

Doom Emacs Configuration

Shaurya Singh

```
fatal: not a git repository (or any of the parent
directories): .git
```

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20:42 *[110]EDT

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Let us change our traditional attitude to the construction of programs: Instead of imagining that our main task is to instruct a computer what to do, let us concentrate rather on explaining to human beings what we want a computer to do. — Donald Knuth

1 Note: If you want a proper Emacs Config, look here:

<https://tecosaur.github.io/emacs-config/config.html>, this is just a compilation of different parts of his (and other's) configs, as well as a few parts I wrote by my own. I'm slowly working on making my config "mine"

1.1 Credit:

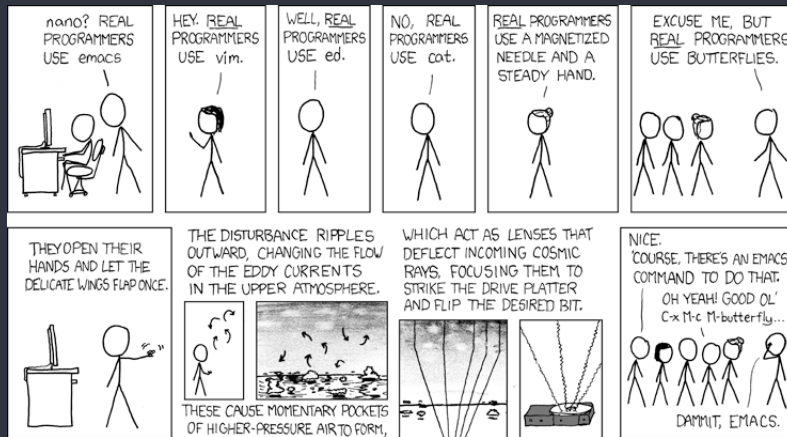
- Tecosaur - For all his help and the excellent config
- Dr. Elken - For his EXWM Module and help on the DOOM Server
- Henrik - For making Doom Emacs in the first place

Includes (snippets) of other software related under the MIT license:

- Doom Emacs Config, 2021 Tecosaur. <https://tecosaur.github.io/emacs-config/config.html>
- .doom.d, 2021 Elken. <https://github.com/elken/.doom.d/blob/master/config.org>

Includes (snippets) of other software related under the GPLv3 license:

- .dotfiles, 2021 Daviwil. <https://github.com/daviwil/dotfiles>



Real Programmers Real programmers set the universal constants at the start such that the universe evolves to contain the disk with the data they want.

2 Intro

Customizing an editor can be very rewarding ... until you have to leave it. For years I have been looking for ways to avoid this pain. Then I discovered [vim-anywhere](#). The issue is

1. I use neovim (and neovide), not vim (and gvim)
2. Firenvim is only for browsers
3. Even if I found a neovim alternative, you can't do everything in neovim

I wanted everything, in one place. Hence why I (mostly) switched to Emacs.

Separately, online I have seen the following statement enough times I think it's a catchphrase

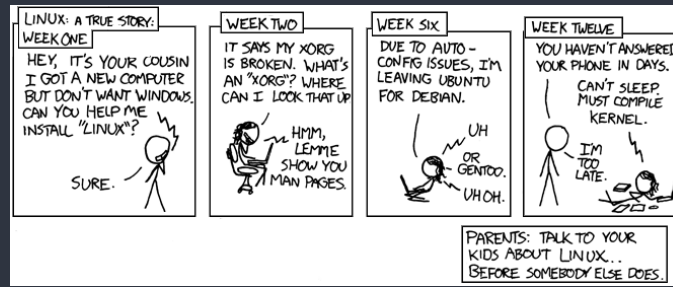
Redditor 1: I just discovered this thing, isn't it cool.

Redditor 2: Oh, there's an Emacs mode for that.

This was enough for me to install Emacs, but there are [many other reasons](#) to keep using it.

I tried out the [spacemacs](#) distribution a bit, but it wasn't quite to my liking. Then I heard about [doom emacs](#) and thought I may as well give that a try.

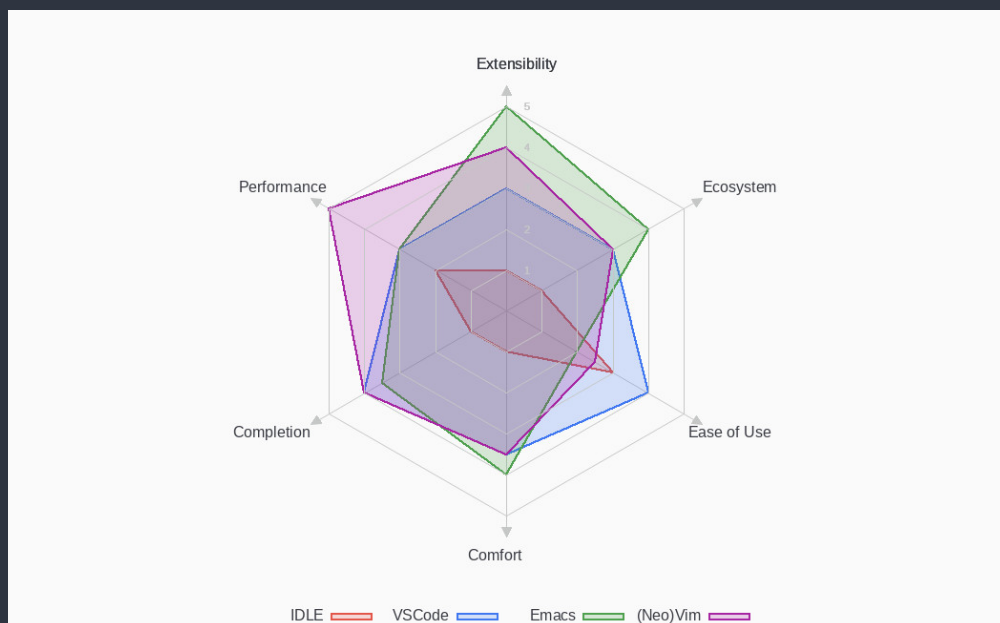
With Org, I've discovered the wonders of literate programming, and with the help of others I've switched more and more to just using Emacs (just replace "Linux" with "Emacs" in the comic below).



Cautionary This really is a true story, and she doesn't know I put it in my comic because her wife hasn't worked for weeks.

That's not to say using Emacs doesn't have its pitfalls. The performance leaves something to be desired, but the benefits far outweigh the drawbacks. It's unrivaled in extensibility.

Editor	Extensibility	Ecosystem	Ease of Use	Comfort	Completion	Performance
IDLE	1	1	3	1	1	2
VSCode	3	3	4	3.5	4	3
Emacs	5	4	2	4	3.5	3
(Neo)Vim	4	3	2.5	3.5	4	5



2.1 Why Emacs?

Emacs is *not* a text editor, this is a common misnomer. It is far more apt to describe Emacs as *a Lisp machine providing a generic user-centric text manipulation environment*. That's quite a mouthful. In simpler terms one can think of Emacs as a platform for text-related applications. It's a vague and generic definition because Emacs itself is generic.

Good with text. How far does that go? A lot further than one initially thinks:

- Task planning
- File management
- Terminal emulation
- Email client
- Remote server tool
- Git frontend
- Web client/server
- and more...

Ideally, one may use Emacs as *the* interface to perform **input** → **transform** → **output** cycles, i.e. form a bridge between the human mind and information manipulation.

2.1.1 The enveloping editor

Emacs allows one to do more in one place than any other application. Why is this good?

- Enables one to complete tasks with a consistent, standard set of keybindings, GUI and editing methods — learn once, use everywhere
- Reduced context-switching
- Compressing the stages of a project — a more centralised workflow can progress with greater ease
- Integration between tasks previously relegated to different applications, but with a com-

mon subject — e.g. linking to an email in a to-do list

Emacs can be thought of as a platform within which various elements of your workflow may settle, with the potential for rich integrations between them — a *life* IDE if you will.

Today, many aspects of daily computer usage are split between different applications which act like islands, but this often doesn't mirror how we *actually use* our computers. Emacs, if one goes down the rabbit hole, can give users the power to bridge this gap.

2.2 Notes for the unwary adventurer

If you like the look of this, that's marvellous, and I'm really happy that I've made something which you may find interesting, however:

❖ Warning

This config is *insidious*. Copying the whole thing blindly can easily lead to undesired effects. I recommend copying chunks instead.

If you are so bold as to wish to steal bits of my config (or if I upgrade and wonder why things aren't working), here's a list of sections which rely on external setup (i.e. outside of this config).

Oh, did I mention that I started this config when I didn't know any `lisp`, and this whole thing is a hack job? If you can suggest any improvements, please do so, no matter how much criticism you include I'll appreciate it :)

2.2.1 Extra Requirements

The lovely `doom doctor` is good at diagnosing most missing things, but here are a few extras.

- A `TeX` Compiler is required for the mathematics rendering performed in `org`, and that wonderful pdf/html export we have going. I recommend `Tectonic`.
- I use the `Overpass` font as a go-to sans serif. It's used as my `doom-variable-pitch-font`. I have chosen it because it possesses a few characteristics I consider desirable, namely:
 - A clean, and legible style. Highway-style fonts tend to be designed to be clear at a glance, and work well with a thicker weight, and this is inspired by *Highway Gothic*.
 - It's slightly quirky. Look at the diagonal cut on stems for example. Helvetica is a masterful design, but I like a bit more pizzazz now and then.

- **Note:** `Alegreya` is used for my latex export and writeroom mode configurations
- I use my `patched SFMono` font as a go-to monospace. I have chosen it because it possesses a few characteristics I consider desirable, namely:
 - Elegant characters, and good ligatures/unicode support
 - It fits well with the rest of my system
- A few LSP servers. Take a look at `init.el` to see which modules have the `+lsp` flag.
- Gnuplot, used for `org-plot`.
- A build of emacs with modules and xwidgets support. I also recommend the native-comp flag with emacs28.

3 Doom Configuration

3.0.1 Modules

Doom has this lovely *modular configuration base* that takes a lot of work out of configuring Emacs. Each module (when enabled) can provide a list of packages to install (on `doom sync`) and configuration to be applied. The modules can also have flags applied to tweak their behaviour.

```
;;; init.el -*- lexical-binding: t; -*-

;; This file controls what Doom modules are enabled and what order they
;; load in.
;; Press 'K' on a module to view its documentation, and 'gd' to browse
;; its directory.

(doom! :completion
      <<doom-completion>>

      :ui
      <<doom-ui>>

      :editor
      <<doom-editor>>

      :emacs
      <<doom-emacs>>

      :term
```



```

<<doom-term>>

:checkers
<<doom-checkers>>

:tools
<<doom-tools>>

:os
<<doom-os>>

:lang
<<doom-lang>>

:email
<<doom-email>>

:app
<<doom-app>>

:config
<<doom-config>>)

```

1. Structure As you may have noticed by this point, this is a `literate` configuration. Doom has good support for this which we access through the `literate` module.

While we're in the `:config` section, we'll use Dooms nicer defaults, along with the bindings and smartparens behaviour (the flags aren't documented, but they exist).

```

literate
(default +bindings +smartparens)

```

2. Interface There's a lot that can be done to enhance Emacs' capabilities. I reckon enabling half the modules Doom provides should do it.

```

(company                ; the ultimate code completion backend
+childframe)          ; ... when your children are better
  ↳ than you
;;helm                 ; the *other* search engine for love
  ↳ and life
;;ido                 ; the other *other* search engine...
;;(ivy                ; a search engine for love and life
;; +icons             ; ... icons are nice
;; +prescient)        ; ... I know what I want(ed)
(vertico +icons)       ; the search engine of the future

```

```

;;deft                                ; notational velocity for Emacs
doom                                  ; what makes DOOM look the way it does
doom-dashboard                        ; a nifty splash screen for Emacs
doom-quit                             ; DOOM quit-message prompts when you
  ⇨ quit Emacs
(emoji +unicode)                      ;
;;fill-column                         ; a `fill-column' indicator
hl-todo                              ; highlight
  ⇨ TODO/FIXME/NOTE/DEPRECATED/HACK/REVIEW
;;hydra                              ; quick documentation for related
  ⇨ commands
;;indent-guides                       ; highlighted indent columns,
  ⇨ notoriously slow
(ligatures +extra)                   ; ligatures and symbols to make your
  ⇨ code pretty again
minimap                              ; show a map of the code on the side
(modeline                             ; snazzy, Atom-inspired modeline, plus
  ⇨ API
  +light)                             ; the doom modeline is a bit much, the
  ⇨ default is a bit little
;;nav-flash                           ; blink the current line after jumping
;;neotree                             ; a project drawer, like NERDTree for
  ⇨ vim
ophints                              ; highlight the region an operation
  ⇨ acts on
(popup                               ; tame sudden yet inevitable temporary
  ⇨ windows
  +all                                ; catch all popups that start with an
  ⇨ asterix
  +defaults)                          ; default popup rules
;;(tabs                               ; an tab bar for Emacs
;; +centaur-tabs)                     ; ... with prettier tabs
treemaps                             ; a project drawer, like neotree but
  ⇨ cooler
;;tree-sitter                         ; ... sitting in a tree
;;unicode                             ; extended unicode support for various
  ⇨ languages
vc-gutter                            ; vcs diff in the fringe
;;vi-tilde-fringe                     ; fringe tildes to mark beyond EOB
;;(window-select +numbers)            ; visually switch windows
workspaces                           ; tab emulation, persistence & separate
  ⇨ workspaces
zen                                  ; distraction-free coding or writing

```

```

(evil +everywhere)                   ; come to the dark side, we have
  ⇨ cookies
file-templates                        ; auto-snippets for empty files
fold                                 ; (nigh) universal code folding
format                               ; automated prettiness
;;god                                 ; run Emacs commands without modifier
  ⇨ keys

```

```
;;lispypy ; vim for lisp, for people who don't
↳ like vim
;;multiple-cursors ; editing in many places at once
;;objed ; text object editing for the innocent
;;parinfer ; turn lisp into python, sort of
;;rotate-text ; cycle region at point between text
↳ candidates
snippets ; my elves. They type so I don't have
↳ to
;;word-wrap ; soft wrapping with language-aware
↳ indent
```

```
(dired +icons) ; making dired pretty [functional]
electric ; smarter, keyword-based
↳ electric-indent
(ibuffer +icons) ; interactive buffer management
undo ; persistent, smarter undo for your
↳ inevitable mistakes
vc ; version-control and Emacs, sitting in
↳ a tree
```

```
;;eshell ; the elisp shell that works everywhere
;;shell ; simple shell REPL for Emacs
;;term ; basic terminal emulator for Emacs
vterm ; the best terminal emulation in Emacs
```

```
syntax ; tasing you for every semicolon you
↳ forget
(:if (executable-find "aspell") spell) ; tasing you for misspelling
↳ misspelling
;;grammar ; tasing grammar mistake every you make
```

```
;;ansible ; a crucible for infrastructure as code
;;debugger ; FIXME stepping through code, to help
↳ you add bugs
;;direnv ; be direct about your environment
;;docker ; port everything to containers
;;editorconfig ; let someone else argue about tabs vs
↳ spaces
;;ein ; tame Jupyter notebooks with emacs
;;(eval +overlay) ; run code, run (also, repls)
;;gist ; interacting with github gists
(lookup ; helps you navigate your code and
↳ documentation
+dictionary ; dictionary/thesaurus is nice
+docsets) ; ...or in Dash docsets locally
lsp ; Language Server Protocol
;;macos ; MacOS-specific commands
(magit ; a git porcelain for Emacs
```

```

+forge)                ; interface with git forges
;;make                  ; run make tasks from Emacs
;;pass                  ; password manager for nerds
pdf                     ; pdf enhancements
;;prodigy               ; FIXME managing external services &
↪ code builders
;;rgb                   ; creating color strings
;;taskrunner            ; taskrunner for all your projects
;;terraform             ; infrastructure as code
;;tmux                  ; an API for interacting with tmux
;;upload                ; map local to remote projects via
↪ ssh/ftp

```

```

(:if IS-MAC macos)      ; improve compatibility with macOS
;;tty                   ; improve the terminal Emacs experience

```

3. Language support We can be rather liberal with enabling support for languages as the associated packages/configuration are (usually) only loaded when first opening an associated file.

```

;;agda                  ; types of types of types of types...
;;beancount             ; mind the GAAP
;;cc                    ; C/C++/Obj-C madness
;;clojure               ; java with a lisp
;;common-lisp           ; if you've seen one lisp, you've seen
↪ them all
;;coq                   ; proofs-as-programs
;;crystal               ; ruby at the speed of c
;;csharp                ; unity, .NET, and mono shenanigans
;;data                  ; config/data formats
;;(dart +flutter)       ; paint ui and not much else
;;dhall                 ; JSON with FP sprinkles
;;elixir                ; erlang done right
;;elm                   ; care for a cup of TEA?
emacs-lisp              ; drown in parentheses
;;erlang                ; an elegant language for a more
↪ civilized age
;;ess                   ; emacs speaks statistics
;;faust                 ; dsp, but you get to keep your soul
;;fsharp                ; ML stands for Microsoft's Language
;;fstar                 ; (dependent) types and (monadic)
↪ effects and Z3
;;gdscrip               ; the language you waited for
;;(go +lsp)             ; the hipster dialect
;;(haskell +lsp)        ; a language that's lazier than I am
;;hy                     ; readability of scheme w/ speed of
↪ python
;;idris                 ;
;;json                  ; At least it ain't XML

