

Interaction quality

Unit 2

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Learning outcomes

- Define quality metrics
 - Usability
 - User experience

Interaction Design

“Designing interactive products to support the way people communicate and interact in their everyday and working lives”

– Rogers, Sharp, Preece (2011)

Interaction Design

Architects

- People and their interactions
- Family and private space?
- People live in the space in the way it was intended to use?

Software Engineering

Civil Engineers

- The project
- Costs and durability
- Structural aspects
- Environment
- Fire regulations

Usability

“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.”

- ISO 9241-11:1998 Ergonomic requirements for office work with visual display terminals (VDTs) -- Part 11: Guidance on usability.

Usability

- Usability is a **quality attribute** that assesses how easy user interfaces are to use.
- Five quality dimensions
- Jacob Nielsen – Usability Engineering

Learnability

How easy is it for users to accomplish basic tasks the first time they encounter the design?



Efficiency

Once users have learned the design, how quickly can they perform tasks?



Efficiency

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Memorability

When users return to the design after a period of not using it, how easily can they reestablish proficiency?

The image shows a screenshot of a web application interface for 'Area Clienti' (Client Area). On the left is a sidebar menu with a blue 'Esci →' button at the top. The menu items are: > Home Page, > Stato degli ordini, > Topserver, > Centro contabile, > Apertura ticket, > Visualizza o aggiorna ticket, > Aggiorna profilo, and > Cambia password. The main content area is titled 'Area Clienti' and includes a section 'Operazioni rapide' with five buttons: 'Compra Topweb+', 'Compra Topweb', 'Compra Topname', 'Rinnova Hosting', and 'Compra Topserver/Topvoucher'. Below this is a welcome message in Italian. The 'Stato degli ordini' section lists six bullet points about order management. The 'Topserver' section has one bullet point about managing servers. The 'Centro contabile' section has one bullet point about viewing documents. The 'Apertura ticket' section has one bullet point about opening support tickets.

Esci →

- > Home Page
- > Stato degli ordini
- > Topserver
- > Centro contabile
- > Apertura ticket
- > Visualizza o aggiorna ticket
- > Aggiorna profilo
- > Cambia password

Area Clienti

Operazioni rapide

[Compra Topweb+](#) [Compra Topweb](#) [Compra Topname](#) [Rinnova Hosting](#) [Compra Topserver/Topvoucher](#)

Benvenuto nell'area dedicata ai Clienti Tophost. Ora che ti sei autenticato potrai accedere ad una serie di servizi aggiuntivi per una gestione completa dei tuoi prodotti Tophost. Qui a lato trovi un menu e cliccando sulle diverse voci potrai:

Stato degli ordini

- visualizzare lo stato di attivazione dei tuoi ordini;
- verificare lo stato di ogni prodotto attivo;
- ricevere nuovamente la lettera di attivazione dei prodotti attivi;
- ricavare l'auth-code di ogni nome a dominio attivo;
- accedere direttamente al pannello di controllo dei prodotti attivi;
- effettuare il rinnovo di un prodotto in scadenza;
- effettuare il cambio prodotto.

Topserver

- Accendi e gestisci i tuoi nuovi Topserver (servono Topvoucher).

Centro contabile

- visualizzare i documenti contabili che ti riguardano.

Apertura ticket

- aprire un nuovo ticket di assistenza tecnica / amministrativa;

Memorability

When users return to the design after a period of not using it, how easily can they reestablish proficiency?

The screenshot shows a web application interface. On the left is a sidebar with a blue 'Esci →' button at the top. Below it is a list of menu items, each preceded by a yellow chevron: 'Home Page', 'Stato degli ordini', 'Topserver', 'Centro contabile', 'Apertura ticket', 'Visualizza o aggiorna ticket', 'Aggiorna profilo', and 'Cambia password'. A red arrow points to 'Stato degli ordini'. The main content area is titled 'Stato degli ordini per il cliente menestrinazeno83@gmail.com'. It contains a 'CLIENTE' section with personal and billing details for Zeno Menestrina. Below this is an 'ELENCO PRODOTTI ATTIVI' section featuring a table with columns: 'Data ordine', 'Stato', 'Nome a dominio', 'Prodotto', 'Rinnovabile entro la data', and 'Procedure aggiuntive'. A red arrow points to the 'Procedure aggiuntive' column header. The table has one data row for an order dated 13/10/2015, status 'attivo', domain 'supersantosdesign.org', product 'topweb', and renewal date '05/11/2016'. The footer shows 'Risultati 1-1 / 1', pagination controls, 'Per pagina: 20', and a 'Reset' button.

