

Sammen og på tværs af køn knækker vi koden

ICILS-konference 5. november

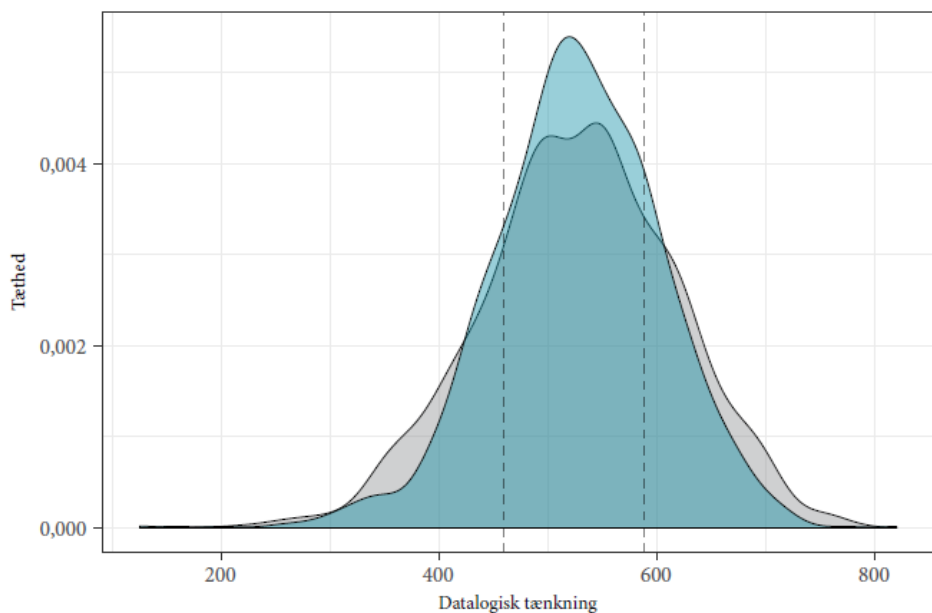
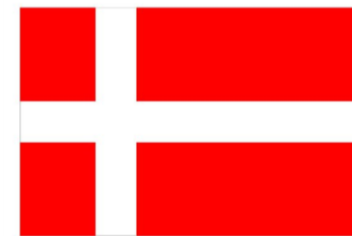
Sine Zambach, 5/10 2019

Analytiker, Økonomi og analyse, CBS

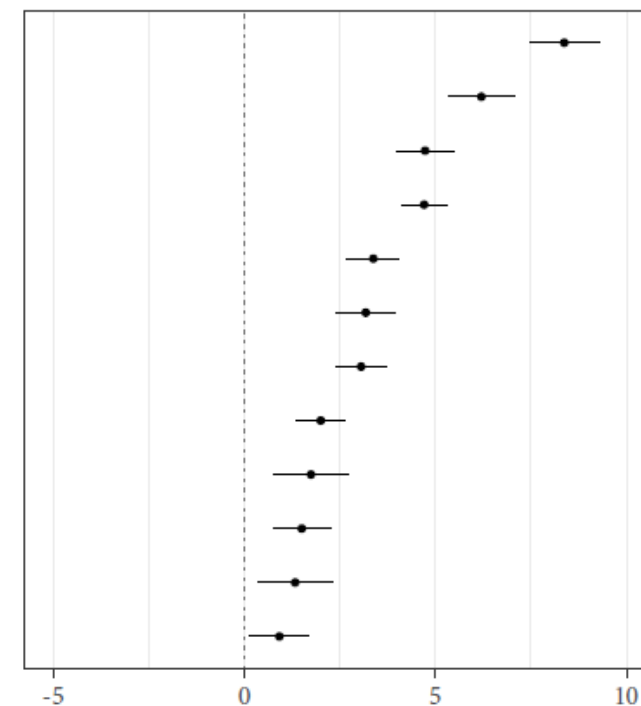
Forfatter til Kvinde kend din kode og undervisningsforløb til Teknologiforståelse, ph.d. i datalogi og kaptajn for Coding Pirates Vanløse, medlem af HKs Kvinde-IT-råd, DigiPippi, tidl. redaktør på Praxis



