



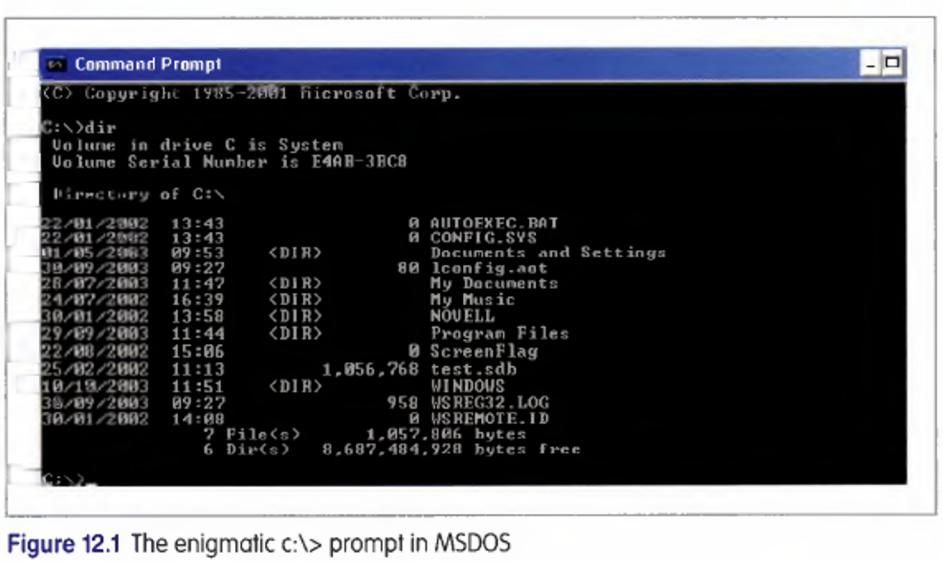
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# Conventional visual UIs: GUIs, DM & WIMPs

Basic terms and abbreviation overload

Antti Knutas & Dominik Siemon

# From UIs to GUIs. What's similar in these?



Command Prompt  
(C) Copyright 1985-2001 Microsoft Corp.  
C:\>dir  
Volume in drive C is System  
Volume Serial Number is E4AB-3BCB  
  
Directory of C:\  
22/01/2002 13:43 A AUTOEXEC.BAT  
22/01/2002 13:43 A CONFIG.SYS  
01/05/2003 09:53 <DIR> Documents and Settings  
39/09/2003 09:27 80 Iconfig.aot  
28/07/2003 11:47 <DIR> My Documents  
24/07/2002 16:39 <DIR> My Music  
30/01/2002 13:58 <DIR> NOVELL  
29/09/2003 11:44 <DIR> Program Files  
22/08/2002 15:06 0 ScreenFlag  
25/02/2002 11:13 1,056,768 test.sdb  
10/10/2003 11:51 <DIR> WINDOWS  
39/09/2003 09:27 958 WSREG32.LOG  
30/01/2002 14:08 0 WSREMOTE.ID  
? File(s) 1,057,806 bytes  
6 Dir(s) 8,687,484,928 bytes free  
C:\>

Figure 12.1 The enigmatic c:\> prompt in MSDOS

Source: Benyon, pg. 257



Source: Wikipedia (CC)

# From UIs to GUIs

- “Old fashioned computer UIs” → command languages
  - Recall command and input it
  - Disadvantages: Requires the user to have a mental model, actions less reversible
  - Advantages: Efficient
- GUIs Graphical User Interfaces
  - Displays objects that can be *directly manipulated*
  - Disadvantages: Slow for repetitive actions
  - Advantages: Arguably more learnable, actions recognizable, reversible actions

Who still uses terminal/CMD?

