



# Corso di Laurea in INFORMATICA Magistrale Interazione Uomo-Macchina II



## Modulo A

a.a. 2009-2010

## Introduzione

Richiami a IUM: Usabilità, UX, Modelli di interazione  
(modello di Norman, modello di Abowd e Beale,  
modello PCL)

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## IUM II - Modulo A



### ***Dal sito Web:***

- ***Scopi del corso***
- ***Modalità d'esame***
- ***Programma***

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### ■ ***Usabilità e User Experience (UX)***



### ■ ***Richiami sui Modelli di Interazione***



- ISO DIS 9241 Ergonomics requirements for office work with VDTs - Part 11 Guidance on usability

## Usability Definition

*“The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use”*

### ■ Efficacia

- L'accuratezza e completezza con cui raggiungere un obiettivo

### ■ Efficienza

- Le risorse spese per ottenere tale risultato

### ■ Soddisfazione

- Il comfort e l'accettabilità del sistema



Norman, D. A. 2010. The transmedia design challenge: technology that is pleasurable and satisfying.  
*Interactions* 17, 1 (Jan. 2010), 12-15



“We live in exciting times. Finally, we are beginning to understand that pleasure and fun are important components of life; that emotion is not a bad thing; and that learning, education, and work can all benefit from pleasure and fun.

Up to now, a primary goal of product and service design has been to provide useful functions and results.

We should not lose track of these goals, but now that we are well on our way to doing that for an amazing variety of goods and services, it is time to make sure they are pleasurable as well. Not only does this require emotions to be a major component of design thinking, but we must also incorporate actions; actions that use the whole body in movement, rhythm, and purpose...



Norman, D. A. 2010. The transmedia design challenge:  
technology that is pleasurable and satisfying.  
*Interactions* 17, 1 (Jan. 2010), 12-15



... In the bad old days we learned that thinking—cognition—was king; emotion was bad. We were encouraged to memorize, to study, to think in words: reading, writing, and arithmetic prevailed.

But that is not how people have evolved. We are living animals, creatures with bodies, with legs and arms, eyes and ears, the ability to taste and smell, vestibular and feeling systems. We use our bodies to understand the world. We learn from concrete experiences, not from abstractions—abstraction comes last.”



## User Experience



*“Today we don't just use technology, we live with it. Much more deeply than ever before we are aware that interacting with technology involves us emotionally, intellectually and sensually. So people who design, use, and evaluate interactive systems need to be able to understand and analyze people's felt experience with technology”*

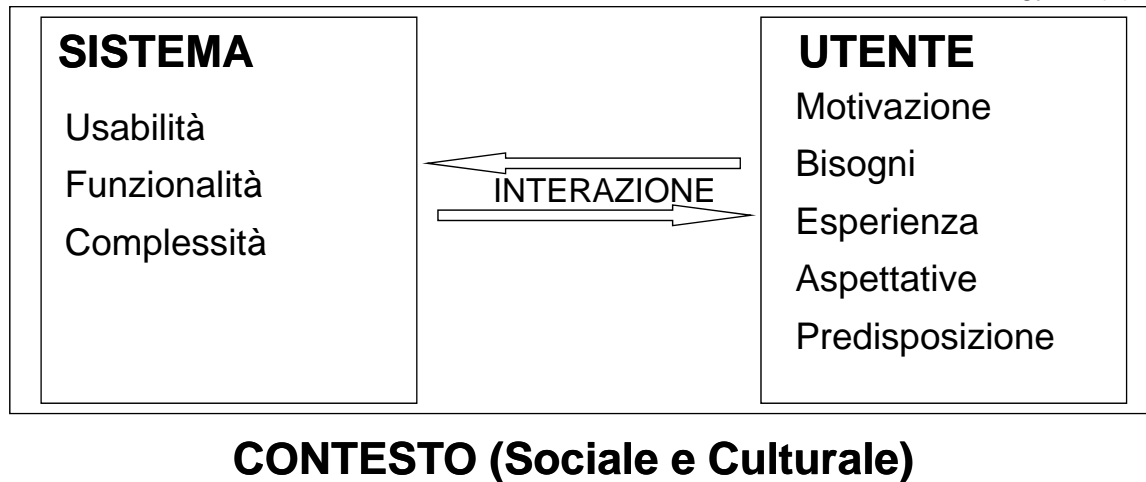
[McCarthy and Wrights, 2004]



# UX: una definizione

A consequence of a user's internal state (predispositions, expectations, needs, motivation, mood, etc.), the characteristics of the designed system (e.g. complexity, purpose, usability, functionality, etc.) and the context (or the environment) within which the interaction occurs (e.g. organisational/social setting, meaningfulness of the activity, voluntariness of use, etc.)