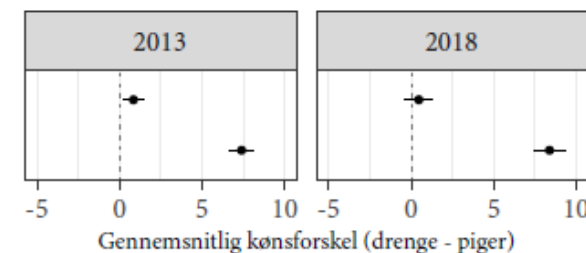
ICILS 2018-opsummering



	Dreng	Piger	Forskel
Danmark	51 (0,3)	43 (0,4)	8 (0,5)
Tyskland	51 (0,3)	45 (0,3)	6 (0,4)
Finland	52 (0,3)	48 (0,3)	5 (0,4)
Luxemburg	52 (0,2)	48 (0,2)	5 (0,3)
Frankrig	52 (0,2)	48 (0,3)	3 (0,3)
Portugal	53 (0,3)	50 (0,4)	3 (0,4)
Italien	51 (0,3)	48 (0,3)	3 (0,3)
USA	50 (0,3)	48 (0,2)	2 (0,3)
Sydkorea	49 (0,4)	47 (0,3)	2 (0,5)
Chile	52 (0,3)	51 (0,3)	1 (0,4)
Uruguay	52 (0,4)	50 (0,4)	1 (0,5)
Kasakhstan	54 (0,3)	53 (0,3)	1 (0,4)



	2013			2018		
	Dreng	Piger	Forskel	Dreng	Piger	Forskel
Basal	52 (0,3)	51 (0,3)	1 (0,3)	52 (0,3)	52 (0,3)	0 (0,4)
Teknisk	53 (0,3)	45 (0,3)	7 (0,4)	51 (0,3)	43 (0,4)	8 (0,5)



Lige et par spørgsmål

- Hvor mange her synes det er okay at piger vælger teknologiskabelse fra?
- Hvor mange her tænker det er ok (eller nogen andres problem) at piger har SÅ ringe selvtillid i forhold til teknik, når nu de burde have mindst lige så meget som drengene?

Ja hvorfor skal alle prøve at skabe et program (eller kende koden)?

- For "mig"
 - It er den lim der binder hverdagen sammen
 - Demokratisk problem hvis jeg ikke ved hvordan det fungerer
 - Man kan selv skabe sine egne it-løsninger
- For samfundet på kort sigt
 - Vi kommer til at mange 19.000 IT arbejdspladser
 - Der er - jvf bl.a. ICILS – tydeligvis en talentmasse der ryger ud til højre
- Afledte effekter
 - (IT) Teams fungerer bedre med diversitet
 - Kommende generationer (vores børn) kan se at it og tech er for alle
 - Store it-produkter kommer af folk der hygge-nulrer med teknologien
 - Tiltrækker også andre typer mænd til branchen



Omverden

Fysiske virkelighed. F.eks.

- Lyde og lys
- Blæk på papiret
- Interaktioner mellem mennesker

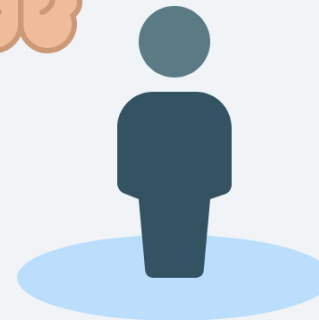
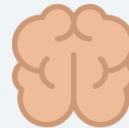


