

IS4300: HCI

Conceptual and Interaction Design

Spring 2013

Today's Agenda

- Lecture: Conceptual Design, Metaphors, Use Cases Part II, Interaction Design
- Metaphor activity, if there is time.

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The Addison-Wesley Signature Series

USER STORIES APPLIED

FOR AGILE SOFTWARE DEVELOPMENT

MIKE COHN
Foreword by **Kent Beck**



A KENT BECK
SIGNATURE
BOOK

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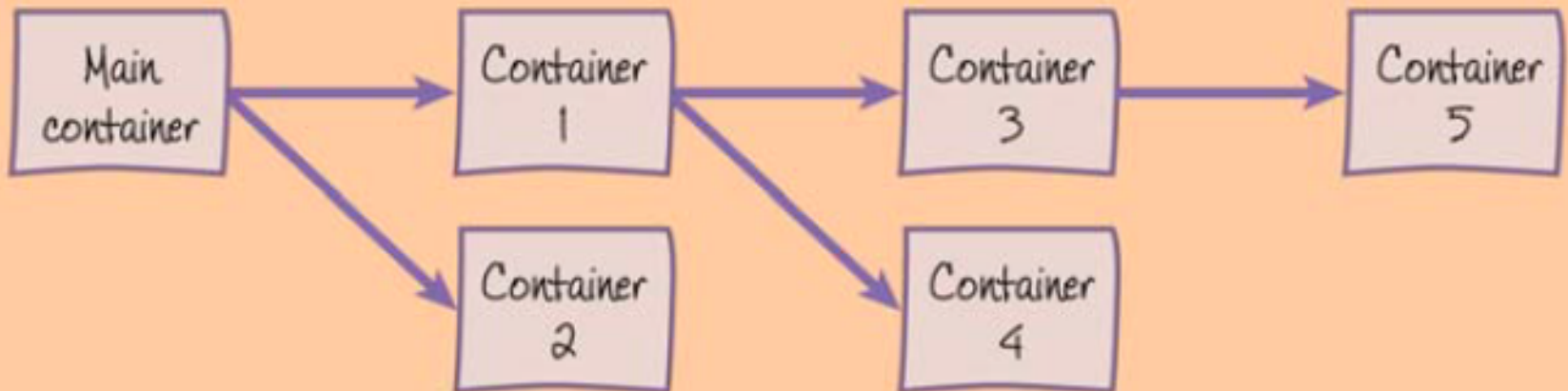
CONCEPTUAL DESIGN

