



Wolfram's zWorld Version 5

z/OS Expertenforum

Propstei Wislikofen

9./10. April 2024

■ Wolfram Greis

www.mainframe-academy.de

- Mainframe turns 60
- Open Mainframe Project & Zowe (update)
- Education (MOOCs, Khan Academy, etc.)
- Artificial Intelligence (update)
- Sonstiges

MAINFRAME TURNS 60

- Announcement at April 7, 1964:
IBM System/360

IBM SYSTEM/360

Now one new computer fills all your data processing needs

You can easily increase the size of system/360 when your business grows or you want to add new applications.

You don't have to revise most of your programs. You don't have to switch to new input and output devices.

Any program that works on the smallest configuration can work on the largest.

Same goes for the programming systems. The simplest operating system, the simplest language translator or object program can work on any system/360.

Same goes for input and output devices. Any printer, tape, storage unit, reader or terminal that works in a small configuration, works in a larger one. You choose what you need now. You add new components when you need them.

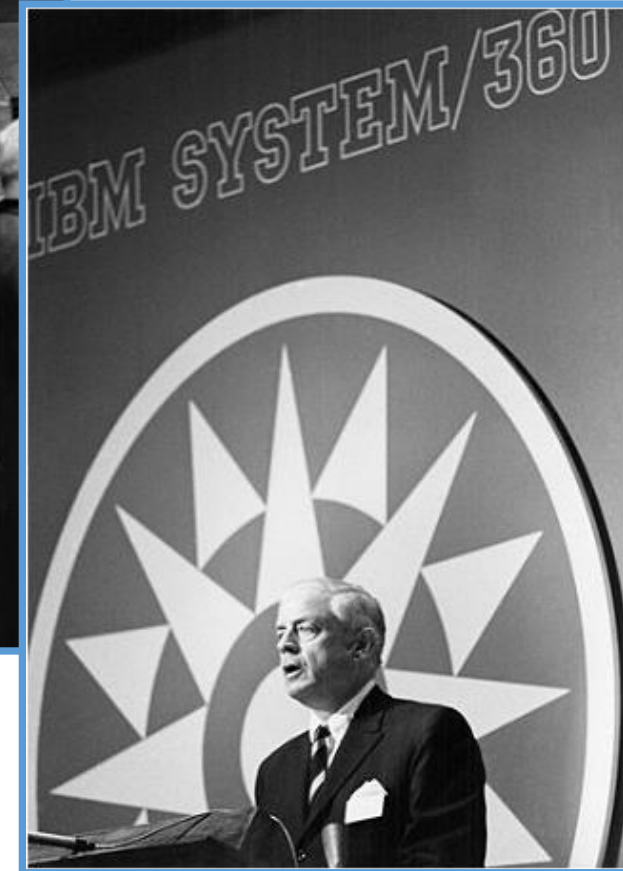
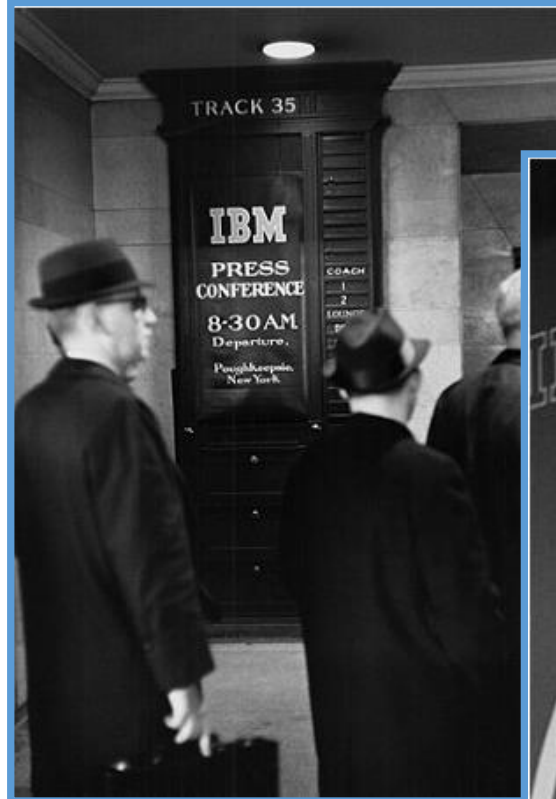
This is true from the smallest configuration to the largest configuration.

system/360 solves today's problems. And it expands to solve tomorrow's problems, too.

It cuts today's costs....and it will also cut tomorrow's. There's never been a system quite like it.



