nixos-configs / configuration.nix

nh2 Add comment about suspend screen locking ce6d585 · 6 months ago

1038 lines (905 loc) · 36.9 KB

```
1   # Edit this configuration file to define what should be installed on
2   # your system.  Help is available in the configuration.nix(5) man page
3   # and in the NixOS manual (accessible by running ‘nixos-help’).
4
5   { config, pkgs, lib, ... }:
6
7   let
8     useWayland = false;
9
10    # TODO: Improve this by making it a global name keyboard layout instead
11    #       `sessionCommands`, see https://nixos.org/nixos/manual/#custom-xk
12    #       But do this only once https://github.com/NixOS/nixpkgs/issues/11
13    #       is implemented, otherwise every single package that depends on t
14    #       will need to be recompiled by adding a keyboard layout.
15    customKeyboardLayoutScriptName = "keyboard-layout-gb-CapsLockIsHyperL";
16    custom-keyboard-layout =
17      # See https://nixos.wiki/wiki/Keyboard_Layout_Customization
18      let
19        xkb_root = ./xkb;
20        compiledLayout = pkgs.runCommand "keyboard-layout" {} ''
21          ${pkgs.xorg.xkbcomp}/bin/xkbcomp "-I${xkb_root}" "-R${xkb_root}" k
22        '';
23      in
24        pkgs.writeScriptBin customKeyboardLayoutScriptName ''
25          ${pkgs.xorg.xkbcomp}/bin/xkbcomp "${compiledLayout}" "$DISPLAY"
26        '';
27
28    screenlockScriptText = lib.concatStrings [
29      # Make `xsecurelock` happen on `xflock4`, `loginctl lock-session`, and
30      # Note that when we use `xss-lock` this way, the setting
31      #     [ ] Lock screen when system is going to sleep
32      # needs to be disabled in xfce4-power-manager's settings,
33      # because otherwise `xsecurelock` is double-invoked,
34      # which prevents suspend from happening on low battery,
35      # requiring unlocking the first lockscreen before the second one
36      # immediately appears and the system goes to sleep.
37      ''
```

```
38          xfconf-query --channel xfce4-session --create --property /general/Lo
39          ${pkgs.xss-lock}/bin/xss-lock --transfer-sleep-lock -- ${pkgs.xsecur
40        ''
41      ];
42      screenlockScriptName = "screenlock-script";
43      screenlock-script = pkgs.writeScriptBin screenlockScriptName screenlockS
44
45      # Needs a channel to be added via:
46      #     sudo nix-channel --add https://nixos.org/channels/nixos-unstable u
47      unstable = import <unstable> { config.allowUnfree = true; };
48    in
49    {
50      imports =
51        [ # Include the results of the hardware scan.
52          ./hardware-configuration.nix
53          # Needs to be installed (see https://github.com/NixOS/nixos-hardware
54          #     sudo nix-channel --add https://github.com/NixOS/nixos-hardware
55          <nixos-hardware/lenovo/thinkpad/t470s>
56        ] ++ lib.optional (builtins.pathExists ./private-configuration.nix) ./
57
58      options = with lib; {
59
60        gpuMode = mkOption {
61          type = types.enum [
62            "intel"
63            "nvidia"
64            "intel-nvidia-offload" # offload mode (NVIDIA only used with `nvid
65            "intel-nvidia-sync" # # sync mode (both Intel and NVIDIA on all th
66          ];
67          default = "intel";
68          description = lib.mdDoc "Which GPU to use, and how.";
69          visible = false; # don't show in manual, to prevent rebuilding the m
70        };
71
72      };
73
74      config = {
75
76        nixpkgs.config = {
77          allowUnfree = true;
78          permittedInsecurePackages = [
79            "openssl-1.1.1w" # Sublime Text 4 currently needs this, see https:
80            "electron-24.8.6" # TODO: Remove once `bitwarden` has updated its
81          ];
82        };
83
84        nixpkgs.overlays = [
85          (final: previous: {
86
87            # TODO: Remove when https://github.com/rfjakob/earlyoom/pull/191 i
88            earlyoom = previous.earlyoom.overrideAttrs (old: {
89              src = final.fetchFromGitHub {
```

```
90              owner = "nh2";
91              repo = "earlyoom";
92              rev = "e0534b0ee26df23181ca326e1b7ed09520d7d4e5";
93              sha256 = "1av7q5ndm7xx2rpxaqxyaidf15fndc5br9z197gzwj23wxjhjc7a
94            };
95          });
96
97          # I found some segfaults of `xfce4-notifyd`; enable debug info so
98          # it happens I can check it (`cordumptctl`).
99          xfce4.xfce4-notifyd = previous.xfce4.xfce4-notifyd.overrideAttrs (
100           separateDebugInfo = true;
101         });
102
103       })
104     ];
105
106     # Use the systemd-boot EFI boot loader.
107     boot.loader.systemd-boot.enable = true;
108     boot.loader.efi.canTouchEfiVariables = true;
109
110     boot.supportedFilesystems = [ "zfs" ];
111     networking.hostId = "25252525";
112     boot.zfs.requestEncryptionCredentials = true;
113     # Hibernation with ZFS is unsafe; thus disable it.