Bevidsthed

Tanker
Information
Idéer

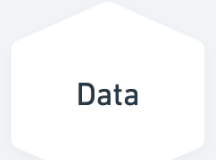


Fysisk interaktion
med omverden



Dataprocess

Sprog, tal og symboler



Opfattelse

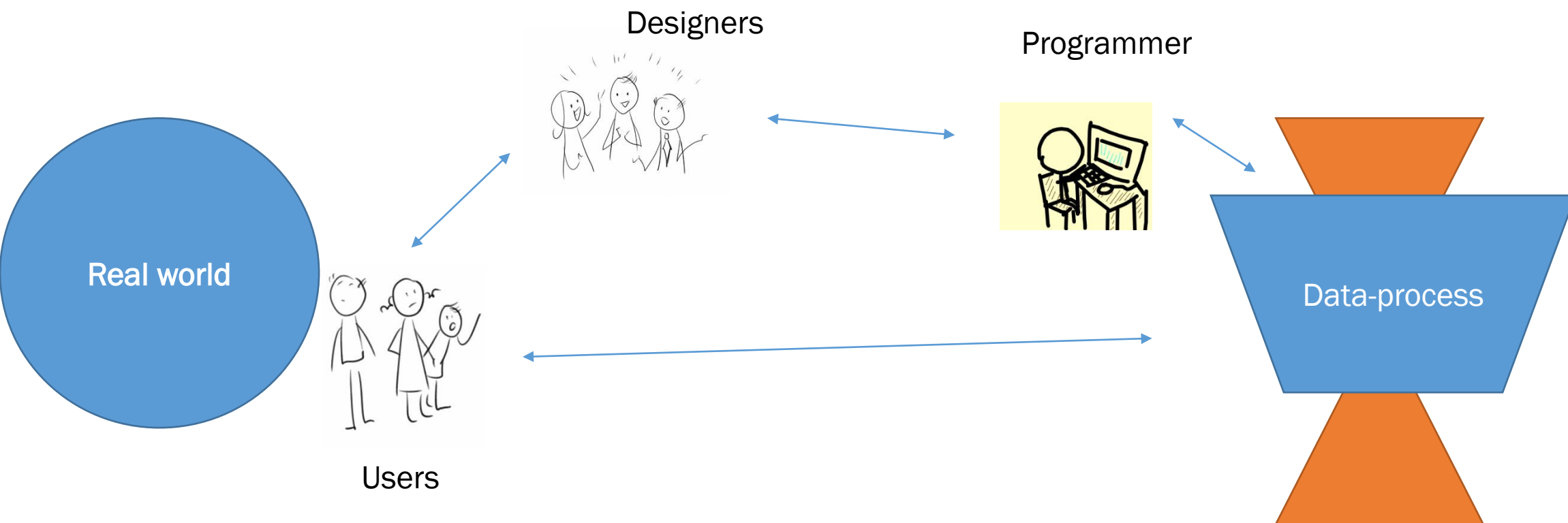
Repræsentation

Kommunikation:
Interaktion via sprog
og symboler

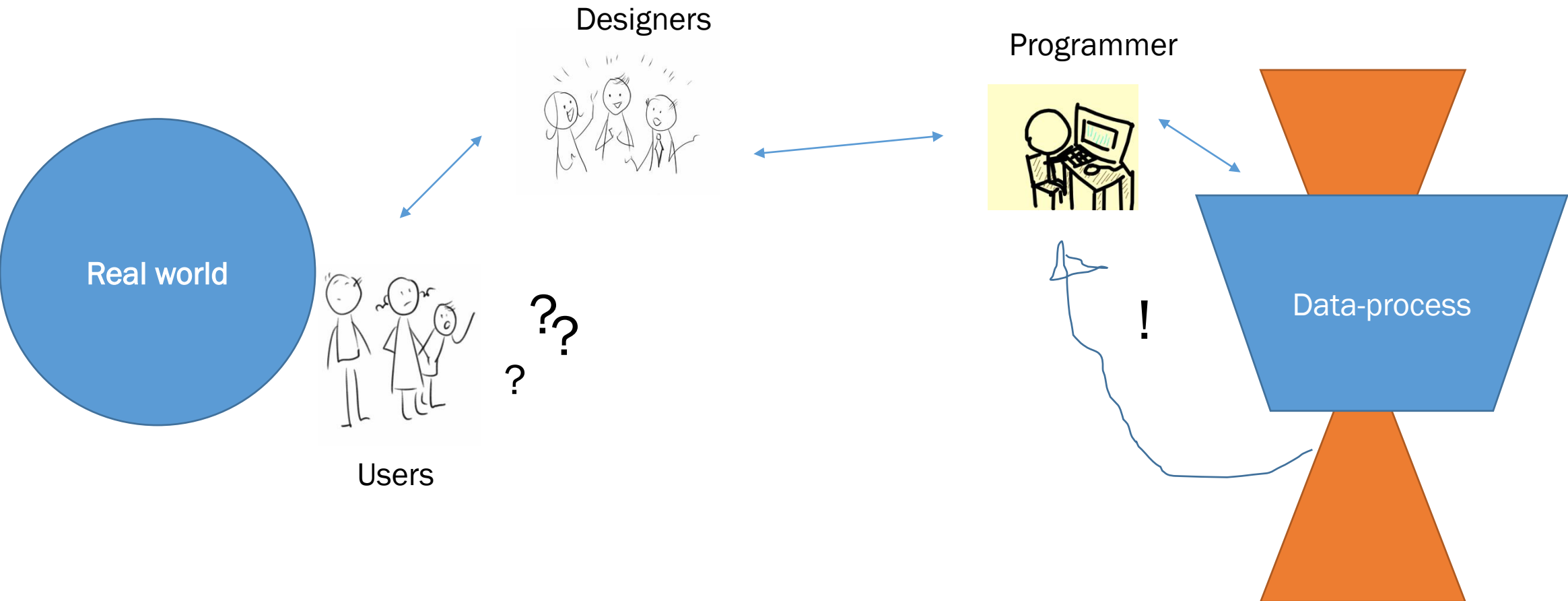
Handling

Fortolkning

Hvorfor skal der være diversitet blandt dataloger/programmører/IT-skabere



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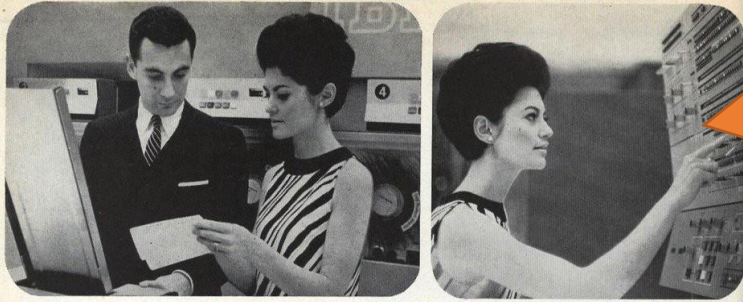


Hvad er udfordringerne?

- Faglig selvtillid (ICILS 2013 og 2018)
- "Mister interessen" i løbet af skoletiden (DEA/Microsoft 2018)
- Manglende rollemodeller i hjem og på arbejdsmarkedet
- Et arbejdsmarked der er domineret af det ene køn og som skal arbejde lidt med kulturen
- Indstilling fra ledere/beslutningstagere: Det er fx helt ok at lave puljer til unge forskere, men kontroversielt til kvindelige forskere (begge grupper, der har svært ved at "komme ind")

50'erne og 60'erne

Womansplaining
anno 1967



The Computer Girls

BY LOIS MANDEL

A trainee gets \$8,000 a year
... a girl "senior systems analyst"
gets \$20,000—and up!
Maybe it's time to investigate....

Ann Richardson, IBM systems engineer, designs a bridge via computer. Above (left) she checks her facts with fellow systems engineer, Marvin V. Fuchs. Right, she feeds facts into the computer. Below, Ann demonstrates on a viewing screen how her facts designed the bridge, and makes changes with a "light pen."

Twenty years ago, a girl could be a secretary, a school teacher . . . maybe a librarian, a social worker or a nurse. If she was really ambitious, she could go into the professions and compete with men . . . usually working harder and longer to earn less pay for the same job.

Now have come the big, dazzling computers—and a whole new kind of work for women: programming. Telling the miracle machines what to do and how to do it. Anything from predicting the weather to sending out billing notices from the local department store.

And if it doesn't sound like woman's work—well, it just is.

("I had this idea I'd be standing at a big machine and pressing buttons all day long," says a girl who programs for a Los Angeles bank. I couldn't have been further off the track. I figure out how the

computer can solve a problem, and then instruct the machine to do it."

"It's just like planning a dinner," explains Dr. Grace Hopper, now a staff scientist in systems programming for Univac. (She helped develop the first electronic digital computer, the Eniac, in 1946.) "You have to plan ahead and schedule everything so it's ready when you need it. Programming requires patience and the ability to handle detail. Women are 'naturals' at computer programming."