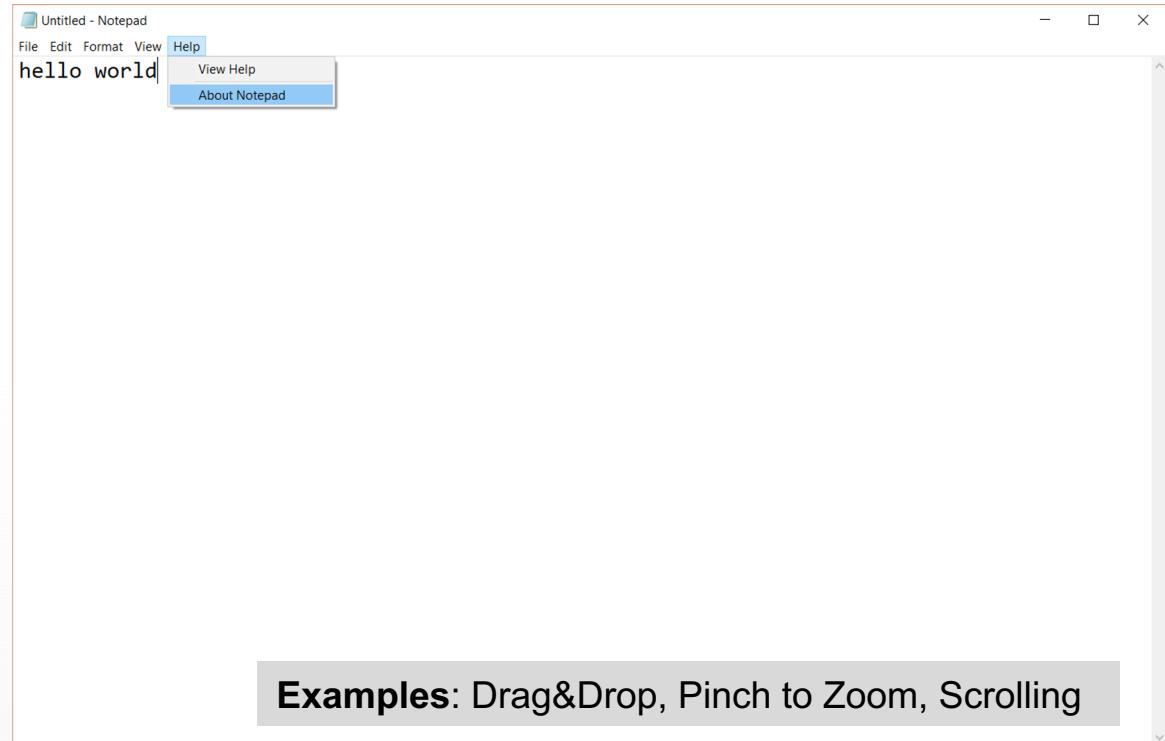
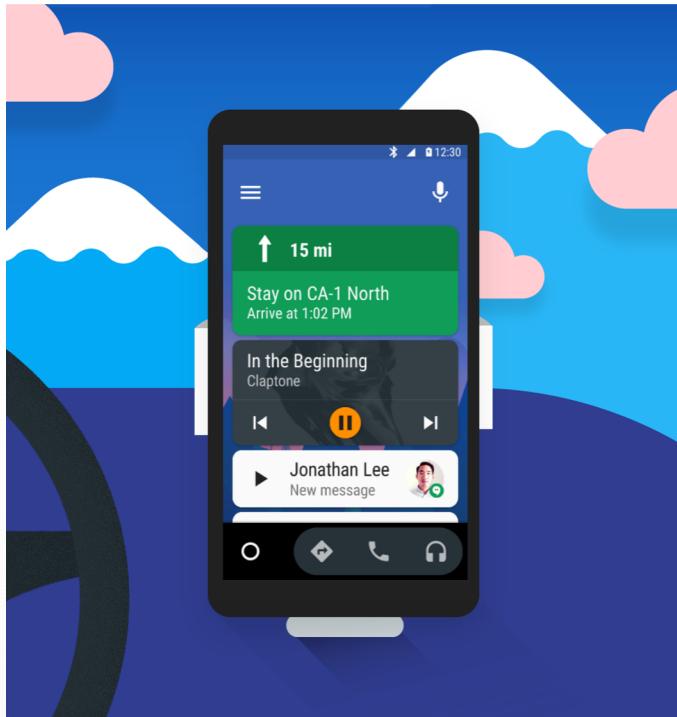
# GUIs and Direct Manipulation

## Definition

1. Displays representation of an object of interest
2. Physical actions or labeled button presses
3. Rapid incremental reversible operations

Objects in the user interface are visible and can be affected by physical, reversible, incremental actions that receive immediate feedback.