114     # This is likely the case even if the swap is put on a non-ZFS partiti
115     # because the ZFS code paths do not handle being hibernated properly.
116     # See:
117     # * https://nixos.wiki/wiki/ZFS#Known_issues
118     # * https://github.com/openzfs/zfs/issues/12842
119     # * https://github.com/openzfs/zfs/issues/12843
120     boot.kernelParams = [ "nohibernate" ];
121
122     # Enable BBR congestion control
123     boot.kernelModules = [ "tcp_bbr" ];
124     boot.kernel.sysctl."net.ipv4.tcp_congestion_control" = "bbr";
125     boot.kernel.sysctl."net.core.default_qdisc" = "fq"; # see https://news
126
127     # Increase TCP window sizes for high-bandwidth WAN connections, assumi
128     # 10 GBit/s Internet over 200ms latency as worst case.
129     #
130     # Choice of value:
131     #     BPP         = 10000 MBit/s / 8 Bit/Byte * 0.2 s = 250 MB
132     #     Buffer size = BPP * 4 (for BBR)                 = 1 GB
133     # Explanation:
134     # * According to http://ce.sc.edu/cyberinfra/workshops/Material/NTP/La
135     #   and other sources, "Linux assumes that half of the send/receive TC
136     #   are used for internal structures", so the "administrator must conf
137     #   the buffer size equals to twice" (2x) the BPP.
138     # * The article's section 1.3 explains that with moderate to high pack
139     #   while using BBR congestion control, the factor to choose is 4x.
140     #
141     # Note that the `tcp` options override the `core` options unless `SO_F
```

```
142         # is set manually, see:
143         # * https://stackoverflow.com/questions/31546835/tcp-receiving-window-
144         # * https://bugzilla.kernel.org/show_bug.cgi?id=209327
145         # There is an unanswered question in there about what happens if the `
146         # option is larger than the `tcp` option; to avoid uncertainty, we set
147         # equally.
148         boot.kernel.sysctl."net.core.wmem_max" = 1073741824; # 1 GiB
149         boot.kernel.sysctl."net.core.rmem_max" = 1073741824; # 1 GiB
150         boot.kernel.sysctl."net.ipv4.tcp_rmem" = "4096 87380 1073741824"; # 1
151         boot.kernel.sysctl."net.ipv4.tcp_wmem" = "4096 87380 1073741824"; # 1
152         # We do not need to adjust `net.ipv4.tcp_mem` (which limits the total
153         # system-wide amount of memory to use for TCP, counted in pages) becau
154         # the kernel sets that to a high default of ~9% of system memory, see:
155         # * https://github.com/torvalds/linux/blob/a1d21081a60dfb7fddf4a38b66d
156
157         boot.extraModulePackages = [
158           # For being able to flip/mirror my webcam.
159           config.boot.kernelPackages.v4l2loopback
160         ];
161
162         # Register a v4l2loopback device at boot
163         #boot.kernelModules = [
164         # "v4l2loopback"
165         #];
166
167         # For mounting many cameras.
168         # Need to set `users.users.alice.extraGroups = ["camera"];` for each u
169         programs.gphoto2.enable = true;
170
171         boot.extraModprobeConfig =
172           # Enable fan control for the Thinkpad; allows spinning the fan to ma
173           #     echo level disengaged | sudo tee /proc/acpi/ibm/fan
174           ''
175             options thinkpad_acpi fan_control=1
176           ''
177           + ''
178             options v4l2loopback exclusive_caps=1
179           '';
180
181         networking.hostName = "t25"; # Define your hostname.
182         # networking.wireless.enable = true;  # Enables wireless support via w
183
184         # The global useDHCP flag is deprecated, therefore explicitly set to f
185         # Per-interface useDHCP will be mandatory in the future, so this gener
186         # replicates the default behaviour.
187         networking.useDHCP = false;
188         # Using network-manager instead.
189         #networking.interfaces.enp0s31f6.useDHCP = true;
190         #networking.interfaces.wlp4s0.useDHCP = true;
191
192         # Configure network proxy if necessary
193         # networking.proxy.default = "http://user:password@proxy:port/";
194         # networking.proxy.noProxy = "127.0.0.1,localhost,internal.domain";
```

```
195
196         # Select internationalisation properties.
197         i18n = {
198           # defaultLocale = "en_US.UTF-8";
199         };
200         console.keyMap = "uk";
201
202
203         # Set your time zone.
204         time.timeZone = "Europe/Berlin";
205
206         services.teamviewer.enable = true;
207
208         environment.sessionVariables = {
209           # Necessary for e.g. `i3` config `exec` commands to use `gsettings`,
210           # e.g. to bind keys for switching light/dark mode.