Esci →

- > Home Page
- > Stato degli ordini
- > Topserver
- > Centro contabile
- > Apertura ticket
- > Visualizza o aggiorna ticket
- > Aggiorna profilo
- > Cambia password

Stato degli ordini per il cliente menestrinazeno83@gmail.com

CLIENTE

Persona di riferimento: Zeno Menestrina
Telefono 3405958778
E-mail: zeno1987@hotmail.it

Dati di fatturazione: Zeno Menestrina
Via Giacomo Matteotti 16
38122 Trento (TN)
P.I./C.F. MNSZNE87L24L378V

ELENCO PRODOTTI ATTIVI

Data ordine	Stato	Nome a dominio	Prodotto	Rinnovabile entro la data	Procedure aggiuntive
13/10/2015	attivo	supersantosdesign.org	topweb	05/11/2016	

Risultati 1-1 / 1

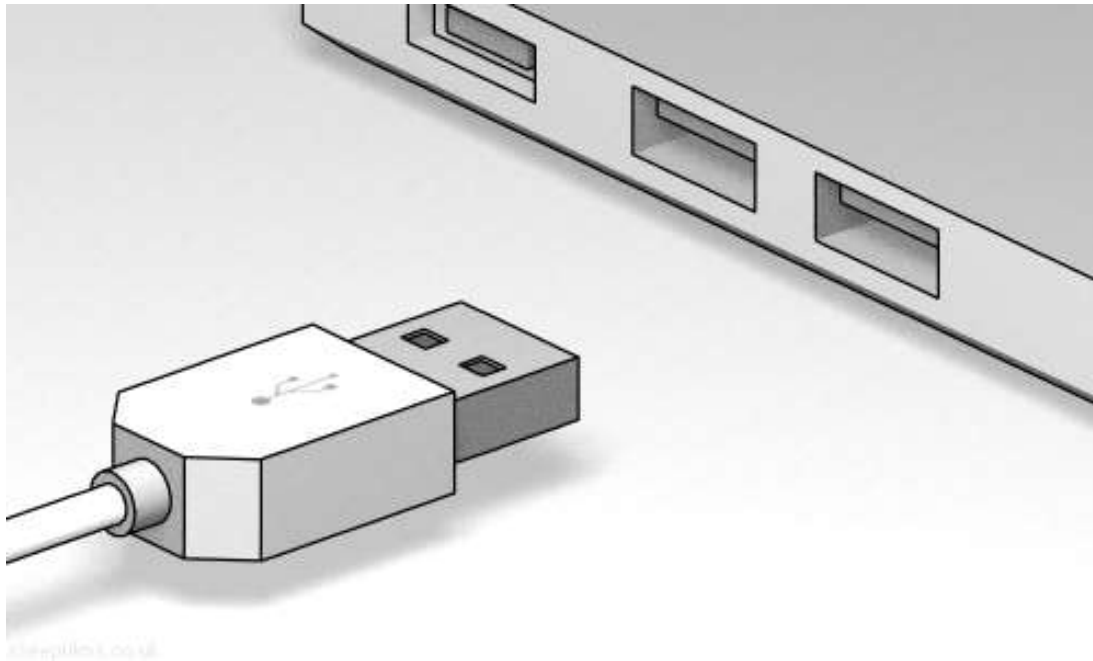
Pagina 1 di 1

Per pagina: 20

Reset

Errors

How many errors do users make, how severe are these errors, and how easily can they recover from the errors?



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Satisfaction

How pleasant is it to use the design?

