Techniques

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Achieving useful & usable products

Analysis → Design → Evaluation

Requirements

Task → Artefact

Possibilities

Requirements'

Task' → Artefact'

Possibilities'
ISO 9241-11

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.

Who?

- User
- Users
- Indirect users
- Client / Customer
- Organization / Stakeholders
- “Whoever pays”
- Target group analysis

Target group analysis

- Categories & roles
- Knowledge & preferences
- Prioritize!

What?

- Present tasks
- Present goals
- Future goals
- Future tasks
- Business analysis!

What?

“People don’t want drills, they want holes.”

Theodore Levitt, Harvard

What?

“If I had asked people what they wanted, they would have said faster horses.”

Henry Ford
What?

- Sony Walkman
- Amazon’s “one-click-buy”

Requirements gathering / discovery

Requirements capture

Focus group

Interview

- Unstructured
- Semi-structured
- Structured

Observation
Observation – before
- Who does what?
- What will you see?
- Prepare!
- What do you believe is most important?
- Be prepared for the unexpected!

Observation – during
- Explain purpose, roles & who gets to see what
- Get permission
- Observe – discrete or asking
- Document (paper, sound, image, video)
- What do you think is most important?
- Be prepared for the unexpected!

Observation – after
- Go through documentation
- Ask for clarification
- What didn’t happen?
- Ideas & wishes?
- Feedback!
- Reward?
Ticket vending system

- Don’t take “hostages”
- Observe real work
- Interview
- Identify goals, not processes
- Try to think along new lines
- Prototype

Communicate

- Persona
- Scenario
- Storyboard
- Play
- Sketches

Persona

- Fictitious (or based on real people)
- Caricature
- Unnecessary details, e.g., hobbies
- Comes alive
- Gives focus
- “Bob would never use this function!”
Persona

Bob is a stressed business man who is always “just-in-time”. He doesn’t care for newfangled technology and still uses an ancient mobile with few and simple functions. On the whole, he’d rather be playing golf, but he enjoys his work, which sometimes entails some travel – mostly within Scandinavia. He has a wife and two teenage daughters, who help him out when his computer doesn’t work.

Scenario

- Who?
- What?
- How? (Context of use)

Scenario

Bob is in a hurry when he arrives late to the airport on his way to an important business meeting in Italy. Suddenly he realises that he needs Italian Lira! Luckily, he sees an advanced ATM which can handle withdrawals in foreign currencies. Bob has only ever used a regular ATM before, and feels a bit nervous and stressed as he tries to withdraw the equivalent of SEK 2000.

Storyboard

Prototype, NE

prototypes, (f. Lat. proto_typos ‘original’, f. Greek prato_typos) original model, that later designs are based upon.

In industrial product development an experimental model with correct function, construction and appearance but different manufacturing method.
Sketch, NE

Sketch (Ital. schizzo 'sketch'; 'sprinkle', 'crumb'), outline, fast, summary pictorial (originally) or verbal presentation. ...

Why sketches? Requirements!
- Elicit
- Communicate
- Verify

Why sketches? Solutions!
- Communicate
- Verify

Why sketches? Difficult!

“Anything worth doing is worth doing badly – at first.”
- Dick Karpinski
Wide or narrow?

User interface
Wide
- Large part of the GUI
- Limited functionality
- Overview
- Difficult / impossible to test functions
- Navigation
- Graphical design

Narrow
- Specific function
- Limited part of system
- “Feel” for functionality
- No overview
- Important / general function(s)
- Specific subsystems

Difficulties
- Can be misleading
- Looks ready
- “Too good” – cannot be implemented
- Difficult to go from prototype to system
Lo-Fi versus Hi-Fi sketch

- Price
- Iteration speed
- Dynamics (response time)

- Democracy
- Expectations
- Fun & creativity