

User Centricness

What it is ?

Trying to Understand the users?

through

- Developing new research methodology
- Building Reference Frameworks
- Building and Analyzing of Scenarios
- Finding User Interactions



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User Centricity

What it is ?



Basis of UCD can only be the user !

- What the user has experienced ?
- What are the user expectations ?
- User are considered as "targets" and they are "used" to validate results

General understanding will be built on

- User profiles
- Founded phenomena (signals, events, ...)
- Interpretation of User Demand / Need

User Centricness

What it is ?



Basis of UCD can only be the user !

- Different user groups
- Different demands and correct interpretations
- User demand -> User requirements -> Product design
- Choice set of methods

User Centricity

What it is ?



Basis of UCD can only be the user !

- Real users throughout the whole "product" lifecycle
- Mainly (Only) empirical methods to be used
 - Interview, survey, field tests, ...

What can be learned from the users?

- Environmental constraints
- Time issues
- Socio-economics
- Role of Language
- Privacy and Trust (of technology)

User Centricness

General drivers?

- Emotional and irrational needs
- Behaving spontaneously
- Utilization of idle time
- Utilization (experienced)
- Seamless service discovery
- Seamless service use (zero-configuration)



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User Centriness

App-centric drivers?

- Personal communications
- Self-Created content
- Communities and sharing
- "Free" services



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User Centriness

general opposing drivers?

- Technology perceived as not reliable enough
- Price / Costs
- Users not interested (high-tech) services
- User does not know options / services
- User has accustomed to daily routines
- Control of one's own life



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app-centric opposing drivers?

- Technical interoperability
- Complexity
- Non-user friendliness
- Uncertainty of continuation



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User Centricness

technology-orientation



- Technology-oriented UCD has to be able to
 - **Identify** the **technical characteristics**, constraints and possibilities of the given framework (i.e. technical requirements)
 - **Adapt** these technical requirements into distinctive work packages inside the given framework
 - **Identify** the **user requirements** for chosen technology in the given framework
 - **Carry out** performance analysis of the chosen technology through user requirement lens
 - **Evaluate** possible implementable services / applications taking into account the whole system

User Centricness

technology orientation



– RFID Example

Some possible application/service requirements

(Network) lifetime

Amount of Tags

Range of Connectivity

Range of Sensing

Level of (User) Mobility

Delay Sensitiveness

Scalability

Synchronisation

Security

Energy

UCD Reference technology

RFID



- Must think what user-centric problems (security) might arise (related to information) :
 - From Tag (general)
 - Reading from Tag
 - Inserting to Tag (active tags)
 - Deleting from Tag

UCD Reference technology

RFID



How to trust ? (characteristics)	Description	Recommendation
Can I trust to RFID (as part of Information System)?	This trust is personalized and hard to model in system level	The designer / programmer should take into account these individual differences as much as it is feasible. Particularly different interfaces and usability issues are the most important.
Minimizing the negative effect of RFID user experience	The users can change their perception based on own and other people's experience	Take into account community view, how sharing positive experiences can be enabled
Capability to forecast the technology (RFID) performance?	The system (and technology) should operate always similarly with given inputs and outputs. This will raise the level of trust	Past user experiences should be known, and also past system behavior. The most users are not easily willing to learn new approaches.
How much (awareness of technology) and in what manner is available ?	The system should give exact and correct information in a given context in an appropriate manner. The system should support the approach that the user has an awareness / capability to understand the activities of the system. (at the current moment, i.e. feedback)	The system should visualize its events to the user so that this understanding (and feel of control) would be perceived.
How to promote common values?	The system should support important features from user point of view, also preferable data-in-transit modes (e.g. instant messaging).	Interaction design should be carried out so that users are the target of design and the users' important features (user demand) are the focus.
The amount of transferable data (in relation to e.g. per application or service) [not performance related]	Only relevant information is collected and only relevant information per feature is processed.	This interaction has to contain also possible error situations, constrains, opportunities etc. In a manner that is simple for the user to understand.
What is the appropriate level of interaction ?	Interaction design + user experience has a big role	User centric design – implementation and evaluation

UCD Reference technology

RFID



Risk assessment	Description	Recommendations
Starting point	Users have a basic individual level of risk (based on past capabilities and experiences). The expected value is likely to be fatal. The system should have risk assessments and the activities to support changing the expected value.	Risk management policy should be ready per application / service and would be identifiable per service module / application functionality. The system has to be able to inform of the risk level of the user (currently).
Uncertainty	By decreasing uncertainty the certainty of risk will be smaller.	The more the users are aware of risks (of technology) , the more they have capability to operate "better"
Personalization	The more information is given, the more the certainty of risk is going up.	The system should ask for (currently) relevant information. Any other request should be prohibited.
Amount of Options	Being without options is seen as a risk.	If possible, the users should have options.
Characteristics (e.g. in transaction)	The general feeling: if only one service provider, the risk is bigger	If possible, the users should have the control of choice.
Self-control	Capability and possibility to individual operation.	Passive tags are more "trusted" than active tags. The system should honour user selections and support his/her options.

UCD Reference technology

RFID



■ *Table 7-1: Consumer concerns related to RFID⁶³*

Issues of concern	EU [%]	USA [%]
Consumer data used by third party	59	69
Tracking of consumers via product purchases	55	65
Tags could be read from a distance	52	42
Targeted more with direct marketing	52	67
Environmental impact	44	45
Health issues stemming from RFID	35	56
RFID tags that can be eaten/dissolved	31	43

■ *Table 7-2: The impact on privacy from RFID vs other technologies – Europe⁶⁴*

Consumers saying RFID has ...	Greater impact	Same impact	Lesser impact	Don't know
Mobile phones	36	33	10	21
Debit cards	36	29	7	26
Credit cards	41	31	8	20
ATMs	41	32	8	19
Frequent shopper/loyalty cards	42	33	7	18
Access control badges	45	31	6	18
Smart cards	46	28	6	20
Camera phones	34	32	10	24

Source: EU report on RFID technology