User Interface Software Tools

Application

UIMS

Toolkit

Window system/graphics package

Operating system

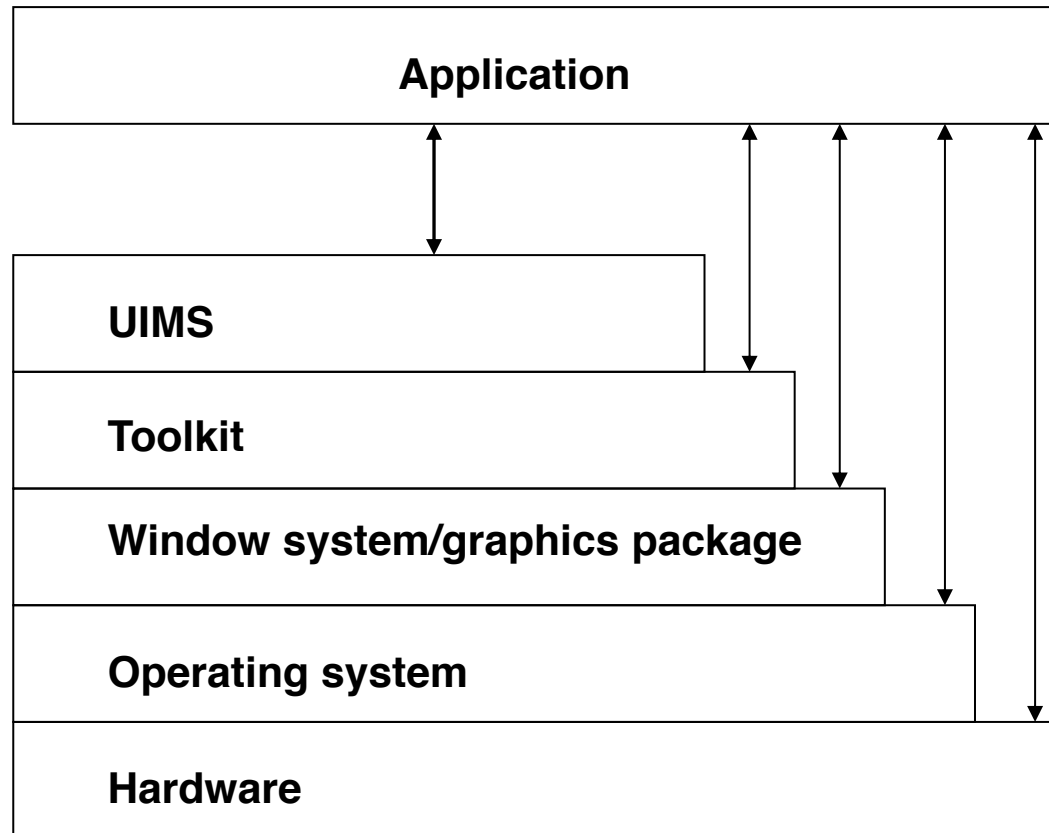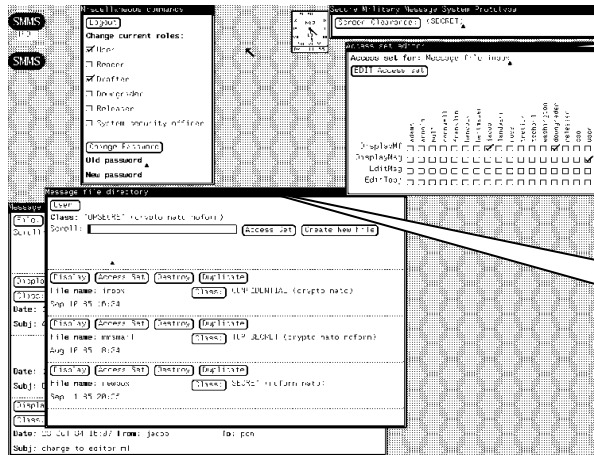| Hardware |
|---|

Window Systems

- Manage shared resources (pixels, keyboard, mouse), provide clipping, translation
- Tells client when exposed, resized, or other damage
- Could implement in different places
- Single built-in window manager or allow separate
- Dispatcher


```
AccessWindowMouseEvent (Event *e) {
      . . .
```

```
FileWindowMouseEvent (Event *e) {
    If (e->type==MS_LEFT) . . .
```

(N.B. Security classifications shown are simulated only.)

Toolkits

- Divide window into controls or widgets

AccessCheckBox (Boolean val)

ClassifTypein (char *val)

DisplayMsgFile ()

(N.B. Security classifications shown are simulated only.)