



UiO • Institutt for informatikk
Det matematisk-naturvitenskapelige fakultet

Hvor enkelt kan det bli?

Positive og negative aspekter ved digitalisering

Tone Bratteteig

Design av informasjonssystemer, Ifi, UiO

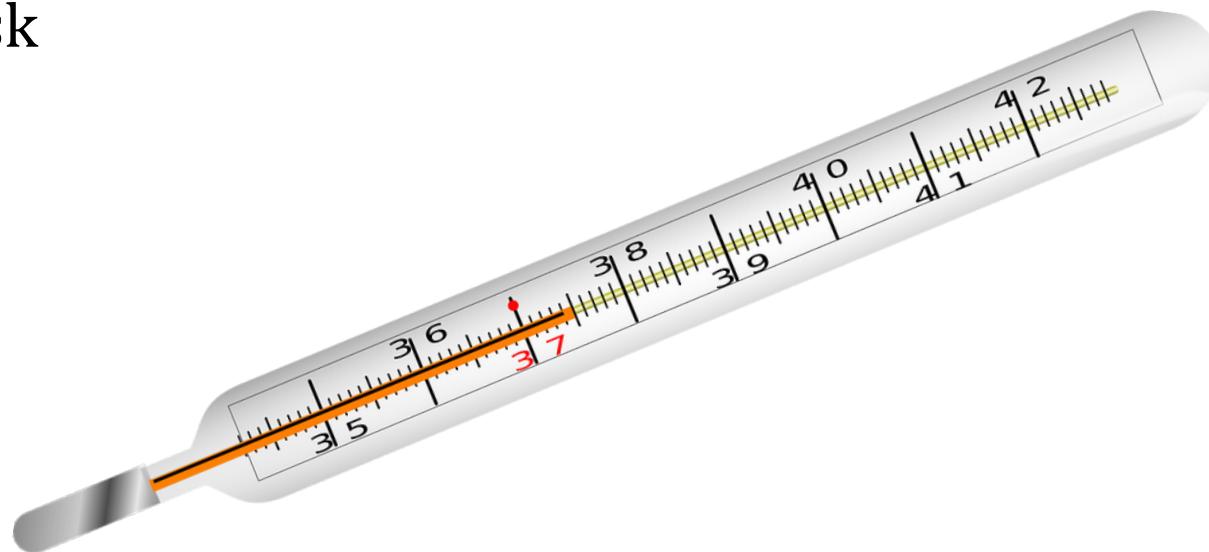


digitalisering

- digital (tall, re-presentasjon, modell)

&

- elektronisk



digitalisering av offentlige tjenester

- offentlige tjenester er for alle borgere
 - i alle situasjoner
- offentlige tjenester kan borgene ikke velge å ikke bruke



digitalisering

1) automatisering av arbeidsoppgaver

- delegering av arbeid
- endret organisering av arbeid
- fler / mer tilgjengelige tjenester for publikum

2) gevinstrealisering

3) utnytte nye muligheter som oppstår

- andre tjenester basert på digitaliseringen
- enda nyere arbeids-oppgaver og -måter & endret org.

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deleger arbeid => færre jobber

- for å spare
- for å gjøre mer med færre folk

... som oppstår
på digitaliseringen
- enda nyere arbeids-oppgaver og måter & endret org.

IS-1990

Velferdsteknologi

Fagrappport om implementering av velferdsteknologi i
de kommunale helse- og omsorgstjenestene 2013-2030

«Velferdsteknologi handler ikke om teknologi ...
... men om mennesker» (Nis Peter Nissen)