What she's talking about is *aptitude*—the one most important quality a girl needs to become a programmer. She also needs a keen, logical mind. And if that zeroes out the old Billie Burke-Gracie Allen image of femininity, it's about time, because this is the age of the Computer Girls. There are twenty thousand of them in the United (cont. on page 54)



Photos by Henry Grossman. Dress by Gina Charles.



80'erne Reklamer Popkultur PC'en

Two Bytes Are Better Than One

**TMS 9900
16BIT
MICROCOMPUTER
SS-16**

COLOR VIDEO
SUPER STARTER
FLOPPY DISK
4800 BAUD DIGITAL

THE FULL POWER OF THE 16-BIT TMS 9900 MICROPROCESSOR IS NOW AVAILABLE WITH THE UNIQUE COMBINATION OF RELIABLE HARDWARE AND FAST, EASY TO USE SOFTWARE IN THE TECHNICO SS-16. WITH MICROCOMPUTER PERFORMANCE THE TECHNICO 16-BIT MICROCOMPUTERS ARE AVAILABLE FROM THE SINGLE BOARD SUPER STARTER SYSTEM AT UNDER \$400 TO THE FULL SS-16 WITH UP TO 64K BYTES OF MEMORY, MINI-FLOPPY OR FULL FLOPPY DISKS, A 4800 BAUD DIGITAL CASSETTE, 64 COLOR VIDEO BOARD OPTION, RS232C AND 30 MA CURRENT LOOP ALL COMBINED WITH ONE OF THE INDUSTRY'S FASTEST BASICS AND A FULL ASSEMBLY EDITION, LINKING LOADER PACKAGE. SYSTEMS ARE AVAILABLE COMPLETELY ASSEMBLED AND TESTED OR IN UNASSEMBLED TECH-KIT FORM. EXPLORE MANUAL INCLUDED OR AVAILABLE SEPARATELY AT \$25. TO LEARN MORE, JUST TEAR OFF A PIECE OF THIS AD AND RETURN TO TECHNICO OR CALL OUR HOTLINE 1-800-800-3980 OR YOUR LOCAL DEALER. EUROPEAN MODELS AVAILABLE THROUGH TECHNICO INTERNATIONAL.

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How to buy a personal computer.

In California, a store owner charts sales on his Apple Computer. On weekends though, he totes Apple home to help plan family finances with his wife. And for the kids to explore the new world of personal computers.

A hobbyist in Michigan starts a local Apple Computer Club, to challenge other members to computer games of skill and to trade programs.



Innovative folks everywhere have discovered that the era of the personal computer has already begun — with Apple.

Educators and students use Apple in the classroom. Businessmen trust Apple with the books. Parents are making Apple the newest family pastime. And kids of all ages are finding how much fun computers can be, and have no time for TV once they've discovered Apple.

Visit your local computer store

The excitement starts in your local computer store. It's a

friendly place, owned by one of your neighbors. He'll show you exactly what you can use a personal computer for.

What to look for

Your local computer store has several different brands to show you. So the salesman can recommend the one that best meets your needs. Chances are, it will be an Apple Computer. Apple is the one you can program yourself. So there's no limit to the things you can do. Most important, Apple's the one with more expansion capability. That means a lot. Because the more you use your Apple, the more uses you'll discover. So your best bet is a personal computer that can grow with you as your skill and involvement grow. Apple's the one.

It's your move

Grab a piece of the future for yourself. Visit your local computer store. We'll give you the address of the Apple dealer nearest you when you call our toll-free number. Then drop by and sink your teeth into an Apple.

800-538-9696. In California, 800-662-9238.



Introducing Apple II.™



Unconscious bias

Det er ikke kun andre vi putter i kasser

– det er også os selv!

Sara Louise Muhr

ICILS s. 13

- Danske piger har det laveste gennemsnit på indekset for syn på en fremtid med it. Rigtig store andele af de danske piger kan således ikke forestille sig at de i fremtiden vil studere eller arbejde med it.

Margolis and Ellis: unlocking the clubhouse, 2003

“Very early in life, computing is claimed as male territory. At each step in early childhood through collage, computing is both actively claimed as “guy stuff” by boys and men and passively ceded by girls and women. [...] Careful observation shows that disinterest and dissatisfaction are neither genetic nor accidental nor inherent to the field but are the bitter fruit of many external influences.”

