Imagine our customers...

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Abstract

• Who are our customers? What do they want? What are we delivering to them?
• When we think about the experiences that our customers have, what are we imagining? Are they using our software, our products, our services? Are they the customers of people using our software, products, services? Do they see themselves as using software? Or something else?
• At IT practitioners, it is easy for us to believe that we understand how software should work and what it should deliver. We are engaged in a technical world, and we deliver technical solutions. Sometimes we assume that is what everyone wants and needs. The more devices, apps, data, bandwidth, connectivity available the happier everyone will be. But is that true?
• To understand what is really required of our products, we need to design and test a pyramid of interlocking quality attributes, that build together to make an optimum experience for the people who use our products, matching their needs, and their desires. It is not enough to test functional suitability, performance, and reliability. People also require usability, accessibility, safety, excitement… and many other often conflicting quality attributes. These profoundly affect the user experience (UX) and the customers’ perception of risk, flow, and even their own competence. We can use UX methods to help us understand the people we affect and use quality attributes to measure building blocks towards delivering the experiences they want and need.
• For testers and developers without UX expertise, this presents challenges, concerns and questions: “How can we measure UX when it seems to focus on emotions, perceptions, aesthetics and ethics? How do we test it? Does it require us to rethink our approach, even to delegate that testing to the people who will use the software? Can we use AI and analytics to help us predict customer reactions? And if we do, are there ethical or validity concerns?”
• In her keynote, Isabel discusses these questions, suggests who our customers are, and introduces concepts and methods from UX that testers can adopt.
Imagine our customers...

This Photo by Unknown Author is licensed under CC BY-SA-NC
Imagine... their goals and tasks

Robert Owen

King Alfred the Great

Parents/Carers?

 Millennials?
Imagine their digital connections...

https://www.techhive.com/article/3259826/home-tech/best-smart-home-devices-for-google-home.html

“How about placing a QR code somewhere in the movie. An audience could pause the movie while watching it on their tv or computer, scan it with their smartphone, and be taken to a mobile site which might tell them something they might not know about the storyworld and/or narrative.”

http://convergenceishere.weebly.com/consumption-devices.html
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Isabel Evans
Imagine... their digital access

Digitalisation in Denmark

Denmark is one of the world's most digitalised countries. Most transactions are cashless, and almost all interaction with the Danish authorities takes place online.

Digital by default

If you need to pay your taxes, report a bicycle theft, or make an appointment with the public health service in Denmark, you can do it all from your computer. Almost every agency or public official can be reached online, and each citizen has a specific digital signature to "sign" important documents.
Imagine... their digital access

“While speeds in Argyll and Bute, Moray and Ceredigion averaged around 7Mbps, the average speed in Orkney was a pitiful 3Mbps.”

https://www.which.co.uk/news/2019/01/does-your-area-have-the-uks-slowest-broadband/
Where Adults Lack Access To A Bank Account

Number of adults without a bank account in 2017*

- China: 224.0m
- India: 191.0m
- Pakistan: 99.0m
- Indonesia: 96.6m
- Nigeria: 62.7m
- Mexico: 58.7m
- Bangladesh: 57.9m
- Vietnam: 49.3m
- Brazil: 48.4m
- Philippines: 46.0m

Total number of adults with no bank account worldwide: 1.7 billion

* The World Bank defines adults as aged 15+ in this case

Source: World Bank


Isabel Evans

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And in Denmark...?

“MobilePay is a mobile banking app that requires a Danish bank account, Danish mobile phone number and CPR number to log in”


https://www.thelocal.dk/20180315/is-life-in-denmark-impossible-without-a-personal-registration-number
Imagine... their technical skills

Level of skills with computers
working people 18-65, 33 richest countries

https://www.nngroup.com/articles/computer-skill-levels/
Imagine... their (dis)abilities

It’s not that some people are disabled and need accessibility...

It is that some people are temporarily able/with access in some situations...