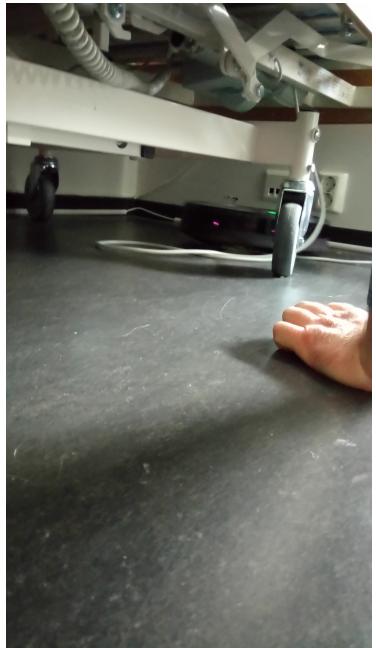
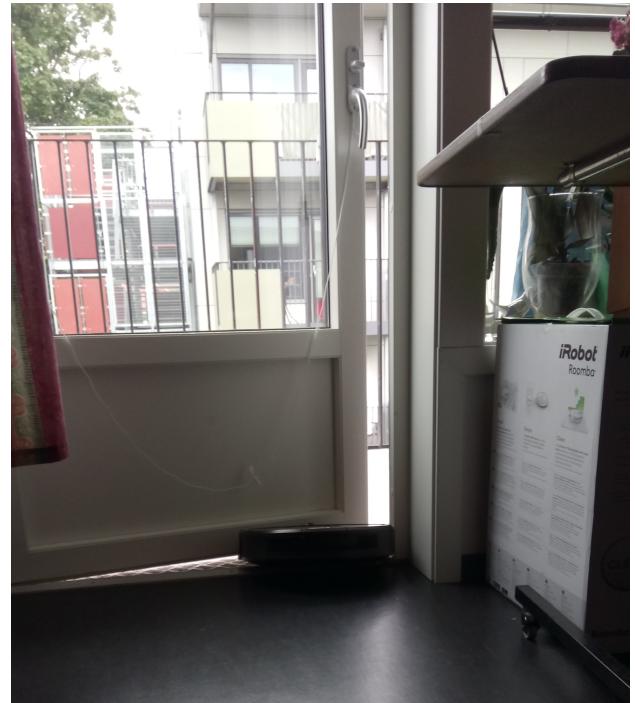
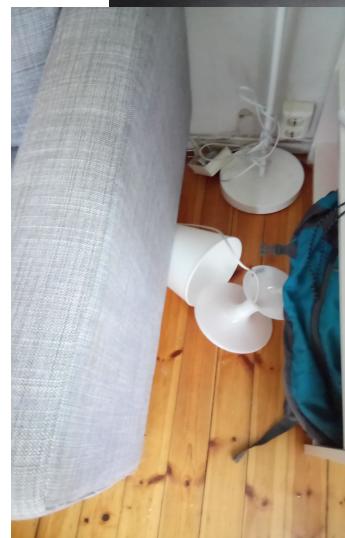
Helsedirektoratet

digitalisering



PHOTO: SISSE FINKEN

roboter (autonome data- maskiner)



Diana Saplakan

digitalisering

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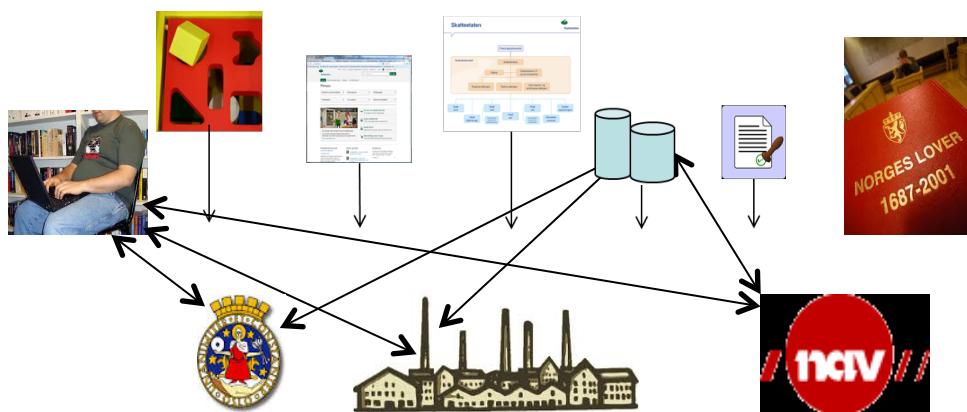
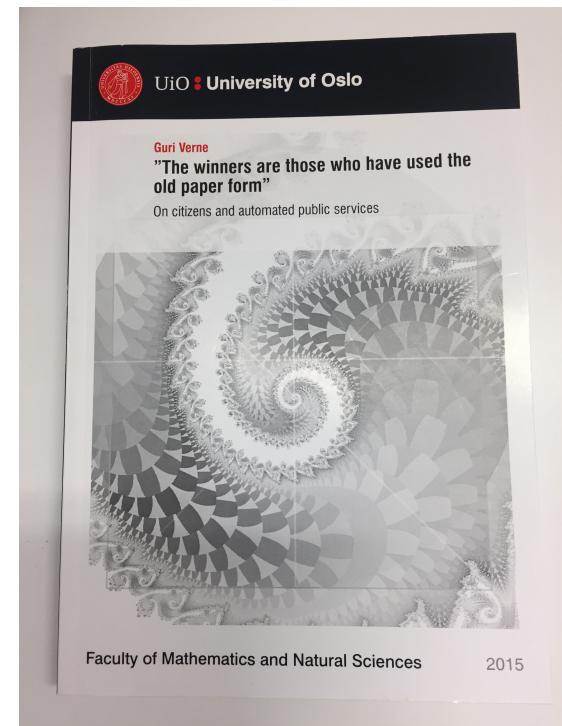
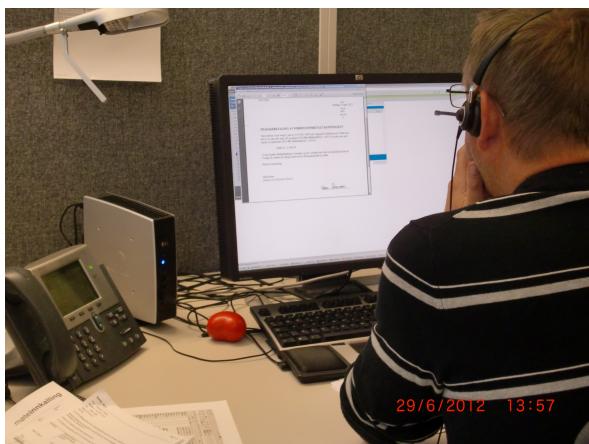
2) gevinstrealisering