211           # See: https://github.com/NixOS/nixpkgs/issues/273275
212           XDG_DATA_DIRS =
213             let
214               schema = pkgs.gsettings-desktop-schemas;
215               datadir = "${schema}/share/gsettings-schemas/${schema.name}";
216             in [ datadir ];
217         };
218
219         # List packages installed in system profile. To search, run:
220         # $ nix search wget
221         environment.systemPackages = with pkgs; [
222           awscli2 # official `aws` CLI program
223           autossh
224           cura
225           eternal-terminal
226           mumble # need at least 1.3.4 to avoid package loss
227           (lib.hiPrio pkgs.parallel) # to take precedence over `parallel` from
228           # (wineStaging.override { wineBuild = "wineWow"; }) # `wineWow` enab
229           wineWowPackages.staging # `wineWow` enables 64-bit support
230           alsa-utils
231           apg
232           atop
233           attr.bin # for `getfattr` etc.
234           bind.dnsutils # for `dig` etc.
235           binutils # objdump, nm, readelf etc
236           blender
237           bless
238           calibre
239           chromium
240           cloudcompare
241           cryptsetup
242           custom-keyboard-layout
243           screenlock-script
244           # diffoscope # Re-enable when https://github.com/NixOS/nixpkgs/issue
245           ethtool
246           exfat
```

```
247           ffmpeg
248           file
249           #(if useWayland then firefox-wayland else firefox)
250           firefox
251           fractal
252           fzf
253           gajim
254           gdb
255           gh
256           gimp
257           git
258           # TODO: Replace by `delta` as soon as it's built on unstable
259           gitAndTools.diff-so-fancy
260           gitAndTools.git-absorb
261           gitAndTools.git-branchless
262           glade
263           glxinfo
264           gnome-themes-extra # Provides theme in the XFCE theme switcher
265           gnome3.cheese
266           gnome3.eog
267           gnome3.evince
268           gnome3.file-roller
269           gnome3.gnome-screenshot
270           gnome3.gnome-system-monitor
271           gnome3.gnome-terminal
272           gnome3.nautilus # xfce's `thunar` freezes the UI during large MTP tr
273           gnome3.totem
274           gnome3.vinagre
275           gnumake
276           gnupg
277           gptfdisk
278           graphviz
279           hdparm
280           htop
281           imhex
282           inkscape
283           iotop
284           iperf3
285           jq
286           keybase
287           keybase-gui
288           killall
289           krename
290           lapce
291           libarchive # bsdtar
292           libcap_ng
293           libreoffice
294           linuxPackages.perf
295           lm_sensors
296           lsof
297           lutris
298           lz4
299           lzop
```

```
300           meld
301           (meshlab.overrideAttrs (old: {
302             # For debugging crashes
303             # cmakeBuildType = "RelWithDebInfo";
304             # dontStrip = true;
305             # hardeningDisable = [ "all" ];
306
307             patches = (old.patches or []) ++ [
308               # TODO: Remove when https://github.com/Z3roCo0l/meshlab/commit/b
309               (pkgs.fetchpatch {
310                 name = "meshlab-Dialogbox-for-mainwindow-actions.patch";
311                 url = "https://github.com/Z3roCo0l/meshlab/commit/bcf2d6c20173
312                 sha256 = "sha256-oRBKQVq4fOmeD9OZFW3f7pXKkvuj41dJ0IyYaVSl0F0='
313               })
314               (pkgs.fetchpatch {
315                 name = "meshlab-Remove-dialogbox-from-new-project-function.pat
316                 url = "https://github.com/Z3roCo0l/meshlab/commit/d887778f09a1
317                 sha256 = "sha256-rsIcZv8zB1it/RR+fYxQODPqqUjP3C2mdhzCTD8i3g8='
318               })
319               (pkgs.fetchpatch {
320                 name = "meshlab-Inverting-Selection-mode-CTRL-modifier.patch";
321                 url = "https://github.com/Z3roCo0l/meshlab/commit/799975189fea
322                 sha256 = "sha256-FUPWiRgO+/f49w5TMbX3a7baAaz7wfYPm8Qp1CtIm+c='
323               })
324             ];
325           }))
326           moreutils
327           mosh
328           mplayer
329           mpv
330           ncdu
331           nebula
332           netcat-openbsd
333           nix-diff
334           nix-index
335           nix-tree
336           nixpkgs-review
337           nload
338           nmap
339           nom
340           # ntfy
341           openscad
342           openssl
343           paprefs
344           parted
345           (pass.withExtensions (exts: [ exts.pass-otp ]))
346           pasystray
347           patchelf
348           pavucontrol
349           pdfarranger
350           pciutils # lspci
351           powertop
```

```
352           psmisc # fuser
353           pv
354           (python3.withPackages (ps: with ps; [ numpy ]))
355           qrencode
356           qtpass
357           rclone
358           remmina
359           reptyr
360           ripgrep
361           rofi
362           rxvt-unicode
363           screen
364           screen-message
365           shellcheck
366           signal-desktop
367           skypeforlinux
368           smartmontools
369           smem
370           sshfs-fuse
371           stack
372           stress-ng
373           sublime4
374           # sublime-merge
375           sysdig
376           sysstat
377           tcpdump
378           texmacs
379           thunderbird
380           traceroute
381           unzip
382           usbutils # for lsusb
383           v4l-utils
384           veracrypt
385           vlc
386           wget
387           wirelesstools # iwconfig/iwgetid for wifi info
388           wireshark
389           x11vnc
390           xorg.xhost
391           xorg.xev
392           xorg.xkbcomp
393           xorg.xkill
394           xorg.xwininfo
395           xournal
396           xsecurelock
397           xss-lock
398           yubikey-personalization
399           yubikey-personalization-gui
400           yubikey-manager # for `ykman`, e.g. to set the touch requirement for
401           zip
402           zoom-us
403
```

```
404           apcupsd
405           rustc cargo binutils gcc pkg-config # Rust development (from https:/
406           cmake freetype # for Alacritty rust development
407
408           audacity
409           simplescreenrecorder
410           ghc
411
412           cmakeWithGui
413           gitg
414
415           # TODO Answer https://discourse.nixos.org/t/gst-all-1-gstreamer-pack
416           gst_all_1.gstreamer.dev
417           yt-dlp
418
419           gparted
420           ntfs3g # for mounting NTFS USB drives
421
422           marktext
423
424           slack
425           libnotify # for `notify-send`
426
427           xdotool
428           valgrind
429           sqlite
430           glib # gio for MTP mounting
431
432           discord
433           zstd
434
435           nix-prefetch-github
436
437           # man pages
438           man-pages # Linux development manual pages (2p syscalls / wrappers)
439           glibcInfo # GNU Info manual of the GNU C Library
440
441           blugon # blue-light filter
442
443           inotify-tools # for inotifywait etc.
