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Mobile Device Interfaces

Lecture No. 1

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From HCI to **Mobile Device Interfaces**

Issues encountered

- Principles of User Centered Design

- Computer development and transition to mobile device interfaces

- Consequences from the rapid deployment of mobile interfaces

- Is the pursued programming methodology effective;

- Conclusion – Future trends

Principles of User Centered Design

It particularizes a design methodology that promotes user demands focusing on

❖ User aptitudes and needs

❖ The overall environment used by the system

❖ The tasks that have to be dispatched by the system

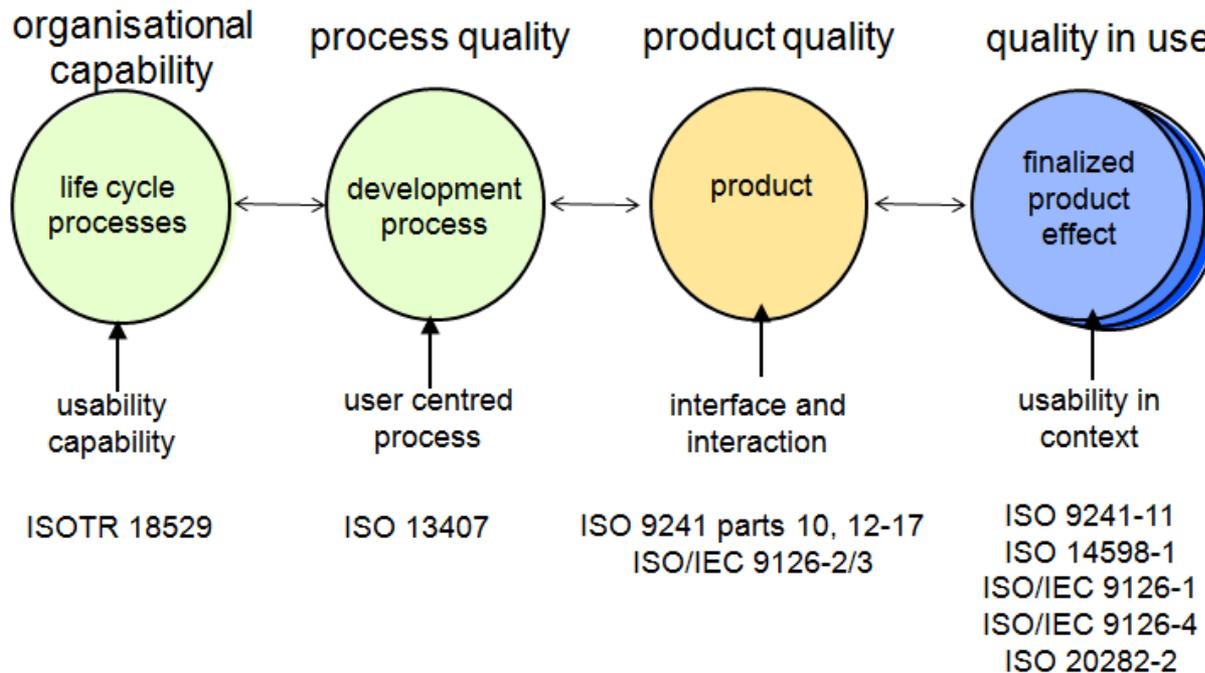❖ The duty cycle that has to be commissioned
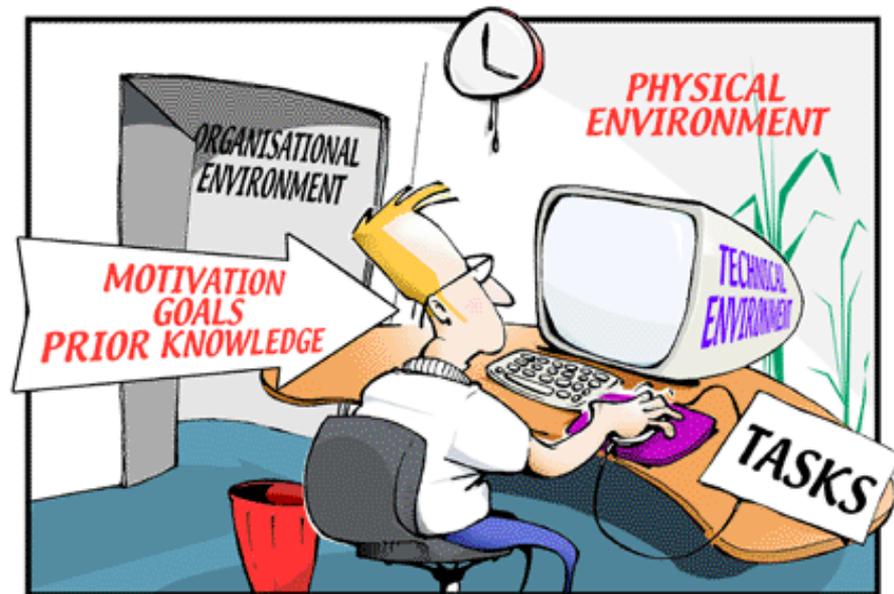
ITS TARGET:

User-centered design copes with the development strategies of usable systems tailored to a user's special demands

- The overall design, starting from the early stages, focuses on users and their cognitive or social characteristics, which are sought to be familiarized with the designing team
- User reaction is recorded and evaluated by rapid prototyping techniques, manuals and simulators during all design stages
- Design is perceived as an iterative process that facilitates the gradual development of the user interface characteristics

- ## International Standards valid in HCI
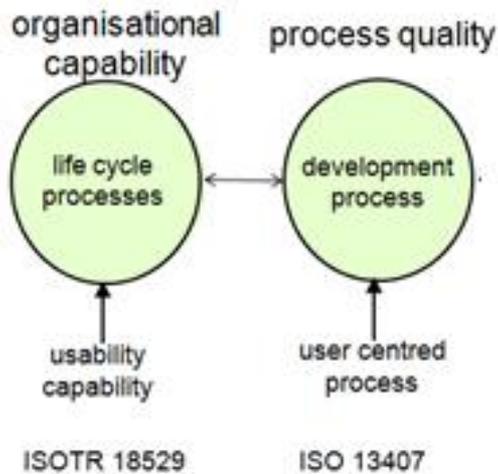

| organisational capability	process quality	product quality	quality in use
life cycle processes	development process	product	finalized product effect
usability capability	user centred process	interface and interaction	usability in context
ISOTR 18529	ISO 13407	ISO 9241 parts 10, 12-17 ISO/IEC 9126-2/3	ISO 9241-11 ISO 14598-1 ISO/IEC 9126-1 ISO/IEC 9126-4 ISO 20282-2

Principles of User Centered Design

- **What is valid in Human Machine Interaction?**

Some case studies

Principles of User Centered Design

- **What is valid in Human Machine Interaction?**
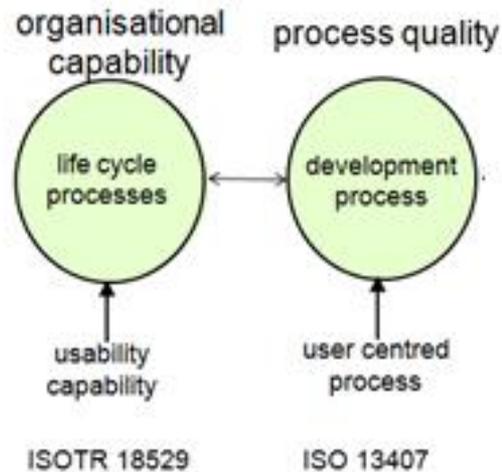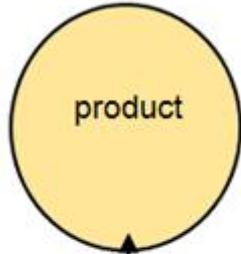
Some case studies

