

## Usability-onderzoek (2)

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## Aanbevolen

Barnum, C.M. (2011). Usability testing essentials: Ready, set... test!  
Amsterdam: Elsevier



## Gebruikers

- zijn doelgericht:
  - willen *meteen* handelen
  - willen weten *waarom* ze iets moeten weten, vooral als zoiets het doel in de weg lijkt te staan
  - leren het beste als het resultaat *onmiddellijk bruikbaar* is
  - ontwikkelen *mentale modellen* over hoe dingen gedaan moeten worden
- veel interessant onderzoek beschikbaar, bv naar ervaren webgebruikers (Nielsen, 2008) 'User skills improving, but only slightly'
  - ze verwachten webobjecten op specifieke plaatsen aan te treffen
  - ze willen niet lezen, ze willen handelen
  - zorg voor een goede eerste indruk – je krijgt waarschijnlijk geen tweede kans
  - generatieverschillen doen ertoe (oudere gebruikers, 'Google-generatie', kinderen, ...)

## Karakterisering van gebruikers(sub)groepen

- *personas* zijn vaak nuttig
  - *persona*: representatief, generiek voor bepaalde gebruikersgroep
  - gebaseerd op echte informatie over echte gebruikers

### Define the characteristics of a subgroup

A single, definitive list of characteristics for each subgroup would not be possible to create, but here are some characteristics that typically generate differences among subgroups, using the examples of software and websites/web applications.

#### For software:

- familiarity with the type of product you are testing
- familiarity with your product—current or earlier version
- domain knowledge as it relates to your product
- technical skills as they relate to use of your product
- computer skills
  - computer usage
  - device usage
  - Internet usage
- software skills
  - applications
  - usage
- job category
  - job title and type of work relevant to your product
  - could include other categories such as:
    - student
    - retiree
    - stay-at-home parent

#### For websites and web applications:

- familiarity with the web, based on types of usage/activities and amount of time per week/month
- familiarity with websites/applications that are competitors or that share the same space as your website or application

## Ontwerpen van een gebruikerstest (1)

- resultaat: testplan, zie bv (Barnum, 2011: 149-155)
- stel testdoelen vast
  - gebruik je specificaties
  - vul evt aan met testdoelen mbt nuttige usability-lijstjes, bv 5E

Here are some examples of goal setting using the 5Es:

- *Efficient*—Can users find the information they need to complete tasks without assistance? Can users perform a process within a predetermined timeframe?
- *Effective*—Can users successfully place an order or sign up for a service?
- *Engaging*—Do users rate their experience as satisfying or enjoyable? Do their comments (and body language) suggest that they are having a positive experience?
- *Error tolerant*—Do users experience errors? If so, how many? And when they experience errors, do they recover successfully? If they receive error messages, do they understand them?
- *Easy to learn*—Can users get started right away? Does their ability to do tasks improve as they become familiar with the system? Does the system architecture match their mental model for the way they expect the system to work?



## Ontwerpen van een gebruikerstest (2)

- definieer gebruikers(sub)groepen
- bepaal hoe je aan proefpersonen (deelnemers) komt
- bepaal een aantal scenario's, gebaseerd op taken die bij de testdoelen horen
  - geformuleerd in de taal van de gebruiker (niet van het product)
  - in context die bij de wereld van de gebruiker past
  - formuleer een doel ipv een stappenplan
  - geef zo nodig concrete gegevens voor formulieren etc
  - laat de gebruiker aangeven dat hij klaar is
  - één van de scenario's kan een 'look and feel' scenario zijn
- bepaal methoden voor gegevensverzameling (en laat zien dat ze bij de testdoelen passen), bv
  - hardop denken
  - observatie
  - vragenlijsten (pre-test, post-test)
  - interview (evt 'stimulated recall')
- bedenk testprocedure
  - bv in de vorm van een script voor de testleider



## Methoden 1: Hardop denken



## Analyse van cognitieve processen

(denk)processen, probleemoplossen

- tijdens: bijvoorbeeld
  - dialoog, geleid proces
  - vragen stellen (over het proces)
  - introspectie
  - observeren
  - **hardop laten denken**
  - MRI
- achteraf (retrospectief): bijvoorbeeld
  - interviewen
  - stimulus recall