444
445           # ripcord
446
447           luminanceHDR
448
449           nix-top
450
451           python3Packages.grip
452           bup
453
454           barrier
455
456           virt-manager
```

```
457
458           zbar # QR code reader
459
460           vim
461           # TODO: Cannot currently use the following, it breaks the Backspace
462           #       Delete keys, see https://github.com/LnL7/vim-nix/issues/38.
463           # From https://nixos.wiki/wiki/Editor_Modes_for_Nix_Files#vim-nix
464           (pkgs.vim_configurable.customize {
465             name = "vim";
466             vimrcConfig.packages.myplugins = with pkgs.vimPlugins; {
467               # start = [ vim-nix ]; # load plugin on startup
468               start = []; # load plugin on startup
469             };
470           })
471
472           vscode
473
474           turbovnc
475
476           bitwarden
477
478           bupstash
479
480           # OnlyOffice. Sstart with `DesktopEditors`.
481           # I had to download Windows fonts `Symbol.ttf` and `wingding.ttf`
482           # into `~/.local/share/fonts/` for bullet points to look correct,
483           # and Calibri to render my Calibri-written Word docs correctly.
484           # Arial is also required to be put there so that the default templat
485           # look as expected.
486           onlyoffice-bin
487
488           config.boot.kernelPackages.nvidia_x11
489
490           wireguard-tools
491         ];
492
493         # documentation.dev.enable = true;
494
495         powerManagement.enable = true;
496
497         # When suspending, kill all sshfs instances, as otherwise it can make
498         # either suspend or resume hang (hang on resume requires force reboot)
499         powerManagement.powerDownCommands = ''
500           ${pkgs.procps}/bin/pkill -9 sshfs
501         '';
502
503         # Some programs need SUID wrappers, can be configured further or are
504         # started in user sessions.
505         programs.mtr.enable = true;
506         programs.gnupg.agent = { enable = true; enableSSHSupport = true; };
507
508         programs.ssh.extraConfig = ''
```

```
509           # Don't ask for fingerprint confirmation on first connection.
510           # If we know the fingerprint ahead of time, we should put it into `k
511           StrictHostKeyChecking=accept-new
512         '';
513
514         # List services that you want to enable:
515
516         # Enable the OpenSSH daemon.
517         services.openssh.enable = true;
518
519         networking.firewall = {
520           # Reject instead of drop.
521           rejectPackets = true;
522           logRefusedConnections = false; # Helps with auth brueforce log spam.
523           # Open ports in the firewall.
524           allowedTCPPorts = [
525             5201 # iperf3
526           ];
527           allowedUDPPorts = [
528             5201 # iperf3
529           ];
530           # Or disable the firewall altogether.
531           # enable = false;
532         };
533
534         networking.networkmanager.enable = true;
535
536         services.avahi = {
537           enable = true;
538           nssmdns4 = true; # allows pinging *.local from this machine
539           publish = { # allows other machines to see this one
540             enable = true;
541             addresses = true;
542             workstation = true;
543           };
544         };
545
546         # Enable CUPS to print documents.
547         services.printing.enable = true;
548         services.printing.drivers = with pkgs; [
549           brlaser
550           gutenprint
551           hplip
552         ];
553
554         # To fix ThinkPad throttling too early. See https://news.ycombinator.c
555         services.thermald.enable = true;
556
557         # Disabled in order to use PipeWire, as recommended on https://nixos.w
558         # # Enable sound.