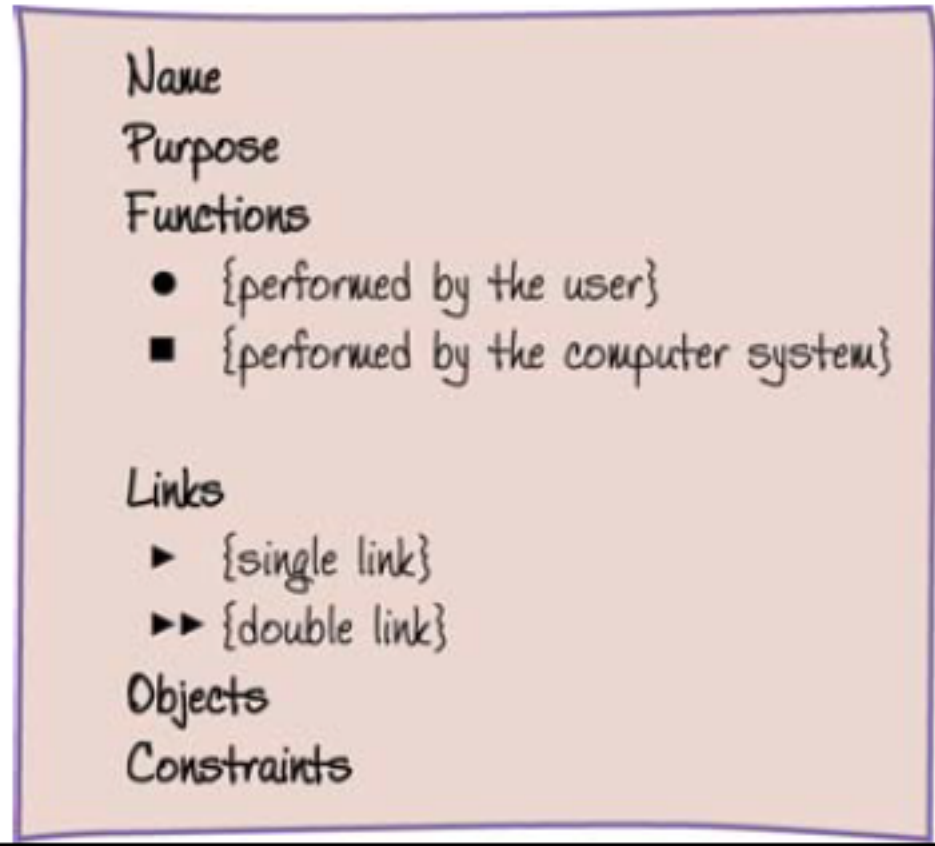
Conceptual Design

- Working through Use Cases, Scenarios, etc and making adjustments
- Especially important if automating an existing manual task
- Still without thinking about the visual design of the UI
- Focus on what the system will do.
- Task allocation: what the system vs. the user does at each step

Conceptual Design

- The process of establishing the underlying organization and structure of a UI
- Content diagram – low fidelity prototype that represents the organization and structure of the user interface from the designer's perspective.





