software studio

concept idioms

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what are idioms?

idioms
› well-established concepts
› used in many apps and contexts

reuse by designers
› usually polished and well understood
› risks and limitations known

familiar to users
› helps ease of use

“near misses”
› beware of almost using an idiom
problem
› a design problem to be solved

solution
› one or more concepts

examples
› in well known apps

refinements
› more elaborate forms often used

object model
› concepts & relationships
**idiom: multi-selection**

**problem**
- how to apply actions to sets of items

**solution**
- selection: a subset of items chosen
- action: applied to all objects in selection

**examples**
- characters in word processors
- graphical objects in drawing apps
- photos in cataloging apps

**refinements**
- group/ungroup: form new composite object
- active item: one element in selection plays special role
- invert (and other set-theoretic operations)
- partial selection (eg, of pixels in Photoshop)
case study: Lightroom selection

active element is highlighted
maintains selection when different folder selected
if selected images appear in that folder
idiom: cut-buffer

problem
› how to move items between contexts

solution
› buffer: stores item to be transferred

examples
› text editor cut-and-paste
› moving files in Windows

refinements
› set: buffer can contain multiple items
› object embedding: item is shared, not copied
› multiple buffers
case study: evernote web clipper

copies to server
have to sync to see in local app
idiom: stylesheet

problem
› maintain consistent styling
› make global changes easy

solution
› style: holds formatting rules, attached to objects

examples
› paragraph and character styles in Word, Indesign, Pages
› themes in Powerpoint
› cascading style sheets for HTML

refinements
› stylesheets: reuse and separation of sets of styles
› selectors: match objects implicitly
› inheritance: of properties from style to style
› overlapping styles: eg, character and paragraph styles
case study: color palettes

OS X palette
not real styles

Powerpoint themes

Indesign swatches

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palette object models

three subtly different approaches
› what happens when palette is modified?

“Every problem in computer science can be solved by introducing another level of indirection”
-- David Wheeler
idiom: directory

problem
› organize many items into navigable space

solution
› tree of directories, each its own namespace

examples
› mailboxes in email clients
› folders in OS X, directories in Unix
› domains in DNS
› package structuring in Java

refinements
› links: allows arbitrary cross-connections
› encapsulation (eg, OS X packages)
case study: IMAP mailboxes

some issues
› many email clients allow ‘/’ in mailbox names: trouble
› in some servers, mailboxes cannot contain messages & mailboxes
idiom: save-as

problem
› allow updating of multiple files on disk

solution
› buffer, with explicit commands to load from and write to disk

examples
› almost all desktop applications

refinements
› export: separate out saving different types, especially if lossy
› propagation of renaming (from file to buffer)
› versions: track all previous versions
case study: OS X Lion rethinking changes
  › save as replaced by duplicate
  › rename, move to added
  › revert to any version

why did they do this?