Usability

- Usability is a **quality attribute** that assesses how easy user interfaces are to use.
- Five quality dimensions:
 - **Learnability**: How easy is it for users to accomplish basic tasks the first time they encounter the design?
 - **Efficiency**: Once users have learned the design, how quickly can they perform tasks?
 - **Memorability**: When users return to the design after a period of not using it, how easily can they reestablish proficiency?
 - **Errors**: How many errors do users make, how severe are these errors, and how easily can they recover from the errors?
 - **Satisfaction**: How pleasant is it to use the design?
 - <http://www.useit.com/>

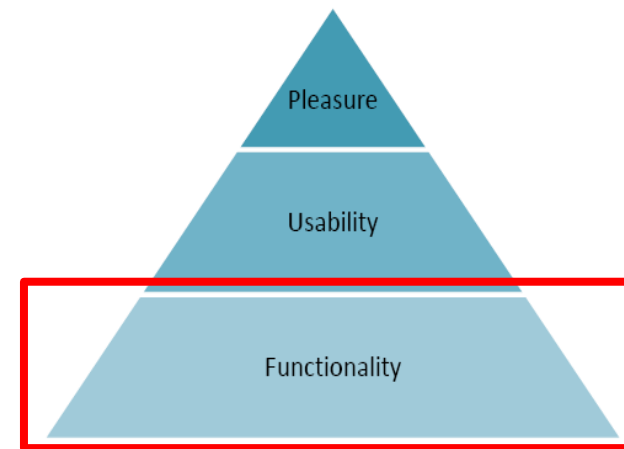
Usability

- Quality = absence of problems
 - Discover usability problems and reduce their frequency and severity
 - It can be measured
 - Objective data (performance is measured by behavioural data, user observations)
 - Subjective data (quality is estimated by the user, self-report, questionnaire or interview)
 - Meeting specific usability criteria

Hierarchy of consumer needs

Jordan (2000)

- Functionality = “a product will be useless if it does not contain appropriate functionality, a product cannot be usable if it does not contain the functions necessary to perform the tasks for which it is needed”

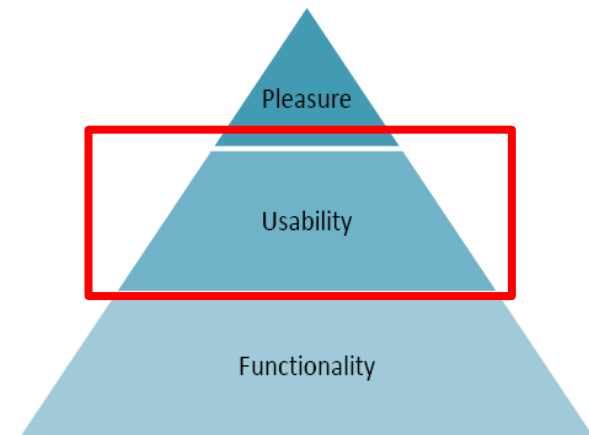


Hierarchy of consumer needs

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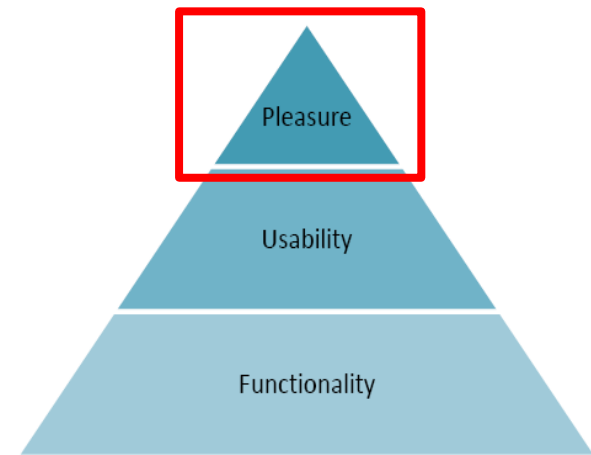
- Usability = “once people had become used to having appropriate functionality they then wanted products that were easy to use”



Hierarchy of consumer needs

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- Functionality = “a product will be useless if it does not contain appropriate functionality, a product cannot be usable if it does not contain the functions necessary to perform the tasks for which it is needed”
- Usability = “once people had become used to having appropriate functionality they then wanted products that were easy to use”
- Pleasure = “having become used to usable products, it seems inevitable that people will soon want something more: [...] products that bring not only functional benefits but also emotional ones”



User experience



- The User Experience (UX) is a complex psychological response to the interaction with computing systems.
- This response is a consequence of
 - Individual predispositions of the user (e.g., attitudes, motivations and needs)
 - Characteristics of the interactive system (e.g., purpose, functionality and usability)
 - Contextual dependencies (e.g., task and environment).