3) utnytte nye muligheter som oppstår

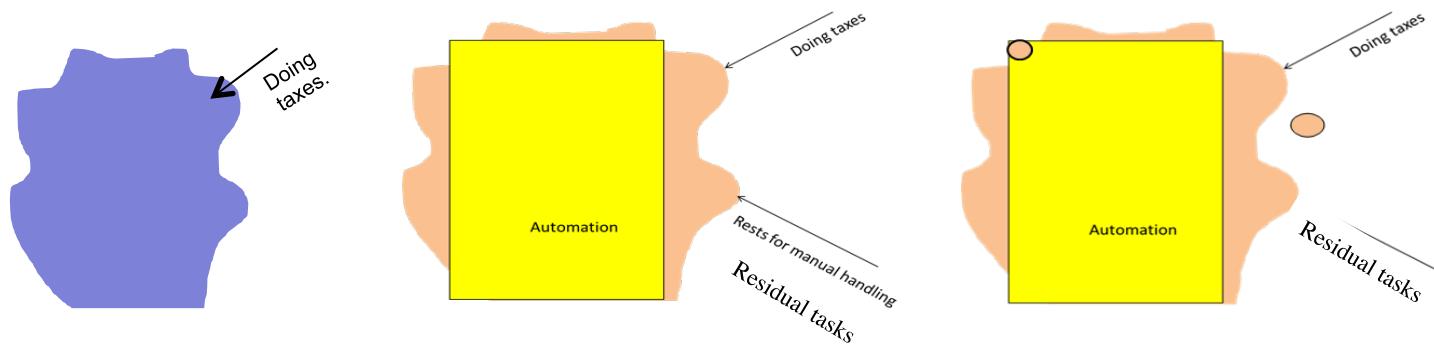
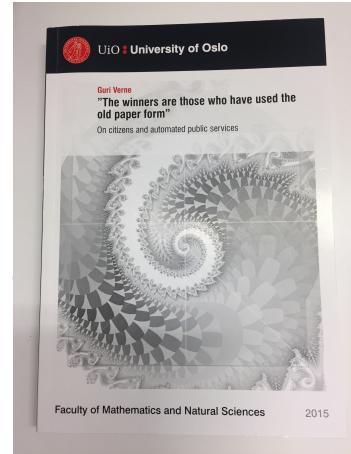
- andre tjenester basert på digitalisering
- enda nyere arbeids-oppgaver og -måter

The screenshot shows the Skatteetaten website with a navigation bar at the top. Below the navigation, there are several service links: 'Skattekort og forskuddsskatt', 'Skattemelding (selvangivelse)', 'Skatteoppgjør', 'Folkeregister', 'Aktjer og verdipapirer', and 'Avgifter'. A large image of a man and a woman looking at a smartphone is displayed, with text below it about the 2016 tax return being ready. To the right, there's a sidebar with links for 'Søk i skattelistene', 'Logg inn i Min meldingsboks', 'Bestill eller endre frikort eller skattekort', 'Bestill attester', and 'Meld flytting innen Norge'. Further down, there are sections for 'Svindelforsøk - falske e-poster', 'Datoer og frister' (with a '15 NOV' notice), and 'Kontakt oss'. At the bottom, a large 'Skattemelding (selvangivelse)' section provides information about filing deadlines and a chat interface for help.