```

```

(java +lsp)                ; the poster child for carpal tunnel
↪ syndrome
;; (javascript +lsp)       ;
↪ all(hope(abandon(ye(who(enter(here))))))
;; (julia +lsp)            ; Python, R, and MATLAB in a blender
;; (kotlin +lsp)           ; a better, slicker Java(Script)
(latex                     ; writing papers in Emacs has never
↪ been so fun
;; +fold                   ; fold the clutter away nicities
+cdlatex                   ; quick maths symbols
+lsp)
;; lean                    ; proof that mathematicians need help
;; factor                  ; for when scripts are stacked against
↪ you
;; ledger                  ; an accounting system in Emacs
;; (lua +lsp)              ; one-based indices? one-based indices
;; markdown                ; writing docs for people to ignore
;; nim                     ; python + lisp at the speed of c
;; nix                     ; I hereby declare "nix geht mehr!"
;; ocaml                   ; an objective camel
(org                        ; organize your plain life in plain
↪ text
+pretty                    ; yessss my pretties! (nice unicode
↪ symbols)
+dragndrop                 ; drag & drop files/images into org
↪ buffers
;; +hugo                   ; use Emacs for hugo blogging
;; +noter                  ; enhanced PDF notetaking
+jupyter                   ; ipython/jupyter support for babel
+pandoc                    ; export-with-pandoc support
+gnuplot                   ; who doesn't like pretty pictures
+pomodoro                  ; be fruitful with the tomato technique
+present                   ; using org-mode for presentations
+roam2)                    ; wander around notes
;; php                     ; perl's insecure younger brother
;; plantuml                ; diagrams for confusing people more
;; purescript              ; javascript, but functional
(python +lsp +pyright)     ; beautiful is better than ugly
;; qt                     ; the 'cutest' gui framework ever
;; racket                  ; a DSL for DSLs
;; raku                    ; the artist formerly known as perl6
;; rest                    ; Emacs as a REST client
;; rst                     ; ReST in peace
;; (ruby +rails)           ; 1.step {|i| p "Ruby is #{i.odd? ?
↪ 'love' : 'life'}"}
;; (rust +lsp)             ;
↪ Fe2O3.unwrap().unwrap().unwrap().unwrap()
;; scala                   ; java, but good
;; scheme                  ; a fully conniving family of lisps
;; sh                      ; she sells {ba,z,fi}sh shells on the C
↪ xor
;; sml                     ; no, the /other/ ML
;; solidity                ; do you need a blockchain? No.

```

```
;;swift                ; who asked for emoji variables?
;;terra                ; Earth and Moon in alignment for
↪ performance.
;;web                  ; the tubes
;;yaml                 ; JSON, but readable
;;zig                  ; C, but simpler
```

4. Everything in Emacs It's just too convenient being able to have everything in Emacs. I couldn't resist the Email and Feed modules.

```
(:if (executable-find "mu") (mu4e +org +gmail))
;;notmuch
;;(wanderlust +gmail)
```

```
;;calendar             ; A dated approach to timetabling
;;emms                 ; Multimedia in Emacs is music to my
↪ ears
;;everywhere           ; *leave* Emacs!? You must be joking.
;;irc                  ; how neckbeards socialize
;;(rss +org)           ; emacs as an RSS reader
;;twitter              ; twitter client
↪ https://twitter.com/vnought
```

3.0.2 Packages

Unlike most literate configurations I ~~am~~ lazy like to keep all my packages in one place

```
;; -*- no-byte-compile: t; -*-
;;; $DOOMDIR/packages.el

;;org
<<org>>

;;latex
<<latex>>

;;markdown and html
<<web>>

;;looks
<<looks>>

;;emacs additions
<<emacs>>

;;lsp
```

```
<<lsp>>
```

```
;; fun  
<<fun>>
```

1. Org: The majority of my work in emacs is done in org mode, even this configuration was written in org! It makes sense that the majority of my packages are for tweaking org then

```
(package! org-appear)  
(package! doct :recipe (:host github :repo "progfolio/doct"))  
(package! org-padding :recipe (:host github :repo  
  ↳ "TonCherAmi/org-padding"))  
(package! org-ol-tree :recipe (:host github :repo  
  ↳ "Townk/org-ol-tree"))  
(package! org-pretty-table :recipe (:host github :repo  
  ↳ "Fuco1/org-pretty-table"))  
(package! org-roam-ui :recipe (:host github :repo  
  ↳ "org-roam/org-roam-ui" :files ("*.el" "out")))  
(package! org-pandoc-import  
  :recipe (:host github  
    :repo "tecosaur/org-pandoc-import"  
    :files ("*.el" "filters" "preprocessors")))
```

2. \LaTeX : When I'm not working in org, I'm probably exporting it to latex. Lets adjust that a bit too

```
;; (package! org-fragtog)  
(package! aas :recipe (:host github :repo  
  ↳ "ymarco/auto-activating-snippets"))  
(package! laas :recipe (:host github :repo  
  ↳ "tecosaur/LaTeX-auto-activating-snippets"))  
(package! engrave-faces :recipe (:host github :repo  
  ↳ "tecosaur/engrave-faces"))  
(package! math-preview)
```

3. Web: Sometimes I need to use markdown too. **Note:** emacs-webkit is temporarily disabled because of its refusal to work without requiring org

```
(package! ox-gfm)  
(package! websocket)  
;; (package! webkit  
;;       :recipe (:host github  
;;               :repo "akirakyle/emacs-webkit"  
;;               :branch "main"  
;;               :files (:defaults "*.js" "*.css" "*.so"  
  ↳ "*.nix")  
;;               :pre-build (("nix-shell" "shell.nix" "--command  
  ↳ make")))))
```

4. Looks: Making emacs look good is first priority, actually working in it is second

```
(unpin! doom-themes)
(unpin! doom-modeline)
(package! solaire-mode :disable t)
(package! ox-chameleon :recipe (:host github :repo
  ↳ "tecosaur/ox-chameleon"))
```

5. Emacs Tweaks: Emacs is missing just a few packages that I need to make it my OS. Specifically, screenshot capabilities are nice, and using the same dictionaries accross operating systems bootloaders would be nice too!

```
;;(package! vlf :recipe (:host github :repo "m00natic/vlfi" :files
  ↳ ("*.el")))
(package! screenshot :recipe (:host github :repo
  ↳ "tecosaur/screenshot"))
(package! lexic :recipe (:host github :repo "tecosaur/lexic"))
```

6. LSP: I like to live life on the edge

```
(unpin! lsp-ui)
(unpin! lsp-mode)
```

7. Fun: We do a little trolling

```
(package! xkcd)
(package! keycast)
(package! selectric-mode)
```

4 Basic Configuration

Make this file run (slightly) faster with lexical binding

```
;;; config.el -*- lexical-binding: t; -*-
```

I want to run emacs28's new native-compiler with -O3, if available

```
(when 'native-comp-compiler-options
  (setq native-comp-compiler-options '("-O3")))
```


4.1 Personal information

Of course we need to tell emacs who I am

```
(setq user-full-name "Shaurya Singh"
      user-mail-address "shaunsingh0207@gmail.com")
```

4.2 Authinfo

I frequently delete my `~/ .emacs.d` for fun, so having authinfo in a seperate file sounds like a good idea

```
(setq auth-sources '("~/ .authinfo.gpg")
      auth-source-cache-expiry nil) ; default is 7200 (2h)
```

4.3 Emacsclient

mu4e is a bit finicky with emacsclient, and org takes forever to load. The solution? Use tecosaurus greedy daemon startup

```
(defun greedily-do-daemon-setup ()
  (require 'org)
  (require 'vertico)
  (require 'consult)
  (require 'marginalia)
  (when (require 'mu4e nil t)
    (setq mu4e-confirm-quit t)
    (setq +mu4e-lock-greedy t)
    (setq +mu4e-lock-relaxed t)
    (+mu4e-lock-add-watcher)
    (when (+mu4e-lock-available t)
      (mu4e~start))))

(when (daemonp)
  (add-hook 'emacs-startup-hook #'greedily-do-daemon-setup)
  (add-hook 'emacs-startup-hook #'init-mixed-pitch-h))
```

4.4 Shell

I use the fish shell. If you use zsh/bash, be sure to change this

```
(setq explicit-shell-file-name (executable-find "fish"))
```

4.4.1 Vterm

Vterm is my terminal emulator of choice. We can tell it to use ligatures, and also tell it to compile automatically. Vterm clearly wins the terminal war. Also doesn't need much configuration out of the box, although the shell integration does. You can find that in `~/.config/fish/config.fish`

1. Always compile Fixes a weird bug with native-comp

```
(setq vterm-always-compile-module t)
```

2. Kill buffer If the process exits, kill the `vterm` buffer

```
(setq vterm-kill-buffer-on-exit t)
```

3. Functions Useful functions for the shell-side integration provided by vterm.

```
(after! vterm
  (setf (alist-get "magit-status" vterm-eval-cmds nil nil #'equal)
        '((lambda (path)
              (magit-status path)))))
```

4. Ligatures Use ligatures from within vterm (and eshell), we do this by redefining the variable where *not* to show ligatures

```
(setq +ligatures-in-modes t)
```

4.5 Fonts

I like the apple fonts for programming, so I'll go with Liga SFMono Nerd Font. I prefer a rounder font for plain text, so I'll go with Overpass for that. I have a retina display as well, so let's keep the fonts light.

```
;; fonts
(setq doom-font (font-spec :family "Liga SFMono Nerd Font" :size 14)
      doom-big-font (font-spec :family "Liga SFMono Nerd Font" :size 20)
      doom-variable-pitch-font (font-spec :family "Overpass" :size 16))
```



Papyrus I secretly, deep in my guilty heart, like Papyrus and don't care if it's overused. [Cue hate mail in beautifully-kerned Helvetica.]

```
doom-unicode-font (font-spec :family "Liga SFMono Nerd Font")
doom-serif-font (font-spec :family "Liga SFMono Nerd Font" :weight
  ↳ 'light))
```

For mixed pitch, I would go with something comfier. I like Alegreya, so lets go with that

```
;;mixed pitch modes
(defvar mixed-pitch-modes '(org-mode LaTeX-mode markdown-mode gfm-mode
  ↳ Info-mode)
  "Modes that `mixed-pitch-mode' should be enabled in, but only after UI
  ↳ initialisation.")
(defun init-mixed-pitch-h ()
  "Hook `mixed-pitch-mode' into each mode in `mixed-pitch-modes'.
  Also immediately enables `mixed-pitch-modes' if currently in one of
  ↳ the modes."
  (when (memq major-mode mixed-pitch-modes)
    (mixed-pitch-mode 1))
  (dolist (hook mixed-pitch-modes)
    (add-hook (intern (concat (symbol-name hook) "-hook"))
      ↳ #'mixed-pitch-mode)))
(add-hook 'doom-init-ui-hook #'init-mixed-pitch-h)
(add-hook! 'org-mode-hook #'org-mode-hook) ;enter mixed pitch mode in
  ↳ org mode

;;set mixed pitch font
(after! mixed-pitch
  (defface variable-pitch-serif
    '((t (:family "serif")))
    "A variable-pitch face with serifs."
    :group 'basic-faces)
  (setq mixed-pitch-set-height t))
```

```
(setq variable-pitch-serif-font (font-spec :family "Alegreya" :size
↪ 16))
(set-face-attribute 'variable-pitch-serif nil :font
↪ variable-pitch-serif-font)
(defun mixed-pitch-serif-mode (&optional arg)
  "Change the default face of the current buffer to a serified variable
  ↪ pitch, while keeping some faces fixed pitch."
  (interactive)
  (let ((mixed-pitch-face 'variable-pitch-serif))
    (mixed-pitch-mode (or arg 'toggle)))))
```

Harfbuzz is missing the beautiful ff ffi ffj ffi fff fi fj ft Th ligatures, lets add those back in with the help of composition-function-table

```
(set-char-table-range composition-function-table ?f
↪ '(["\\(?: ff?[fijlt]\\)" 0 font-shape-gstring]))
(set-char-table-range composition-function-table ?T '(["\\(?: Th\\)" 0
↪ font-shape-gstring]))
```

Just in case the fonts aren't there, lets add check to notify the user of the issue. Seems like I forget to install fonts every time I switch between distros emacs bootloaders

```
(defvar required-fonts '("Overpass" "Liga SFMono Nerd Font" "Alegreya" ))
(defvar available-fonts
  (delete-dups (or (font-family-list)
    (split-string (shell-command-to-string "fc-list :
↪ family")
      "[,\n]"))))

(defvar missing-fonts
  (delq nil (mapcar
    (lambda (font)
      (unless (delq nil (mapcar (lambda (f)
        (string-match-p (format "%s$" font) f))
          available-fonts)
        font))
        required-fonts)))

(if missing-fonts
  (pp-to-string
    `(unless noninteractive
      (add-hook! 'doom-init-ui-hook
        (run-at-time nil nil
          (lambda ()
            (message "%s missing the following fonts: %s"
              (property "Warning!" 'face '(bold
↪ warning))
              (mapconcat (lambda (font)
                (property font 'face
↪ 'font-lock-variable-name-face))
              ',missing-fonts
```

```

                                " , " ) )
                                (sleep-for 0.5))))))
" ;; No missing fonts detected")

```

```
<<detect-missing-fonts()>>
```

4.6 Themes

Right now I'm using nord, but I use doom-one-light sometimes

```

;; (setq doom-theme 'doom-one-light)
(setq doom-one-light-padded-modeline t)
(setq doom-theme 'doom-nord)
(setq doom-nord-padded-modeline t)

```

4.7 Very large files

Emacs gets super slow with large files, this helps with that

```

;; (use-package! vlf-setup
;; :defer-incrementally vlf-tune vlf-base vlf-write vlf-search vlf-occur
;↪ vlf-follow vlf-ediff vlf)

```

4.8 Company

I think company is a bit too quick to recommend some stuff

```

(after! company
  (setq company-idle-delay 0.1
        company-minimum-prefix-length 1
        company-selection-wrap-around t
        company-require-match 'never
        company-dabbrev-downcase nil
        company-dabbrev-ignore-case t
        company-dabbrev-other-buffers nil
        company-tooltip-limit 5
        company-tooltip-minimum-width 50))
(set-company-backend!
 '(text-mode
   markdown-mode

```

```

gfm-mode)
'(:seperate
  company-yasnippet
  company-ispell
  company-files))

;;nested snippets
(setq yas-triggers-in-field t)

```

Lets add some snippets for latex

```

(use-package! aas
  :commands aas-mode)

(use-package! laas
  :hook (LaTeX-mode . laas-mode)
  :config
  (defun laas-tex-fold-maybe ()
    (unless (equal "/" aas-transient-snippet-key)
      (+latex-fold-last-macro-a)))
  (add-hook 'org-mode #'laas-mode)
  (add-hook 'aas-post-snippet-expand-hook #'laas-tex-fold-maybe))

```

And with a little help from henrik, lets use those snippets in org mode

```

(defadvice! fixed-org-yas-expand-maybe-h ()
  "Expand a yasnippet snippet, if trigger exists at point or region is
  active.
  Made for `org-tab-first-hook'."
  :override #'org-yas-expand-maybe-h
  (when (and (featurep! :editor snippets)
    (require 'yasnippet nil t)
    (bound-and-true-p yas-minor-mode))
    (and (let ((major-mode (cond ((org-in-src-block-p t)
      (org-src-get-lang-mode
        ↪ (org-eldoc-get-src-lang)))
      ((org-inside-LaTeX-fragment-p)
        'latex-mode)
      (major-mode)))
      (org-src-tab-acts-natively nil) ; causes breakages
      ;; Smart indentation doesn't work with yasnippet, and
      ↪ painfully slow
      ;; in the few cases where it does.
      (yas-indent-line 'fixed))
      (cond ((and (or (not (bound-and-true-p evil-local-mode))
        (evil-insert-state-p)
        (evil-emacs-state-p))
        (or (and (bound-and-true-p yas--tables)
          (gethash major-mode yas--tables))

```

```

        (progn (yas-reload-all) t))
        (yas--templates-for-key-at-point))
      (yas-expand)
      t)
    ((use-region-p)
     (yas-insert-snippet)
     t)))
;; HACK Yasnippet breaks org-superstar-mode because yasnippets
↪ is
;;      overzealous about cleaning up overlays.
(when (bound-and-true-p org-superstar-mode)
      (org-superstar-restart)))

```

Source code blocks are a pain in org-mode, so lets make a few functions to help with our snippets

```

(defun +yas/org-src-header-p ()
  "Determine whether `point' is within a src-block header or
↪ header-args."
  (pcase (org-element-type (org-element-context))
    ('src-block (< (point) ; before code part of the src-block
                  (save-excursion (goto-char (org-element-property
↪ :begin (org-element-context)))
                                (forward-line 1)
                                (point))))
    ('inline-src-block (< (point) ; before code part of the
↪ inline-src-block
                      (save-excursion (goto-char
↪ (org-element-property :begin
↪ (org-element-context)))
                                      (search-forward "]{"
                                      (point))))
    ('keyword (string-match-p "^header-args" (org-element-property :value
↪ (org-element-context))))))

```

Now let's write a function we can reference in yasnippets to produce a nice interactive way to specify header args.

```

(defun +yas/org-prompt-header-arg (arg question values)
  "Prompt the user to set ARG header property to one of VALUES with
  QUESTION.
  The default value is identified and indicated. If either default is
  selected,
  or no selection is made: nil is returned."
  (let* ((src-block-p (not (looking-back "^#\\++property:[
↪ \\t]+header-args:.*" (line-beginning-position))))
        (default
         (or
          (cdr (assoc arg
                     (if src-block-p
                         (nth 2 (org-babel-get-src-block-info t))

```

```

(org-babel-merge-params
 org-babel-default-header-args
 (let ((lang-headers
       (intern (concat
                 ↪ "org-babel-default-header-args:"
                 (+yas/org-src-lang))))))
  (when (boundp lang-headers) (eval
    ↪ lang-headers t))))))
  ""))
  default-value)
(setq values (mapcar
  (lambda (value)
    (if (string-match-p (regexp-quote value) default)
        (setq default-value
          (concat value " "
            (propertize "(default)" 'face
              ↪ 'font-lock-doc-face)))
        value))
  values))
(let ((selection (consult--read question values :default
  ↪ default-value)))
  (unless (or (string-match-p "(default)$" selection)
    (string= "" selection))
    selection)))

```

Finally, we fetch the language information for new source blocks.

