USING

TILING

WINDOW

MANAGERS

WINDOW MANAGER

- draws windows with decoration (if any)
- buttons, arrows, ...
- manages windows (!!): opening, closing, resizing, moving

DESKTOP ENVIRONMENT

- needs a window manager
- adds visual features : panels, status bars, system menus,
- adds operational features : starters, drag&drop, (usually) utility applications, ...

TILING WINDOW MANAGER

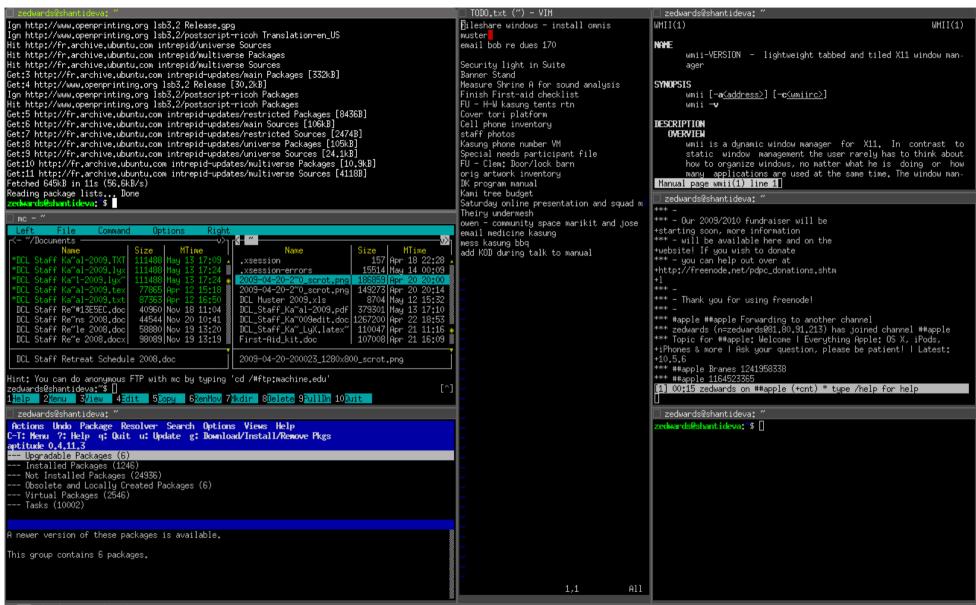
- creates rectangular tiles for activities, which fill the screen; typically, minimal decoration
- cf. overlapped, dynamic, stacked, tabbed, popup,

