Lecture: Intro Material

Bring up desktop and WORD application

Looking at a design that is about 40 years old (dates from 1975 Smalltalk)
   Xerox PARC Alto
   Apple Mac (1983)
   Microsoft Windows (1987)
   UNIX X Window (1985) network support for interaction

Direct Manipulation compared to what? Command language
   OAI model
   WIMP (Windows, Icons, Menus, Pointing), WYSIWIG, GUI

Challenge for programmers

Who does what to whom? Application vs. the Operating System

   Window management
      Movement, resizing
      Geometry management
      Event management

   Widgets provided
      Similarity: class structure
      Interactors: look and feel, input & output

   Application: semantic interpretation
      Event management

Programming Language support for interaction
   UIMS
   Widget Toolkits
   Object-Oriented Languages
   Network support: browsers (applets)

User Interface Development Environments

Novel Widgets
   Elastic windows, zooming widgets, Dynapad