(Julian Harty)
Imagine... their (dis)abilities

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Michael Crabb @mike_crabb · Apr 23

6th Talk at our @SICSA_Scotland preCHI day is from me! I’m talking about designing accessible services. #chi2019 talk is on Thursday at 11:00 in BOISDALE 2

http://accessible-reality.org/

16th May: Global Accessibility Awareness Day: The purpose is to get everyone talking, thinking and learning about digital access/inclusion

https://globalaccessibilityawarenessday.org/
Imagine... their (dis)abilities/impairments to access

<table>
<thead>
<tr>
<th></th>
<th>Cognitive</th>
<th>Communication</th>
<th>Visual</th>
<th>Physical</th>
<th>Emotional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent</td>
<td></td>
<td></td>
<td>Colour blind – cannot identify red warning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temporary</td>
<td></td>
<td></td>
<td>Sore throat – cannot speak</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Situational</td>
<td></td>
<td></td>
<td>Carry a child – no free hands</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Developing Accessible Services: understanding current knowledge and areas for future support (Crabb et al, CHI 2019)
Imagine... their pressures and challenges, circumstances

- Individual
- Family / Team
- Village / Organisation
- Country / Industry
- Cultural / Global
Imagine... their pressures and challenges, circumstances

- Task based
  - Personality
- Temporal
  - Peer
  - Societal
- Cognitive
  - Religious
- Physical
  - Identity
- Emotional
  - Sexuality

- Individual
  - Physical health
- Family / Team
  - Mental health
- Village / Organisation
  - Spiritual health
- Country / Industry
  - Emotional well being
- Cultural / Global
  - Moral / ethical well being
Imagine how they experience software...

Imagine their world

- Apple user
- Silver emailer
- Blind PC user
- Ship's captain
- Librarian
- Manual worker
- Consultant doctor
- Hill farmer

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Imagine... what AI and analytics will do

• Can we use AI and analytics to help us predict customer reactions?
  – Yes, but...
    • Looking in the mirror
    • Swimming in a goldfish bowl and thinking it is the ocean

• And if we do, are there ethical or validity concerns?
  – Yes, and...
    • Training bias
    • Obtaining the data
Just imagine... people have babies...

Today in technology:

My food tracker won't let me compensate for breastfeeding

My sleep tracker thinks I'm waking 4 times a night to check facebook

Unrelated: Diversity in product development teams

https://twitter.com/lady_nerd/status/1130194534950793216
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Isabel

Just imagine ...

pushing a stroller...

How tall is someone pushing a stroller...?

Adrienne Porter Felt @apf_ · May 20
Fitness trackers fail to register walking or running if you're pushing a stroller :/

19 💬 19 ❤️ 275

Tim Kadlec @tkadlec · May 20
Fitbit seems to get it right, fwiw. I take my youngest on walks each night and it picks it up.

3 💬 19 ❤️ 14

Adrienne Porter Felt @apf_ · May 20
if you are tall enough that your wrists point down it seems to work (like for my husband). If you are short enough that your wrists are neutral or pointing up on the stroller handle (like me) it doesn't work

6 💬 2 ❤️ 255

Tim Kadlec @tkadlec · May 20
Ah...well that sucks.

1 💬 1 ❤️ 24

Thisisnotapointoforder @SmokeytheBandit · May 20
Yes, my pushchair days are behind me but no trip pushing a trolley round the supermarket gets recorded. Same set up.
Dr Maxine H @MaxineDance · May 20
Reverting @lady_nerd @SimmsMelanie
Fitbit keeps moving the start dates of periods that I've already had whenever I tell it I've lost some weight because er... because it can? Why TF is that even a feature. Behold ladies, this watch can tell you when your period ACTUALLY was because you might not have noticed

Vicky B UCU (Zenscara) @zenscara · May 20
It refuses to listen to me when I delete them on account of running pill packs together too. It seems to delete, then magically reappears because I "must" have had it. Erm no.

Dr Maxine H @MaxineDance · May 20
I've also heard that its "impossible" to have a period that last longer than 10 days.