- What is valid in Human Machine Interaction? Mutation, popularization and "naturalization"
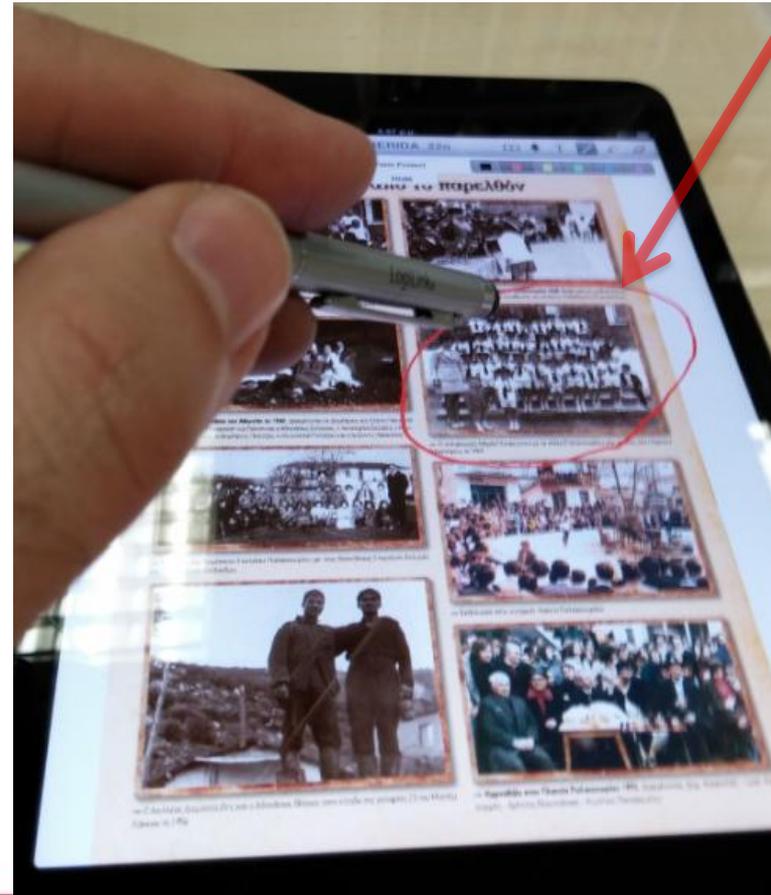
Some case studies

product quality

product

interface and
interaction

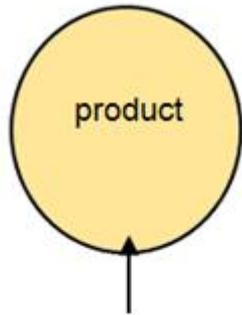ISO 9241 parts 10, 12-17
ISO/IEC 9126-2/3