Det nye sort: Samarbejde!

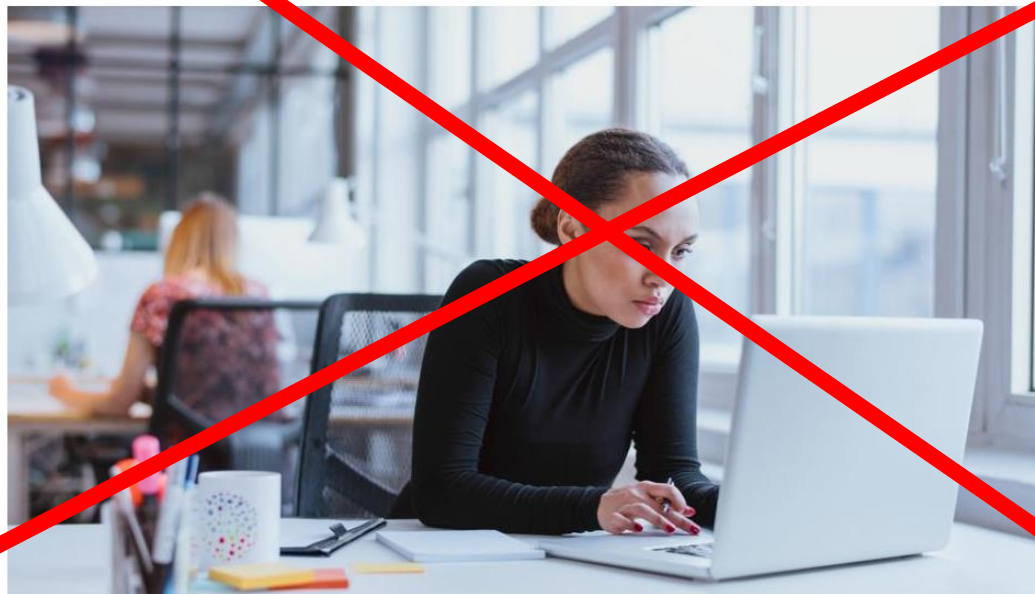
” Med sport har jeg det som porno. Det er sjovt at være med til, men det er kedeligt at se på.”

Jytte Hilden (S) 1993

Men det er allerkedeligst alene!

Hvordan fremmer vi kønsligestilling i IT?

IT-samfundet skal gøre mere for at fremme ligestilling og bedre samarbejdsmetoder.



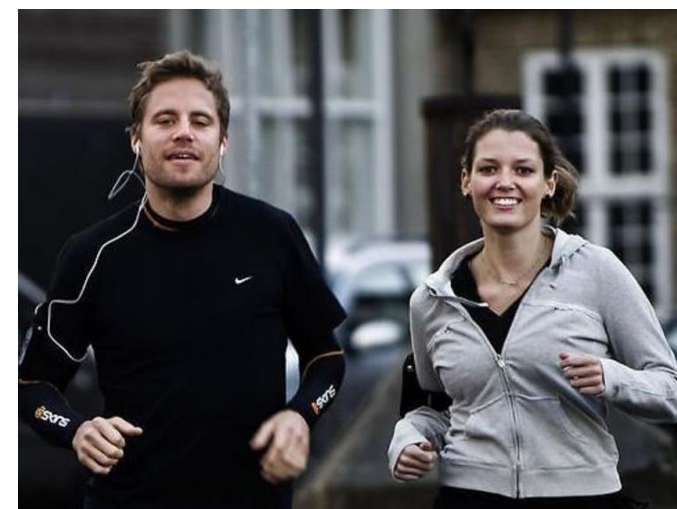
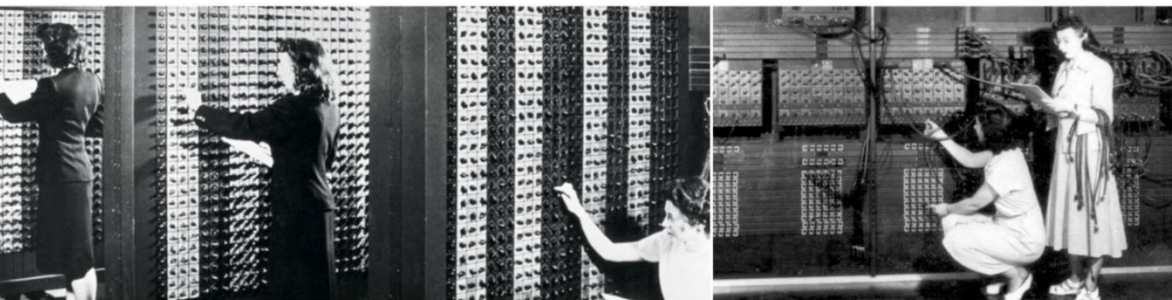
Hvordan fremmer vi kønsligestilling i IT-faget?