Since we're getting this info, we might as well go a step further and also provide the ability to determine the most popular language in the buffer that doesn't have any `header-args` set for it (with `#+properties`).

```

(defun +yas/org-src-lang ()
  "Try to find the current language of the src/header at `point'.
  Return nil otherwise."
  (let ((context (org-element-context)))
    (pcase (org-element-type context)
      ('src-block (org-element-property :language context))
      ('inline-src-block (org-element-property :language context))
      ('keyword (when (string-match "^header-args:\\\([^ ]+\\\)"
        ↪ (org-element-property :value context))
        (match-string 1 (org-element-property :value
          ↪ context))))))

(defun +yas/org-last-src-lang ()
  "Return the language of the last src-block, if it exists."
  (save-excursion
    (beginning-of-line)
    (when (re-search-backward "^[ \t]*#\+begin_src" nil t)
      (org-element-property :language (org-element-context))))

(defun +yas/org-most-common-no-property-lang ()

```



```

"Find the lang with the most source blocks that has no global
↳ header-args, else nil."
(let (src-langs header-langs)
  (save-excursion
    (goto-char (point-min))
    (while (re-search-forward "[ \t]*#+begin_src" nil t)
      (push (+yas/org-src-lang) src-langs))
    (goto-char (point-min))
    (while (re-search-forward "[ \t]*#+property: +header-args" nil
      ↳ t)
      (push (+yas/org-src-lang) header-langs)))

  (setq src-langs
    (mapcar #'car
      ;; sort alist by frequency (desc.)
      (sort
        ;; generate alist with form (value . frequency)
        (cl-loop for (n . m) in (seq-group-by #'identity
          ↳ src-langs)
          collect (cons n (length m)))
        (lambda (a b) (> (cdr a) (cdr b))))))

    (car (cl-set-difference src-langs header-langs :test #'string=))))

```

Lets also include « to autocomplete, as with () and {}

```

(sp-local-pair
 '(org-mode)
 "<<" ">>"
 :actions '(insert))

```

And lastly lets add some helpful snippets for org-mode, and add a better template

```

(set-file-template! "\\ .org$" :trigger "__" :mode 'org-mode)

```

4.9 LSP

I think the LSP is a bit intrusive (especially with inline suggestions), so lets make it behave a bit more

```

(use-package! lsp-ui
  :hook (lsp-mode . lsp-ui-mode)
  :config
  (setq lsp-ui-sideline-enable nil; not anymore useful than flycheck
        lsp-lens-enable t
        lsp-ui-doc-enable t)

```

```
lsp-tex-server 'digestif
lsp-headerline-breadcrumb-enable nil
lsp-ui-peek-enable t
lsp-ui-peek-fontify 'on-demand
lsp-enable-symbol-highlighting nil))
```

4.10 Better Defaults

The defaults for emacs aren't so good nowadays. Lets fix that up a bit

```
(setq undo-limit 80000000 ;I mess up too much
evil-want-fine-undo t ;By default while in
  ↳ insert all changes are one big blob. Be more granular
scroll-margin 2 ;having a little
  ↳ margin is nice
auto-save-default t ;I dont like to lose
  ↳ work
display-line-numbers-type nil ;I dislike line
  ↳ numbers
history-length 25 ;Slight speedup
delete-by-moving-to-trash t ;delete to system
  ↳ trash instead
browse-url-browser-function 'xwidget-webkit-browse-url
truncate-string-ellipsis "...") ;default ellipses suck

(fringe-mode 0) ;;disable fringe
(global-subword-mode 1) ;;navigate through Camel Case words
```

There's issues with emacs flickering on mac (and sometimes wayland). This should fix it

```
(add-to-list 'default-frame-alist '(inhibit-double-buffering . t))
```

Instead of fundamental mode, lsp-interaction-mode seems much more useful

```
(setq doom-scratch-initial-major-mode 'lisp-interaction-mode)
```

Ask where to open splits

```
(setq evil-vsplits-window-right t
evil-split-window-below t)
```

...and open a buffer for it

```
(defadvice! prompt-for-buffer (&rest _)
  :after '(evil-window-split evil-window-vsplits)
  (consult-buffer))
```

The default bindings of doom are pretty good. I'm not so good with motions though, so lets make life easier with avy

```
(map! :leader
  :desc "hop to word" "w w" #'avy-goto-word-0)
(map! :leader
  :desc "hop to line"
  "l" #'avy-goto-line)
```

I also fine ; more intuitive than : for entering command mode

```
(after! evil
  (map! :nmv ";" #'evil-ex))
```

When im doing regexes, its usually with /g anyways, lets make that the default

```
(after! evil
  (setq evil-ex-substitute-global t      ; I like my s/./.. to by global
    ↪ by default
    evil-move-cursor-back nil          ; Don't move the block cursor
    ↪ when toggling insert mode
    evil-kill-on-visual-paste nil)) ; Don't put overwritten text in
    ↪ the kill ring
```

Doom looks much cleaner with the dividers removed. Not sure why it isn't the default honestly

```
(custom-set-faces!
  `(vertical-border :background ,(doom-color 'bg) :foreground
    ↪ ,(doom-color 'bg)))

(when (boundp 'window-divider-mode)
  (setq window-divider-default-places nil
    window-divider-default-bottom-width 0
    window-divider-default-right-width 0)
  (window-divider-mode -1))
```

I don't like seeing the cursorline, especially while writing. Lets disable that

```
(remove-hook 'doom-first-buffer-hook #'global-hl-line-mode)
```

Doom has a weird bug with emacs-plus where the cursor will just turn white on a light theme. Lets fix that.

```
(defadvice! fix--evil-default-cursor-fn ()
  :override #'evil-default-cursor-fn
  (evil-set-cursor-color (face-background 'cursor)))
(defadvice! fix--evil-emacs-cursor-fn ()
  :override #'evil-emacs-cursor-fn
  (evil-set-cursor-color (face-foreground 'warning)))
```

I like using the minimap, even if its slow. Looks cool in my opinion, lets make it a little cooler by removing the scroll highlighting

```
(setq minimap-highlight-line nil)
(custom-set-faces!
  `(minimap-active-region-background :background unspecified))
```

I like a bit of padding, both inside and outside, and lets make the line spacing comfier

```
;; Make a clean & minimalist frame
(use-package frame
  :config
  (setq-default default-frame-alist
    (append (list
      '(internal-border-width . 24)
      '(left-fringe . 0)
      '(right-fringe . 0)
      '(tool-bar-lines . 0)
      '(menu-bar-lines . 0)
      '(line-spacing . 0.35)
      '(vertical-scroll-bars . nil))))
  (setq-default window-resize-pixelwise t)
  (setq-default frame-resize-pixelwise t)
  :custom
  (window-divider-default-right-width 24)
  (window-divider-default-bottom-width 12)
  (window-divider-default-places 'right-only)
  (window-divider-mode t))

;; Make sure new frames use window-divider
(add-hook 'before-make-frame-hook 'window-divider-mode)
```

4.11 Selectric mode

Typewriter go br

```
(use-package! selectric-mode
  :commands selectric-mode)
```

5 Visual configuration

5.1 Modeline

Tecosaurus PDF improvements:

```
(after! doom-modeline
  (doom-modeline-def-segment buffer-name
    "Display the current buffer's name, without any other information."
    (concat
      (doom-modeline-spc)
      (doom-modeline--buffer-name)))

  (doom-modeline-def-segment pdf-icon
    "PDF icon from all-the-icons."
    (concat
      (doom-modeline-spc)
      (doom-modeline-icon 'octicon "file-pdf" nil nil
        :face (if (doom-modeline--active)
          'all-the-icons-red
          'mode-line-inactive)
        :v-adjust 0.02)))

  (defun doom-modeline-update-pdf-pages ()
    "Update PDF pages."
    (setq doom-modeline--pdf-pages
      (let ((current-page-str (number-to-string (eval
        ↪ `(pdf-view-current-page))))
        (total-page-str (number-to-string
        ↪ (pdf-cache-number-of-pages))))
      (concat
        (propertize
          (concat (make-string (- (length total-page-str) (length
        ↪ current-page-str)) ? )
            " P" current-page-str)
          'face 'mode-line)
        (propertize (concat "/" total-page-str) 'face
        ↪ 'doom-modeline-buffer-minor-mode))))

  (doom-modeline-def-segment pdf-pages
    "Display PDF pages."
    (if (doom-modeline--active) doom-modeline--pdf-pages
      (propertize doom-modeline--pdf-pages 'face 'mode-line-inactive)))
```

```
(doom-modeline-def-modeline 'pdf
  '(bar window-number pdf-pages pdf-icon buffer-name)
  '(misc-info matches major-mode process vcs)))
```

Doom modeline already looks good, but it can be better. Lets add some icons, the battery status, and make sure we don't lose track of time

```
(after! doom-modeline
  (display-time-mode 1) ;Enable time in the
  ↪ mode-line
  (display-battery-mode 1) ;display the battery
  (setq doom-modeline-major-mode-icon t ;Show major mode
  ↪ name
    doom-modeline-enable-word-count t ;Show word count
    doom-modeline-modal-icon t ;Show vim mode icon
    inhibit-compacting-font-caches t) ;Don't compact font
  ↪ caches in gc)
```

The encoding is always UTF-8, so its a bit redundant. Lets take that out

```
(defun doom-modeline-conditional-buffer-encoding ()
  "We expect the encoding to be LF UTF-8, so only show the modeline when
  ↪ this is not the case"
  (setq-local doom-modeline-buffer-encoding
    (unless (and (memq (plist-get (coding-system-plist
  ↪ buffer-file-coding-system) :category)
      '(coding-category-undecided
  ↪ coding-category-utf-8))
      (not (memq (coding-system-eol-type
  ↪ buffer-file-coding-system) '(1 2))))
    t)))
(add-hook 'after-change-major-mode-hook
  ↪ #'doom-modeline-conditional-buffer-encoding) ;;remove encoding
```

5.2 Centaur tabs

There isn't much of a point having tabs when you only have one buffer open. This checks the number of tabs, and hides them if theres only one left

```
(defun centaur-tabs-get-total-tab-length ()
  (length (centaur-tabs-tabs (centaur-tabs-current-tabset))))

(defun centaur-tabs-hide-on-window-change ()
  (run-at-time nil nil
    (lambda ()
```

```

      (centaur-tabs-hide-check
        ↪ (centaur-tabs-get-total-tab-length))))))

(defun centaur-tabs-hide-check (len)
  (shut-up
    (cond
      ((and (= len 1) (not (centaur-tabs-local-mode))) (call-interactively
        ↪ #'centaur-tabs-local-mode))
      ((and (≥ len 2) (centaur-tabs-local-mode)) (call-interactively
        ↪ #'centaur-tabs-local-mode))))))

```

I also like to have icons with my tabs.

```

(after! centaur-tabs
  (centaur-tabs-mode -1)
  (setq centaur-tabs-height 20
    centaur-tabs-set-icons t
    centaur-tabs-gray-out-icons 'buffer)
  (add-hook 'window-configuration-change-hook
    ↪ 'centaur-tabs-hide-on-window-change)
  (centaur-tabs-change-fonts "Liga SFMono Nerd Font" 105))

```

5.3 Vertico

For marginalia (vertico), lets use relative time, along with some other things

```

(after! marginalia
  (setq marginalia-censor-variables nil)

  (defadvice! +marginalia--anotate-local-file-colorful (cand)
    "Just a more colourful version of `marginalia--anotate-local-file'."
    :override #'marginalia--annotate-local-file
    (when-let (attrs (file-attributes (substitute-in-file-name
      (marginalia--full-candidate cand))
      'integer))

      (marginalia--fields
        ((marginalia--file-owner attrs)
          :width 12 :face 'marginalia-file-owner)
        ((marginalia--file-modes attrs))
        (+marginalia-file-size-colorful (file-attribute-size attrs))
          :width 7)
        (+marginalia--time-colorful (file-attribute-modification-time
          ↪ attrs))
          :width 12))))

  (defun +marginalia--time-colorful (time)
    (let* ((seconds (float-time (time-subtract (current-time) time))))

```


5.6 Splash screen

Emacs can render an image as the splash screen, and the emacs logo looks pretty cool. Now we just make it theme-appropriate, and resize with the frame.

```
(defvar fancy-splash-image-template
  (expand-file-name "misc/splash-images/emacs-e-template.svg"
    ↪ doom-private-dir)
  "Default template svg used for the splash image, with substitutions
  ↪ from ")

(defvar fancy-splash-sizes
  `(:height 300 :min-height 50 :padding (0 . 2))
    (:height 250 :min-height 42 :padding (2 . 4))
    (:height 200 :min-height 35 :padding (3 . 3))
    (:height 150 :min-height 28 :padding (3 . 3))
    (:height 100 :min-height 20 :padding (2 . 2))
    (:height 75 :min-height 15 :padding (2 . 1))
    (:height 50 :min-height 10 :padding (1 . 0))
    (:height 1 :min-height 0 :padding (0 . 0)))
  "list of plists with the following properties
   :height the height of the image
   :min-height minimum 'frame-height' for image
   :padding '+doom-dashboard-banner-padding' (top . bottom) to apply
   :template non-default template file
   :file file to use instead of template")

(defvar fancy-splash-template-colours
  '(("colour1" . keywords) ("colour2" . type) ("colour3" . base5)
    ↪ ("colour4" . base8))
  "list of colour-replacement alists of the form (\"$placeholder\" .
  ↪ 'theme-colour) which applied the template")

(unless (file-exists-p (expand-file-name "theme-splashes"
  ↪ doom-cache-dir))
  (make-directory (expand-file-name "theme-splashes" doom-cache-dir) t))

(defun fancy-splash-filename (theme-name height)
  (expand-file-name (concat (file-name-as-directory "theme-splashes")
    theme-name
    "_" (number-to-string height) ".svg")
    doom-cache-dir))

(defun fancy-splash-clear-cache ()
  "Delete all cached fancy splash images"
  (interactive)
  (delete-directory (expand-file-name "theme-splashes" doom-cache-dir) t)
  (message "Cache cleared!"))

(defun fancy-splash-generate-image (template height)
```

```

"Read TEMPLATE and create an image if HEIGHT with colour substitutions
  as
    described by `fancy-splash-template-colours' for the current
  ↳ theme"
(with-temp-buffer
  (insert-file-contents template)
  (re-search-forward "$height" nil t)
  (replace-match (number-to-string height) nil nil)
  (dolist (substitution fancy-splash-template-colours)
    (goto-char (point-min))
    (while (re-search-forward (car substitution) nil t)
      (replace-match (doom-color (cdr substitution)) nil nil)))
  (write-region nil nil
    (fancy-splash-filename (symbol-name doom-theme) height)
    ↳ nil nil)))

(defun fancy-splash-generate-images ()
  "Perform `fancy-splash-generate-image' in bulk"
  (dolist (size fancy-splash-sizes)
    (unless (plist-get size :file)
      (fancy-splash-generate-image (or (plist-get size :template)
                                       fancy-splash-image-template)
                                   (plist-get size :height)))))

(defun ensure-theme-splash-images-exist (&optional height)
  (unless (file-exists-p (fancy-splash-filename
                        (symbol-name doom-theme)
                        (or height
                            (plist-get (car fancy-splash-sizes)
                                       ↳ :height))))
    (fancy-splash-generate-images)))

(defun get-appropriate-splash ()
  (let ((height (frame-height)))
    (cl-some (lambda (size) (when (≥ height (plist-get size
                                                         ↳ :min-height)) size))
      fancy-splash-sizes)))

(setq fancy-splash-last-size nil)
(setq fancy-splash-last-theme nil)
(defun set-appropriate-splash (&rest _)
  (let ((appropriate-image (get-appropriate-splash)))
    (unless (and (equal appropriate-image fancy-splash-last-size)
                 (equal doom-theme fancy-splash-last-theme))
      (unless (plist-get appropriate-image :file)
        (ensure-theme-splash-images-exist (plist-get appropriate-image
                                                         ↳ :height)))
      (setq fancy-splash-image
        (or (plist-get appropriate-image :file)
            (fancy-splash-filename (symbol-name doom-theme) (plist-get
                                                         ↳ appropriate-image :height))))
      (setq +doom-dashboard-banner-padding (plist-get appropriate-image
                                                         ↳ :padding)))