Principles of User Centered Design

- **What is valid in Human Machine Interaction?**

Some case studies

product quality

product

interface and
interaction

ISO 9241 parts 10, 12-17
ISO/IEC 9126-2/3

Advanced, all-in-one workstations

Interaction with the MIDI

- **What is valid in Human Machine Interaction?**

Some case studies

quality in use

finalized
product
effect

usability in
context

ISO 9241-11
ISO 14598-1
ISO/IEC 9126-1
ISO/IEC 9126-4
ISO 20282-2
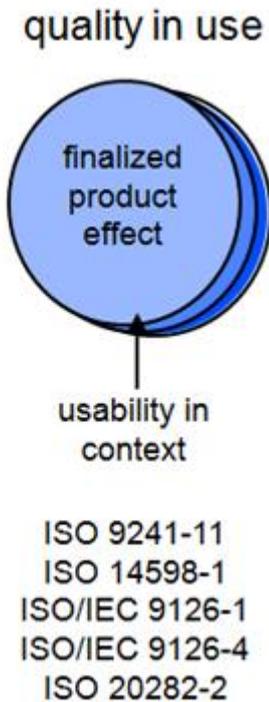
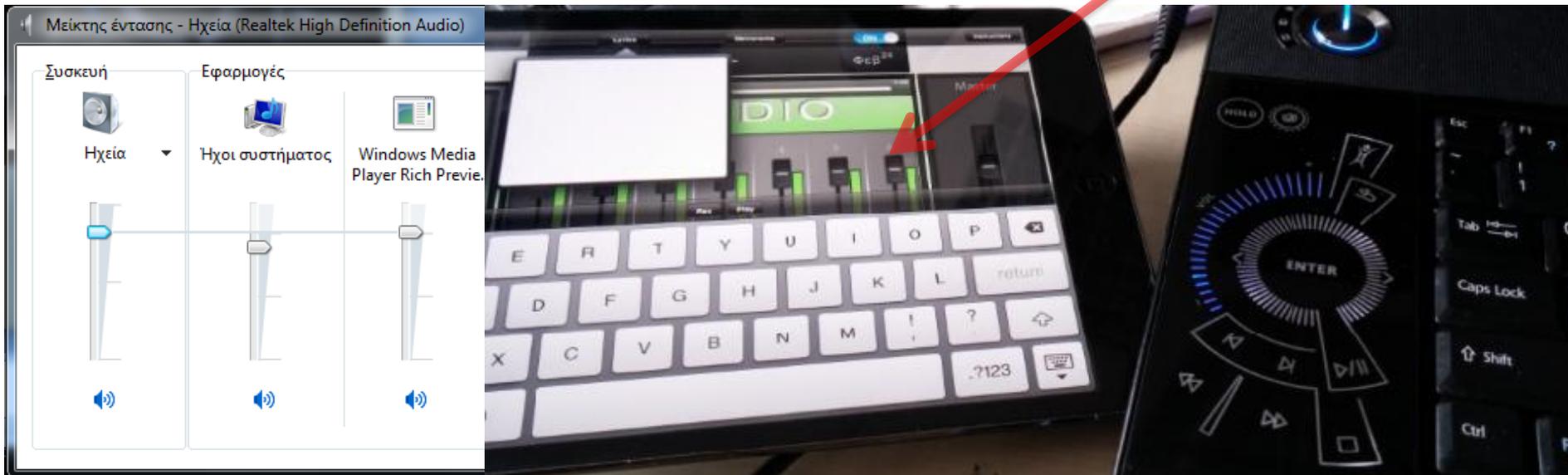All-in-one integration in an audio-workstation laptop
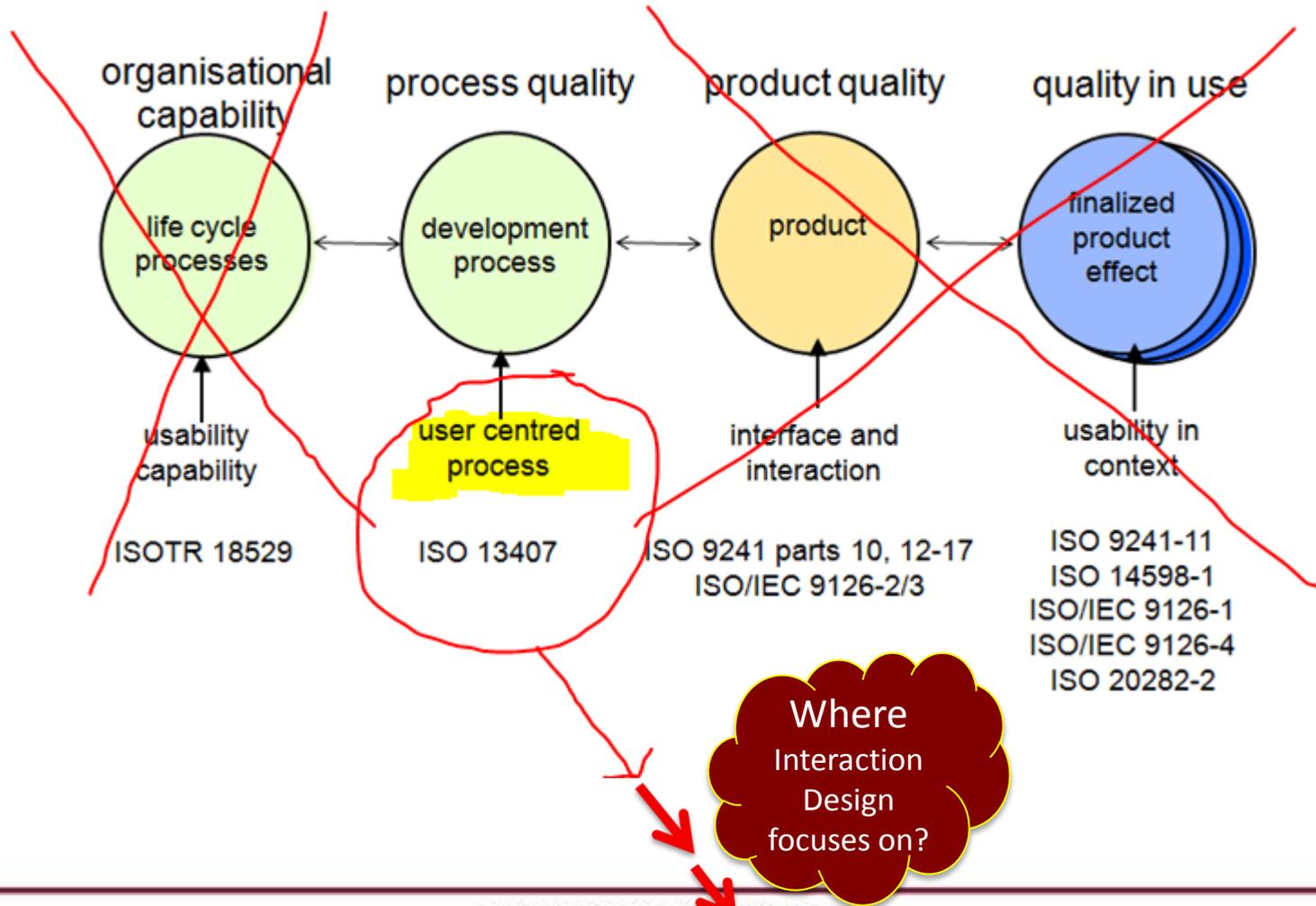
Principles of User Centered Design