User experience goals


- Satisfying
 - Fun
 - Enjoyable
 - Entertaining
 - Helpful
 - Motivating
 - Aesthetically pleasing
 - Motivating
 - Enhancing sociability
- Rewarding
 - Support creativity
 - Emotionally fulfilling
 - ...and more

Examples - UX



Home | [Mappa del sito](#) |  [RSS](#) |  [English](#)

Cerca:

 **Area Riservata**

 **Contatta l'Agenzia**

L'Agenzia

Il tuo profilo fiscale

Cosa devi fare

Strumenti

Documentazione

Servizi online

Entratel - Fisconline
✓ **Accedi ai servizi**
[Registrazione](#)
[Statistiche](#)
[Avvisi dei Servizi Telematici](#)
[Verifica File](#)
[Assistenza ai Servizi Telematici](#)
[Domande frequenti](#)

Ti trovi in: Entratel Fisconline

Accedi al servizio Entratel - Fisconline

Primo piano

- 16-09-2016 - [Richiesta di rimborso del canone di abbonamento alla televisione per uso privato addebitato nella bolletta elettrica](#)
- 14-09-2016 - [Nuova versione del modulo di controllo modello IRAP 2016](#)
- 14-09-2016 - [Nuova versione del modulo di controllo delle dichiarazioni 2016](#)
- 14-09-2016 - [Nuova versione del modulo di controllo del modello Consolidato Nazionale e Mondiale 2016](#)
- 14-09-2016 - [Nuova versione del controllo formale dei pagamenti effettuati con i modelli F24](#)
- 12-09-2016 - [Nuova versione del modulo di controllo delle dichiarazioni 770 Ordinario e 770 Semplificato](#)
- 01-09-2016 - [Nuova versione del Modulo di controllo dei modelli di dichiarazione IVA 2016](#)
- 29-08-2016 - [Nuova versione del modulo di controllo Studi di Settore/Parametri 2016](#)
- 04-08-2016 - [Disponibilità delle ricevute Entratel](#)
- 29-07-2016 - [Novità per il canale telematico CIVIS](#)
- 27-07-2016 - [Dichiarazione sostitutiva relativa al canone di abbonamento alla televisione per uso privato](#)

Accedi al servizio

Nome utente:

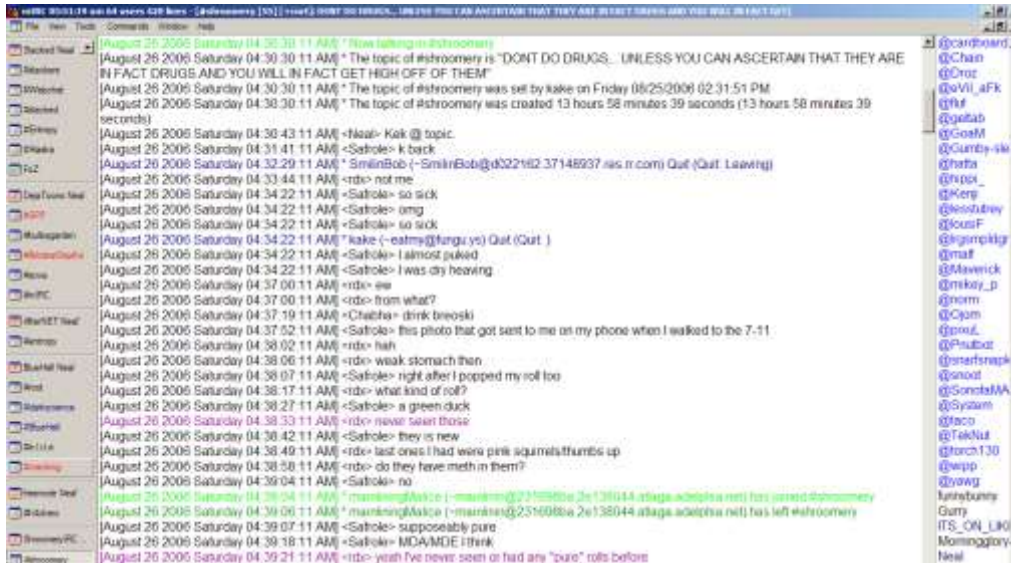
Password:

Codice pin:

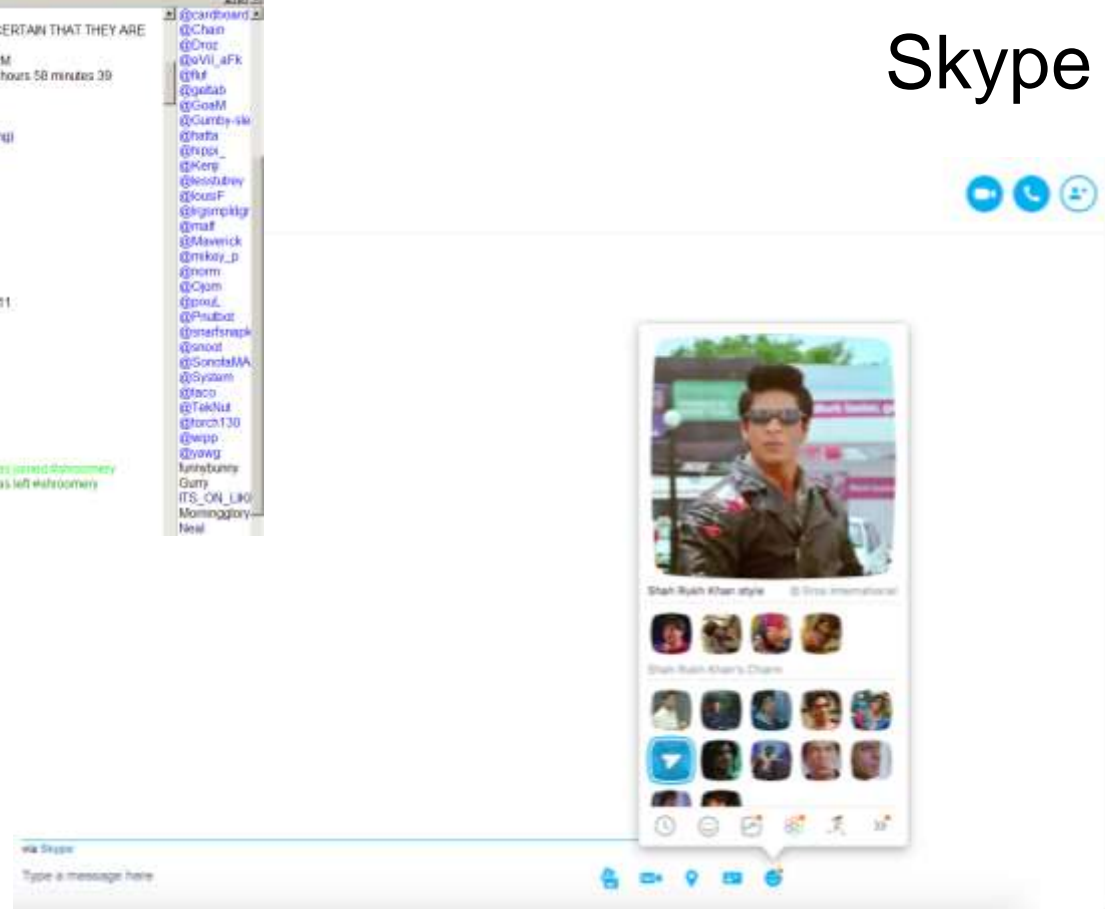
- Non sei ancora registrato?
- Hai smarrito le credenziali?
- Accesso con Smart Card