```



```
(doom-display-benchmark-h 'return))
'face 'doom-dashboard-loaded)
"\n"
(doom-dashboard-phrase)
"\n"))
```

Lastly, the doom dashboard “useful commands” are no longer useful to me. So, we’ll disable them and then for a particularly *clean* look disable the modeline, then also hide the cursor.

```
(remove-hook '+doom-dashboard-functions
↳ #'doom-dashboard-widget-shortmenu)
(add-hook! '+doom-dashboard-mode-hook (hide-mode-line-mode 1)
↳ (hl-line-mode -1))
(setq-hook! '+doom-dashboard-mode-hook evil-normal-state-cursor (list
↳ nil))
```

5.7 Writeroom

For starters, I think Doom is a bit over-zealous when zooming in

```
(setq +zen-text-scale 0.8)
```

Then, when using Org it would be nice to make a number of other aesthetic tweaks. Namely:

- Use a serif-ed variable-pitch font
- Hiding headline leading stars
- Using fleurons as headline bullets
- Hiding line numbers
- Removing outline indentation
- Centering the text
- Turning on `org-pretty-table-mode`
- Disabling `doom-modeline`

5.8 Font Display

Mixed pitch is great. As is `+org-pretty-mode`, let's use them.

```
(add-hook 'org-mode-hook #' +org-pretty-mode)
```

However, the subscripts (and superscripts) are confusing with latex fragments, so let's turn those off

```
(setq org-pretty-entities-include-sub-superscripts nil)
```

Let's make headings a bit bigger

```
(custom-set-faces!
 '(org-document-title :height 1.2)
 '(outline-1 :weight extra-bold :height 1.25)
 '(outline-2 :weight bold :height 1.15)
 '(outline-3 :weight bold :height 1.12)
 '(outline-4 :weight semi-bold :height 1.09)
 '(outline-5 :weight semi-bold :height 1.06)
 '(outline-6 :weight semi-bold :height 1.03)
 '(outline-8 :weight semi-bold)
 '(outline-9 :weight semi-bold))
```

It seems reasonable to have deadlines in the error face when they're passed.

```
(setq org-agenda-deadline-faces
 '( (1.0 . error)
    (1.0 . org-warning)
    (0.5 . org-upcoming-deadline)
    (0.0 . org-upcoming-distant-deadline)))
```

We can then have quote blocks stand out a bit more by making them *italic*.

```
(setq org-fontify-quote-and-verse-blocks t)
```

```
(use-package! org-appear
 :hook (org-mode . org-appear-mode)
 :config
 (setq org-appear-autoemphasis t
       org-appear-autosubmarkers t
       org-appear-autolinks nil)
 (run-at-time nil nil #'org-appear--set-elements))
```

Org files can be rather nice to look at, particularly with some of the customisations here. This comes at a cost however, expensive font-lock. Feeling like you're typing through molasses in large files is no fun, but there is a way I can defer font-locking when typing to make the experience more responsive.

```
(defun locally-defer-font-lock ()
  "Set jit-lock defer and stealth, when buffer is over a certain size."
  (when (> (buffer-size) 50000)
    (setq-local jit-lock-defer-time 0.05
                jit-lock-stealth-time 1)))

(add-hook 'org-mode-hook #'locally-defer-font-lock)

;; (custom-set-faces!
;;   `(org-block-end-line :background ,(doom-color 'base2))
;;   `(org-block-begin-line :background ,(doom-color 'base2)))
```

5.8.1 Fontifying inline src blocks

Org does lovely things with `#+begin_src` blocks, like using font-lock for language's major-mode behind the scenes and pulling out the lovely colourful results. By contrast, inline `src_` blocks are somewhat neglected.

I am not the first person to feel this way, thankfully others have [taken to stackexchange](#) to voice their desire for inline src fontification. I was going to steal their work, but unfortunately they didn't perform *true* source code fontification, but simply applied the `org-code` face to the content.

We can do better than that, and we shall! Using `org-src-font-lock-fontify-block` we can apply language-appropriate syntax highlighting. Then, continuing on to `{{{results(...)}}}`, it can have the `org-block` face applied to match, and then the value-surrounding constructs hidden by mimicking the behaviour of `prettify-symbols-mode`.

```
(defvar org-prettify-inline-results t
  "Whether to use (ab)use prettify-symbols-mode on {{{results( ... )}}}.
   Either t or a cons cell of strings which are used as substitutions
   for the start and end of inline results, respectively.")

(defvar org-fontify-inline-src-blocks-max-length 200
  "Maximum content length of an inline src block that will be
  ↪ fontified.")

(defun org-fontify-inline-src-blocks (limit)
  "Try to apply `org-fontify-inline-src-blocks-1'."
  (condition-case nil
```



```

    (org-fontify-inline-src-blocks-1 limit)
    (error (message "Org mode fontification error in %S at %d"
                    (current-buffer)
                    (line-number-at-pos))))))

(defun org-fontify-inline-src-blocks-1 (limit)
  "Fontify inline src_LANG blocks, from `point' up to LIMIT."
  (let ((case-fold-search t)
        (initial-point (point)))
    (while (re-search-forward "\\_<src_\\([^\t\n[]+\\)[{}?]" limit t) ;
      ↪ stolen from `org-element-inline-src-block-parser'
      (let ((beg (match-beginning 0))
            pt
            (lang-beg (match-beginning 1))
            (lang-end (match-end 1)))
        (remove-text-properties beg lang-end '(face nil))
        (font-lock-append-text-property lang-beg lang-end 'face
          ↪ 'org-meta-line)
        (font-lock-append-text-property beg lang-beg 'face 'shadow)
        (font-lock-append-text-property beg lang-end 'face 'org-block)
        (setq pt (goto-char lang-end))
        ;; `org-element--parse-paired-brackets' doesn't take a limit, so
        ↪ to
        ;; prevent it searching the entire rest of the buffer we
        ↪ temporarily
        ;; narrow the active region.
        (save-restriction
          (narrow-to-region beg (min (point-max) limit (+ lang-end
            ↪ org-fontify-inline-src-blocks-max-length)))
          (when (ignore-errors (org-element--parse-paired-brackets ?\[]))
            (remove-text-properties pt (point) '(face nil))
            (font-lock-append-text-property pt (point) 'face 'org-block)
            (setq pt (point)))
          (when (ignore-errors (org-element--parse-paired-brackets ?\{}))
            (remove-text-properties pt (point) '(face nil))
            (font-lock-append-text-property pt (1+ pt) 'face '(org-block
            ↪ shadow))
            (unless (= (1+ pt) (1- (point)))
              (if org-src-fontify-natively
                (org-src-font-lock-fontify-block
                  ↪ (buffer-substring-no-properties lang-beg lang-end)
                  ↪ (1+ pt) (1- (point)))
                (font-lock-append-text-property (1+ pt) (1- (point))
                  ↪ 'face 'org-block)))
            (font-lock-append-text-property (1- (point)) (point) 'face
            ↪ '(org-block shadow))
            (setq pt (point))))
          (when (and org-prettify-inline-results (re-search-forward "\\_<=
            ↪ {{{results(" limit t))
            (font-lock-append-text-property pt (1+ pt) 'face 'org-block)
            (goto-char pt))))
        (when org-prettify-inline-results
          (goto-char initial-point)

```



```

:em_dash      "____"
:ellipsis     " ... "
:arrow_right  "->"
:arrow_left   "<-"
:title        "#+title:"
:subtitle     "#+subtitle:"
:author       "#+author:"
:date         "#+date:"
:property     "#+property:"
:options      "#+options:"
:startup      "#+startup:"
:macro        "#+macro:"
:html_head    "#+html_head:"
:html         "#+html:"
:latex_class  "#+latex_class:"
:latex_header "#+latex_header:"
:beamer_header "#+beamer_header:"
:latex        "#+latex:"
:attr_latex   "#+attr_latex:"
:attr_html    "#+attr_html:"
:attr_org     "#+attr_org:"
:begin_quote  "#+begin_quote"
:end_quote    "#+end_quote"
:caption      "#+caption:"
:header       "#+header:"
:begin_export "#+begin_export"
:end_export   "#+end_export"
:results      "#+RESULTS:"
:property     ":PROPERTIES:"
:end          ":END:"
:priority_a   "[#A]"
:priority_b   "[#B]"
:priority_c   "[#C]"
:priority_d   "[#D]"
:priority_e   "[#E]"
(plist-put +ligatures-extra-symbols :name " ")

```

Lets also add a function that makes it easy to convert from upper to lowercase, since the ligatures don't work with Uppercase (I can make them work, but lowercase looks better anyways)

```

(defun org-syntax-convert-keyword-case-to-lower ()
  "Convert all #+KEYWORDS to #+keywords."
  (interactive)
  (save-excursion
    (goto-char (point-min))
    (let ((count 0)
          (case-fold-search nil))
      (while (re-search-forward "^[ \\t]*#[A-Z_]+" nil t)
        (unless (s-matches-p "RESULTS" (match-string 0))
          (replace-match (downcase (match-string 0)) t)
          (setq count (1+ count))))))

```

```
(message "Replaced %d occurrences" count)))
```

5.10 Keycast

Its nice for demonstrations

```
(use-package! keycast
  :commands keycast-mode
  :config
  (define-minor-mode keycast-mode
    "Show current command and its key binding in the mode line."
    :global t
    (if keycast-mode
      (progn
        (add-hook 'pre-command-hook 'keycast--update t)
        (add-to-list 'global-mode-string '(" " mode-line-keycast " ")))
      (remove-hook 'pre-command-hook 'keycast--update)
      (setq global-mode-string (remove '(" " mode-line-keycast " ")
        ↪ global-mode-string))))
  (custom-set-faces!
    '(keycast-command :inherit doom-modeline-debug
                      :height 1.0)
    '(keycast-key :inherit custom-modified
                 :height 1.0
                 :weight bold)))
```

5.11 Transparency

I'm not too big of a fan of transparency, but some people like it. You can use this little function to toggle it now. On **C-c t** inactive windows will dim (85% transparency) and focused windows remain opaque

```
(defun toggle-transparency ()
  (interactive)
  (let ((alpha (frame-parameter nil 'alpha)))
    (set-frame-parameter
      nil 'alpha
      (if (eq1 (cond ((numberp alpha) alpha)
                    ((numberp (cdr alpha)) (cdr alpha))
                    ;; Also handle undocumented (<active> <inactive>)
                    ↪ form.
                    ((numberp (cadr alpha)) (cadr alpha)))
          100)
        '(100 . 85) '(100 . 100))))
```

```
(global-set-key (kbd "C-c t") 'toggle-transparency)
```

5.12 Screenshots

Make it easy to take nice screenshots. I need to figure out how to make clipboard work though.

```
(use-package! screenshot  
  :defer t)
```

5.13 RSS

RSS is a nice simple way of getting my news. Lets set that up

```
(map! :map elfeed-search-mode-map  
  :after elfeed-search  
  [remap kill-this-buffer] "q"  
  [remap kill-buffer] "q"  
  :n doom-leader-key nil  
  :n "q" #' +rss/quit  
  :n "e" #'elfeed-update  
  :n "r" #'elfeed-search-untag-all-unread  
  :n "u" #'elfeed-search-tag-all-unread  
  :n "s" #'elfeed-search-live-filter  
  :n "RET" #'elfeed-search-show-entry  
  :n "p" #'elfeed-show-pdf  
  :n "+" #'elfeed-search-tag-all  
  :n "-" #'elfeed-search-untag-all  
  :n "S" #'elfeed-search-set-filter  
  :n "b" #'elfeed-search-browse-url  
  :n "y" #'elfeed-search-yank)  
(map! :map elfeed-show-mode-map  
  :after elfeed-show  
  [remap kill-this-buffer] "q"  
  [remap kill-buffer] "q"  
  :n doom-leader-key nil  
  :nm "q" #' +rss/delete-pane  
  :nm "o" #'ace-link-elfeed  
  :nm "RET" #'org-ref-elfeed-add  
  :nm "n" #'elfeed-show-next  
  :nm "N" #'elfeed-show-prev  
  :nm "p" #'elfeed-show-pdf  
  :nm "+" #'elfeed-show-tag  
  :nm "-" #'elfeed-show-untag  
  :nm "s" #'elfeed-show-new-live-search  
  :nm "y" #'elfeed-show-yank)
```

```

(after! elfeed-search
  (set-evil-initial-state! 'elfeed-search-mode 'normal))
(after! elfeed-show-mode
  (set-evil-initial-state! 'elfeed-show-mode 'normal))

(after! evil-snipe
  (push 'elfeed-show-mode evil-snipe-disabled-modes)
  (push 'elfeed-search-mode evil-snipe-disabled-modes))

(after! elfeed

  (elfeed-org)
  (use-package! elfeed-link)

  (setq elfeed-search-filter "@1-week-ago +unread"
        elfeed-search-print-entry-function
        ↪ '+rss/elfeed-search-print-entry
        elfeed-search-title-min-width 80
        elfeed-show-entry-switch #'pop-to-buffer
        elfeed-show-entry-delete #'+rss/delete-pane
        elfeed-show-refresh-function
        ↪ #'+rss/elfeed-show-refresh--better-style
        shr-max-image-proportion 0.6)

  (add-hook! 'elfeed-show-mode-hook (hide-mode-line-mode 1))
  (add-hook! 'elfeed-search-update-hook #'hide-mode-line-mode)

  (defface elfeed-show-title-face '((t (:weight ultrabold :slant italic
    ↪ :height 1.5)))
    "title face in elfeed show buffer"
    :group 'elfeed)
  (defface elfeed-show-author-face `((t (:weight light)))
    "title face in elfeed show buffer"
    :group 'elfeed)
  (set-face-attribute 'elfeed-search-title-face nil
    :foreground 'nil
    :weight 'light)

  (defadvice! +rss-elfeed-wrap-h-nicer ()
    "Enhances an elfeed entry's readability by wrapping it to a width of
    `fill-column' and centering it with `visual-fill-column-mode'."
    :override #'+rss-elfeed-wrap-h
    (setq-local truncate-lines nil
      shr-width 120
      visual-fill-column-center-text t
      default-text-properties '(line-height 1.1))
    (let ((inhibit-read-only t)
          (inhibit-modification-hooks t))
      (visual-fill-column-mode)
      ;; (setq-local shr-current-font '(:family "Merriweather" :height
      ↪ 1.2))
      (set-buffer-modified-p nil)))

```

```

(defun +rss/elfeed-search-print-entry (entry)
  "Print ENTRY to the buffer."
  (let* ((elfeed-goodies/tag-column-width 40)
         (elfeed-goodies/feed-source-column-width 30)
         (title (or (elfeed-meta entry :title) (elfeed-entry-title
          ↪ entry) ""))
         (title-faces (elfeed-search--faces (elfeed-entry-tags entry)))
         (feed (elfeed-entry-feed entry))
         (feed-title
          (when feed
            (or (elfeed-meta feed :title) (elfeed-feed-title feed))))
         (tags (mapcar #'symbol-name (elfeed-entry-tags entry)))
         (tags-str (concat (mapconcat 'identity tags ", ")))
         (title-width (- (window-width)
          ↪ elfeed-goodies/feed-source-column-width
            elfeed-goodies/tag-column-width 4))

         (tag-column (elfeed-format-column
          tags-str (elfeed-clamp (length tags-str)
            ↪ elfeed-goodies/tag-column-width
              ↪ elfeed-goodies/tag-column-width)
            :left))
         (feed-column (elfeed-format-column
          feed-title (elfeed-clamp
            ↪ elfeed-goodies/feed-source-column-width
              ↪ elfeed-goodies/feed-source-column-width)
            :left)))

    (insert (propertize feed-column 'face 'elfeed-search-feed-face) "
    ↪ ")
    (insert (propertize tag-column 'face 'elfeed-search-tag-face) " ")
    (insert (propertize title 'face title-faces 'kbd-help title))
    (setq-local line-spacing 0.2)))

(defun +rss/elfeed-show-refresh--better-style ()
  "Update the buffer to match the selected entry, using a mail-style."
  (interactive)
  (let* ((inhibit-read-only t)
         (title (elfeed-entry-title elfeed-show-entry))
         (date (seconds-to-time (elfeed-entry-date elfeed-show-entry)))
         (author (elfeed-meta elfeed-show-entry :author))
         (link (elfeed-entry-link elfeed-show-entry))
         (tags (elfeed-entry-tags elfeed-show-entry))
         (tagsstr (mapconcat #'symbol-name tags ", "))
         (nicedate (format-time-string "%a, %e %b %Y %T %Z" date))
         (content (elfeed-deref (elfeed-entry-content
          ↪ elfeed-show-entry)))