- **What is valid in Human Machine Interaction?**

Some case studies

Advanced, all-in-one workstations

Principles of Human Centered Design

organisational capability — life cycle processes — usability capability — ISOTR 18529

process quality — development process — user centred process — ISO 13407

product quality — product — interface and interaction — ISO 9241 parts 10, 12-17 ISO/IEC 9126-2/3

quality in use — finalized product effect — usability in context — ISO 9241-11 ISO 14598-1 ISO/IEC 9126-1 ISO/IEC 9126-4 ISO 20282-2
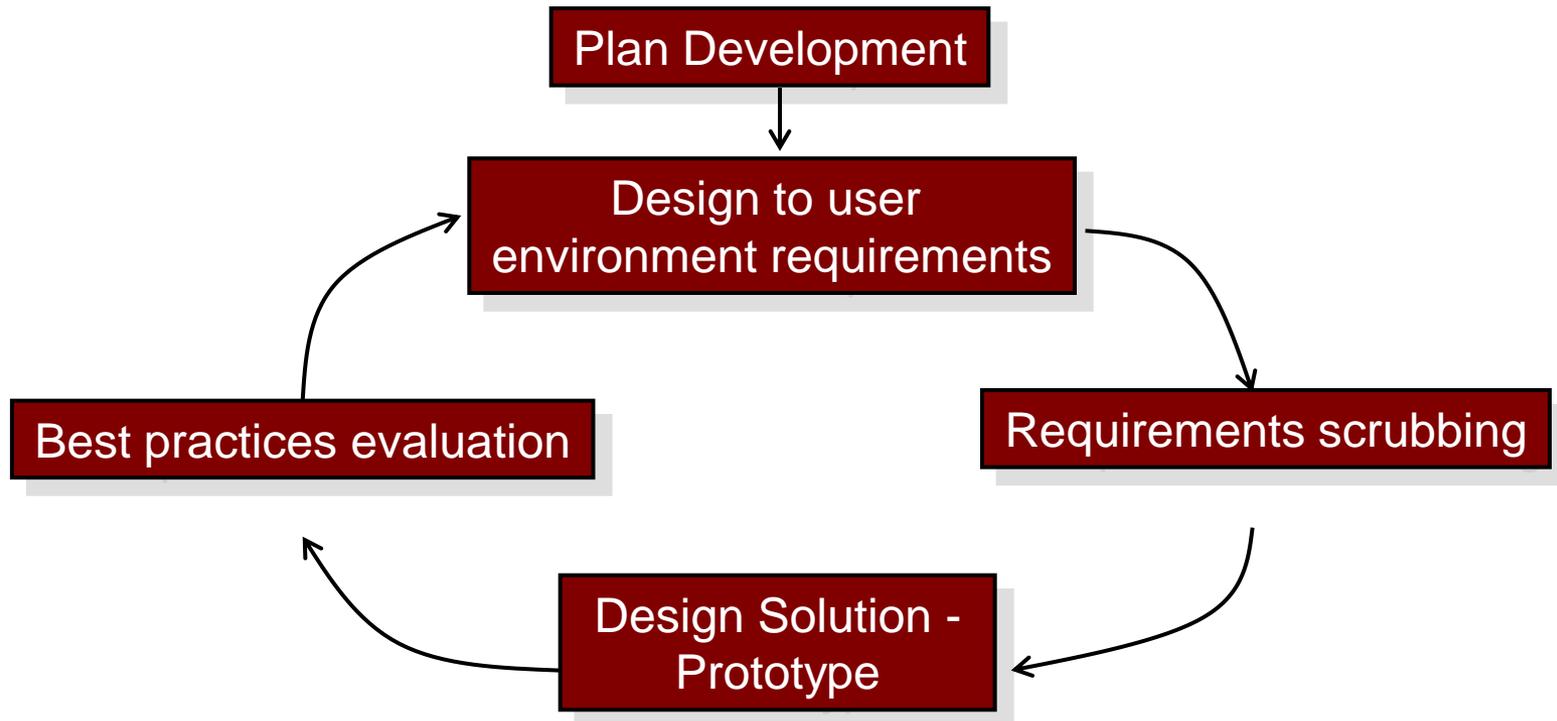
Where Interaction Design focuses on?