Examples - UX

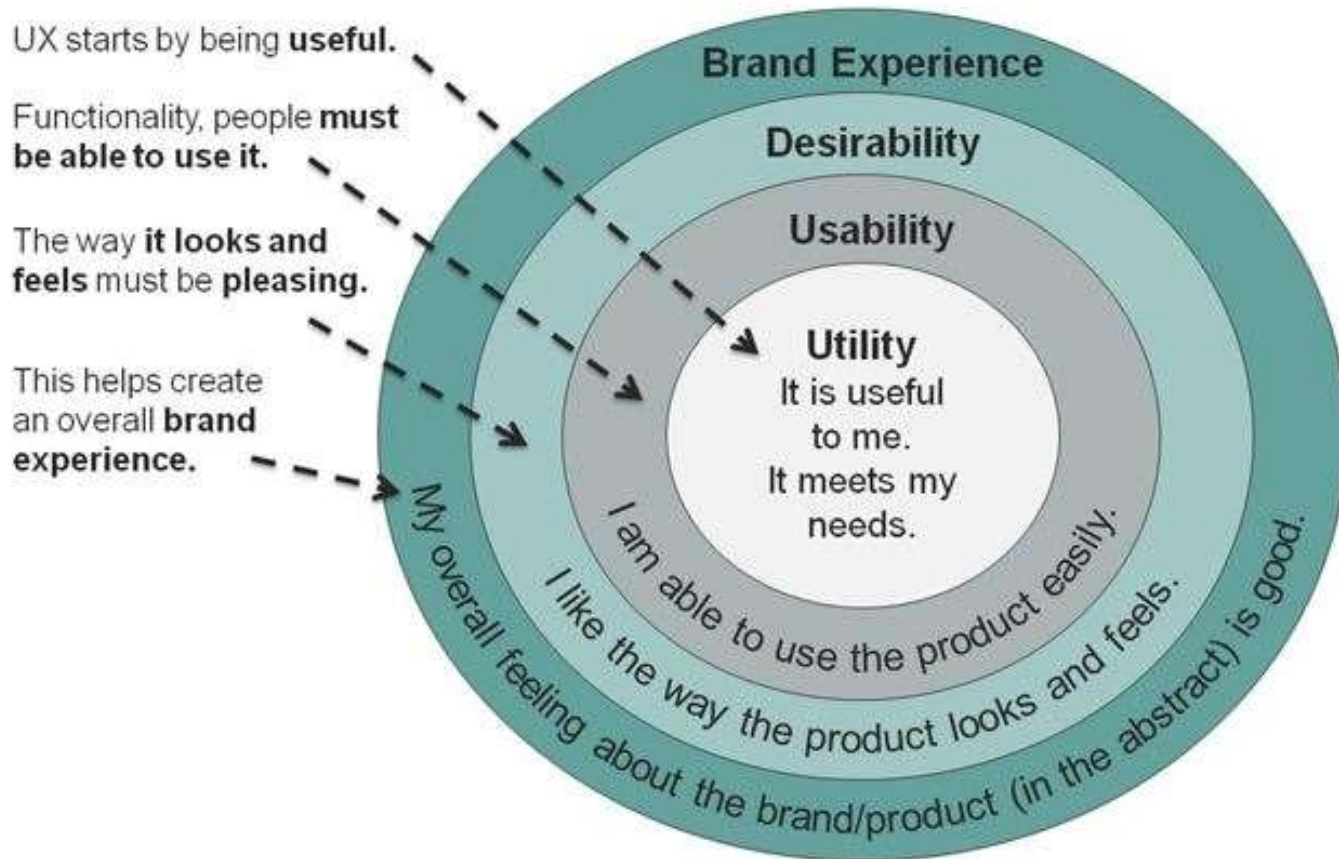
Skype



mIRC



User Experience



Source: User Experience 2008, nnGroup Conference Amsterdam

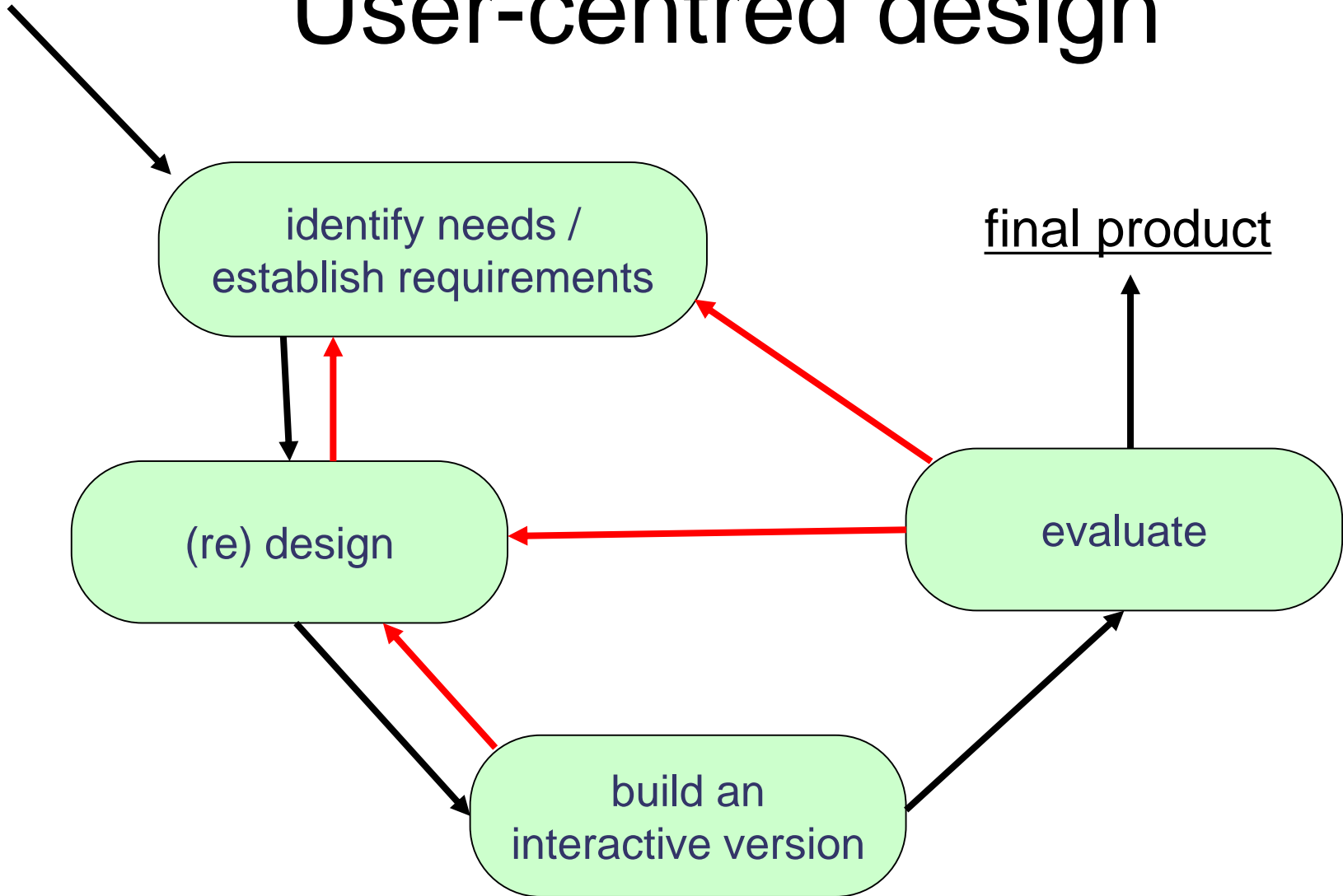
Design metrics - UX

- Usability
 - Easy of use and efficiency
- Aesthetics
 - Sensorial experience generated by the look and feel of the interface and to the extent to which this experience matches individual preferences and goals.
- Symbolism
 - Meanings and associations elicited by a system.
 - As opposed to aesthetics which can be 'visceral', symbolism requires cognitive processing (the individual recognizes a symbol and associate a meaning to it).

User Experience

- Positive
 - Good design is more than absence of problems.
 - Add “extra value” to design (emotion, fun, personal fulfillment)
 - Holistic
 - Pragmatic qualities (traditional usability dimensions),
 - Hedonic qualities (non-task related, beauty, challenge, stimulation and self-expression)
 - Subjective
 - Usability focuses on performance and tasks: can be objectively measured
 - Hedonic attributes relate to the user’s self which is subject to deep variations among individuals.
-

User-centred design



When do you evaluate?

- Formative evaluation
 - During design and development process
 - Inform design
- Summative evaluation
 - After design is deployed
 - Measure effectiveness
 - Check standards
 - Guide adoption decisions
 - Collect requirements for future systems

Key points

- Usability
- User-experience

At home

- Register your group
- **(optional)** Take pictures of 2 very usable interfaces, take pictures of 2 very unusable interfaces?
- What are the differences?
- Take pictures of 2 interfaces with good UX, take pictures of 2 very unusable interfaces?
- What are the differences?
- What are the differences between HighUsability and High UX, LowUsability and LowUX