## De hardop-denk methode: praktisch

- instrueren
  - "Ik geef je een opgave. Blijf hardop praten terwijl je het vraagstuk oplost."
  - "Los de volgende problemen op. Probeer tijdens het oplossen alles dat in je opkomt hardop te zeggen."
  - niet: "Vertel me wat je denkt"
- opwarmen
  - een klein puzzeltje om te wennen
- aan de praat houden
  - "Blijf praten."
  - niet helpen of sturen! (lastig...)
- opnemen
- (deels) uitschrijven
- analyseren

## Voorbeeld

- Een vader, een moeder en hun zoon zijn samen 80 jaar oud. De vader is tweemaal zo oud als de zoon. De moeder is even oud als de vader. Hoe oud is de zoon?

## Voorbeeld (student 1)

```
1: a father, a mother and their son are together 80 years old
2: the father is twice as old as the son
3: the mother is as old as the father
4: how old is the son?
5: well, that sounds complicated
6: let's have a look
7: I just call them F, M and S
8: F plus M plus S is 80
9: F is 2 times S
10: and M equals F
11: what do we have now?
12: three equations and three unknowns
13: so S ...
14: 2 times F plus S is 80
15: so 4 times S plus S is 80
16: so 5 times S is 80
17: S is 16
18: yes, that is possible
19: so father and mother are 80 minus 16
20: 64
21: er ... 32.
```

## Voorbeeld (student 2)

```
1: father, mother and son are together 80 years old
2: how is that possible?
3: if such a father is 30 and mother too
4: then the son is 20
5: no, that is not possible
6: if you are 30, you cannot have a son of 20
7: so they should be older
8: about 35, more or less
9: let's have a look
10: the father is twice as old as the son
11: so if he is 35 and the son 17
12: no, that is not possible
13: 36 and 18
14: then the mother is
15: 36 plus 18 is 54
16: 26 ...
17: well, it might be possible
18: no, then she should have had a child when she was 9
19: oh, no
20: no, the father should, the mother should be older
21: for example 30
22: but then I will not have 80
23: 80 minus 30, 50
24: then the father should be nearly 35 and the son nearly 18
25: something like that
26: let's have a look, where am I?
27: the father is twice ...
28: the mother is as old as the father
29: oh dear
30: my mother, well not my mother
31: but my mother was 30 and my father nearly 35
32: that is not possible
33: if I make them both 33
34: then I have together 66
35: then there is for the son ... 24
36: no, that is impossible
37: I don't understand it anymore
38: 66, ..., 80
39: no, wait, the son is 14
40: almost, ... the parents are too old
41: 32, 32, 64, 16, yes
42: the son is 16 and the parents 32, together 80
```

## Voorbeeld (vervolg)

A father, a mother and their son are 80 years old together. The father is twice as old as the son. The mother has the same age as the father. How old is the son?

Student 1:

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4: how old is the son?  
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16: so 5 times S is 80  
17: S is 16  
18: yes, that is possible  
19: so father and mother are 80 minus 16  
20: 64  
21: er ... 32.

Student 2:

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Uit van Someren, M.W., Y.F. Barnard & J.A.C. Sandberg (1994). *The Think Aloud Method: A practical guide to modelling cognitive processes*. London: Academic Press



## Waar ga je op letten?



- functionaliteit
- usability
- ...
- nodig: conceptueel kader ('bril')



## Analyse

- ruw protocol
  - labelen (coderen) *adhv* gekozen kader
- gecodeerd protocol
  - redeneren, analyseren
- conclusie
- overweeg tevoren:
  - met welke conceptuele 'bril'?
  - alles transcriberen?
  - coderen mbv tekst of geluidsopname?



## Meer informatie

bijvoorbeeld

Van Someren, M.W., Barnard, Y.F., & Sandberg, J.A.C. (1994)  
*The Think Aloud Method: A practical guide to modelling cognitive processes*  
London: Academic Press