IBM



Old Technology?



1886

...today



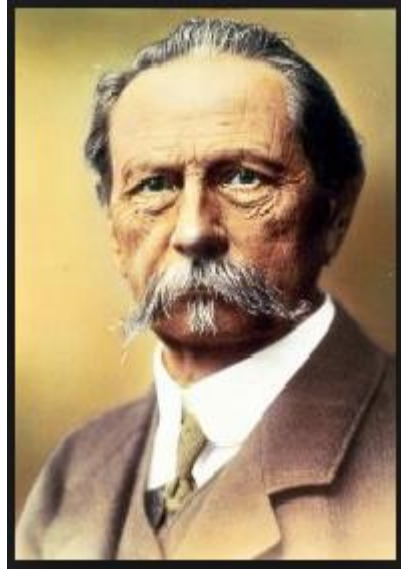
Old Technology?



1964



... today



**„Because of the limited
availability of drivers there
will be no more than 5000
automobiles“
Carl Benz, 1910**



**„I think there is a world market
for maybe five computers“
Thomas J. Watson, 1943**

Myth: Mainframe is a Dinosaur an a Relict of the Past

- Where does this come from?
Didn't we had such predictions in the past?
- The mainframe has been qoted dead for longer than most other platforms has been around!

“The mainframe computer is rapidly being turned into a technological Dinosaur...”

New York Times, April 4, 1989

"I predict that the last mainframe will be unplugged on 15 March 1996 “

Stewart Alsop, then editor of Infoworld in 1991

- Founded as a limited company on January 1, 1984
- **Largest bank** in the world since 2017
- To support its **5.7 million corporate customers and 530 million personal customers across 42 countries** and territories, ICBC relies on the IBM mainframe platform to run its core banking systems **since 2002**.
- **160'000 MIPS** in an **active-active GDPS** production environment
- **1.5 billion transactions daily, 14'000 per second** peak with **40 ms avg. resp. time**
- **Lihui Liu**, Project Manager with responsibility for IBM Z operating system testing and management, ICBC Data Center (Shanghai), comments:

“All the core business runs on IBM Z, and has done for almost 20 years; the stability is superb.”

https://en.wikipedia.org/wiki/List_of_largest_banks

LINUX FOUNDATION'S OPEN MAINFRAME PROJECT

- **John Mertic** is director of program management for Linux Foundation's Open Mainframe Project
www.openmainframeproject.org
- Bring **open source knowledge** to mainframe computing
- Thanks to **ZOWE**, a **green-screen 3270** is no longer **the only way** to access mainframe data
- You can use **SSH, REST APIs, JavaScript-powered desktops, IDEs ...**



“Why would you want a mainframe?”



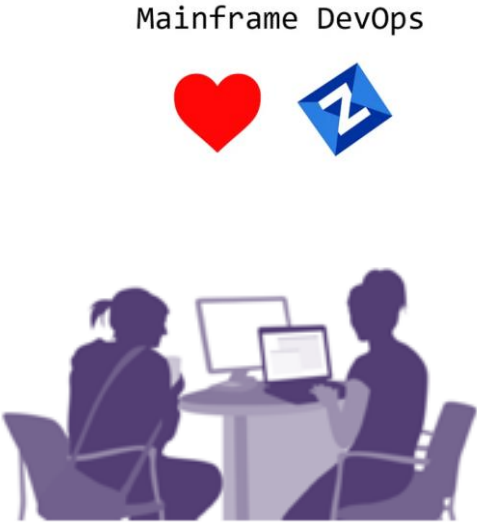
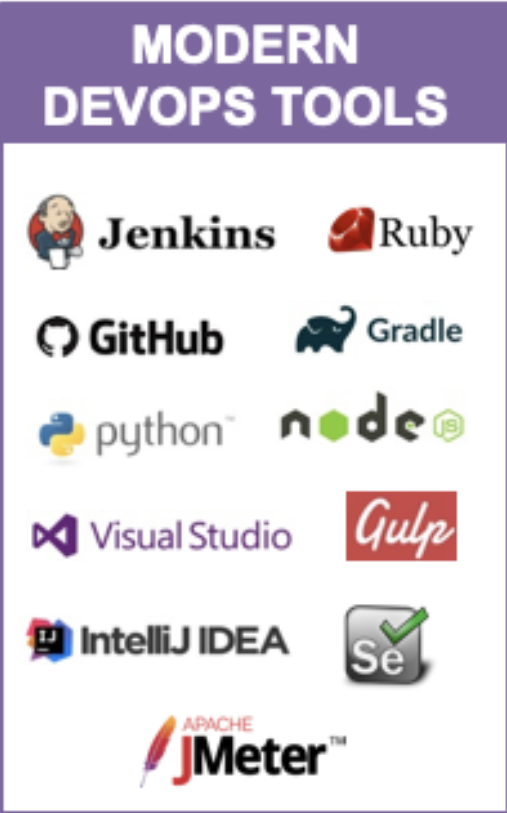
“Transportation, insurance, industry... really anywhere where you need computing that's extremely transactionable, highly scalable, top-end performance and immensely secure.”