559         # sound.enable = true;
560         # hardware.pulseaudio.enable = true;
561         # # Network sink streaming support
```

```
562         # hardware.pulseaudio.tcp.enable = true;
563         # # Note: As of writing (20.03), enabling zeroconf adds an `avahi` dep
564         # #       pulseaudio dep so it will be compiled, not fetched from cach
565         # # hardware.pulseaudio.zeroconf.discovery.enable = true;
566         # # TODO: disable
567         # # hardware.pulseaudio.zeroconf.publish.enable = true;
568
569         # Bluetooth
570         hardware.bluetooth.enable = true;
571         hardware.bluetooth.powerOnBoot = false;
572         services.blueman.enable = true;
573
574         security.rtkit.enable = true; # rtkit is optional but recommended for
575         services.pipewire = {
576           enable = true;
577           alsa.enable = true;
578           alsa.support32Bit = true;
579           pulse.enable = true;
580           # The below was configurable via NixOS options in the past but is no
581           # If I want this, it should go into `/etc/pipewire/pipewire.conf.d/`
582           #
583           #     # Trying to fix crackling (more apparent when many audio sourc
584           #     # Does not seem to help :(
585           #     "context.properties" = {
586           #       "default.clock.quantum" = "2048";
587           #       "default.clock.min-quantum" = "1024";
588           #       "default.clock.max-quantum" = "4096";
589           #     };
590         };
591
592         # Allow core dumps.
593         # Truncated core dumps are not very useful to GDB, see:
594         # * https://unix.stackexchange.com/questions/155389/can-anything-usefu
595         systemd.extraConfig = ''
596           # core dump limit in KB
597           DefaultLimitCORE=20000000
598
599           # Note that systemd-coredump may still throw away coredumps if you h
600           # < 15% disk free, see:
601           # https://unix.stackexchange.com/questions/554442/coredumpctl-cannot
602         '';
603
604         # Install debug symbols for all packages that provide it.
605         environment.enableDebugInfo = true;
606
607         hardware.sane.enable = true; # enables support for SANE scanners
608         hardware.sane.backends-package = pkgs.sane-backends.overrideAttrs (old
609           configureFlags = (old.configureFlags or []) ++ [
610             # "--localstatedir=/var" # `sane-backends` puts e.g. lock files in
611             # "--with-lockdir=/var/lock/sane" # `sane-backends` puts e.g. lock
612
613             # Ugly workaround for https://github.com/NixOS/nixpkgs/issues/2732
```

```
614           # Really we should make `sane-backends` be able to provide a real
615           "--disable-locking"
616         ];
617         # Alternative workaround for https://github.com/NixOS/nixpkgs/issues
618         # We'd prefer to just set in `configureFlags`
619         #     "--localstatedir=/var" # `sane-backends` puts e.g. lock files
620         # but that does not work because the install step tries to create th
621         # which fails in the nix build sandbox.
622         # So instead, we set the preprocessor variable directly, see:
623         #     https://gitlab.com/sane-project/backends/-/blob/65779d6b595547
624         # A problem is that this lock dir also needs to exist and have write
625         # Right now you have to do that manually with:
626         #     sudo mkdir -p /var/lock/sane && sudo chown root:scanner /var/l
627         # Maybe we should use the `scanner` group for that, and/or configure
628         #NIX_CFLAGS_COMPILE = "-DPATH_SANE_LOCK_DIR=/var/lock/sane";
629       });
630
631       # Steam needs this, see https://nixos.org/nixpkgs/manual/#sec-steam-pl
632       hardware.opengl.driSupport32Bit = true;
633       hardware.pulseaudio.support32Bit = true;
634       hardware.opengl.extraPackages = with pkgs; [
635         # Work around "A game file appears to be missing or corrupted" in St
636         # See https://www.reddit.com/r/DotA2/comments/e24l6q/a_game_file_app
637         #libva
638       ];
639
640       # Enable the X11 windowing system.
641       services.xserver.enable = !useWayland;
642       # Produce XKB dir containing custom keyboard layout by symlink-copying
643       # the normal XKB dir, and copying our keymap in.
644       # TODO: This might stop working in the future:
645       #       https://github.com/NixOS/nixpkgs/pull/138207#issuecomment-9724
646       services.xserver.xkb.dir = pkgs.runCommand "custom-keyboard-layout-xkb
647         cp -r --symbolic-link "${pkgs.xkeyboard_config}/share/X11/xkb" "$out
648         chmod -R u+w "$out"
649
650         mkdir -p "$out/keymap"
651         cp ${./xkb/keymap}/* "$out/keymap"
652         mkdir -p "$out/symbols"
653         cp ${./xkb/symbols}/* "$out/symbols"
654       '';
655       services.xserver.xkb.layout = "gb-CapsLockIsHyperL";
656       # services.xserver.xkbOptions = "eurosign:e";
657
658       # Enable touchpad support.