```



```

        (type (elfeed-entry-content-type elfeed-show-entry))
        (feed (elfeed-entry-feed elfeed-show-entry))
        (feed-title (elfeed-feed-title feed))
        (base (and feed (elfeed-compute-base (elfeed-feed-url
        ↪ feed)))))
    (erase-buffer)
    (insert "\n")
    (insert (format "%s\n\n" (propertyize title 'face
    ↪ 'elfeed-show-title-face)))
    (insert (format "%s\t" (propertyize feed-title 'face
    ↪ 'elfeed-search-feed-face)))
    (when (and author elfeed-show-entry-author)
        (insert (format "%s\n" (propertyize author 'face
        ↪ 'elfeed-show-author-face))))
    (insert (format "%s\n\n" (propertyize nicedate 'face
    ↪ 'elfeed-log-date-face)))
    (when tags
        (insert (format "%s\n"
        ↪ (propertyize tagsstr 'face
        ↪ 'elfeed-search-tag-face))))
    ;; (insert (propertyize "Link: " 'face 'message-header-name))
    ;; (elfeed-insert-link link link)
    ;; (insert "\n")
    (cl-loop for enclosure in (elfeed-entry-enclosures
    ↪ elfeed-show-entry)
        do (insert (propertyize "Enclosure: " 'face
        ↪ 'message-header-name))
        do (elfeed-insert-link (car enclosure))
        do (insert "\n"))
    (insert "\n")
    (if content
        (if (eq type 'html)
            (elfeed-insert-html content base)
            (insert content))
        (insert (propertyize "(empty)\n" 'face 'italic)))
    (goto-char (point-min))))

(after! elfeed-show
  (require 'url)

  (defvar elfeed-pdf-dir
    (expand-file-name "pdfs/"
      (file-name-directory (directory-file-name
        ↪ elfeed-enclosure-default-dir))))

  (defvar elfeed-link-pdfs
    ↪ '(("https://www.jstatsoft.org/index.php/jss/article/view/v0\([^/]+\)"
    ↪ .
    ↪ "https://www.jstatsoft.org/index.php/jss/article/view/v0\1/v\1.pdf")
    ↪ ("http://arxiv.org/abs/\([^/]+\)" .
    ↪ "https://arxiv.org/pdf/\1.pdf"))
    "List of alists of the form (REGEX-FOR-LINK . FORM-FOR-PDF)")

```

```

(defun elfeed-show-pdf (entry)
  (interactive
   (list (or elfeed-show-entry (elfeed-search-selected
    ↪ :ignore-region))))
  (let ((link (elfeed-entry-link entry))
        (feed-name (plist-get (elfeed-feed-meta (elfeed-entry-feed
    ↪ entry)) :title))
        (title (elfeed-entry-title entry))
        (file-view-function
         (lambda (f)
           (when elfeed-show-entry
             (elfeed-kill-buffer))
           (pop-to-buffer (find-file-noselect f)))))
    pdf)

    (let ((file (expand-file-name
                  (concat (subst-char-in-string ?/ ?, title) ".pdf")
                  (expand-file-name (subst-char-in-string ?/ ?,
    ↪ feed-name)
                                elfeed-pdf-dir))))
      (if (file-exists-p file)
          (funcall file-view-function file)
          (dolist (link-pdf elfeed-link-pdfs)
            (when (and (string-match-p (car link-pdf) link)
                       (not pdf))
              (setq pdf (replace-regexp-in-string (car link-pdf) (cdr
    ↪ link-pdf) link))))
          (if (not pdf)
              (message "No associated PDF for entry")
              (message "Fetching %s" pdf)
              (unless (file-exists-p (file-name-directory file))
                (make-directory (file-name-directory file) t))
              (url-copy-file pdf file)
              (funcall file-view-function file)))))))

```

6 Org

6.1 Org-Mode

Org mode is the best writing format, no contest. The defaults are more terminal-oriented, so lets make it look a little better

I like a little padding on my org blocks, just a millimeter or two on the top and bottom should do

```
(use-package! org-padding
  :hook (org-mode-hook . org-padding-mode)
  :defer t)
(setq org-padding-block-begin-line-padding '(1.15 . 0.15))
(setq org-padding-block-end-line-padding '(1.15 . 0.15))
```

Some hooks are a bit annoying, so lets make them shut up

```
(defadvice! shut-up-org-problematic-hooks (orig-fn &rest args)
  :around #'org-fancy-priorities-mode
  :around #'org-superstar-mode
  (ignore-errors (apply orig-fn args)))
```

I prefer to preview my images

```
(setq org-startup-with-inline-images t)
```

Lets add org pretty table as well

```
(use-package! org-pretty-table
  :commands (org-pretty-table-mode global-org-pretty-table-mode))
```

Sadly I can't always work in org, but I can import stuff into it!

```
(use-package! org-pandoc-import
  :after org)
```

I prefer /org as my directory. Lets change some other defaults too

```
(setq org-directory "~/org" ; let's put files here
      org-use-property-inheritance t ; it's convenient to
      ↪ have properties inherited
      org-log-done 'time ; having the time a
      ↪ item is done sounds convenient
      org-list-allow-alphabetical t ; have a. A. a) A) list
      ↪ bullets
      org-export-in-background t ; run export processes
      ↪ in external emacs process
      org-catch-invisible-edits 'smart) ; try not to
      ↪ accidentally do weird stuff in invisible regions
```

I want to slightly change the default args for babel

6.1.1 HTML

```
(use-package! ox-gfm
  :after org)
```

:header-args:emacs-lisp: :noweb-ref ox-html-conf For some reason this only works if you have org first

```
(after! org
  (define-minor-mode org-fancy-html-export-mode
    "Toggle my fabulous org export tweaks. While this mode itself does a
    little bit,
    the vast majority of the change in behaviour comes from switch
    statements in:
    - `org-html-template-fancier'
    - `org-html--build-meta-info-extended'
    - `org-html-src-block-collapsible'
    - `org-html-block-collapsible'
    - `org-html-table-wrapped'
    - `org-html--format-toc-headline-collapseable'
    - `org-html--toc-text-stripped-leaves'
    - `org-export-html-headline-anchor'")
    :global t
    :init-value t
    (if org-fancy-html-export-mode
        (setq org-html-style-default org-html-style-fancy
              org-html-meta-tags #'org-html-meta-tags-fancy
              org-html-checkbox-type 'html-span)
        (setq org-html-style-default org-html-style-plain
              org-html-meta-tags #'org-html-meta-tags-default
              org-html-checkbox-type 'html)))

  (defadvice! org-html-template-fancier (orig-fn contents info)
    "Return complete document string after HTML conversion.
    CONTENTS is the transcoded contents string. INFO is a plist
    holding export options. Adds a few extra things to the body
    compared to the default implementation."
    :around #'org-html-template
    (if (or (not org-fancy-html-export-mode) (bound-and-true-p
        ↪ org-msg-export-in-progress))
        (funcall orig-fn contents info)
        (concat
          (when (and (not (org-html-html5-p info)) (org-html-xhtml-p info))
            (let* ((xml-declaration (plist-get info :html-xml-declaration))
                   (decl (or (and (stringp xml-declaration) xml-declaration)
                             (cdr (assoc (plist-get info :html-extension)
                                         xml-declaration))
                             (cdr (assoc "html" xml-declaration))
                             "")))
              (when (not (or (not decl) (string= "" decl)))
```

```

      (format "%s\n"
        (format decl
          (or (and org-html-coding-system
                    (fboundp 'coding-system-get)
                    (coding-system-get
                     ↪ org-html-coding-system
                     ↪ 'mime-charset))
              "iso-8859-1")))))
(org-html-doctype info)
"\n"
(concat "<html"
  (cond ((org-html-xhtml-p info)
    (format
      " xmlns=\"http://www.w3.org/1999/xhtml\" lang=\"%s\"
      ↪ xml:lang=\"%s\"
      (plist-get info :language) (plist-get info
      ↪ :language)))
    ((org-html-html5-p info)
      (format " lang=\"%s\" (plist-get info :language))))
  ">\n")
"<head>\n"
(org-html--build-meta-info info)
(org-html--build-head info)
(org-html--build-mathjax-config info)
"</head>\n"
"<body>\n<input type='checkbox' id='theme-switch'><div
↪ id='page'><label id='switch-label' for='theme-switch'></label>"
(let ((link-up (org-trim (plist-get info :html-link-up)))
      (link-home (org-trim (plist-get info :html-link-home))))
  (unless (and (string= link-up "") (string= link-home ""))
    (format (plist-get info :html-home/up-format)
      (or link-up link-home)
      (or link-home link-up))))
;; Preamble.
(org-html--build-pre/postamble 'preamble info)
;; Document contents.
(let ((div (assq 'content (plist-get info :html-divs))))
  (format "<%s id=\"%s\">\n" (nth 1 div) (nth 2 div)))
;; Document title.
(when (plist-get info :with-title)
  (let ((title (and (plist-get info :with-title)
                    (plist-get info :title)))
        (subtitle (plist-get info :subtitle))
        (html5-fancy (org-html--html5-fancy-p info)))
    (when title
      (format
        (if html5-fancy
          "<header class=\"page-header\">%s\n<h1
          ↪ class=\"title\">%s</h1>\n%s</header>"
          "<h1 class=\"title\">%s</h1>\n")
        (if (or (plist-get info :with-date)
                (plist-get info :with-author))
          (concat "<div class=\"page-meta\">"

```



```

        (f-read-text (expand-file-name
                      ↪ "misc/org-css/main.min.css" doom-private-dir))
        "</style>"))
    (when org-fancy-html-export-mode
      (setq org-html-style-default org-html-style-fancy)))
  (org-html-reload-fancy-style)

(defvar org-html-export-collapsed nil)
(eval '(cl-pushnew '(:collapsed "COLLAPSED" "collapsed"
↪ org-html-export-collapsed t)
      (org-export-backend-options (org-export-get-backend
↪ 'html))))
(add-to-list 'org-default-properties "EXPORT_COLLAPSED")

(defadvice! org-html-src-block-collapsible (orig-fn src-block contents
↪ info)
  "Wrap the usual <pre> block in a <details>"
  :around #'org-html-src-block
  (if (or (not org-fancy-html-export-mode) (bound-and-true-p
↪ org-msg-export-in-progress))
    (funcall orig-fn src-block contents info)
    (let* ((properties (cadr src-block))
           (lang (mode-name-to-lang-name
                    (plist-get properties :language)))
           (name (plist-get properties :name))
           (ref (org-export-get-reference src-block info))
           (collapsed-p (member (or (org-export-read-attribute :attr_html
↪ src-block :collapsed)
                                   (plist-get info :collapsed))
                                '("y" "yes" "t" t "true" "all"))))
      (format
        "<details id='%s' class='code'%s><summary%s>%s</summary>
↪ <div class='gutter'>
        <a href='%s'>#</a>
        <button title='Copy to clipboard'
        onclick='copyPreToClipboard(this)'> </button>\
        </div>
        %s
        </details>"
        ref
        (if collapsed-p "" " open")
        (if name " class='named'" "")
        (concat
          (when name (concat "<span class=\"name\">" name "</span>"))
          "<span class=\"lang\">" lang "</span>"))
        ref
        (if name
          (replace-regexp-in-string (format "<pre\\(
↪ class=\"[^\"]+\"\\)? id=\"%s\">" ref) "<pre\\1>"
                                   (funcall orig-fn src-block contents
↪ info))
          (funcall orig-fn src-block contents info))))))

```



```

("coq" "Coq")
("groovy" "Groovy")
("bash" "bash")
("csh" "csh")
("ash" "ash")
("dash" "dash")
("ksh" "ksh")
("mksh" "mksh")
("posh" "posh")
("ada" "Ada")
("asm" "Assembler")
("caml" "Caml")
("delphi" "Delphi")
("html" "HTML")
("idl" "IDL")
("mercury" "Mercury")
("metapost" "MetaPost")
("modula-2" "Modula-2")
("pascal" "Pascal")
("ps" "PostScript")
("prolog" "Prolog")
("simula" "Simula")
("tcl" "tcl")
("tex" "LaTeX")
("plain-tex" "TeX")
("verilog" "Verilog")
("vhdl" "VHDL")
("xml" "XML")
("nxml" "XML")
("conf" "Configuration File"))))

mode))

(defadvice! org-html-table-wrapped (orig-fn table contents info)
  "Wrap the usual <table> in a <div>"
  :around #'org-html-table
  (if (or (not org-fancy-html-export-mode) (bound-and-true-p
    ↪ org-msg-export-in-progress))
    (funcall orig-fn table contents info)
    (let* ((name (plist-get (cadr table) :name))
           (ref (org-export-get-reference table info)))
      (format "<div id='%s' class='table'>
        <div class='gutter'><a href='%s'>#</a></div>
        <div class='tabular'>
          %s
        </div>\
      </div>"
        ref ref
        (if name
          (replace-regexp-in-string (format "<table id=\"%s\""
            ↪ ref) "<table"
                                     (funcall orig-fn table
            ↪ contents info))
          (funcall orig-fn table contents info))))))

```

```

(defadvice! org-html--format-toc-headline-collapseable (orig-fn headline
↳ info)
  "Add a label and checkbox to `org-html--format-toc-headline's usual
  output,
  to allow the TOC to be a collapseable tree."
  :around #'org-html--format-toc-headline
  (if (or (not org-fancy-html-export-mode) (bound-and-true-p
↳ org-msg-export-in-progress))
    (funcall orig-fn headline info)
    (let ((id (or (org-element-property :CUSTOM_ID headline)
                  (org-export-get-reference headline info))))
      (format "<input type='checkbox' id='toc--%s'><label"
↳ for='toc--%s'>%s</label>"
              id id (funcall orig-fn headline info))))))

(defadvice! org-html--toc-text-stripped-leaves (orig-fn toc-entries)
  "Remove label"
  :around #'org-html--toc-text
  (if (or (not org-fancy-html-export-mode) (bound-and-true-p
↳ org-msg-export-in-progress))
    (funcall orig-fn toc-entries)
    (replace-regexp-in-string "<input [^>]+><label"
↳ [^>]+>\\(\\.+?\\)</label></li>" "\\1</li>"
                              (funcall orig-fn toc-entries))))

(setq org-html-text-markup-alist
  '( (bold . "<b>%s</b>")
    (code . "<code>%s</code>")
    (italic . "<i>%s</i>")
    (strike-through . "<del>%s</del>")
    (underline . "<span class='underline'>%s</span>")
    (verbatim . "<kbd>%s</kbd>")))

(appendq! org-html-checkbox-types
  '( (html-span
    (on . "<span class='checkbox'></span>")
    (off . "<span class='checkbox'></span>")
    (trans . "<span class='checkbox'></span>"))))
(setq org-html-checkbox-type 'html-span)

(pushnew! org-html-special-string-regexps
  '("<gt;" . "&#8594;")
  '("<lt;-" . "&#8592;"))

(defun org-export-html-headline-anchor (text backend info)
  (when (and (org-export-derived-backend-p backend 'html)
              (not (org-export-derived-backend-p backend 're-reveal))
              org-fancy-html-export-mode)
    (unless (bound-and-true-p org-msg-export-in-progress)
      (replace-regexp-in-string

```



```

        (setq org-html-mathjax-options
          '( (path "https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-svg.js" )
            (scale "1")
            (autonumber "ams")
            (multlinewidth "85%")
            (tagindent ".8em")
            (tagside "right")))

(setq org-html-mathjax-template
  "<script>
    MathJax = {
      chtml: {
        scale: %SCALE
      },
      svg: {
        scale: %SCALE,
        fontCache: \"global\"
      },
      tex: {
        tags: \"%AUTONUMBER\",
        multlinewidth: \"%MULTLINEWIDTH\",
        tagSide: \"%TAGSIDE\",
        tagIndent: \"%TAGINDENT\"
      }
    };
  </script>
  <script id=\"MathJax-script\" async
    src=\"%PATH\"></script>")
)

```

There are quite a few instances where I want to modify variables defined in `ox-html`, so we'll wrap the contents of this section in a

```

(after! ox-html
  <<ox-html-conf>>
)