Source: Linux Format Summer 2020

Zowe Wins DevOps Award For Second Year in a Row!

By Open Mainframe Project | January 23, 2023 | Blog, Zowe

MODERN DEVOPS TOOLS



NEXT-GEN DEV,
DEVOPS ENGINEER
or SYSADMIN



CHOICE
BASED ON
BEST FIT



Modern-Mainframe Bridge

■ IBM Z Open Editor

- COBOL
- PL/I
- High Level Assembler
- REXX



■ Workflows4z

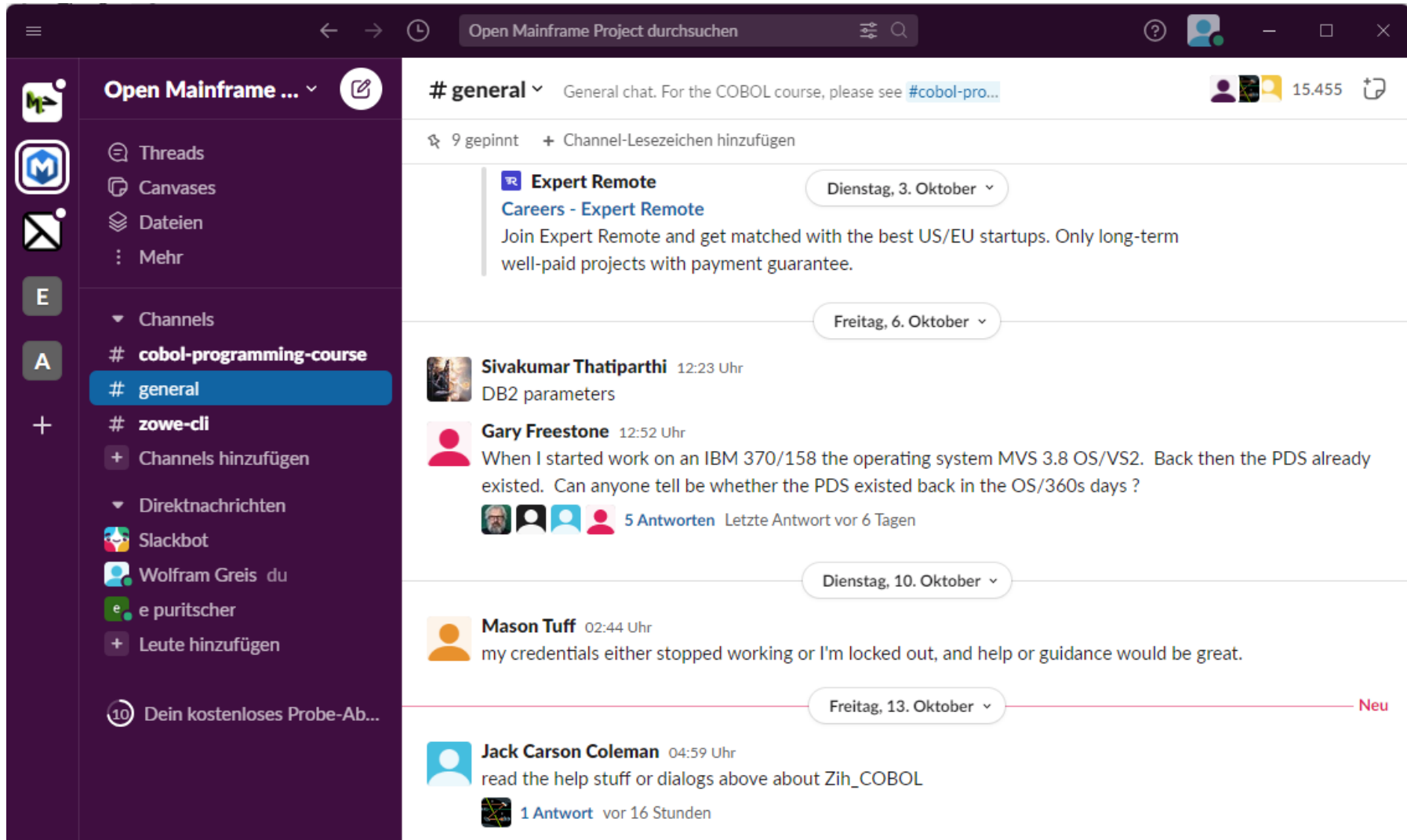
- Create and validate the z/OSMF workflow definition and action definition files
<https://marketplace.visualstudio.com/items?itemName=broadcomMFD.workflows4z>