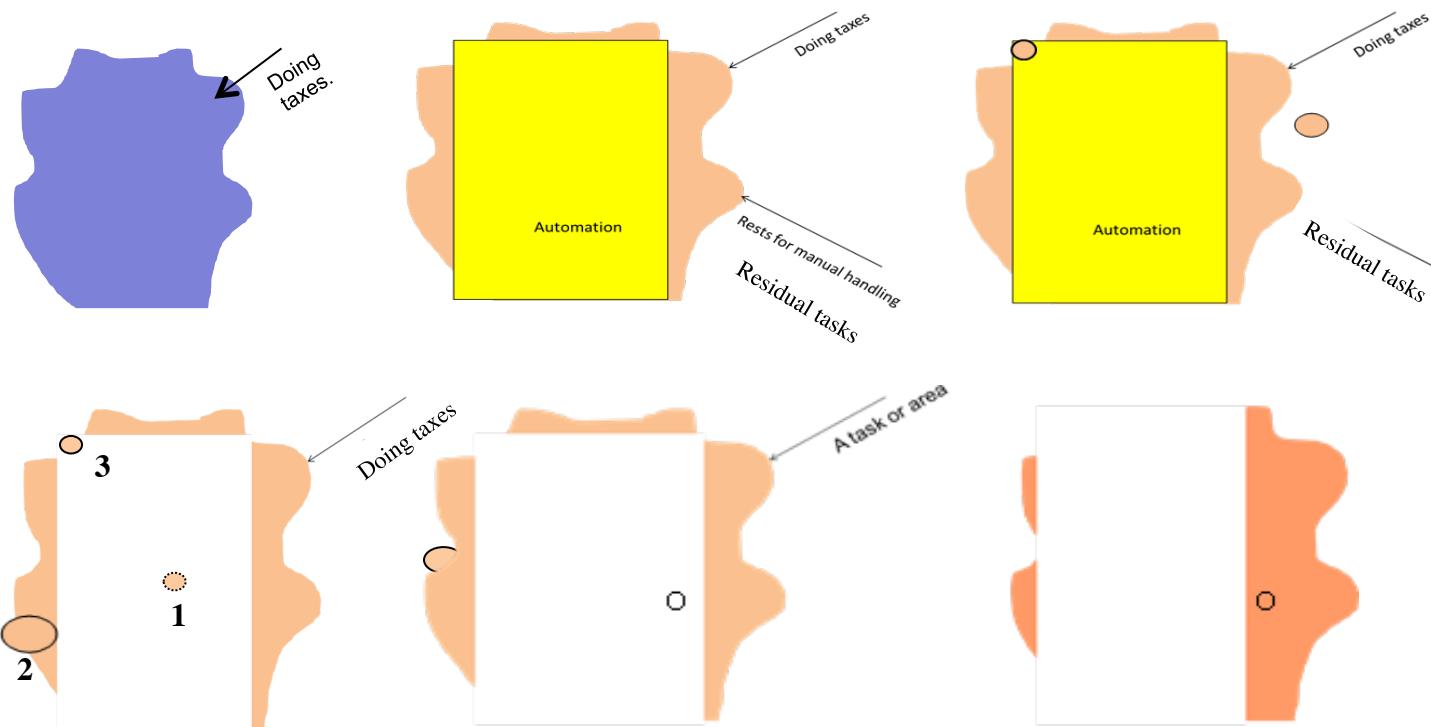
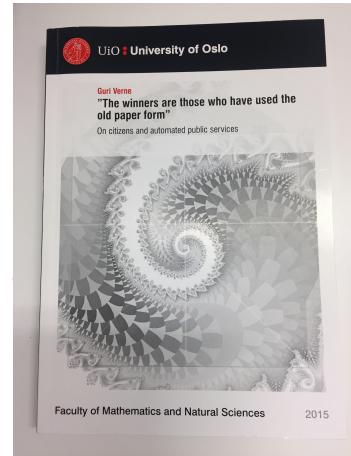
brukernes opplevelse av en digital tjeneste



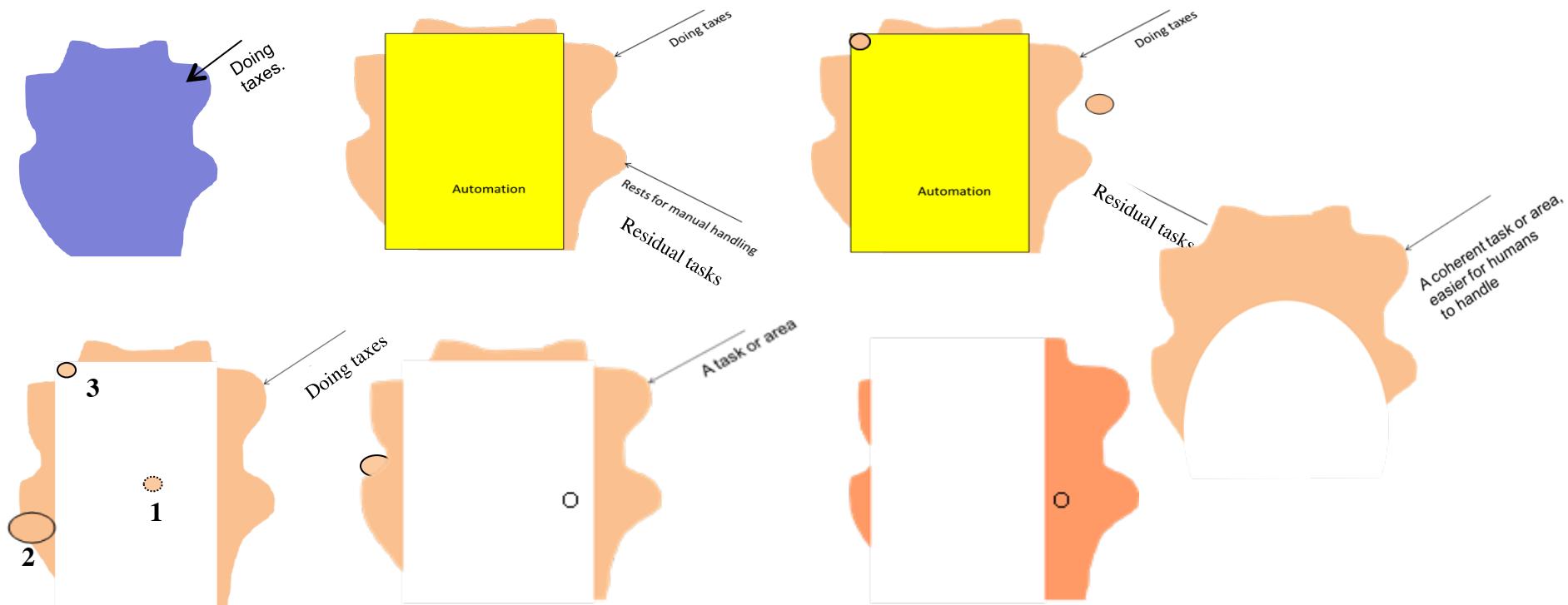
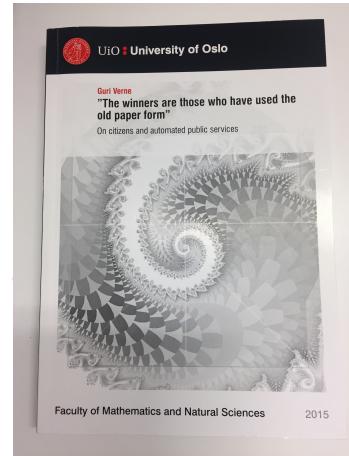
brukernes opplevelse av en digital



