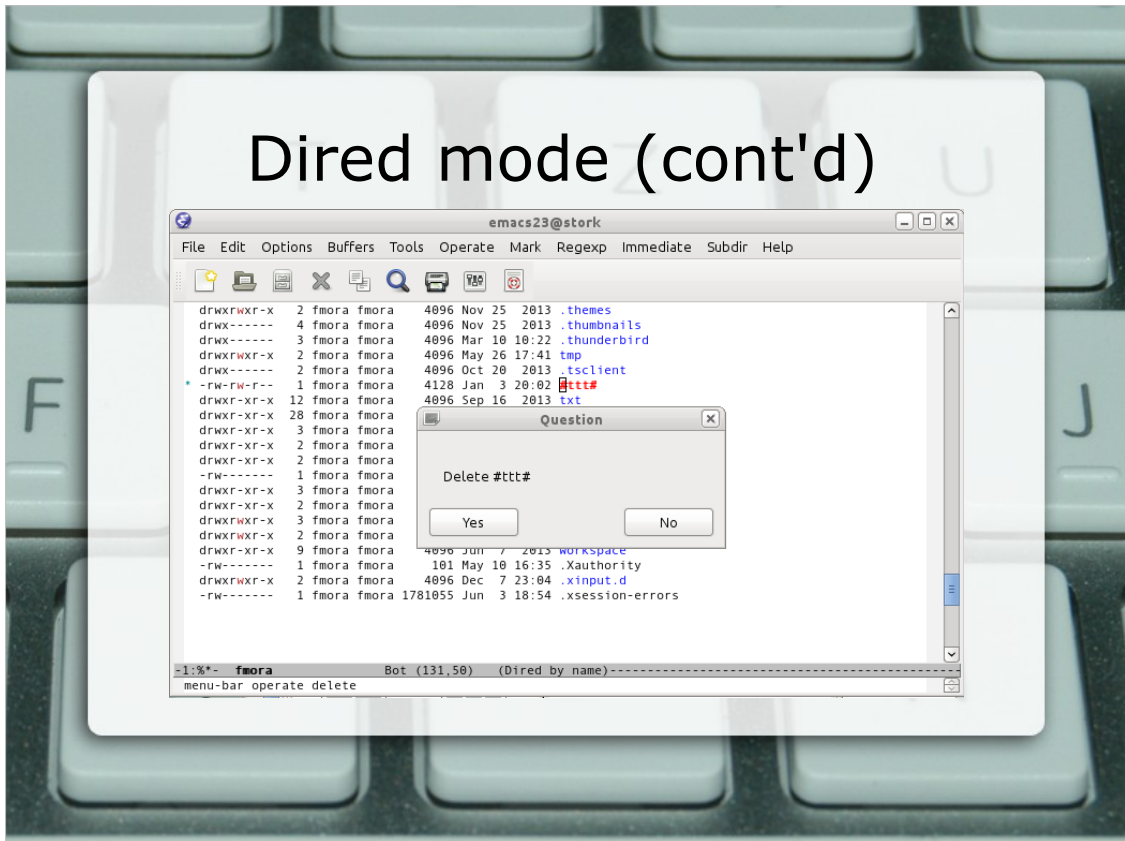
Here, I marked the file and selected Delete in the Operate menu.

Since I selected the menu, Emacs puts me in the keyboard-shy category and shows GUI dialog.

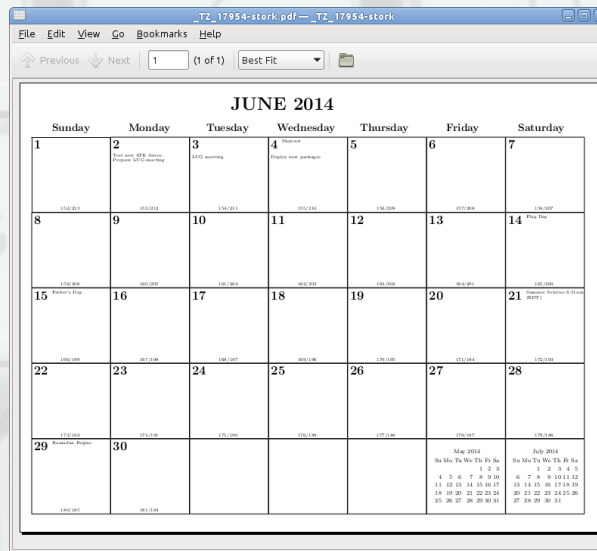Had I used the keyboard shortcut, the dialog would have appeared on the mode line.

Right-click on a date to see possible operations.
The diary is a standard text file.

Calendar mode (cont'd)

- I still use this mode to print wall calendars

In calendar mode, put the cursor on a month, type type **t M**, and a LaTeX file is created that contains a printable calendar.

If you don't know what LaTeX is, we need another session about it.

Save the file.

M-x tex-buffer creates a DVI file

Unless your printer is very smart, don't do **M-x tex-print** or you'll print a ream of binary file

Do the usual:

dvipdf file.dvi

Then view or print the resulting PDF.
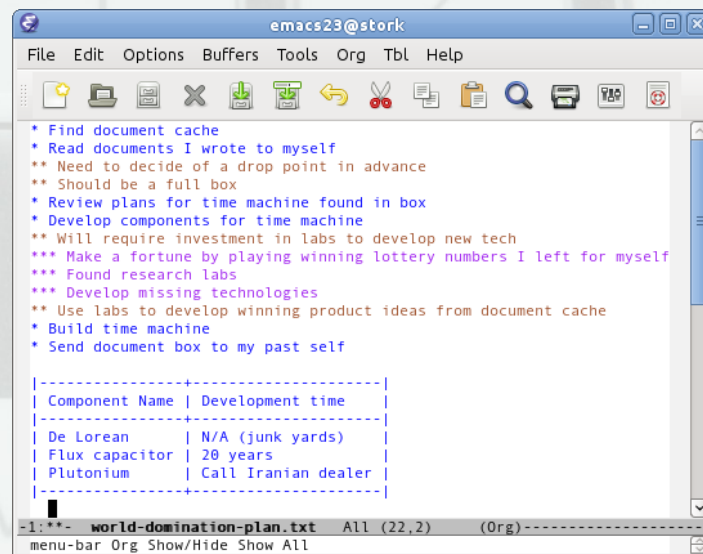
Org mode

- Very popular module

- Installable with apt-get install org-mode or yum install org-mode

- Good for keeping notes, maintaining TODO lists, and doing project planning with a fast and effective plain-text system.

- Lets you create text tables quickly

- Also provides a text-mode spreadsheets!

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Org mode: Bullet lists and tables

- Very good for managing hierarchical lists of concepts, table of contents, or project tasks
- Promote/demote subtrees of items
- Fold/unfold subtrees
- Text tables can be useful every time you have to create a table for adding to a Readme file, a code comment, and other text-only files.
- http://orgmode.org

Questions?

You can do much, much more with Emacs. There are tons of online tutorials.