659       services.libinput.enable = true;
660
661       specialisation."nvidia".configuration = {
662         gpuMode = "nvidia";
663       };
664       specialisation."intel-nvidia-offload".configuration = {
665         gpuMode = "intel-nvidia-offload";
```

```
666       };
667       specialisation."intel-nvidia-sync".configuration = {
668         gpuMode = "intel-nvidia-sync";
669       };
670
671       services.xserver.videoDrivers =  [
672         {
673           "intel" = "intel";
674           "nvidia" = "nvidia";
675           "intel-nvidia-offload" = "nvidia";
676           "intel-nvidia-sync" = "nvidia";
677         }.${config.gpuMode}
678       ];
679       # See https://nixos.wiki/wiki/Nvidia#offload_mode
680       # Disabled for VFIO for now
681       hardware.nvidia.prime = lib.mkIf (!useWayland) {
682         offload = lib.mkIf (config.gpuMode == "intel-nvidia-offload") {
683           enable = true;
684           enableOffloadCmd = true;
685         };
686         sync.enable = config.gpuMode == "intel-nvidia-sync";
687
688         # Bus ID of the NVIDIA GPU. You can find it using lspci, either unde
689         nvidiaBusId = "PCI:2:0:0";
690
691         # Bus ID of the Intel GPU. You can find it using lspci, either under
692         intelBusId = "PCI:0:2:0";
693       };
694       hardware.nvidia.powerManagement.enable = true;
695       hardware.nvidia.modesetting.enable = true;
696       hardware.nvidia.dynamicBoost.enable = {
697         "intel" = false;
698         "nvidia" = true;
699         "intel-nvidia-offload" = true;
700         "intel-nvidia-sync" = true;
701       }.${config.gpuMode};
702
703       # Enable the KDE Desktop Environment.
704       # services.xserver.displayManager.sddm.enable = true;
705       # services.xserver.desktopManager.plasma5.enable = true;
706
707       services.xserver.displayManager.lightdm.enable = !useWayland;
708       services.xserver.displayManager.sessionCommands = ''
709         # Map Caps_Lock to Hyper_L
710         ${custom-keyboard-layout}/bin/${customKeyboardLayoutScriptName}
711
712         # Turn on screen locker
713         ${screenlockScriptText}
714
715         # Screen notifications
716         ${pkgs.xfce.xfce4-notifyd}/lib/xfce4/notifyd/xfce4-notifyd &
717       '';
718
```

```
719         # Make polkit prompt show only 1 choice instead of both root and all `
720         security.polkit.adminIdentities = [ "unix-group:wheel" ];
721
722         # Enables user icons in display manager.
723         services.accounts-daemon.enable = true;
724
725         services.xserver.desktopManager = {
726           xterm.enable = false;
727           # TODO: NixOS 20.03 adds a lot of new stuff for XFCE, see
728           # https://github.com/NixOS/nixpkgs/commit/04e56aa016a19c8c8af1f02176
729           # This means we can disable a lot of manually set options when we're
730           xfce = {
731             enable = true;
732             noDesktop = true;
733             enableXfwm = false;
734           };
735         };
736         services.displayManager.defaultSession = "xfce+i3";
737         services.xserver.windowManager.i3 = {
738           enable = true;
739           extraPackages = with pkgs; [
740             dmenu
741             i3status
742             i3lock
743           ];
744         };
745
746         programs.sway = lib.mkIf useWayland {
747           enable = true;
748           wrapperFeatures.gtk = true; # so that gtk works properly
749           extraPackages = with pkgs; [
750             swaylock
751             swayidle
752             wl-clipboard
753             mako # notification daemon
754             alacritty # Alacritty is the default terminal in the config
755             dmenu # Dmenu is the default in the config but i recommend wofi si
756           ];
757         };
758         xdg = lib.mkIf useWayland {
759           portal = {
760             enable = true;
761             wlr.enable = true;
762             extraPortals = with pkgs; [
763               xdg-desktop-portal-gtk
764             ];
765             gtkUsePortal = true;
766           };
767         };
768
769         # Brightness control, see https://nixos.wiki/wiki/Backlight#Key_mappir
770         programs.light.enable = true;
```

```
771         services.actkbd = {
772           enable = true;
773           bindings = [
774             { keys = [ 224 ]; events = [ "key" ]; command = "/run/current-syst
775             { keys = [ 225 ]; events = [ "key" ]; command = "/run/current-syst
776           ];
777         };
778
779         # earlyoom; I have swap enabled for hibernation, so any swapping
780         # causes irrecoverable GUI freezes. earlyoom makes them short.
781         services.earlyoom = {
782           enable = true;
783           # freeMemThreshold = 5; # percent
784           freeMemThreshold = 10; # using a bit more because even https://githu
785           # See note below
786           # freeSwapThreshold = 100; # percent
787         };
788         # earlyoom now accepts `-m/s PERCENT[,KILL_PERCENT]` with a comma,
789         # but NixOS does not allow us to configure the behind-the-comma part,
790         # so we manually override the `ExecStart` line.
791         # We need `-s 100,100`, because by default the behind-the-comma part
792         # is half of the before-the-comma part, so even if you set `freeSwapTh
793         # it will translate to `-s 100,50`, so earlyoom would only start killi
794         # after 50% of the swap is full, which can take forever to happen.
795         # See https://github.com/NixOS/nixpkgs/issues/83504
796         systemd.services.earlyoom.serviceConfig.ExecStart = lib.mkForce "${pkg
797
798         # zsh
799         programs.zsh.enable = true;
800         programs.zsh.interactiveShellInit = ''
801           # Enable the below for profiling zsh's startup speed.