brukernes opplevelse av en digital



brukernes opplevelse av en digital



automatisering

Cummings: levels of automation

1	helt manuelt, ingen assistanse, mennesket tar alle beslutninger
2	datamaskinen tilbyr fullstendig sett med beslutnings-alternativer
3	datamaskinen velger ut beslutnings-alternativer
4	datamaskinen foreslår et beslutnings-alternativ
5	datamaskinen utfører det foreslalte beslutnings-alternativer hvis godkjent
6	datamaskinen tillater mennesket veto for en begrenset periode før utføring
7	datamaskinen utfører automatisk og informerer mennesket
8	datamaskinen utfører automatisk, informerer mennesket bare hvis etterspurt
9	datamaskinen utfører automatisk, informerer mennesket bare hvis pre-programmert
10	datamaskinen bestemmer alt, uten menneskelig innblanding, ignorerer mennesket

digitalisering

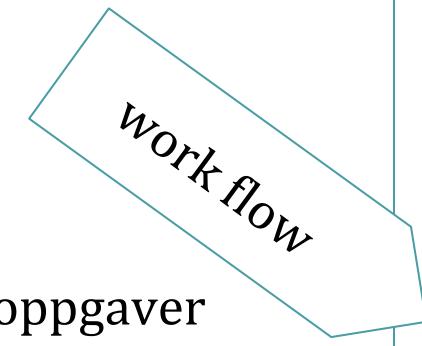
1) automatisering av arbeid

- delegering av arbeid
- endret organisering av arbeid
- flere / mer tilgjengelige oppgaver

2) gevinstrealisering

automatisering og forenkling
av arbeid i forvaltningen

- standardisering
- kontroll
- delegering av arbeidsoppgaver
- restoppgaver



3) utnytte nye muligheter som oppstår

- andre tjenester basert på digitaliseringen
- enda nyere arbeids-oppgaver og -måter & endret org.

digitalisering

1) aut



- de
- en
- fler / mer tilgjengelige

2) gevinstrealisering

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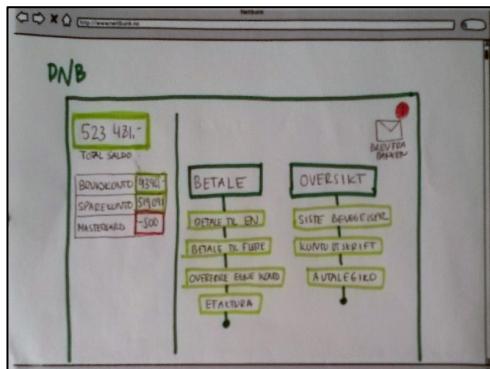
- andre tjenester basert
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automatisering og forenkling



hva er lett og vanskelig?

The screenshot shows the DNB Lettbank startpage. At the top left is the DNB logo. Below it, under 'Mine Kontør', are two tables: 'Brukskonto' (7065.93.918 | 4 351,-) and 'Sparekonto' (9775.87.928 | 140 212,-). A 'Total Saldo' of 144 563,- is displayed. To the right are two main sections: 'Betaling' (with 'Betal til en', 'Betal til flere', 'eFaktura', and 'Overføre egne konti') and 'Oversikt' (with 'Siste transaksjoner', 'Kontoutskrift', 'Betalingsoversikt', 'Avtalegiro', and 'Brev fra banken'). A red notification bubble with the number '1' is visible above the 'Oversikt' section.