```

Tecosaur has a good collection of fonts, might as well take some

```

<link rel="icon" href="https://tecosaur.com/resources/org/nib.ico"
  ↪ type="image/ico" />
<link rel="preload" as="font" crossorigin="anonymous" type="font/woff2"
  ↪ href="https://tecosaur.com/resources/org/etbookot-roman-webfont.woff2">
<link rel="preload" as="font" crossorigin="anonymous" type="font/woff2"
  ↪ href="https://tecosaur.com/resources/org/etbookot-italic-webfont.woff2">
<link rel="preload" as="font" crossorigin="anonymous" type="font/woff2"
  ↪ href="https://tecosaur.com/resources/org/Merriweather-TextRegular.woff2">
<link rel="preload" as="font" crossorigin="anonymous" type="font/woff2"
  ↪ href="https://tecosaur.com/resources/org/Merriweather-TextItalic.woff2">

```



```
<link rel="preload" as="font" crossorigin="anonymous" type="font/woff2"
↳ href="https://tecosaur.com/resources/org/Merriweather-TextBold.woff2">
```

```
(defun org-html-block-collapsible (orig-fn block contents info)
  "Wrap the usual block in a <details>"
  (if (or (not org-fancy-html-export-mode) (bound-and-true-p
    ↳ org-msg-export-in-progress))
      (funcall orig-fn block contents info)
      (let ((ref (org-export-get-reference block info))
            (type (pcase (car block)
                       ('property-drawer "Properties")))
            (collapsed-default (pcase (car block)
                                       ('property-drawer t)
                                       (_ nil)))
            (collapsed-value (org-export-read-attribute :attr_html block
    ↳ :collapsed))
            (collapsed-p (or (member (org-export-read-attribute :attr_html
    ↳ block :collapsed)
                                   '("y" "yes" "t" t "true"))
                            (member (plist-get info :collapsed)
    ↳ '("all")))))
          (format
            "<details id='%s' class='code'%s>
              <summary%s>%s</summary>
              <div class='gutter'>\
                <a href='%s'>#</a>
                <button title='Copy to clipboard'
                  onclick='copyPreToClipboard(this)'> </button>\
              </div>
              %s\n
            </details>"
            ref
            (if (or collapsed-p collapsed-default) "" " open")
            (if type " class='named'" "")
            (if type (format "<span class='type'%s</span>" type) "")
            ref
            (funcall orig-fn block contents info))))))

(advice-add 'org-html-example-block :around
↳ #'org-html-block-collapsible)
(advice-add 'org-html-fixed-width :around
↳ #'org-html-block-collapsible)
(advice-add 'org-html-property-drawer :around
↳ #'org-html-block-collapsible)
```

6.2 Org-Roam

I would like to get into the habit of using org-roam for my notes, mainly because of that cool reddit post with the server.

```
(setq org-roam-directory "~/org/roam/")
```

Lets set up the org-roam-ui as well

```
(use-package! websocket
  :after org-roam)

(use-package! org-roam-ui
  :after org-roam
  :commands org-roam-ui-open
  :hook (org-roam . org-roam-ui-mode)
  :config
  (setq org-roam-ui-sync-theme t
        org-roam-ui-follow t
        org-roam-ui-update-on-save t
        org-roam-ui-open-on-start t))
```

The doom-modeline is a bit messy with roam, lets adjust that

```
(defadvice! doom-modeline--buffer-file-name-roam-aware-a (orig-fun)
  :around #'doom-modeline-buffer-file-name ; takes no args
  (if (s-contains-p org-roam-directory (or buffer-file-name ""))
      (replace-regexp-in-string
        ↪ "\\(?:^\\.*/\\)\\([0-9]\\{4\\}\\)\\([0-9]\\{2\\}\\)\\([0-9]\\{2\\}\\)\\([0-9]*-)"
        " (\\1-\\2-\\3) "
        (subst-char-in-string ?_ ?  buffer-file-name))
      (funcall orig-fun)))
```

Now, I want to replace the org-roam buffer with org-roam-ui, to do that, we need to disable the regular buffer

```
(after! org-roam
  (setq +org-roam-open-buffer-on-find-file nil))
```

6.3 Org-Agenda

Set the directory

```
(setq org-agenda-files (list "~/org/school.org"
                             "~/org/todo.org"))
```



```

;; Keys ending in tab, space or RET are
↪ equivalent.
(if (member k tab-alternatives)
    (push "\t" allowed-keys)
    (push k allowed-keys))
(insert (propertyize prefix 'face
↪ 'font-lock-comment-face) (propertyize k 'face
↪ 'bold) (propertyize ">" 'face
↪ 'font-lock-comment-face) " " desc "...")
↪ "\n"))
;; Usable entry.
(`(,(and key (pred (string-match re))) ,desc . ,_)
  (let ((k (match-string 1 key)))
    (insert (propertyize prefix 'face
↪ 'font-lock-comment-face) (propertyize k 'face
↪ 'bold) " " desc "\n")
    (push k allowed-keys)))
  (_ nil))))
;; Insert special entries, if any.
(when specials
  (insert "-----\n")
  (pcase-dolist (`(,key ,description) specials)
    (insert (format "%s %s\n" (propertyize key 'face
↪ '(bold all-the-icons-red)) description))
    (push key allowed-keys)))
;; Display UI and let user select an entry or
;; a sub-level prefix.
(goto-char (point-min))
(unless (pos-visible-in-window-p (point-max))
  (org-fit-window-to-buffer))
(let ((pressed (org--mks-read-key allowed-keys prompt
↪ nil)))
  (setq current (concat current pressed))
  (cond
    ((equal pressed "\C-g") (user-error "Abort"))
    ((equal pressed "ESC") (user-error "Abort"))
    ;; Selection is a prefix: open a new menu.
    ((member pressed des-keys))
    ;; Selection matches an association: return it.
    ((let ((entry (assoc current table)))
      (and entry (throw 'exit entry))))
    ;; Selection matches a special entry: return the
    ;; selection prefix.
    ((assoc current specials) (throw 'exit current))
    (t (error "No entry available")))))
  (when buffer (kill-buffer buffer))))
(advice-add 'org-mks :override #'org-mks-pretty)

```

The `org-capture bin` is rather nice, but I'd be nicer with a smaller frame, and no modeline.

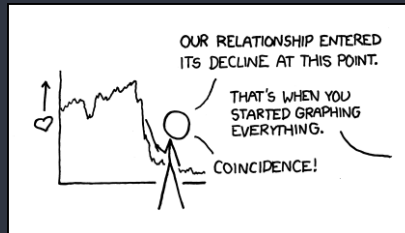
```
(setf (alist-get 'height +org-capture-frame-parameters) 15)
;; (alist-get 'name +org-capture-frame-parameters) " Capture" ;; ATM
↪ hardcoded in other places, so changing breaks stuff
(setq +org-capture-fn
  (lambda ()
    (interactive)
    (set-window-parameter nil 'mode-line-format 'none)
    (org-capture)))
```

Sprinkle in some **doct** utility functions

```
(defun +doct-icon-declaration-to-icon (declaration)
  "Convert :icon declaration to icon"
  (let ((name (pop declaration))
        (set (intern (concat "all-the-icons-" (plist-get declaration
↪ :set)))))
    (face (intern (concat "all-the-icons-" (plist-get declaration
↪ :color)))))
    (v-adjust (or (plist-get declaration :v-adjust) 0.01)))
    (apply set `(:name :face ,face :v-adjust ,v-adjust))))

(defun +doct-iconify-capture-templates (groups)
  "Add declaration's :icon to each template group in GROUPS."
  (let ((templates (doct-flatten-lists-in groups)))
    (setq doct-templates (mapcar (lambda (template)
      (when-let* ((props (nthcdr (if (=
↪ (length template) 4) 2 5)
↪ template))
        (spec (plist-get
↪ (plist-get props
↪ :doct) :icon)))
        (setf (nth 1 template) (concat
↪ (+doct-icon-declaration-to-icon
↪ spec)
↪ "\t"
↪ (nth
↪ 1
↪ template))))))
      template)
    templates))))

(setq doct-after-conversion-functions '(+doct-iconify-capture-templates))
```

Decline 'There's also a spike on the Fourier transform at the one-month mark where –' 'You want to stop talking right now.'

6.5 ORG Plot

You can't ever have too many graphs! Lets make it look prettier, and tell it to use the doom theme colors

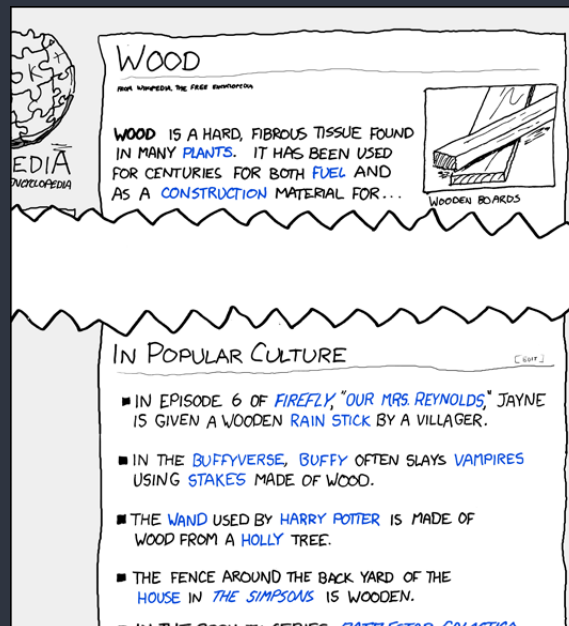
```
(after! org-plot
  (defun org-plot/generate-theme (_type)
    "Use the current Doom theme colours to generate a GnuPlot preamble."
```



```
;; duplicated
(doom-color 'red)
(doom-color 'blue)
(doom-color 'green)
(doom-color 'magenta)
(doom-color 'orange)
(doom-color 'yellow)
(doom-color 'teal)
(doom-color 'violet)
))

(defun org-plot/gnuplot-term-properties (_type)
  (format "background rgb '%s' size 1050,650"
    (doom-color 'bg)))
(setq org-plot/gnuplot-script-preamble #'org-plot/generate-theme)
(setq org-plot/gnuplot-term-extra #'org-plot/gnuplot-term-properties))
```

6.6 XKCD



In Popular Culture Someday the 'in popular culture' section will have its own article with an 'in popular culture' section. It will reference this title-text referencing it, and the blogosphere will implode.

Relevant XKCD:

I link to xkcd's so much that its better to just have a configuration for them We want to set this up so it loads nicely in org.

```

(use-package! xkcd
  :commands (xkcd-get-json
             xkcd-download xkcd-get
             ;; now for funcs from my extension of this pkg
             +xkcd-find-and-copy +xkcd-find-and-view
             +xkcd-fetch-info +xkcd-select)

  :config
  (setq xkcd-cache-dir (expand-file-name "xkcd/" doom-cache-dir)
        xkcd-cache-latest (concat xkcd-cache-dir "latest"))
  (unless (file-exists-p xkcd-cache-dir)
    (make-directory xkcd-cache-dir))
  (after! evil-snipe
    (add-to-list 'evil-snipe-disabled-modes 'xkcd-mode))
  :general (:states 'normal
            :keymaps 'xkcd-mode-map
            "<right>" #'xkcd-next
            "n"      #'xkcd-next ; evil-ish
            "<left>"  #'xkcd-prev
            "N"      #'xkcd-prev ; evil-ish
            "r"      #'xkcd-rand
            "a"      #'xkcd-rand ; because image-rotate can interfere
            "t"      #'xkcd-alt-text
            "q"      #'xkcd-kill-buffer
            "o"      #'xkcd-open-browser
            "e"      #'xkcd-open-explanation-browser
            ;; extras
            "s"      #' +xkcd-find-and-view
            "/"      #' +xkcd-find-and-view
            "y"      #' +xkcd-copy))

```

Let's also extend the functionality a whole bunch.

```

(after! xkcd
  (require 'emacs-sql-sqlite)

  (defun +xkcd-select ()
    "Prompt the user for an xkcd using `completing-read' and
    ↪ `+xkcd-select-format'. Return the xkcd number or nil"
    (let* (prompt-lines
          (-dummy (maphash (lambda (key xkcd-info)
                             (push (+xkcd-select-format xkcd-info)
                                     prompt-lines))
                           +xkcd-stored-info))
          (num (completing-read (format "xkcd (%s): " xkcd-latest)
                                prompt-lines)))
      (if (equal "" num) xkcd-latest
          (string-to-number (replace-regexp-in-string "\\([0-9]+\\).*"
                                                         "\\1" num))))))

  (defun +xkcd-select-format (xkcd-info)

```



```

"Get the xkcd number NUM."
:override 'xkcd-get
(interactive "nEnter comic number: ")
(xkcd-update-latest)
(get-buffer-create "*xkcd*")
(switch-to-buffer "*xkcd*")
(xkcd-mode)
(let (buffer-read-only)
  (erase-buffer)
  (setq xkcd-cur num)
  (let* ((xkcd-data (+xkcd-fetch-info num))
        (num (plist-get xkcd-data :num))
        (img (plist-get xkcd-data :img))
        (safe-title (plist-get xkcd-data :safe-title))
        (alt (plist-get xkcd-data :alt))
        title file)
    (message "Getting comic... ")
    (setq file (xkcd-download img num))
    (setq title (format "%d: %s" num safe-title))
    (insert (propertize title
                        'face 'outline-1))

    (center-line)
    (insert "\n")
    (xkcd-insert-image file num)
    (if (eq xkcd-cur 0)
        (setq xkcd-cur num))
    (setq xkcd-alt alt)
    (message "%s" title))))

(defconst +xkcd-db--sqlite-available-p
  (with-demoted-errors "+org-xkcd initialization: %S"
    (emacs-sql-sqlite-ensure-binary)
    t))

(defvar +xkcd-db--connection (make-hash-table :test #'equal)
  "Database connection to +org-xkcd database.")

(defun +xkcd-db--get ()
  "Return the sqlite db file."
  (expand-file-name "xkcd.db" xkcd-cache-dir))

(defun +xkcd-db--get-connection ()
  "Return the database connection, if any."
  (gethash (file-truename xkcd-cache-dir)
    +xkcd-db--connection))

(defconst +xkcd-db--table-schema
  '(xkcds
    [(num integer :unique :primary-key)
     (year :not-null)
     (month :not-null)
     (link :not-null)
     (news :not-null)])

```

```

      (safe_title :not-null)
      (title :not-null)
      (transcript :not-null)
      (alt :not-null)
      (img :not-null)])))

(defun +xkcd-db--init (db)
  "Initialize database DB with the correct schema and user version."
  (emacsql-with-transaction db
    (pcase-dolist `(:,table . ,schema) +xkcd-db--table-schema)
      (emacsql db [:create-table $i1 $S2] table schema))))

(defun +xkcd-db ()
  "Entrypoint to the +org-xkcd sqlite database.
  Initializes and stores the database, and the database connection.
  Performs a database upgrade when required."
  (unless (and (+xkcd-db--get-connection)
               (emacsql-live-p (+xkcd-db--get-connection)))
    (let* ((db-file (+xkcd-db--get))
           (init-db (not (file-exists-p db-file))))
      (make-directory (file-name-directory db-file) t)
      (let ((conn (emacsql-sqlite db-file)))
        (set-process-query-on-exit-flag (emacsql-process conn) nil)
        (puthash (file-truename xkcd-cache-dir)
                  conn
                  +xkcd-db--connection)
        (when init-db
          (+xkcd-db--init conn))))
    (+xkcd-db--get-connection))

(defun +xkcd-db-query (sql &rest args)
  "Run SQL query on +org-xkcd database with ARGS.
  SQL can be either the emacsql vector representation, or a
  ↪ string."
  (if (stringp sql)
      (emacsql (+xkcd-db) (apply #'format sql args))
      (apply #'emacsql (+xkcd-db) sql args)))

(defun +xkcd-db-read (num)
  (when-let ((res
              (car (+xkcd-db-query [:select * :from xkcds
                                   :where (= num $s1)]
                                   num
                                   :limit 1))))
    (+xkcd-db-list-to-plist res)))

(defun +xkcd-db-read-all ()
  (let ((xkcd-table (make-hash-table :test 'eql :size 4000)))
    (mapcar (lambda (xkcd-info-list)
              (puthash (car xkcd-info-list) (+xkcd-db-list-to-plist
                                             ↪ xkcd-info-list) xkcd-table))
            (+xkcd-db-query [:select * :from xkcds]))
    xkcd-table))

```

```

(defun +xkcd-db-list-to-plist (xkcd-datalist)
  `(:num ,(nth 0 xkcd-datalist)
    :year ,(nth 1 xkcd-datalist)
    :month ,(nth 2 xkcd-datalist)
    :link ,(nth 3 xkcd-datalist)
    :news ,(nth 4 xkcd-datalist)
    :safe-title ,(nth 5 xkcd-datalist)
    :title ,(nth 6 xkcd-datalist)
    :transcript ,(nth 7 xkcd-datalist)
    :alt ,(nth 8 xkcd-datalist)
    :img ,(nth 9 xkcd-datalist)))

(defun +xkcd-db-write (data)
  (+xkcd-db-query [:insert-into xkcds
                   :values $v1]
    (list (vector
            (cdr (assoc 'num data))
            (cdr (assoc 'year data))
            (cdr (assoc 'month data))
            (cdr (assoc 'link data))
            (cdr (assoc 'news data))
            (cdr (assoc 'safe_title data))
            (cdr (assoc 'title data))
            (cdr (assoc 'transcript data))
            (cdr (assoc 'alt data))
            (cdr (assoc 'img data))
            )))))