Template for Containers

Main

Supports most frequent tasks

Functions

- Search resources
- View current updates
- Contact support team

Links

- ▶ Enter search details
- ▶ View updates
- ▶ Contact

Objects

Constraints

Enter search criteria

User can specify the search criteria for a resource

Functions

- Enter keywords, title, author etc
- Check search criteria

Links

- ▶ View search results

Objects

Resource

Constraints

Search needs to take less than one second

View search results

Displays the search results

Functions

- Show search results
- Select search results

Links

- ▶ View details

Objects

Resource

Constraints

Must be able to show at least five results at the same time

E-mail confirmation

Confirms e-mail has been sent

Functions

- Display message

Links

Objects

Constraints

Write e-mail message

Allows user to write and send e-mail

Functions

- Display message area
- Enter message

Links

- ▶ E-mail confirmation

Objects

Member

Constraints

Must allow rich text and HTML

View details

Displays full details of one result and full details of owner

Functions

- Show details
- Select e-mail address

Links

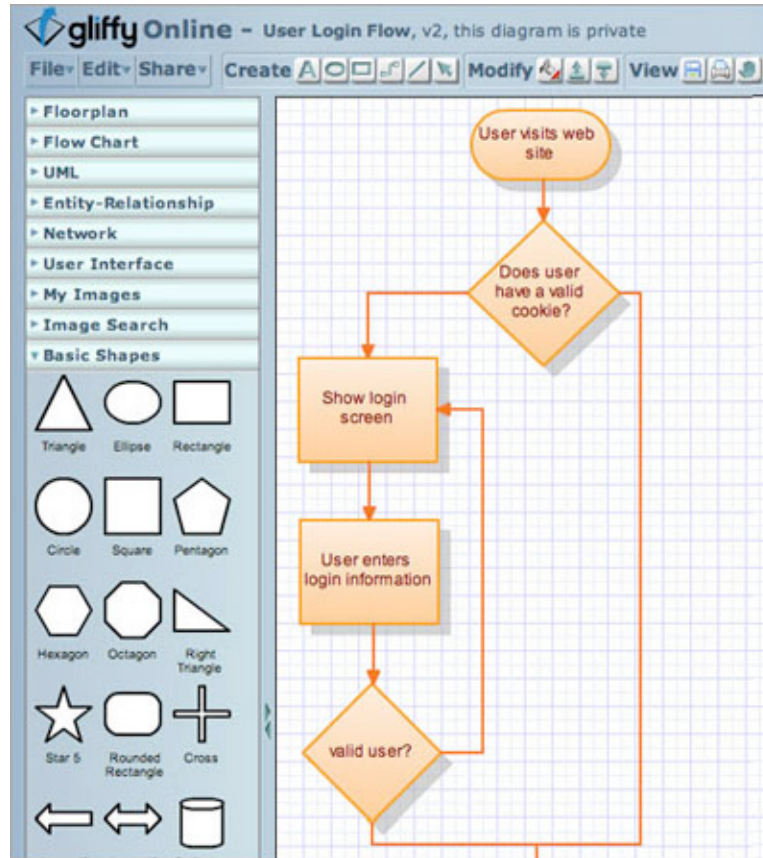
- ▶ Write e-mail message

Objects

Resource, member

Constraints

E-mail contact chosen



Content Diagram

A Container is an abstract representation of part of the user's work and the functions that are required to do that part of the work.

INTERACTION DESIGN: STYLES AND METAPHORS

Interaction Styles

- Command Line
- Menu Selection
- Form-Fill
- Direct Manipulation
- Anthropomorphic
- Tangible Interfaces

Command Line

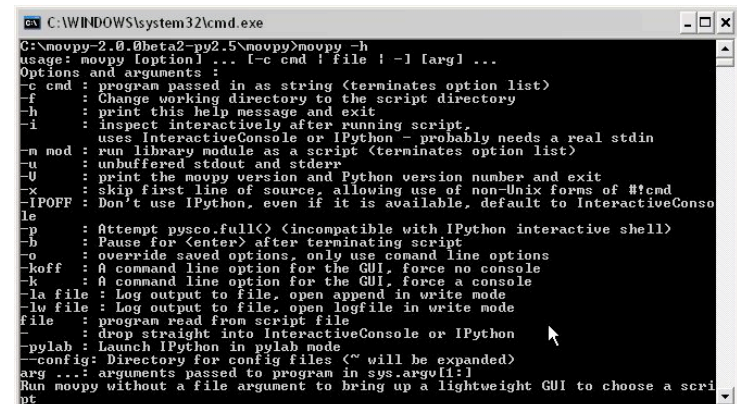
- Powerful – access to system

Functionality

- Flexible – options and parameters

Limitations

- $\sqrt{}$ Commands must be remembered
- Commands are obscure and cryptic
- Better for experts
- Error rates are high



```
C:\WINDOWS\system32\cmd.exe
C:\mopy-2.0.0beta2-py2.5>mopy -h
usage: mopy [option] ... [-c cmd ! file ! -] [arg] ...
Options and arguments:
-c cmd : program passed in as string (terminates option list)
-f      : Change working directory to the script directory
-h      : print this help message and exit
-i      : inspect interactively after running script.
         uses InteractiveConsole or IPython - probably needs a real stdin
-m mod  : run library module as a script (terminates option list)
-u      : unbuffered stdout and stderr
-U      : print the mopy version and Python version number and exit
-x      : skip first line of source, allowing use of non-Unix forms of #!cmd
-IPOPF  : Don't use IPython, even if it is available, default to InteractiveConso
le
-p      : Attempt pycso.full() (incompatible with IPython interactive shell)
-b      : Pause for <enter> after terminating script
-o      : override saved options, only use comand line options
-koff   : 0 command line option for the GUI, force no console
-k      : 0 command line option for the GUI, force a console
-la file : Log output to file, open append in write mode
-lw file : Log output to file, open logfile in write mode
file    : program read from script file
-       : drop straight into InteractiveConsole or IPython
-pylab  : Launch IPython in pylab mode
--config: Directory for config files (< " will be expanded)
arg ... : arguments passed to program in sys.argv[1:]
Run mopy without a file argument to bring up a lightweight GUI to choose a scri
pt
```