The collage includes:
1. Top right: A banner for 'UiO • Institut for informatikk' with the text 'Du må vite hvor du skal lete' (You must know where to look) and 'Eldres bruk av nettbaserte tjenester' (Older people's use of web-based services).
2. Middle right: A photo of four elderly people sitting around a table, looking at papers and documents.
3. Bottom right: A close-up photo of an elderly person's hands working on a document at a desk.
4. Bottom center: A photo of several people sitting around a table, looking at papers and documents.
The background of the collage features a repeating geometric pattern of triangles and lines.



digitalisering

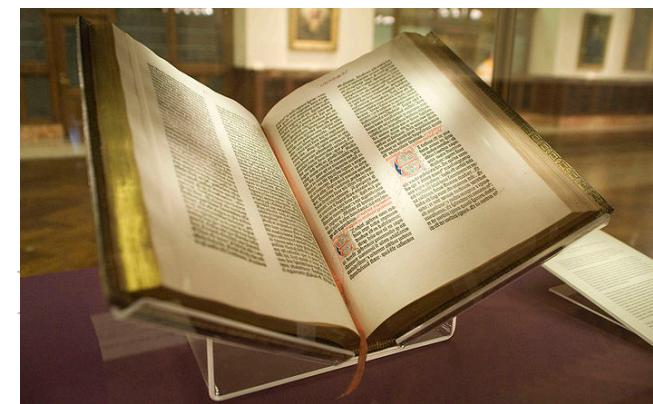
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digitalisering



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Tre utfordringer for digitalt lederskap | Birger Magnus

BIRGER MAGNUSS INVESTOR OG STYRELEDER NRK, TIDLIGERE KONSERNDIREKTØR I SCHIBSTED OG PARTNER I MCKINSEY

OPPDATERT: 18.OKT.2017 20:48 | PUBLISERT: 18.OKT.2017 18:30

J KRONIKK



1. *Fra strategiske planer til mer eksperimentering*
2. *Toppledere må gi pratet om nyskaping reelt innhold*
3. *Toppledere må oppgradere kultur- og kompetansearbeidet*

3) utnytte nye muligheter som oppstår

- andre tjenester basert på digitaliseringen
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digitaliser

1) automatiser

- delegering av arbeid
- endret organisasjoner
- flere / mer teknologi

2) gevinstrealisering

3) utnytte nye teknologier

- andre tjenester
- enda nyere teknologi

TECHNOLOGY

Tech's 'Frightful 5' Will Dominate Digital Life for Foreseeable Future

Farhad Manjoo

STATE OF THE ART JAN. 20, 2016

There's a little parlor game that people in Silicon Valley like to play. Let's call it, Who's Losing?

There are currently four undisputed rulers of the consumer technology industry: Amazon, Apple, Facebook and Google, now a unit of a parent company called Alphabet. And there's one more, Microsoft, whose influence once looked on the wane, but which is now rebounding.

So which of these five is losing? A year ago, it was Google that looked to be in a tough spot as its ad business appeared more vulnerable to Facebook's rise. Now, Google is looking up, and it's Apple, hit by rising worries about a slowdown in iPhone sales, that may be headed for some pain. Over the next

Which isn't to say these companies can't die. Not long ago people thought IBM, Cisco Systems, Intel and Oracle were unbeatable in tech; they're all still large companies, but they're far less influential than they once were.

Apple, Amazon, Facebook, Google, Microsoft ...



Apple, Amazon, Facebook, Google, Microsoft ...



All-new Echo (2nd Generation) with improved sound, powered by Dolby, and a new design – Charcoal Fabric

Amazon
★★★★★ 436 customer reviews
| 195 answered questions
#1 New Release in Electronics

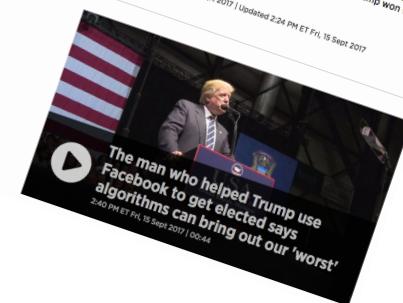


Apple, Amazon, Facebook, Google, Microsoft ...

The screenshot shows a Facebook event page for 'IN1000-seminar'. The main image is a photograph of a modern, multi-story building with a glass facade and a brick base. Below the image, the event details are listed: 'NOV. 4. IN1000-seminar' by 'Fagutvalget ved Institutt for informatikk - FU1'. There are two buttons: 'Interessert' and 'Skal'. Below the event details, it says '4. november klokken 11:15 til 17:00 for 3 dager siden'. The location is 'Fagutvalget ved Institutt for informatikk - FU1 Ole-Johan Dahls hus, 0373 Oslo, Norway'. There are links for 'Vis kart' (View map) and 'Diskusjon' (Discussion). At the bottom, it says '43 var der · 61 interessert' (43 were there · 61 interested) and 'Del dette arrangementet med venner dine' (Share this event with your friends).