■ COBOL Check – an Open Source Unit Testing Framework for COBOL

- Dave Nicolette, COBOL Check Chair
<https://www.youtube.com/watch?v=APR9CT4Z25M>
- GitHub Site:
<https://github.com/neopragma/cobol-unit-test>

■ CBT Tape

- <https://openmainframeproject.org/projects/cbt-tape/>



Open Mainframe Project durchsuchen

general General chat. For the COBOL course, please see #cobol-pro... 15.455

9 gepinnt + Channel-Lesezeichen hinzufügen

Expert Remote Dienstag, 3. Oktober

Careers - Expert Remote

Join Expert Remote and get matched with the best US/EU startups. Only long-term well-paid projects with payment guarantee.

Freitag, 6. Oktober

Sivakumar Thatiparthi 12:23 Uhr
DB2 parameters

Gary Freestone 12:52 Uhr
When I started work on an IBM 370/158 the operating system MVS 3.8 OS/VS2. Back then the PDS already existed. Can anyone tell be whether the PDS existed back in the OS/360s days ?
5 Antworten Letzte Antwort vor 6 Tagen

Dienstag, 10. Oktober

Mason Tuff 02:44 Uhr
my credentials either stopped working or I'm locked out, and help or guidance would be great.

Freitag, 13. Oktober **Neu**

Jack Carson Coleman 04:59 Uhr
read the help stuff or dialogs above about Zih_COBOL
1 Antwort vor 16 Stunden

Open Mainframe ...

Threads

Canvases

Dateien

Mehr

Channels

cobol-programming-course

general

zowe-cli

Channels hinzufügen

Direktnachrichten

Slackbot

Wolfram Greis du

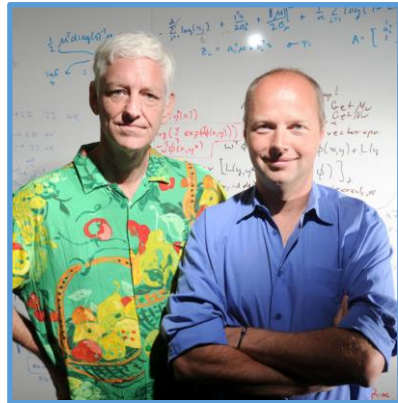
e puritscher

Leute hinzufügen

Dein kostenloses Probe-Ab...

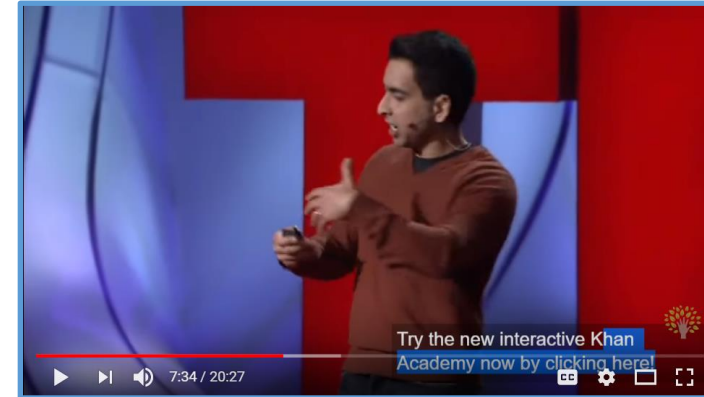
- Open Mainframe Website
<https://www.openmainframeproject.org/>
- Open Mainframe Project Blog
<https://www.openmainframeproject.org/blog/>
- GitHub
<https://github.com/openmainframeproject>
- Open Mainframe Project in the Press
<https://www.openmainframeproject.org/news/press>
- COBOL Programming Course
<https://www.openmainframeproject.org/all-projects/cobolprogrammingcourse>
- COBOL Working Group
<https://www.openmainframeproject.org/all-projects/cobol-working-group>
- ZOWE Conformance Program
<https://www.openmainframeproject.org/all-projects/zowe/conformance>

