



CENTRIC / ICSNC Panel

Applying User-centered Approaches in a Technology-driven World: Indispensable Premise or Dazzling Promise?

Moderator

Stephan Böhm, RheinMain University of Applied Sciences, Germany

Panelists

Till Halbach, Norwegian Computing Center, Norway

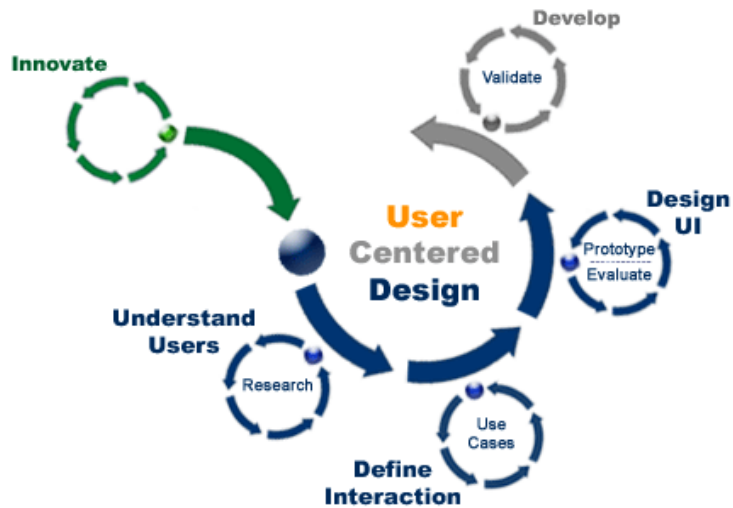
Lasse Berntzen, Vestfold University College - Tønsberg, Norway

Colin Potter, Defence Science and Technology Laboratory, UK

James Granger, Technology Survey Group/Department of Defense, USA

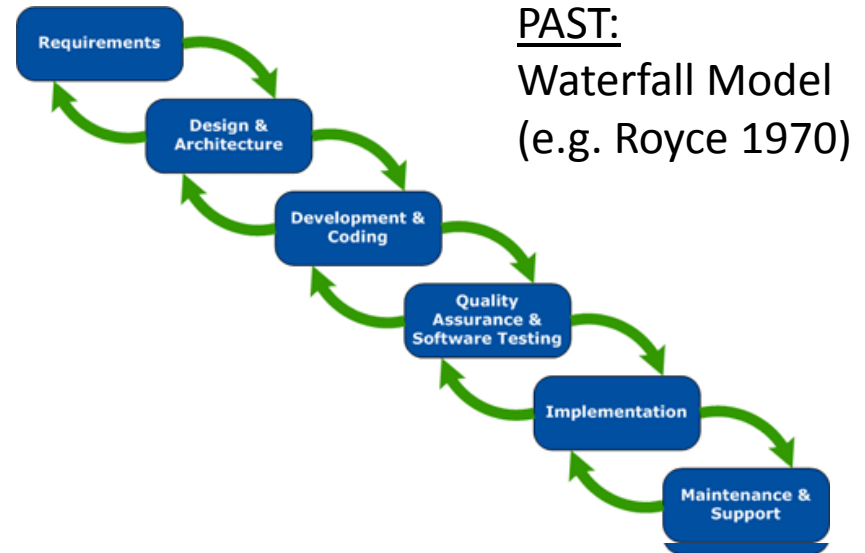
Stephan Böhm, RheinMain University of Applied Sciences, Germany

Development Models



TODAY:

User-Centered Design
(e.g. ISO 9241, SAP)



User Centered Design (UCD) is a dazzling promise but ...

Picture Sources: <http://projectcommunityonline.com/wp-content/uploads/2012/06/developmentprocess1.gif>,
http://www.sapdesignguild.org/editions/edition10/ucd_overview.asp

Google Glass (Head-mounted Display)



Gear, Samsung (Smartwatch)

MYO, Thalmiclabs (Muscle Activities)



Muse, Interaxon (Brain Sensing)



(How) Can UCD be successfully used
to produce real innovations?

(How) Can UCD be used to develop innovative products that require the user to change habits or behavior?

„The telephone that Alexander Graham Bell had invented was exhibited at the Centennial Exhibition in Philadelphia in 1876, but it aroused little more than curiosity.

For quite some time, it was regarded generally as a mere scientific toy, and there is no occasion to wonder at this when we consider the crudity of the early instruments.“



Herring/Gross 1936: 46

iOS apps are the most expensive to develop

Average cost to develop an app for 95% of apps excluding those with highest development time (n=1,510)



Source: Developer Economics 2012 | www.DeveloperEconomics.com | June 2012
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vision mobile BlueVia

Table: Mobile application development costs

Cost	Description
Tools	Computer cost, developer registration fees and tools licenses.
Development & Debugging	The bulk of app production costs (upwards of 55%).. Practically speaking, the cost of person-hours devoted to the project.
UX design	Storyboards, user interaction and graphic design typically make up 25% of total app cost.
Maintenance	Typically 10% of the initial app cost, on an annual basis
Marketing	We estimate that marketing costs average 10% of app p practice, marketing costs differ based on the developer and Explorers will use Facebook as the lowest hanging will use more sophisticated and premium channels such services and incentivised downloads.
Back-end	Back-end costs vary depending on the application's re lightweight (user management services on Appcelerate Parse.com) to heavy (applications written from scratch Services (AWS) or Google App Engine).