A news article from CNBC titled 'The man who helped Trump use Facebook to get elected says algorithms can bring out our 'worst''. The article discusses how Darren Bolding, CTO of Cambridge Analytica, used unsupervised, automated software to target ads on Facebook during the 2016 US presidential election. It includes a quote from John Shinal, CEO of Startup Grind, and a photo of Donald Trump speaking.



vi produserer selv tjenestene

A screenshot of a Facebook profile page for 'The Alamo'. The profile picture is the Alamo building. The page has 1,140 likes, 1,140 posts, 1,140 photos, and 1,140 videos. The cover photo is a large image of the Alamo building. The bio reads: 'The Alamo is a historic mission and fort in San Antonio, Texas, United States. It is one of the most visited historical sites in the state of Texas.'



Apple, Amazon, Facebook, Google, Microsoft ...

M | X | Twitter

Sign in Get started



Hans Peter Brondmo [Follow](#)

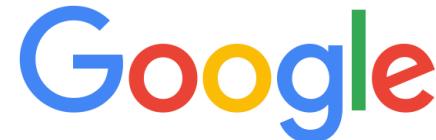
robots at X, tech entrepreneur, adventurer, (photo) geek, Norwegian, living San Francisco, born with skis on. <http://luumi.us>

Oct 12 · 4 min read

Inside robotics at X

Machine Learning +Robots = new approaches to humanity's big problems

Pop culture created our love affair with robots; thanks to movies, TV and media going back to the 1950s and 1960s, millions of us are waiting for our own friendly bipedal humanoid. Perhaps you think that only when our laundry is automatically folded and dishwasher loaded, “the future” will have arrived. But these strong pop culture notions of what a robot is have had an unintended side effect: we often misunderstand what robots really are. “Building cool robot technology” is not an end in itself; instead, robots are tools that we can put to work to extend humanity’s capabilities.



Apple, Amazon, Facebook, Google, Microsoft ...

[Sign in](#)[Get started](#)Hans Peter Brondmo [Follow](#)

robots at X, tech entrepreneur, adventurer, (photo) geek, Norwegian, living San Francisco, born with skis on. <http://luumi.us>

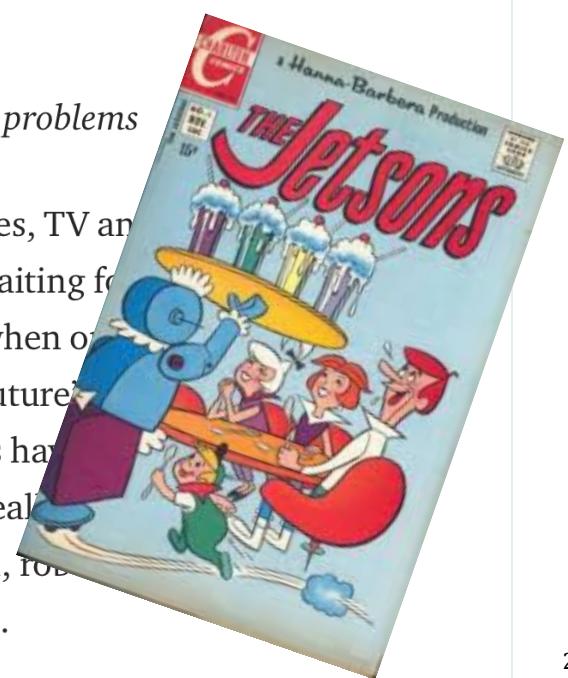
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hanks to movies, TV and books, millions of us are waiting for a future we think that only when our culture is fully loaded, “the future” will bring. But what a robot is having to offer us is not what robots really do, but what they can do for itself; instead, robots have to prove their own capabilities.