802           # Once enabled, get numbers using:
803           #     zsh -i -l -c 'zprof'
804           #zmodload zsh/zprof
805
806           # Disable `compaudit` being invoked from GRML cominit call.
807           # See: https://grml.org/zsh/grmlzshrc.html
808           # This speeds up shell loading.
809           zstyle ':grml:completion:compinit' arguments -C
810
811           # Load grml's zshrc.
812           # Note that loading grml's zshrc here will override NixOS settings s
813           # `programs.zsh.histSize`, so they will have to be set again below.
814           source ${pkgs.grml-zsh-config}/etc/zsh/zshrc
815
816           # From https://htr3n.github.io/2018/07/faster-zsh/
817           # Theoretically it should not be needed (as described on https://dev
818           # but I couldn't figure out how to make the GRML zshrc do only a sin
819           # without compaudit but generating .zcompdump (I use `-C` for
820           # `:grml:completion:compinit` above to avoid compaudit but that also
821           # generating `.zcompdump` apparently).
822           # Snippet based on https://gist.github.com/ctechols/ca1035271ad13484
823           autoload -Uz compinit
```

```
824         if [[ -n ${ZDOTDIR:-$HOME}/.zcompdump(#qN.mh+24) ]]; then
825           compinit
826         else
827           # We don't do `compinit -C` here because the GRML zshrc already di
828         fi
829
830         # Disable grml's persistent dirstack feature.
831         # This ensures that it cannot hang the shell when `.zdirs` contains
832         # a path from a slow/hanging network mount.
833         # This needs to be done before loading grml's zshrc, see:
834         # https://github.com/grml/grml-etc-core/issues/136
835         zstyle ':grml:chpwd:dirstack' enable false
836
837         alias d='ls -lah'
838         alias g=git
839
840         # Increase history size.
841         HISTSIZE=10000000
842
843         # Prompt modifications.
844         #
845         # In current grml zshrc, changing `$PROMPT` no longer works,
846         # and `zstyle` is used instead, see:
847         # https://unix.stackexchange.com/questions/656152/why-does-setting-p
848
849         # Disable the grml `sad-smiley` on the right for exit codes != 0;
850         # it makes copy-pasting out terminal output difficult.
851         # Done by setting the `items` of the right-side setup to the empty l
852         # (as of writing, the default is `items sad-smiley`).
853         # See: https://bts.grml.org/grml/issue2267
854         zstyle ':prompt:grml:right:setup' items
855
856         # Keybinding modifications
857         source ${./zsh/keybindings-alt-left-right-word-jumping.zsh}
858         source ${./zsh/disable-home-end-history-jumping.zsh}
859
860         # Add nix-shell indicator that makes clear when we're in nix-shell.
861         # Set the prompt items to include it in addition to the defaults:
862         # Described in: http://bewatermyfriend.org/p/2013/003/
863         function nix_shell_prompt () {
864           REPLY=''${IN_NIX_SHELL+"(nix-shell) "}
865         }
866         grml_theme_add_token nix-shell-indicator -f nix_shell_prompt '%F{mag
867         zstyle ':prompt:grml:left:setup' items rc nix-shell-indicator change
868       '';
869       programs.zsh.promptInit = ""; # otherwise it'll override the grml prom
870       # Speed up zsh start by running compinit manually (see config above).
871       programs.zsh.enableGlobalCompInit = false;
872
873       # Credential storage for GNOME programs (also gajim, fractal).
874       # Otherwise they won't remember credentials across restarts.
875       services.gnome.gnome-keyring.enable = true;
```

```
876
877         # Without this `gnome-terminal` errors with:
878         #     Error constructing proxy for org.gnome.Terminal:/org/gnome/Termi
879         programs.gnome-terminal.enable = true;
880
881         # i3 needs it, see https://nixos.wiki/wiki/I3#DConf
882         programs.dconf.enable = true;
883         services.dbus.packages = [ pkgs.dconf ];
884
885         # Yubikey
886         services.udev.packages = [ pkgs.yubikey-personalization ];
887         services.pcscd.enable = true;
888
889         # Ultimate Hacking Keyboard
890         services.udev.extraRules = ''
891           # These are the udev rules for accessing the USB interfaces of the U
892           # Copy this file to /etc/udev/rules.d and physically reconnect the U
893           SUBSYSTEM=="input", ATTRS{idVendor}=="1d50", ATTRS{idProduct}=="612[
894           SUBSYSTEMS=="usb", ATTRS{idVendor}=="1d50", ATTRS{idProduct}=="612[0
895           KERNEL=="hidraw*", ATTRS{idVendor}=="1d50", ATTRS{idProduct}=="612[0
896         '';
897
898         # locate
899         services.locate = {
900           enable = true;
901           package = pkgs.mlocate;
902           localuser = null; # required for mlocate, see https://github.com/Ni
903         };
904
905         # Android adb
906         programs.adb.enable = true;
907
908         # Define a user account. Don't forget to set a password with ‘passwd’.
909         users.users.niklas = {
910           isNormalUser = true;
911           extraGroups = [
912             # TODO: check if necessary
913             "adbusers" # Android ADB, see https://nixos.wiki/wiki/Android
914             "audio" # See https://nixos.wiki/wiki/PulseAudio
915             "networkmanager"
916             "wheel" # Enable ‘sudo’ for the user.