[Hassenzahl, M., & Tractinsky, N. (2006). User Experience - a research agenda. Behavior & Information Technology, 25(2), 91-97]



## Usabilità vs UX

- Usabilità è un fattore importante della qualità delle applicazioni interattive
  - Nielsen, 1993
  - ISO 9241, 1997
  - ISO 9126, 1998
- La user experience estende il concetto di usabilità





## 5 definizioni di UX 1/2



Law, Roto, Hassenzahl, Vermeeren and Kort, "Understanding, Scoping and defining User Experience: A Survey Approach", CHI 2009, Boston.

- D1 All aspects of the end-user's interaction with the company. Its services and its products. The first requirement for an exemplary user experience is to meet the exact needs of the customer without fuss or bother. Next comes simplicity and elegance that produce products that are a joy to own, a joy to use. True user experience goes far beyond giving customers what they say they want, or providing checklist features.

[<http://www.nngroup.com/about/userexperience.html>]

- D2 A consequence of a user's internal state (predispositions, expectations, needs, motivation, mood, etc.), the characteristics of the designed system (e.g. complexity, purpose, usability, functionality, etc.) and the context (or the environment) within which the interaction occurs (e.g. organisational/ social setting, meaningfulness of the activity, voluntariness of use, etc.)

[Hassenzahl, M., & Tractinsky, N. (2006). User Experience - a research agenda. *Behavior & Information Technology*, 25(2), 91-97]



## 5 definizioni di UX 2/2



- D3 The entire set of affects that is elicited by the interaction between a user and a product including the degree to which all our senses are gratified (aesthetic experience) the meanings we attach to the product (experience of meaning) and the feelings and emotions that are elicited (emotional experience).

[Desmet, P. M. A., & Hekkert, P. (2007). Framework of product experience. *International Journal of Design*. 1(1), 57-66.]

- D4 The value derived from interaction(s) [or anticipated interaction(s)] with a product or service and the supporting cast in the context of use (e.g. time, location, and user disposition).

[Sward D., & MacArthur, G. (2007). Making user experience a business strategy. In E. Law et al. (eds.), *Proc. of the Workshop on Towards a UX Manifesto*, pp 35-40]

- D5 The quality of experience a person has when interacting with a specific design. This can range from a specific artefact such as a cup toy or website up to larger integrated experiences such as a museum or an airport.

[<http://www.uxnet.org/>]



# Risultati questionario UX

- 275 partecipanti hanno riempito il questionario
  - 82 femmine, 137 maschi, 56 indefiniti per mancanza di dati
  - 25 nazioni (Finland (48), USA (43), UK (36), The Netherlands (32))

	D1	D2	D3	D4	D5
Total	46	65	44	19	36
% out of 210	22%	31%	21%	9%	17%

Table 7. Distributions of the preferred definitions

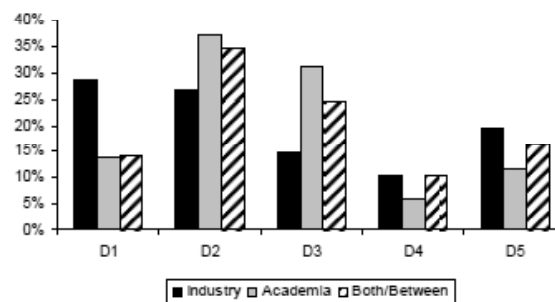


Figure 1: Definition preference by the work place

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## UX per Nokia



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# Nokia UX metrics



Roto, V., Rautava, M.: User Experience Elements and Brand Promise. International Engagability & Design Conference (Idec4), in conjunction with NordiCHI'08 conference. October 19, 2008, Lund, Sweden.