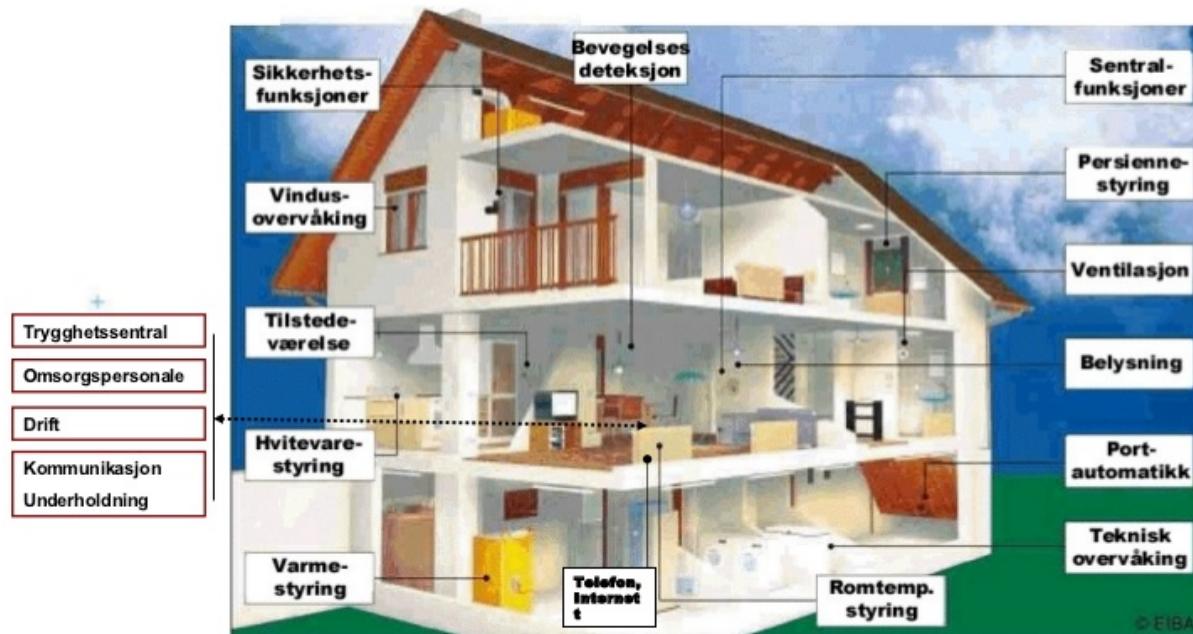


et “digitalt lag” på virkeligheten

- digitale representasjoner er hverdagslig (& viktigere?)
- alltid tilgang til data (kan google alt)
- sanntids-data tilgjengelig der du er (mindre planlegging)
- alltid elektroniske spor (vi legger igjen data alle steder)
- data om meg og mine handlinger er en verdi
- data personaliseres (silt info, ekko-kamre)
- ”big data” – statistikk-baserte beslutninger og prediksjoner
- lag-på-lag av teknologi gjør den mer u gjennomtrengelig

digitale infrastrukturer & brukernes “touch points”

Smarthus teknologi



“greve-autonomi eller gjør-det-selv-autonomi”



*Automat. Vol.19, No. 6, pp. 775-779, 1983
Printed in Great Britain*

0005-1089/83 \$3.00 + 0.00
Pergamon Press Ltd
© 1983 International Federation of Automatic Control

Brief Paper

Ironies of Automation*

LISANNE BAINBRIDGE†

Key Words—Control engineering computer applications; man-machine systems; on-line operation; process control; system failure and recovery.

Abstract—This paper discusses the ways in which automation of industrial processes may expand rather than eliminate problems with the human operator. Some comments will be made on methods of alleviating these problems within the ‘classic’ approach of leaving the operator with responsibility for abnormal conditions, i.e. for continued use of the human operator in the human-computer coalition.

Irony: combination of direct opposite of Paradox: seemingly statements.

THE classic aim of computers is planning and controlling processes. However, even highly automated systems still need human beings to expand and maintain the technological control. man-machine systems factors are very important in human-computer collaboration. The contribution of the computer to the automation of industrial processes can be seen as a major source of operating problems. Unfortunately, people who have access to data on this are reluctant to publish them, as the actual figures are difficult to interpret. (Some types of errors may be reported more readily than others, and there may be disagreement about their origin.) The second irony is that the designer who tries to eliminate the operator still leaves the operator to do the tasks which the designer cannot think how to automate. It is this aspect which is discussed here, as it means that the operator will only be successful in unusual situations if he has an auxiliary process. There are also problems with knowledge from long-term memory depends on the type of use (consider any subject whom you passed an examination in a few years ago). The other is that this type of knowledge develops only through use and feedback about its effectiveness. People can use the knowledge in theoretical classroom interactions without appropriate practical exercises will probably not understand much of it, as it will not be within a framework which

* Received 16 December 1982; revised 23 May 1983. The original version of this paper was presented at the IFAC/IIF/IFORS/IIM Conference on Analysis, Design, and Evaluation of Human-Machine Systems, which was held in Baden-Baden, FRG, during September 1982. The published proceedings of the IFAC meeting may be ordered from Pergamon Press Ltd, Headington Hill Hall, Oxford OX3 0BW, U.K. This paper was recommended for publication in revised form by editor A. Sage.

† Department of Psychology, University College London, London WC1E 6BT, U.K.

775

Guri Verne

oppsummering: digitalisering

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Hvor enkelt kan det bli?

UiO • Realfag og teknologi

Titan.uio.no

MENY



Else Tovik (t.v.), Marit Müller-Nilssen, Berit Dahl og Anita Woll er skjønt enige om at velferdsteknologien bør utvikles på de eldres premisser. Her er de samlet i kantina i Kampen Omsorg+. Foto: Gunhild M. Haugnes/Uio [Bruk bildet](#).

Velferdsteknologi: - For mye teknologihype, for lite brukerfokus

Nettbrett, roboter, intelligente sensorer og smarte hjem
Velferdsteknologi trekkes fram som vidunderkuren inn
eldreomsorgen. Men er det så enkelt?

av Gunhild M. Haugnes – 5. september, 2017