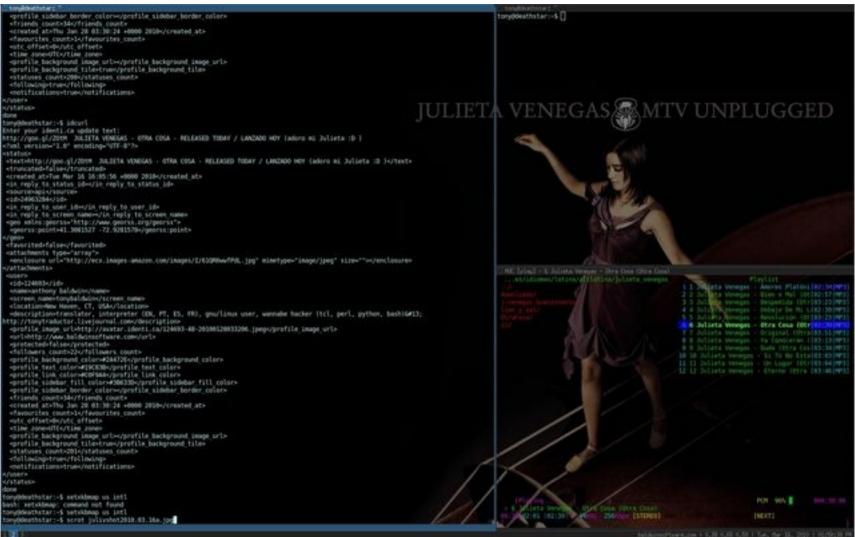
A STARTING POINT - wmii

2005 - 2010

- * "tiling manager for X11"
- * technically advanced
- * intricate

* latest version includes Xinerama, own menu program





```
repl. The clipping region may be modified dynami-
 +, fs.c
                                                                                                                                          cally using repiclipr (g.v.).
                                                                                                                                            The pixel channel format descriptor, as described
                                                                                                                                          in image(7). The value should not be modified
                                                                                                                                          after the image is created.
                                                                                                                                   depth The number of bits per pixel in the picture; it is
identically chantodepth(chan) (see graphics(3))
             FileId *f = get_fileO;
             f->tab = dirtab[FsRoot][0]:
                                                                                                                                          and is provided as a convenience. The value
                                                                                                                                          should not be modified after the image is created.
            f->tab.name = estrdup("/");
f->content.ref = nil; /* shut up valgrind */
                                                                                                                                          A boolean value specifying whether the image is
            r->fid->aux = f:
                                                                                                                                   repl
            r->fid->qid.type = f->tab.qtype;
                                                                                                                                          tiled to cover the plane when used as a source for
            r->fid->qid.path = QID(f->tab.type, 0);
                                                                                                                                          a drawing operation. If repl is zero, operations
                                                                                                                                          are restricted to the intersection of r and clipr.
            r->ofcall.gid = r->fid->gid:
            respond(r, nil);
                                                                                                                                          If repl is set, r defines the tile to be repli-
                                                                                                                                          cated and clipr defines the portion of the plane
                                                                                                                                          covered by the tiling, in other words, r is repli-
                                                                                                                                          cated to cover clipr; in such cases r and clipr
 void
                                                                                                                                          are independent.
 fs_walk(P9Req *r) {
            int i:
                                                                                                                                          For example, a replicated image with r set to
                                                                                                                                         ((0, 0), (1, 1)) and clipr set to
((0, 0), (100, 100)), with the single pixel of r
            f = r->fid->aux:
                                                                                                                                          set to blue, behaves identically to an image with
            clone_files(f):
            for(i=0; i < r->ifcall.nwname; i++) {
                                                                                                                                          r and clipr both set to ((0, 0), (100, 100)) and
                                                                                                                                          all pixels set to blue. However, the first image
                        if(!strcmp(r->ifcall.wname[i], "..")) {
    if(f->next) {
                                                                                                                                          requires far less memory. The replication flag
                                                                                                                                          may be modified dynamically using replclipr
                                               f=f->next;
                                                                                                                                          (q.v.).
                                               free_file(nf):
                                                                                                                                   Most of the drawing functions come in two forms: a basic
                        Jelse!
                                                                                                                                                                     (printed 2/28/07)
                                    nf = lookup_file(f, r->ifcall.wname(i));
                                                                                                                                Page 4
                                                                                                                                                      Plan 9
                                    if(!nf)
                                                                                                                                DRAW(3)
                                                                                                                                                                           DRAW(3)
                                               break:
                                    assert(!nf->next):
                                                                                                                                        ome/kris/lastfeproxy-1,1/-kris
                                    if(strcmp(r->ifcall.wname[i], ".")) {
                                                                                                                            Ready.
                                               nf->next=f;
                                               f = nf:
                                                                                                                             Station: Global Tag Radio: 20th Century Classical
                                                                                                                             Artist: Benjamin Britten <a href="http://www.last.fm/music/Benjamin+Britte">http://www.last.fm/music/Benjamin+Britte</a>
                       r->ofcall.wqid(i).type = f->tab.qtype;
r->ofcall.wqid(i).path = QID(f->tab.type, f->id);
                                                                                                                             Album: War Requiem/Sinfonia Da Requiem/Ballad Of Heroes
                                                                                                                             Track: War Requiem Op.66;II. Dies Irae
                                                                                                                             Duration: 27:15
             /* There should be a way to do this on freefid() */
                                                                                                                             Ends: approx Wed Feb 28 01:44:17 EST 2007
            if(i < r->ifcall.nwname) [
                        while((nf = f)) {
                                    f=f->next:
                                    free_file(nf);
                        respond(r, Enofile);
                        return;
             /* Remove refs for r->fid if no new fid */
            if(r->ifcall.fid == r->ifcall.newfid) {
                        nf = r->fid->aux;
                        r \rightarrow fid \rightarrow aux = f:
                                                                                                                           kris
                        while((f - nf)) {
                                    nf = nf->next;
                                    free_file(f);
            }else
                        r->newfid->aux = f;
Sev irc mail munic wa
```

SIMILAR WINDOW MANAGERS

dwm
awesome
ion
ratpoison
stumpwm (successor to ratpoison)
rio (wm for Plan9 from Bell Labs)
Xmonad
i3

- sunaku

wattOS

- emphasis on non-use of unnecessary resources
- mainstream release is LXDE over Ubuntu LTS
- Ubuntu means Ubuntu core, not "add LXDE and remove Unity"; different to Lubuntu
- traditional application mix without heavyweights
- introduced an even lighter-weight distro, microwatt
- only lightweight applications (but access to other in repos)
- i3wm instead of LXDE
- mixed reception there is an upfront shock
- high appeal as a minimalist base for building only what is wanted

IN SEARCH OF INFORMATION

i3wm.org (screenshots) - screencast (basic features) - Google TechTalk (1hr) - screencasts on installing, using and configuring i3 planetwatt.com R9 microwatt (wiki... microwatt) - keyboard reference (forums...wattosR9...R9 released)

- link to YouTube video