MOOCs AND THE KHAN ACADEMY



125 **Stanford University**

- Eliteuniversität
- Nur jeder 20. Bewerber wird genommen
- Studiengebühr ~\$50'0000 / year
- "Salman Khan is one of my heroes" (Thrun)
- 2012: AI Vorlesung ins Internet
- 160'000 Subscriptions



TED Talk 2011: Let's use videos to reinvent education

Massive **O**pen **O**nline **C**ourse



Mainframes

Prof. Dr. Andreas Polze

5. Juni 2017 - 17. Juli 2017

Deutsch

Qualifiziertes Zertifikat / ECTS

Kaum jemand kennt sie. Und dennoch hat man täglich mit ihnen zu tun. Wer an einem Bankautomaten Geld

Kursdetails zeigen

>> Für den Kurs einschreiben



- Erster deutscher Mainframe MOOC
- 5. Juni – 17. Juli 2017 (6 Wochen)
- Immer noch verfügbar in archivierter Form
- Sehr positives Feedback
- ➔ Entscheidung: Neuauflage 2018 in English!

MOOC Platforms



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Explore all courses

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Most Innovative Companies 2023

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Schools and Partners

edX offers the highest quality online courses from institutions who share our commitment to excellence in teaching and learning.

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<p>Boston University Contributor</p>	<p>Curtin University Contributor</p>	<p>Delft University of Technology Contributor</p>	<p>Georgetown University Contributor</p>	<p>RWTH Aachen University Contributor</p>
<p>Sorbonne Université Contributor</p>	<p>The Hong Kong Polytechnic University Contributor</p>	<p>The University of Queensland Contributor</p>	<p>University of Adelaide Contributor</p>	<p>University of British Columbia Contributor</p>

Starten Sie eine Karriere in der Cybersicherheit.

Mehr als 5.400 Kurse, Berufszertifikate und Abschlüsse von erstklassigen Universitäten und Unternehmen geben Ihnen die

OPEN Mainframes

Wolfram Greis, Prof. Dr. Philipp Brune, Prof. Dr. Andreas Polze

OPE Kurse zu IT Von Experten ganz eigen

OPEN Mainframe MOOC ist ein Mainframe?

Wolfram Greis
European Mainframe Academy
Prof. Dr. Philipp Brune
Hochschule Neu-Ulm

09:17


Be in demand.

- Data Science
- Programming & Development
- Artificial Intelligence
- Business
- Autonomous Systems
- Product Management
- Cloud Computing



A CONVERSATION WITH

It All Started With a 12-Year-Old Cousin


 Share full article



Salman Khan at the offices of Khan Academy, which reaches more than 10 million users. Bill Gates invested in the school. Jim Wilson/The New York Times

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every classroom.
Real results.**


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 Khan Academy is now available in German (Deutsch)! Interested?

Kurse ▾ Suche

Khan Academy Spe




**Für jeden Schüler,
jede Klasse.
Tolle Lernerfolge.**

Wir sind eine gemeinnützige Organisation mit der Mission, erstklassige Ausbildung für jeden, überall, anzubieten.


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Wolfram Greis
@wolfram.greis - Coach in IT education. [Edit Profile](#)

18,188 

MY STUFF

Courses

MY ACCOUNT






Progress

Profile




Teachers

My courses [Edit Courses](#)

Computer programming - JavaScript and the web [See all \(8\)](#)

-  Intro to JS: Drawing & Animation [Resume](#)
-  Intro to HTML/CSS: Making webpages
-  Intro to SQL: Querying and managing data
-  Advanced JS: Games & Visualizations
-  Advanced JS: Natural Simulations

Computer science theory [See all \(3\)](#)

-  Algorithms
-  Cryptography [Resume](#)
-  Information theory

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ARTIFICIAL INTELLIGENCE UPDATE

"Die Entwicklung der letzten 150 Jahren wird es in den nächsten 10 Jahren geben."



Sebastian Thrun in einem Interview in Wired 2012
https://www.wired.com/2012/03/ff_thrun/



"Die Entwicklung der letzten 150 Jahren wird es in den nächsten 10 Jahren geben."