```

Now to just have this register with org

```

(after! org
  (org-link-set-parameters "xkcd"
    :image-data-fn #' +org-xkcd-image-fn
    :follow #' +org-xkcd-open-fn
    :export #' +org-xkcd-export
    :complete #' +org-xkcd-complete)

  (defun +org-xkcd-open-fn (link)
    (+org-xkcd-image-fn nil link nil))

  (defun +org-xkcd-image-fn (protocol link description)
    "Get image data for xkcd num LINK"
    (let* ((xkcd-info (+xkcd-fetch-info (string-to-number link)))
           (img (plist-get xkcd-info :img))
           (alt (plist-get xkcd-info :alt)))
      (message alt)
      (+org-image-file-data-fn protocol (xkcd-download img
        ↪ (string-to-number link)) description)))

  (defun +org-xkcd-export (num desc backend _com)

```



```

"Convert xkcd to html/LaTeX form"
(let* ((xkcd-info (+xkcd-fetch-info (string-to-number num)))
      (img (plist-get xkcd-info :img))
      (alt (plist-get xkcd-info :alt))
      (title (plist-get xkcd-info :title))
      (file (xkcd-download img (string-to-number num))))
  (cond ((org-export-derived-backend-p backend 'html)
        (format "<img class='invertible' src='%s' title=\"%s\"
↪      alt='%s'>" img (subst-char-in-string ?\" ?" alt)
↪      title))
        ((org-export-derived-backend-p backend 'latex)
         (format "\\begin{figure}[!htb]

\\centering

\\includegraphics[scale=0.4]{%s}%s

\\end{figure}" file (if (equal desc (format
↪      "xkcd:%s" num)) ""
                        (format "\n \\caption*{\\label{xkcd:%s}
↪      %s}"
                                num
                                (or desc
                                    (format "\\textbf{%s} %s" title
↪      alt))))))
        (t (format "https://xkcd.com/%s" num)))))

(defun +org-xkcd-complete (&optional arg)
  "Complete xkcd using `+xkcd-stored-info'"
  (format "xkcd:%d" (+xkcd-select)))

```

6.7 View Exported File

I have to export files pretty often, lets setup some keybindings to make it easier

```

;; spc+v = view exported file
(map! :map org-mode-map
      :localleader
      :desc "View exported file" "v" #'org-view-output-file)

(defun org-view-output-file (&optional org-file-path)
  "Visit buffer open on the first output file (if any) found, using
↪ `org-view-output-file-extensions'"
  (interactive)
  (let* ((org-file-path (or org-file-path (buffer-file-name) ""))
        (dir (file-name-directory org-file-path))
        (basename (file-name-base org-file-path))
        (output-file nil))
    (dolist (ext org-view-output-file-extensions)

```

```

(unless output-file
  (when (file-exists-p
        (concat dir basename "." ext))
    (setq output-file (concat dir basename "." ext))))
(if output-file
  (if (member (file-name-extension output-file)
    ↪ org-view-external-file-extensions)
    (browse-url-xdg-open output-file)
    (pop-to-bufferpop-to-buffer (or (find-buffer-visiting
    ↪ output-file)
    (find-file-noselect output-file))))
  (message "No exported file found"))))

(defvar org-view-output-file-extensions '("pdf" "md" "rst" "txt" "tex"
↪ "html")
  "Search for output files with these extensions, in order, viewing the
↪ first that matches")
(defvar org-view-external-file-extensions '("html")
  "File formats that should be opened externally.")

```

6.8 Dictionaries

Lets use lexic instead of the default dictionary

```

(use-package! lexic
  :commands lexic-search lexic-list-dictionary
  :config
  (map! :map lexic-mode-map
    :n "q" #'lexic-return-from-lexic
    :nv "RET" #'lexic-search-word-at-point
    :n "a" #'outline-show-all
    :n "h" (cmd! (outline-hide-sublevels 3))
    :n "o" #'lexic-toggle-entry
    :n "n" #'lexic-next-entry
    :n "N" (cmd! (lexic-next-entry t))
    :n "p" #'lexic-previous-entry
    :n "P" (cmd! (lexic-previous-entry t))
    :n "E" (cmd! (lexic-return-from-lexic) ; expand
    (switch-to-buffer (lexic-get-buffer)))
    :n "M" (cmd! (lexic-return-from-lexic) ; minimise
    (lexic-goto-lexic))
    :n "C-p" #'lexic-search-history-backwards
    :n "C-n" #'lexic-search-history-forwards
    :n "/" (cmd! (call-interactively #'lexic-search)))

  (defadvice! +lookup/dictionary-definition-lexic (identifier &optional
↪ arg)
    "Look up the definition of the word at point (or selection) using
↪ `lexic-search'."

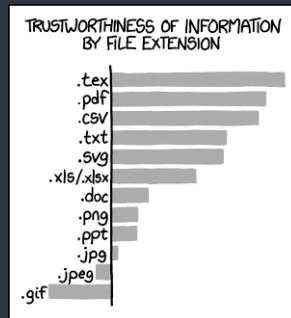
```

```

:override #' +lookup/dictionary-definition
(interactive
  (list (or (doom-thing-at-point-or-region 'word)
            (read-string "Look up in dictionary: "))
        current-prefix-arg))
(lexic-search identifier nil nil t))

```

7 Latex



File Extensions I have never been lied to by data in a .txt file which has been hand-aligned.

I have a love-hate relationship with latex. Its extremely powerful, but at the same time its hard to write, hard to understand, and very slow. The solution: write everything in org and then export it to tex. Best of both worlds!

7.1 Basic configuration

First of all, lets use pdf-tools to preview pdfs by defaults

```

(setq +latex-viewers '(pdf-tools evince zathura okular skim sumatrapdf))

```

I also want to adjust the look of those previews

```

(after! org
  (setq org-highlight-latex-and-related '(native script entities))
  (add-to-list 'org-src-block-faces '("latex" (:inherit default :extend
    ↪ t))))

(after! org
  (plist-put org-format-latex-options :background "Transparent"))

```


7.2 PDF-Tools

DocView gives me a headache, but pdf-tools can be improved, lets configure it a little more

```
(use-package pdf-view
  :hook (pdf-tools-enabled . pdf-view-themed-minor-mode)
  :hook (pdf-tools-enabled . hide-mode-line-mode)
  :config
  (setq pdf-view-resize-factor 1.1)
  (setq-default pdf-view-display-size 'fit-page))
```

7.3 Export

7.3.1 Conditional features

"Preamble that provides a macro for custom boxes.")

```
(defvar org-latex-feature-implementations
  '( (image      :snippet "\\usepackage{graphicx}" :order 2)
    (svg         :snippet "\\usepackage{svg}" :order 2)
    (table       :snippet
      ↪ "\\usepackage{longtable}\n\\usepackage{booktabs}" :order 2)
    (cleveref     :snippet "\\usepackage[capitalize]{cleveref}" :order
      ↪ 1)
    (underline    :snippet "\\usepackage[normalem]{ulem}" :order 0.5)
    (float-wrap   :snippet "\\usepackage{wrapfig}" :order 2)
    (rotate       :snippet "\\usepackage{rotating}" :order 2)
    (caption      :snippet org-latex-caption-preamble :order 2.1)
    (acronym      :snippet
      ↪ "\\newcommand{\\acr}[1]{\\protect\\textls*[110]{\\scshape
      ↪ #1}}\n\\newcommand{\\acrs}{\\protect\\scalebox{.91}[.84]{\\hspace{0.15ex}s}"
      ↪ :order 0.4)
    (italic-quotes :snippet
      ↪ "\\renewcommand{\\quote}{\\list{}{\\rightmargin\\leftmargin}\\item\\relax\\em}\\n"
      ↪ :order 0.5)
    (par-sep      :snippet
      ↪ "\\setlength{\\parskip}{\\baselineskip}\n\\setlength{\\parindent}{0pt}\\n"
      ↪ :order 0.5)
    (.pifont      :snippet "\\usepackage{pifont}")
    (checkbox       :requires .pifont :order 3
      :snippet (concat (unless (memq 'maths features)
        ↪ "\\usepackage{amssymb} % provides
        ↪ \\square")
        org-latex-checkbox-preamble))
    (.fancy-box   :requires .pifont :snippet org-latex-box-preamble
      ↪ :order 3.9)
    (box-warning  :requires .fancy-box :snippet
      ↪ "\\defsimplebox{warning}{e66100}{\\ding{68}}{Warning}" :order 4)
    (box-info     :requires .fancy-box :snippet
      ↪ "\\defsimplebox{info}{3584e4}{\\ding{68}}{Information}" :order 4)
    (box-success  :requires .fancy-box :snippet
      ↪ "\\defsimplebox{success}{26a269}{\\ding{68}}{\\vspace{-\\baselineskip}})"
      ↪ :order 4)
    (box-error    :requires .fancy-box :snippet
      ↪ "\\defsimplebox{error}{c01c28}{\\ding{68}}{Important}" :order 4))
```

"LaTeX features and details required to implement them.
 List where the car is the feature symbol, and the rest forms a
 plist with the
 following keys:

- :snippet, which may be either
 - a string which should be included in the preamble
 - a symbol, the value of which is included in the preamble
 - a function, which is evaluated with the list of feature flags
 as its
 single argument. The result of which is included in the
 preamble
- a list, which is passed to 'eval', with a list of feature flags
 available
 as \"features\"
- :requires, a feature or list of features that must be available
- :when, a feature or list of features that when all available
 should cause this
 to be automatically enabled.
- :prevents, a feature or list of features that should be masked
- :order, for when ordering is important. Lower values appear
 first.

The default is 0.
 Features that start with ! will be eagerly loaded, i.e. without
 ↪ being detected.")

```
(defun org-latex-detect-features (&optional buffer info)
  "List features from 'org-latex-conditional-features' detected in
  ↪ BUFFER."
  (let ((case-fold-search nil))
    (with-current-buffer (or buffer (current-buffer))
      (delete-dups
        (mapcan (lambda (construct-feature)
                  (when (let ((out (pcase (car construct-feature)
                                          ((pred stringp) (car
                                          ↪ construct-feature))
                                          ((pred functionp) (funcall (car
                                          ↪ construct-feature) info))
                                          ((pred listp) (eval (car
                                          ↪ construct-feature)))
                                          ((pred symbolp) (symbol-value (car
                                          ↪ construct-feature)))
                                          (_ (user-error
                                          ↪ "org-latex-conditional-features
                                          ↪ key %s unable to be used" (car
                                          ↪ construct-feature))))))
                  (if (stringp out)
                      (save-excursion
                        (goto-char (point-min))
                        (re-search-forward out nil t))
                      out)))
```



```

      (if (listp (cdr construct-feature)) (cdr
      ↪ construct-feature) (list (cdr
      ↪ construct-feature))))))
    org-latex-conditional-features))))

```

```

(defun org-latex-expand-features (features)
  "For each feature in FEATURES process :requires, :when, and :prevents
  ↪ keywords and sort according to :order."
  (dolist (feature features)
    (unless (assoc feature org-latex-feature-implementations)
      (error "Feature %s not provided in
      ↪ org-latex-feature-implementations" feature)))
    (setq current features)
    (while current
      (when-let ((requirements (plist-get (cdr (assoc (car current)
      ↪ org-latex-feature-implementations)) :requires)))
        (setcdr current (if (listp requirements)
          (append requirements (cdr current))
          (cons requirements (cdr current)))))
        (setq current (cdr current)))
      (dolist (potential-feature
        (append features (delq nil (mapcar (lambda (feat)
          (when (plist-get (cdr
            ↪ feat) :eager)
            (car feat))))
            ↪ org-latex-feature-implementations))))
        (when-let ((prerequisites (plist-get (cdr (assoc potential-feature
        ↪ org-latex-feature-implementations)) :when)))
          (setf features (if (if (listp prerequisites)
            (cl-every (lambda (preq) (memq preq
            ↪ features)) prerequisites)
            (memq prerequisites features))
            (append (list potential-feature) features)
            (delq potential-feature features))))))
        (dolist (feature features)
          (when-let ((prevents (plist-get (cdr (assoc feature
          ↪ org-latex-feature-implementations)) :prevents)))
            (setf features (cl-set-difference features (if (listp prevents)
            ↪ prevents (list prevents))))))
          (sort (delete-dups features)
            (lambda (feat1 feat2)
              (if (< (or (plist-get (cdr (assoc feat1
              ↪ org-latex-feature-implementations)) :order) 1)
                  (or (plist-get (cdr (assoc feat2
              ↪ org-latex-feature-implementations)) :order) 1))
              t nil))))))

```

```

(defun org-latex-generate-features-preamble (features)
  "Generate the LaTeX preamble content required to provide FEATURES.
  This is done according to `org-latex-feature-implementations'"

```

```

(let ((expanded-features (org-latex-expand-features features)))
  (concat
    (format "\n% features: %s\n" expanded-features)
    (mapconcat (lambda (feature)
      (when-let ((snippet (plist-get (cdr (assoc feature
        ↪ org-latex-feature-implementations)) :snippet)))
        (concat
          (pcase snippet
            ((pred stringp) snippet)
            ((pred functionp) (funcall snippet features))
            ((pred listp) (eval `(let ((features ',features))
              ↪ (,@snippet))))
            ((pred symbolp) (symbol-value snippet))
            (_ (user-error "org-latex-feature-implementations
              ↪ :snippet value %s unable to be used"
              ↪ snippet)))
          "\n")))
      expanded-features
      ""))
  "% end features\n"))

```

```

(defvar info--tmp nil)

(defadvice! org-latex-save-info (info &optional t_ s_)
  :before #'org-latex-make-preamble
  (setq info--tmp info))

(defadvice! org-splice-latex-header-and-generated-preamble-a (orig-fn tpl
  ↪ def-pkg pkg snippets-p &optional extra)
  "Dynamically insert preamble content based on
  ↪ `org-latex-conditional-preambles'."
  :around #'org-splice-latex-header
  (let ((header (funcall orig-fn tpl def-pkg pkg snippets-p extra)))
    (if snippets-p header
      (concat header
        (org-latex-generate-features-preamble
          ↪ (org-latex-detect-features nil info--tmp))
        "\n"))))

```

7.3.2 Embed Externally Linked Images

I don't like to keep images downloaded to my laptop, it clutters up everything. Org has a handy feature where you can pass a link instead, and org will display it inline as usual.