IT-samfundet skal gøre mere for at fremme ligestilling og bedre samarbejdsmetoder.



Med Maria Menendes-Blanco og Martin Dybdal på Videnskab.dk, 2019

Samarbejdende rollemodeller - eksempler



Hvad har initiativer der lykkedes, gjort?

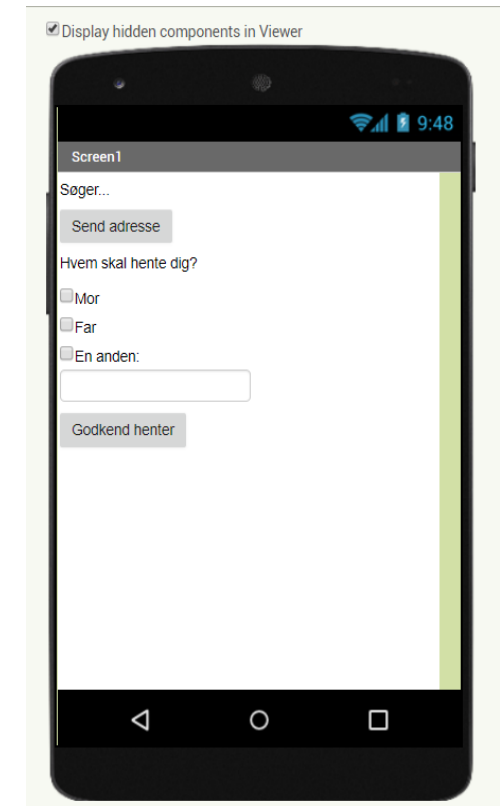
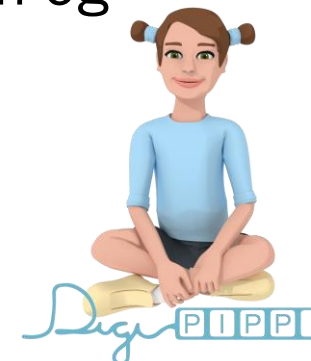
- USA: Carnegie Mellon/Harvey Mudd College
- ITU: Ledelse først. Derefter undersøgelse og derefter handling.
 1. Ved ikke hvad datalogi/softwareudvikling er
 2. Tror ikke de har kompetencerne
 3. Ser ikke sig selv i det (passer ikke ind)
 4. Hvordan kan man overhovedet gøre en forskel med faget?
- Coding Pirates/DigiPippi – observationer
 - Kritisk masse
 - Safe Space
 - Spille på flere didaktiske tangenter

Børnekroge



Hvad mon de kan relatere til?

1. **Gamification:** Spil og konkurrence. Skydespil, platformspil
2. **Creafication:** Animationer, små tegnefilmssekvenser, lav din egen browserstartside
3. **Playification:** Gakkede ting - bare fordi de er skøre. En prutinator, randomiseret undskylds-inator, Droneflyvning. Lege videre
4. **Løs et rigtigt problem.** Lav for eksempel en “Kom og hent mig”-App, en træningsapp el. lignende.



Hvordan kommer du i gang? (voksne)

- De officielle kanaler (efteruddannelse etc)
- Bliv frivillig i en børnekodeklub (Coding Pirates, DigiPippi,...)
- Tag til meetups eller minikurser (Wondercoders, Camp Hex m.fl.)
- Konferencer med hands on
- Prøv at lege med blokprogrammering med de indbyggede tutorials
- Prøv at lave noget du skal bruge
- Tjek lige: Linda Liukas og Girls who code