# Direct Manipulation (DM), examples



**Examples:** Drag&Drop, Pinch to Zoom, Scrolling

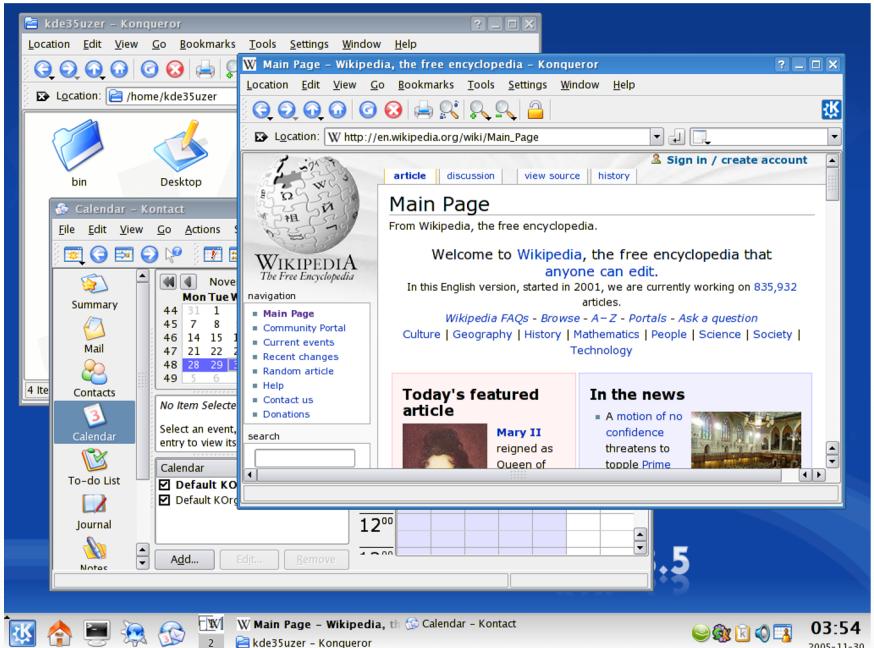


# WIMPs: Windows, Icons, Menus, Pointers

- Window: Sharing graphical display resources among multiple applications
- Icon: Image or symbol used to represent a file, folder, application, or device Object
- Menu: List of commands or options
- Pointing device: Mouse, finger, stylus

Developed at Xerox in 1975

# WIMPs: Windows and Icons



Source: Wikipedia (CC)



**Figure 12.5 Examples of commonly used icons**

Source: Benyon, pg. 260

# WIMPs: Menus and Pointers

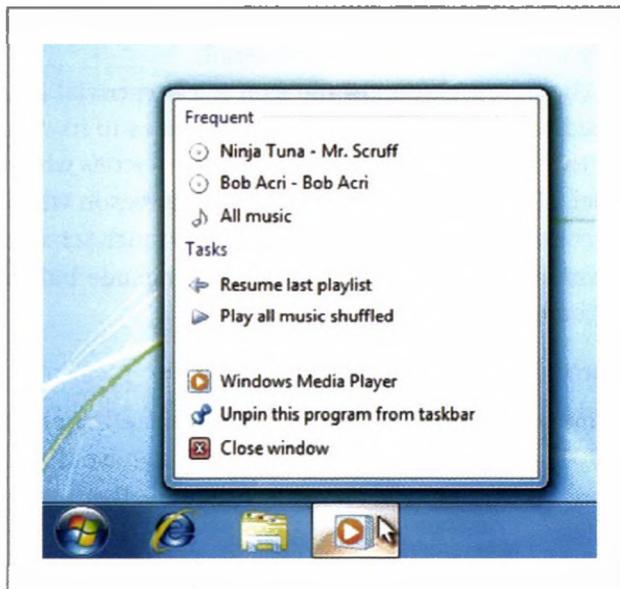


Figure 12.8 The jump bar menu from Windows 8

Source: Benyon, pg. 262



Source: Wikipedia (CC)



Source: Benyon, pg. 6

# WIMP: What about the future?



Just to name a few

- Augmented reality
- Virtual reality
- Haptic interfaces
- Gesture interfaces
- Brain-computer interfaces

HYPER-REALITY by K. Matsuda. See the first 30 seconds and then 2:00 to 2:30.

<https://www.youtube.com/watch?v=YJg02ivYzSs>

# In upcoming lectures

- Available soon: Usability and user experience (what makes using interfaces good or less good?) Human-centred design
- After that: Design processes and techniques (HCD)
- Far future: Interface design (material design) + front-end technologies (flutter)
- Even farther: Evaluating interfaces (usability evaluation)

Conventional UIs have design patterns and principles for different contexts (web, mobile, speech, etc.). We'll talk more about them when we have covered the basics of design processes and get to implementing UIs



# Warm-up assignment: Bad user interfaces

Find bad user interfaces online and:

1. Think why they are bad.
2. Post them in the course forum thread called “Bad interface examples” as replies.

Moodle

You can start by looking at social media forums such as

<https://www.reddit.com/r/badwebdesign/>

<https://www.reddit.com/r/softwaregore/>

We'll look at the thread at the start of next exercises.



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