HTML export handles this use case just fine, if the image isn't named then it will display the image. However, latex doesn't have support for this. What we do is instead of linking the image, we can have emacs download the linked image and export that!

```

(defadvice! +org-latex-link (orig-fn link desc info)
  "Acts as `org-latex-link', but supports remote images."
  :around #'org-latex-link
  (setq o-link link
        o-desc desc
        o-info info)
  (if (and (member (plist-get (cadr link) :type) '("http" "https"))
          (member (file-name-extension (plist-get (cadr link) :path))
                  '("png" "jpg" "jpeg" "pdf" "svg"))))
      (org-latex-link--remote link desc info)
      (funcall orig-fn link desc info))

(defun org-latex-link--remote (link _desc info)
  (let* ((url (plist-get (cadr link) :raw-link))
        (ext (file-name-extension url))
        (target (format "%s%s.%s"
                        (temporary-file-directory)
                        (replace-regexp-in-string "[./]" "_")
                        (file-name-sans-extension
                         (substring
                          (plist-get (cadr link) :path) 2))))
        (ext))
    (unless (file-exists-p target)
      (url-copy-file url target))
    (setcdr link (--> (cadr link)
                     (plist-put it :type "file")
                     (plist-put it :path target)
                     (plist-put it :raw-link (concat "file:" target))
                     (list it)))
    (concat "% fetched from " url "\n"
            (org-latex--inline-image link info))))

```

7.3.3 Tectonic

Tectonic is the hot new thing, which also means I can get rid of my tex installation. Dependencies are nice and auto-installed, and I don't need to bother with ascii stuff

```

(setq org-latex-pdf-process '("tectonic -X compile --print --outdir=%o -Z
  ↪ shell-escape %f"))

```

7.3.4 Classes

Now for some class setup

```
(after! ox-latex
  (add-to-list 'org-latex-classes
    ('("cb-doc" "\\documentclass{scrartcl}"
      ("\\section{%s}" . "\\section*{%s}")
      ("\\subsection{%s}" . "\\subsection*{%s}")
      ("\\subsubsection{%s}" . "\\subsubsection*{%s}")
      ("\\paragraph{%s}" . "\\paragraph*{%s}")
      ("\\subparagraph{%s}" . "\\subparagraph*{%s}")))))
```

And some saner defaults for them

```
(after! ox-latex
  (setq org-latex-default-class "cb-doc"
        org-latex-tables-booktabs t
        org-latex-hyperref-template
          "\\colorlet{greenyblue}{blue!70!green}
          \\colorlet{blueygreen}{blue!40!green}
          \\providecolor{link}{named}{greenyblue}
          \\providecolor{cite}{named}{blueygreen}
          \\hypersetup{
            pdfauthor={%a},
            pdftitle={%t},
            pdfkeywords={%k},
            pdfsubject={%d},
            pdfcreator={%c},
            pdflang={%L},
            breaklinks=true,
            colorlinks=true,
            linkcolor=,
            urlcolor=link,
            citecolor=cite\\n}
          \\urlstyle{same}
          "
        org-latex-reference-command "\\cref{%s}"))
```

7.3.5 Packages

Add some packages. I'm trying to keep it basic for now, Alegreya for non-monospace and SF-Mono for code

```
(setq org-latex-default-packages-alist
  `(("AUTO" "inputenc" t
    ("pdflatex"))
    ("T1" "fontenc" t
    ("pdflatex"))
    (" " "fontspec" t)
    (" " "graphicx" t)
    (" " "grffile" t))
```



```

:after #'org-latex-src-block-engraved
:after #'org-latex-inline-src-block-engraved
(setq org-export-has-code-p t))

(setq org-latex-engraved-code-preamble "
  \\usepackage{fvextra}
  \\fvset{
    commandchars=\\\\\\\\{\\},
    highlightcolor=white!95!black!80!blue,
    breaklines=true,

    breaksymbol=\\color{white!60!black}\\tiny\\ensuremath{\\hookrightarrow}
    \\renewcommand\\theFancyVerbLine{\\footnotesize\\color{black!40!white}\\arabic{FancyVer
    \\definecolor{codebackground}{HTML}{f7f7f7}
    \\definecolor{codeborder}{HTML}{f0f0f0}
    % TODO have code boxes keep line vertical alignment
    \\usepackage[breakable,xparse]{tcolorbox}
    \\DeclareTColorBox[]{}{Code}{o}%
    {colback=codebackground, colframe=codeborder,
      fontupper=\\footnotesize,
      colupper=EFD,
      IfNoValueTF={#1}%
      {boxsep=2pt, arc=2.5pt, outer arc=2.5pt,
        boxrule=0.5pt, left=2pt}%
      {boxsep=2.5pt, arc=0pt, outer arc=0pt,
        boxrule=0pt, leftrule=1.5pt, left=0.5pt,
        right=2pt, top=1pt, bottom=0.5pt,
        breakable}
    }
  ")

(add-to-list 'org-latex-conditional-features '((and org-export-has-code-p
  ↪  "\\t]*#\\+begin_src\\\\[\\t]*#\\+BEGIN_SRC\\\\[src_[A-Za-z]" ) .
  ↪  engraved-code) t)
(add-to-list 'org-latex-conditional-features '("\\t]*#\\+begin_example\\\\[\\t]*#\\+BEGIN_EXAMPLE" .
  ↪  engraved-code-setup) t)
(add-to-list 'org-latex-feature-implementations '(engraved-code :requires
  ↪  engraved-code-setup :snippet (engrave-faces-latex-gen-preamble)
  ↪  :order 99) t)
(add-to-list 'org-latex-feature-implementations '(engraved-code-setup
  ↪  :snippet org-latex-engraved-code-preamble :order 98) t)

(defun org-latex-scr-block--engraved (src-block contents info)
  (let* ((lang (org-element-property :language src-block))
         (attributes (org-export-read-attribute :attr_latex src-block))
         (float (plist-get attributes :float))
         (num-start (org-export-get-loc src-block info))
         (retain-labels (org-element-property :retain-labels src-block))
         (caption (org-element-property :caption src-block))
         (caption-above-p (org-latex--caption-above-p src-block info))
         (caption-str (org-latex--caption/label-string src-block info))
         (placement (or (org-unbracket-string "[" "]" (plist-get
  ↪  attributes :placement))

```

```

(plist-get info :latex-default-figure-position)))
(float-env
  (cond
    ((string= "multicolumn" float)
      (format "\\begin{listing*}[%s]\n%s%%s\n%s\\end{listing*}"
        placement
        (if caption-above-p caption-str "")
        (if caption-above-p "" caption-str)))
    (caption
      (format "\\begin{listing}[%s]\n%s%%s\n%s\\end{listing}"
        placement
        (if caption-above-p caption-str "")
        (if caption-above-p "" caption-str)))
    ((string= "t" float)
      (concat (format "\\begin{listing}[%s]\n"
        placement)
        "%s\n\\end{listing}"))
    (t "%s"))))
(options (plist-get info :latex-minted-options))
(content-buffer
  (with-temp-buffer
    (insert
      (let* ((code-info (org-export-unravel-code src-block))
        (max-width
          (apply 'max
            (mapcar 'length
              (org-split-string (car code-info)
                "\n")))))
        (org-export-format-code
          (car code-info)
          (lambda (loc _num ref)
            (concat
              loc
              (when ref
                ;; Ensure references are flushed to the right,
                ;; separated with 6 spaces from the widest line
                ;; of code.
                (concat (make-string (+ (- max-width (length loc))
                  ↪ 6)
                  ?\s)
                  (format "(%s)" ref))))))
          nil (and retain-labels (cdr code-info))))
        (funcall (org-src-get-lang-mode lang))
        (engrave-faces-latex-buffer)))
    (content
      (with-current-buffer content-buffer
        (buffer-string)))
    (body
      (format
        ↪ "\\begin{Code}\n\\begin{Verbatim}[%s]\n%s\\end{Verbatim}\n\\end{Code}"
        ;; Options.
        (concat

```

```

(org-latex--make-option-string
  (if (or (not num-start) (assoc "linenos" options))
      options
      (append
        `(("linenos"
          ("firstnumber" ,(number-to-string (1+ num-start))))
          options)))
  (let ((local-options (plist-get attributes :options)))
    (and local-options (concat "," local-options))))
  content)))
(kill-buffer content-buffer)
;; Return value.
(format float-env body)))

(defun org-latex-inline-src-block--engraved (inline-src-block _contents
  ↪ info)
  (let ((options (org-latex--make-option-string
    (plist-get info :latex-minted-options)))
    code-buffer code)
    (setq code-buffer
      (with-temp-buffer
        (insert (org-element-property :value inline-src-block))
        (funcall (org-src-get-lang-mode
          (org-element-property :language inline-src-block)))
        (engrave-faces-latex-buffer))))
    (setq code (with-current-buffer code-buffer
      (buffer-string)))
    (kill-buffer code-buffer)
    (format "\\Verb%s{%s}"
      (if (string= options "") ""
          (format "[%s]" options))
      code)))

(defadvice! org-latex-example-block-engraved (orig-fn example-block
  ↪ contents info)
  "Like `org-latex-example-block', but supporting an engraved backend"
  :around #'org-latex-example-block
  (let ((output-block (funcall orig-fn example-block contents info)))
    (if (eq 'engraved (plist-get info :latex-listings))
        (format "\\begin{Code}[alt]\\n%s\\n\\end{Code}" output-block)
        output-block)))

```

7.3.7 ox-chameleon

Nice little package to color stuff for us.

```

(use-package! ox-chameleon
  :after ox)

```


7.3.8 Async

Run export processes in a background ... process

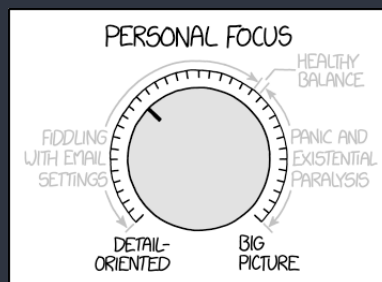
```
(setq org-export-in-background t)
```

7.3.9 (sub|super)script characters

Annoying having to gate these, so let's fix that

```
(setq org-export-with-sub-superscripts '{})
```

8 Mu4e



Focus Knob Maybe if I spin it back and forth really fast I can do some kind of pulse-width modulation.

I'm trying out emails in emacs, should be nice. Related, check `.mbsyncrc` to setup your emails first

10 minutes is a reasonable update time

```
(setq mu4e-update-interval 300)
```

```
(set-email-account! "shaunsingh0207"  
  '( (mu4e-sent-folder      . "/Sent Mail")  
      (mu4e-drafts-folder   . "/Drafts")  
      (mu4e-trash-folder    . "/Trash")  
      (mu4e-refile-folder   . "/All Mail")  
      (smtpmail-smtp-user   . "shaunsingh0207@gmail.com") )))
```

```
;; don't need to run cleanup after indexing for gmail
(setq mu4e-index-cleanup nil
      mu4e-index-lazy-check t)

(after! mu4e
  (setq mu4e-headers-fields
        '(:flags . 6)
          (:account-stripe . 2)
          (:from-or-to . 25)
          (:folder . 10)
          (:recipnum . 2)
          (:subject . 80)
          (:human-date . 8))
        +mu4e-min-header-frame-width 142
        mu4e-headers-date-format "%d/%m/%y"
        mu4e-headers-time-format " %H:%M"
        mu4e-headers-results-limit 1000
        mu4e-index-cleanup t)

  (add-to-list 'mu4e-bookmarks
    '(:name "Yesterday's messages" :query "date:2d..1d" :key
      ↪ ?y) t)

  (defvar +mu4e-header--folder-colors nil)
  (appendq! mu4e-header-info-custom
    '(:folder .
      (:name "Folder" :shortname "Folder" :help "Lowest level
      ↪ folder" :function
        (lambda (msg)
          (+mu4e-colorize-str
            (replace-regexp-in-string "\\`.*/" " "
              ↪ (mu4e-message-field msg :maildir))
            '+mu4e-header--folder-colors))))))
```

We can also send messages using msmtplib

```
(after! mu4e
  (setq sendmail-program "~/nix-profile/bin/msmtplib"
        send-mail-function #'smtpmail-send-it
        message-sendmail-f-is-evil t
        message-sendmail-extra-arguments '("--read-envelope-from")
        message-send-mail-function #'message-send-mail-with-sendmail))
```

Notifications are quite nifty, especially if I'm as lazy as I am

```
;; (setq alert-default-style 'osx-notifier)
```

9 Browsing

9.1 Webkit

Eventually I want to use emacs for everything. Instead of using xwidgets, which requires a custom (non-cached) build of emacs. Emacs-webkit is a good alternative, but is quite buggy right now. Once its stable, I'll fix this config

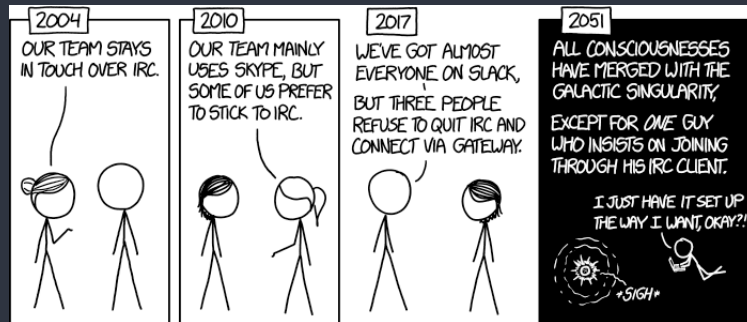
```
;; (use-package org
;;   :demand t)

;; (use-package webkit
;;   :defer t
;;   :commands webkit
;;   :init
;;   (setq webkit-search-prefix "https://google.com/search?q="
;;         webkit-history-file nil
;;         webkit-cookie-file nil
;;         browse-url-browser-function 'webkit-browse-url
;;         webkit-browse-url-force-new t
;;         webkit-download-action-alist '(("\\.pdf\\" .
↵ webkit-download-open)
;;                                       ("\\.png\\" .
↵ webkit-download-save)
;;                                       ("\\.*" .
↵ webkit-download-default)))

;; (defun webkit--display-progress (progress)
;;   (setq webkit--progress-formatted
;;         (if (equal progress 100.0)
;;             ""
;;             (format "%s%.0f%%" (all-the-icons-faicon "spinner")
↵ progress)))
;;   (force-mode-line-update)))
```

I also want to use evil bindings with this. It's not upstreamed yet, so I'll steal the ones from the repo

```
;; (use-package evil-collection-webkit
;;   :defer t
;;   :config
;;   (evil-collection-xwidget-setup))
```



Team Chat 2078: He announces that he's finally making the jump from screen+irssi to tmux+weechat.

9.2 IRC

I'm trying to move everything to emacs, and discord is the one electron app I need to ditch. With bitlbee and circe it should be possible

To make this easier, I

1. Have everything (serverinfo and passwords) in an authinfo.gpg file
2. Tell circe to use it
3. Use org syntax for formatting
4. Add emoji support
5. Set it up with discord

```
(defun auth-server-pass (server)
  (if-let ((secret (plist-get (car (auth-source-search :host server))
    ↪ :secret)))
    (if (functionp secret)
        (funcall secret) secret)
    (error "Could not fetch password for host %s" server)))

(defun register-irc-auths ()
  (require 'circe)
  (require 'dash)
  (let ((accounts (-filter (lambda (a) (string= "irc" (plist-get a
    ↪ :for))))
    (auth-source-search :require '(:for) :max
    ↪ 10))))
    (appendq! circe-network-options
```

```

(mapcar (lambda (entry)
  (let* ((host (plist-get entry :host))
        (label (or (plist-get entry :label) host))
        (_ports (mapcar #'string-to-number
                        (s-split "," (plist-get
                                   ↪ entry :port)))))
    (port (if (= 1 (length _ports)) (car
                                   ↪ _ports) _ports))
    (user (plist-get entry :user))
    (nick (or (plist-get entry :nick) user))
    (channels (mapcar (lambda (c) (concat "#"
                                   ↪ c))
                     (s-split "," (plist-get
                                   ↪ entry :channels)))))
  `(:label
    :host ,host :port ,port :nick ,nick
    :sasl-username ,user :sasl-password
    ↪ auth-server-pass
    :channels ,channels)))
accounts))))

```

We'll just call `(register-irc-auths)` on a hook when we start Circe up.

Now we're ready to go, let's actually wire-up Circe, with one or two configuration tweaks.

```

(after! circe
  (setq-default circe-use-tls t)
  (setq circe-notifications-alert-icon
    ↪ "/usr/share/icons/breeze/actions/24/network-connect.svg"
        lui-logging-directory "~/.emacs.d/.local/etc/irc"
        lui-logging-file-format "{buffer}/{Y/%m-%d}.txt"
        circe-format-self-say "{nick:+13s} | {body}")

  (custom-set-faces!
    '(circe-my-message-face :weight unspecified))

  (enable-lui-logging-globally)
  (enable-circe-display-images)

  <<org-emph-to-irc>>

  <<circe-emojis>>
  <<circe-emoji-alist>>

  (defun named-circe-prompt ()
    (lui-set-prompt
      (concat (propertize (format "%13s > " (circe-nick))
                          'face 'circe-prompt-face)
              " ")))
  (add-hook 'circe-chat-mode-hook #'named-circe-prompt)

```

```

(appendq! all-the-icons-mode-icon-alist
  '((circe-channel-mode all-the-icons-material "message" :face
    ↪ all-the-icons-lblue)
    (circe-server-mode all-the-icons-material
    ↪ "chat_bubble_outline" :face all-the-icons-purple))))

<<irc-authinfo-reader>>

(add-transient-hook! #'=irc (register-irc-auths))

```

Let's do our **bold**, *italic*, and underline in org-syntax, using IRC control characters.

```

(defun lui-org-to-irc ()
  "Examine a buffer with simple org-mode formatting, and converts the
  emphasis:
  *bold*, /italic/, and _underline_ to IRC semi-standard escape
  codes.
  =code= is converted to inverse (highlighted) text."
  (goto-char (point-min))
  (while (re-search-forward
    ↪ "\\_<\\(?:[*/_=]\\|\\(?:?:[^:space:]\\|\\(?:?:.*?[^:space:]\\|\\)?\\|\\1\\_>"
    ↪ nil t)
    (replace-match
      (concat (pcase (match-string 1)
        ("*" " ")
        ("/" " ")
        ("_" " ")
        ("=" " "))
        (match-string 2)
        "") nil nil)))

(add-hook 'lui-pre-input-hook #'lui-org-to-irc)

```

Let's setup Circe to use some emojis

```

(defun lui-ascii-to-emoji ()
  (goto-char (point-min))
  (while (re-search-forward "\\( \\)?::?\\|\\(?:?:[^:space:]+\\):\\|\\( \\)?"
    ↪ nil t)
    (replace-match
      (concat
        (match-string 1)
        (or (cdr (assoc (match-string 2) lui-emojis-alist))
            (concat ":" (match-string 2) ":"))
        (match-string 3))
      nil nil)))

(defun lui-emoticon-to-emoji ()
  (dolist (emoticon lui-emoticons-alist)
    (goto-char (point-min))

```