Principles of User Centered Design

ISO 13407 development plan for process quality evolutionary prototyping

Apple Macintosh

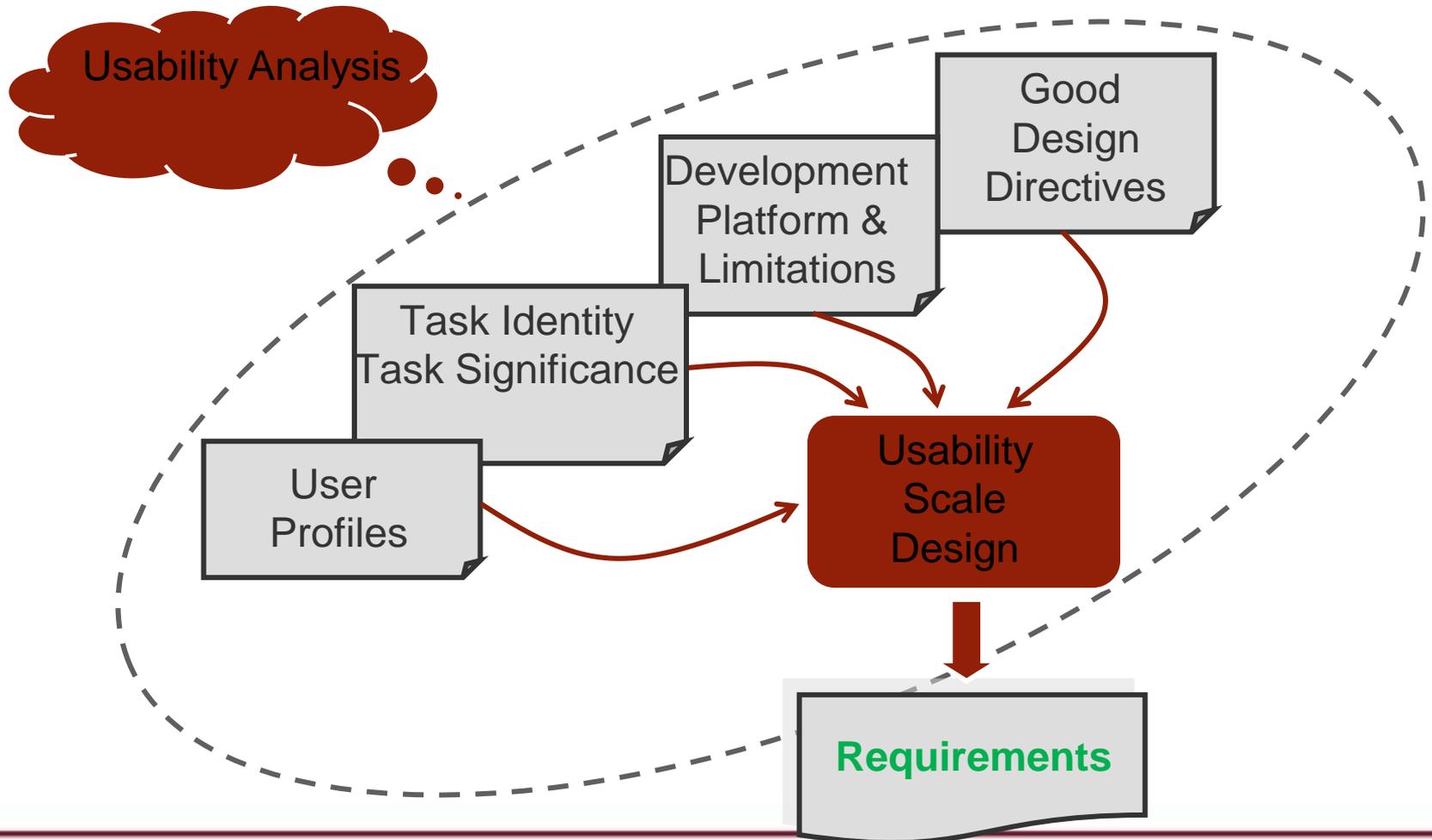|	
Model:	M0001
Introduced:	January 1984
Price:	US$2495
CPU:	Motorola 68000, 7.83 Mhz
RAM:	128K, later 512K
Display:	9-inch monochrome screen
	512x342 pixels
Ports:	Two DB9 serial ports
	Printer port
	External floppy port
Storage:	Internal 400K SSDD floppy
	optional external floppy ($495)
OS:	Macintosh GUI
	(graphical user interface)