(How) Can UCD be applied for the development of “low-cost software” with small budgets?

Source: VisionMobile

Quelle: <http://www.visionmobile.com/product/developer-economics-2012/>

Low-fidelity/Paper Prototypes



Low-fidelity Prototypes/Wireframes



High-fidelity/Click-Prototypes



(How) Can we use UCD tools to reflect complex (mobile) usage contexts?

Picture Sources: <http://uxpin.com/mobile-kit-for-iphone.html>, <http://www.uistencils.com/products/iphone-stencil-kit>, <http://builds.balsamiq.com/b/mockups-web-demo/>, <http://www.axure.com/learn/iphone-app/template>

Look at Risk Before Leaping Into BYOD, Report Cautions

Before rushing into allowing employees to do their jobs on their personal devices, organizations need to diligently evaluate the risks, cautioned a report by an international

By John P. Mello Jr.
 Wed, September 18, 2013

in Share 24

CSO — Before rushing into allowing employees to do their jobs on their personal devices, organizations need to diligently evaluate the risks, cautioned a report by an international

[12 BYOD Disaster Stories]

When businesses push for BYOD too quickly, risk management becomes unknown and unnecessary.

For organizations to take full advantage of BYOD, risk management must be

Enterprise Mobility Today
 Your Daily Executive Briefing

News Expert Insights Mobility 101 Industries Apps Drilldowns About

TRENDING TOPICS Google iOS cloud Apple IT tablet Android security apps

Coming BYO-PC Trend Will Challenge Enterprise

Sep. 4, 2013

Mentions: BYO-PC trend, BYOD, Google, pc, Smartphone, tablet, Twitter

MOBILE TRENDS

The bring-your-own trend began with devices, such as smartphones and tablets. The next step is the PC.



Tweet Like Share +1



(How) Can we better align user needs and corporate requirements?

Sources: http://www.cio.com/article/739940/Look_at_Risk_Before_Leaping_Into_BYOD_Report_Cautions,
<http://enterprisemobilitytoday.com/coming-byo-pc-trend-will-challenge-enterprise/>
<http://blog.matrix42.com/content/consumerization-it-nothing-new>

(How) Can we close the gap between research activities and industry demand?

“[...] Some of these studies have found that research findings are often couched in jargon, are overly technical, and **are sometimes simply irrelevant to practitioners.**”

Authors attribute the problem to **“academics’ ignorance of business realities”**, to an apparent lack of understanding of real-world problems or to the way these are tackled in the practitioner community.

Others have found that practitioners appreciate and recognize the value of theory-driven research, **provided its relevance is made clear to them.**

In their self-defense, researchers point out that “as soon as you start doing something for the industry, it’ll become applied and **it won’t have the same kind of academic value** and that **there are no rewards for applied work** when it comes to salary and promotion.”

Elizabeth Buie, Susan Dray, Keith Instone, Jhilmil Jain, Gitte Lindgaard, and Arnie Lund. 2010. How to bring HCI research and practice closer together. In CHI '10 Extended Abstracts on Human Factors in Computing Systems (CHI EA '10). ACM, New York, NY, USA, 3181-3184.

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The Sixth International Conference on Advances in Human-oriented and Personalized Mechanisms, Technologies, and Services

Colin Potter

Conference Panelist

DSTL/PUB77096



10 December 2013

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UNCLASSIFIED



Ministry
of Defence

Background

- Nearly forty years of Engineering experience
- In the computer business since 1982
- Worked for Kodak, Raytheon, BAE Systems, IBM, Lockheed Martin, Sun Microsystems
- Now working at Defence Science and Technology Laboratory supporting MOD procurement of complex systems

Issues facing user centric development and testing of defence systems

- Extended development lead times
 - Normally measured in years
 - Could be decades for safety critical systems
- More and more complexity on the battlefield
 - but systems need to be simple to use under all conditions
- More integration of systems
 - major players tending to be system integrators, with development being done several steps removed
 - almost no interaction with the end user

Applying User-centered Approaches in a Technology-driven



World: Indispensable Premise or Dazzling Promise?

Lasse Berntzen
Vestfold University College



User centric design

- User Centric Design is about getting the users involved in all stages of the product/service lifecycle.
- Need to learn from the users in order to be a good designer.
- Users also need to learn from designers (limits, thinking etc.).
- User-centricity is a mindset.

User centric design

- User centric design is not obvious, many projects fail.
- Users may not know the best solution, therefore:
 - Observe users in real settings
 - Validate results through prototyping or other techniques

Users

- Users are diverse.
- Include all categories of users in the product/service lifecycle.
- Accessibility etc. (Inclusive design).