917             "camera" # Enable `gphoto2` camera access.
918             "libvirtd" # manage VMs
919             "mlocate" # allow using `locate`
920             "scanner"
921             "lp" # scanners that are also a printer
922           ];
923           shell = pkgs.zsh;
924         };
925
926         virtualisation.virtualbox.host.enable = true;
927         users.extraGroups.vboxusers.members = [ "niklas" ];
```

```
928
929         virtualisation.libvirtd = {
930           enable = true;
931           qemu.ovmf.enable = true;
932           qemu.runAsRoot = false;
933           onBoot = "ignore";
934           onShutdown = "shutdown";
935         };
936
937         # For testing NixOS updates without letting newer versions mess with r
938         # user's home directory contents.
```

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Code Blame Raw

```
944             "networkmanager"
945           ];
946           # The password is set in `private-configuration.nix`.
947         };
948
949         # This value determines the NixOS release with which your system is to
950         # compatible, in order to avoid breaking some software such as databas
951         # servers. You should change this only after NixOS release notes say y
952         # should.
953         system.stateVersion = "19.09"; # Did you read the comment?
954
955         # services.keybase.enable = true;
956
957         hardware.trackpoint = {
958           enable = true;
959           # Documentation of the options is at:
960           #     https://www.kernel.org/doc/Documentation/ABI/testing/sysfs-dev
961           sensitivity = 215; # default is too slow for me; 215 seems to be the
962         };
963
964         # xinput to set my preferred scroll behaviour for the Tex Shinobi,
965         # via `xorg.conf` so that it also applies when re-plugged.
966         # The default scroll behaviour is:
967         #     services.xserver.libinput.mouse.scrollMethod = "twofinger";
968         # and we want the equivalent of
969         #     services.xserver.libinput.mouse.scrollMethod = "button";
970         # but only for this specific keyboard's trackpoint.
971         # TODO: Until the above issue about naming is solved,
972         #       the Shinobi is called `USB-HID Keyboard Mouse`.)
973         services.xserver.config = ''
974           # Instead of:
975           #     xinput set-int-prop "USB-HID Keyboard Mouse" "libinput Scroll
976           # See: https://bbs.archlinux.org/viewtopqic.php?pid=1941373#p1941373
977           # `0 0 1` translates to `button`, see https://www.mankier.com/4/libi
978           # in section `libinput Scroll Method Enabled`.
979
980           Section "InputClass"
```

```
981             Identifier   "Tex Shinobi scroll settings"
982             MatchDriver  "libinput"
983             MatchProduct "USB-HID Keyboard Mouse"
984             Option       "ScrollMethod" "button"
985           EndSection
986         '';
987
988         services.fwupd.enable = true;
989
990         # Nvidia VFIO passthrough IOMMU settings, see
991         # * https://alexbakker.me/post/nixos-pci-passthrough-qemu-vfio.html
992         # * https://wiki.archlinux.org/index.php/PCI_passthrough_via_OVMF
993         # `DEVS` entry IDs are from https://wiki.archlinux.org/index.php/PCI_p
994         # which for me is
995         #     IOMMU Group 10:
996         #       02:00.0 3D controller [0302]: NVIDIA Corporation GM108M [GeFor
997         # boot.kernelParams = [
998         #   "intel_iommu=on" "iommu=pt"
999         #   "video=efifb:off"
1000        # ];
1001        # boot.initrd.availableKernelModules = [ "vfio-pci" ];
1002        # boot.initrd.preDeviceCommands = ''
1003        #   DEVS="0000:02:00.0"
1004        #   for DEV in $DEVS; do
1005        #     echo "vfio-pci" > /sys/bus/pci/devices/$DEV/driver_override
1006        #   done
1007        #   modprobe -i vfio-pci
1008        # '';
1009        # # test by nh2
1010        # boot.blacklistedKernelModules = [ "nouveau" ];
1011
1012
1013        # Intel GPU passthrough
1014
1015        # boot.kernelParams = [
1016        #   "intel_iommu=on" "iommu=pt"
1017        # ];
1018        # # See
1019        # # * https://nixos.wiki/wiki/IGVT-g
1020        # # * https://wiki.archlinux.org/index.php/Intel_GVT-g
1021        # virtualisation.kvmgt = {
1022        #   enable = true;
1023        #   vgpus = {
1024        #     "i915-GVTg_V5_2" = { # decides resolution, VRAM etc.
1025        #       uuid = [ "30d6a6bb-d06f-4e71-baf8-d75a4fb54c13" ]; # arbitrary
1026        #     };
1027        #   };
1028        # };
1029
1030        boot.blacklistedKernelModules = [ "nouveau" ];
1031
1032        # With the below, running games like Dota2 currently requires using `s
```

```
1033          #     steam-run ~/.steam/steam/steamapps/common/dota\ 2\ beta/game/bir
1034          # Otherwise they hang with a library error on startup.
1035          programs.steam.enable = true;
1036        };
1037
1038      }
```