Good to know tech guys, if you could have told my 20 year old uterus that, that would have been even better

Vicky B UCU (Zenscara) @zenscara · May 20
It never ceases does it...
Imagine... AI and gender

• And wonder if it is any of our business...?
  – “Gender Recognition or Gender Reductionism? The Social Implications of Automatic Gender Recognition Systems” Hamidi, Scheuerman and Branham [CHI2018 Best Paper Award]

• T2: “based on ... the fact that tech is still majority white and male ...What kinda people are the bases for these predictions of ‘what gender are you?’ “

• P4: “For legal ID’s we put sex ... but we don’t have blood types ... which doesn’t make sense ...”
Imagine... “we don’t have to, because...”

• “Embedded software - I don’t have users...”
  – It is all H to H ...
• “In-house – people have no choice...”
  – Productivity, Motivation...
• “This is requirements, it is nothing to do with me...”
  – Test the requirements!
• “All my customers are exactly like me in every respect”
  – Really? Really?!?!?!?
• “It’s just about old people and they will be dead soon”

REALLY...???
The pressure to improve UX

People
- Society
- Fashion
- Ethics
- Norms

Government
- Legislation
- Economics
- Politics

Business
- Market share
Imagine... what we should do...

- What does a user-centric testing approach mean for us? **Big opportunity!**
- Should we stop imagining the customers and what they want and just involve them more, even delegate that testing? **Yes – if we can!**
- How can we measure UX (emotions, perceptions, aesthetics and ethics)? How do we test it? Does it require *new* techniques and tools? **Qualitative methods, HCI methods...**
Imagine... thinking about the whole system

World

Tribe

Family

Self

Device

SW

User Experience

Trust

Freedom from risk

Effectiveness

Security

Reliability

Protection from errors

Operability

Functional Suitability

Quality in Use

Product quality

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SERVICE BLUEPRINT Example (Appliance Retailer)

EVIDENCE
- Website
- Retail location
  - Store signage
  - Appliance signage
- Employee’s name tag
- Product description
- Price tag
- Credit card
- Store receipt
- Appliance Delivery receipt

CUSTOMER JOURNEY
- Visits website
- Visits store, browses appliances + sales
- Discusses features, price, availability, with salesperson
- Makes purchase
- Notified of delivery ETA
- Appliance delivered

LINE OF INTERACTION
- Support chat

FRONTSTAGE
- Employee Actions
- Welcome to store
- Checks inventory and delivery times
- Provides delivery time
- Automated call with date of delivery

BACKSTAGE ACTIONS
- Responds to chat questions
- Inventory management system
- Point of sale system
- Fullfillment queue
- Accounting

LINE OF INTERNAL INTERACTION
- Support Processes
- Analytics logs visitor
- Foot traffic scanner
- Payment process
- Appliance distributor
- 3rd party delivery service

TIME
- 5.25 mins
- 20-50 mins
- 5-12 days
- 35 seconds
- 20-32 mins

lines: solid - internal, dashed - external
Service Blueprint Example (Appliance Retailer)

Time
- 5-25 mins
- 20-50 mins
- 5-12 days
- 35 seconds
- 20-32 mins

Evidence
- Website
- Credit card
- Store receipt
- Appliance Delivery receipt

Customer Journey
- Visits website
- Makes purchase
- Notified of delivery ETA
- Appliance delivered

Line of interaction
- Front stage
- Employee actions
- Provides delivery time
- Automated call with date of delivery

Technoogy
- Support chat
- Point of sale system
- Fullfillment queue
- Accounting

Backstage actions
- Responds to chat question
- Point of sale system
- Fulfillment queue
- Accounting

Line of visibility
- Backstage actions
- Line of internal interaction
- Support Processes
- Analytics
- Payment process
- Appliance distributor
- 3rd party delivery service

Line of internal interaction
- Support Processes
- Analytics
- Visitor
- Payment process
- Appliance distributor
- 3rd party delivery service

https://www.nngroup.com/articles/ux-mapping-cheat-sheet/
What makes software excellent quality? (Vijay Kiran)

- Excellent quality software
- Ethically good software
- Excellent UX
- Engineered excellently
Imagine how we could treat our customers...

Eng

SW

Ethics

UX

Inclusive

Ethical

Diverse

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As practitioners and professionals we have a duty of care...

- Physical health
- Mental health
- Spiritual health
- Emotional well being
- Moral / ethical well being

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