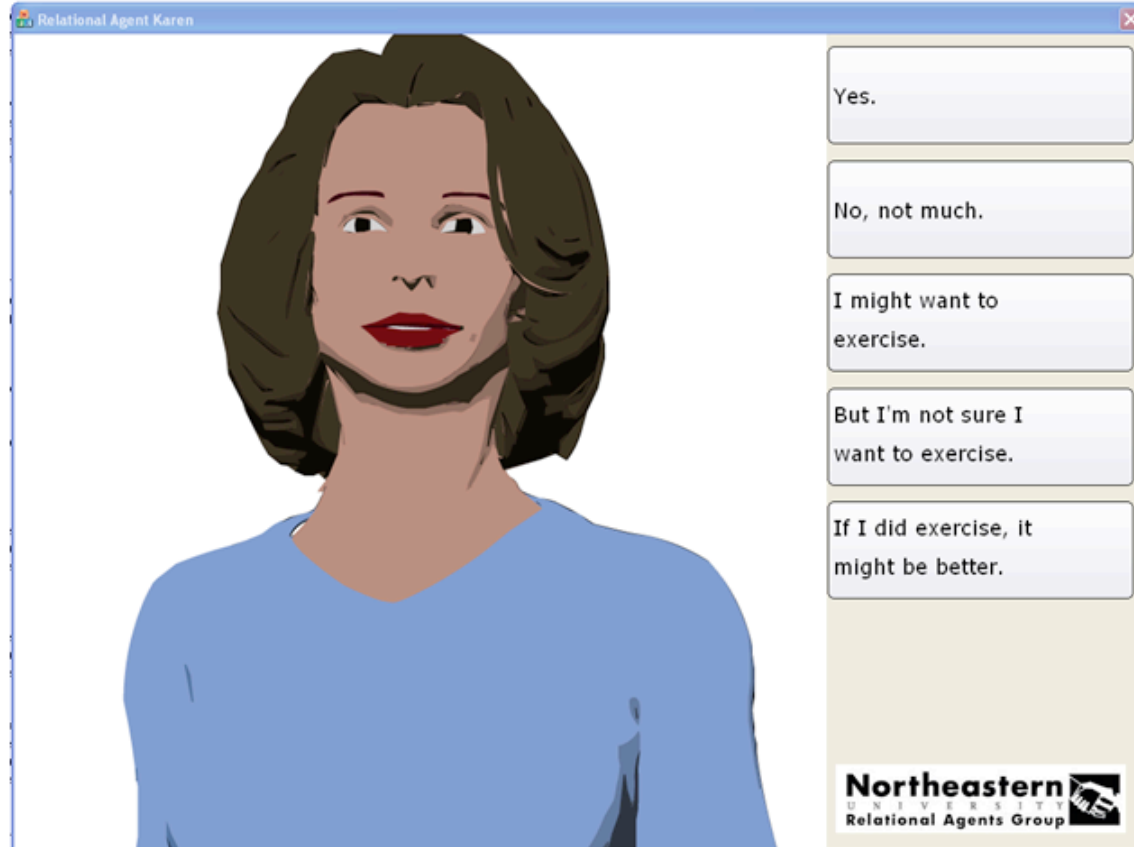
Form Fill

- Capture user information
- Easy movement around the form
- Provide for error correction
- Indicate required fields
- Provide explanatory messages for fields
- Good control of flow

Direct Manipulation

- E.g., Photoshop
- Continuous representation of objects
- Rapid, reversible, and incremental actions and feedback.
- Allow a user to directly manipulate objects presented to them, using actions that correspond at least loosely to the physical world.

Anthropomorphic interface



Tangible Interfaces



Interface Metaphors



- Interface metaphors evoke an initial mental model in users of the system's structure and operation.
- Metaphors should relate to users' past experiences and should be consistent.
- Good metaphors are stories, creating visible pictures in the mind.
- E.g., Dropbox, wikipedia, Facebook, even Twitter.

Choosing the right metaphor

- Understand how the system works / is supposed to work.
- Figure out what kinds of problems users have.
(watch them use similar systems)
(create prototypes and watch users)
- Generate metaphors and examine their properties.
- Key question: will users “get it”? How do you tell?

Metaphor activity

- New social network site.
 - Potentially around a topic that interests you or people you know.
 - Generate a general concept of the the site
 - What would a good metaphor be for this community?

Next week

- T3 due before next class
- Also work on T4, H4.
- Next class will be about prototyping, not design guidelines (unless we have time to cover that too.)