User testing

- Quantity vs. quality.
- Small number may not be bad.
- But inclusion of all categories of users are important.

From the discussion..

- Colin gave a good example: Playstation generation may have other user interface requirements than the “old school”.
- Universities need to teach soft skills, let students work with users.

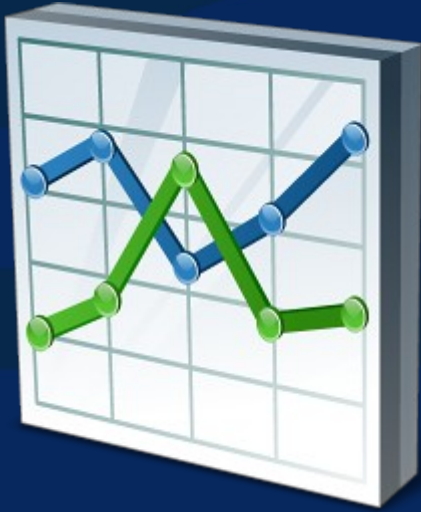


Till Halbach
(Norwegian Computing Center)

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CENTRIC-2013, Venice (Italy)
2013-10-31

Setting

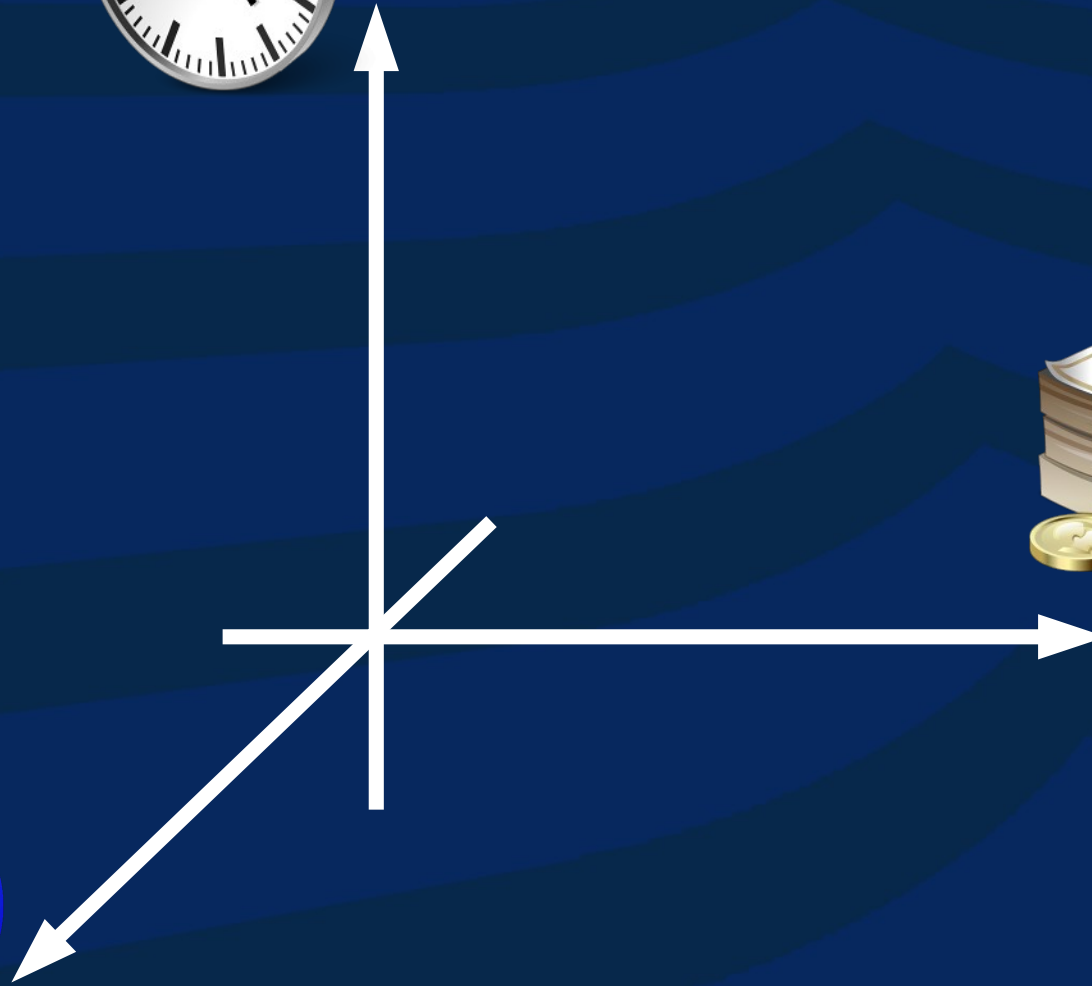


- Customer-driven projects
- Process-driven projects
- User-centered design

Where's the focus?



Optimization problem





Key take-aways

- 1 UCD + Inclusive Design = true
- 2 Automated → expert → user testing
- 3 4+ development stages

Contact

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