Macintosh - 1984

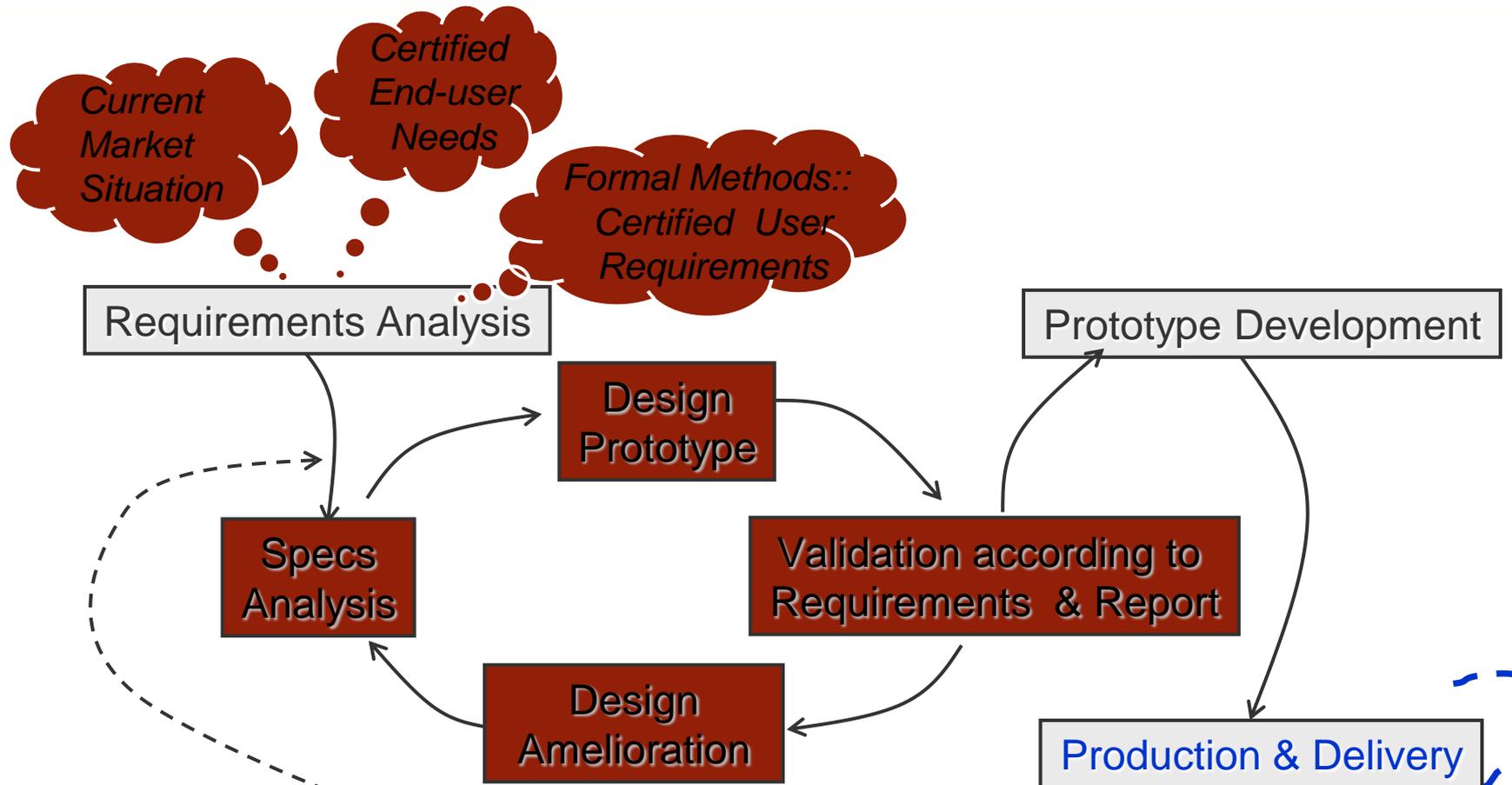### By Apple Computer

History revisited with a sprinkle of innovation
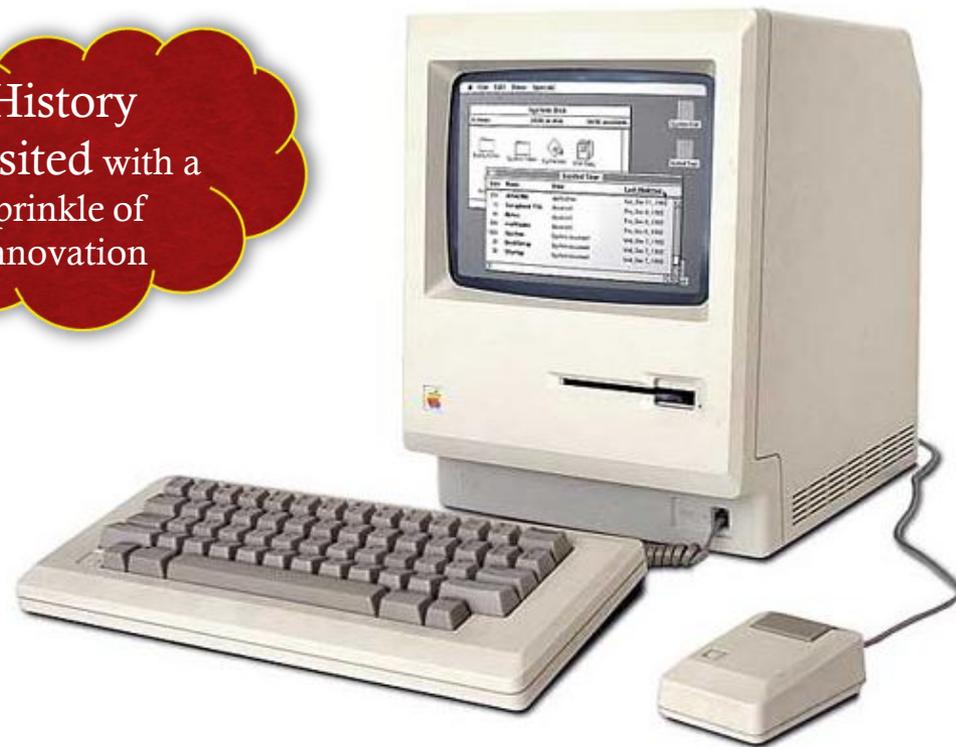
Principles of Human Centered Design

Principles of Human Centered Design

In practice User Centered Design pertains the following cycle …

Current Market Situation

Certified End-user Needs

Formal Methods:: Certified User Requirements

Requirements Analysis

Prototype Development

Design Prototype

Specs Analysis

Validation according to Requirements & Report

Design Amelioration

Production & Delivery

… which is thus far incomplete for MDIs!

End of the 1st Lecture

Sources :

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  Kleidarithmos Publications , Athens 2006 (in Greek)

- N. Avouris, Ch. Katsanos, N. Tselios, K. Moustakas, Introduction to Human Computer Interaction
  www.kallipos.gr, Athens 2015 (in Greek)

- B. Schneiderman & C. Plaisant, Designing the User Interface: Strategies for Effective Human-Computer Interaction
  5th Edition, Pearson, 2009

- www.old-computers.com

Reference note

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