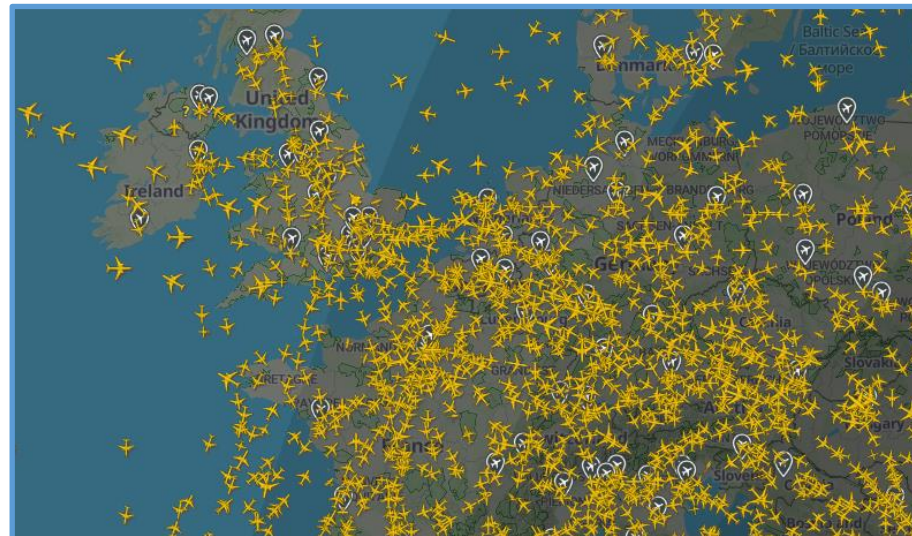
Sebastian Thrun in einem Interview in Wired
https://www.wired.com/2012/03/ff_thrun/



Gebrüder Wright, erster Flug am 17. Dezember 1903
Foto: National Air and Space Museum



Chicago O'Hare International Airport



Flugradar live vom 20.8.2023 um 21.15

■ Studie von Boston Consulting Group unter Mitwirkung von MIT Sloan, Warwick Business School und Wharton School

■ Publiziert in der FAZ D:Economy:
[Generative KI ...](#)
am 24.9.2023

■ “On some tasks AI is immensely powerful, and on others it fails completely or subtly.”
Ethan Mollick, Co-Autor der Studie

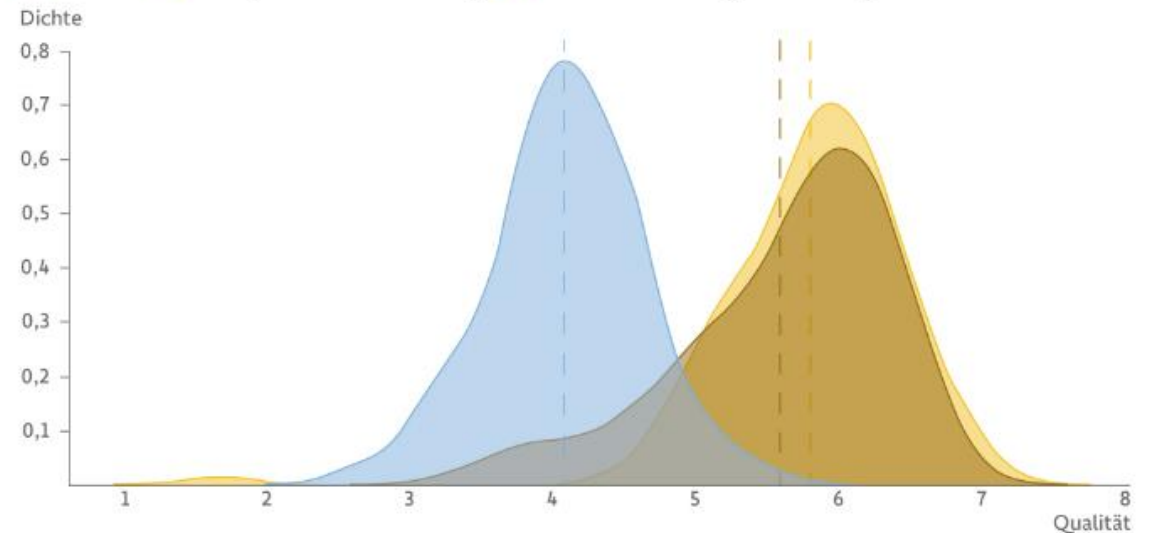
PRODUKTIVITÄT

Generative KI macht Wissensarbeiter 25 Prozent schneller und 40 Prozent besser

VON HOLGER SCHMIDT - AKTUALISIERT AM 22.09.2023 - 10:19

Wie generative KI die Arbeit verbessert

● Ohne KI ● Mit KI, aber ohne Schulung ● Mit KI und vorheriger Schulung



Wissensarbeiter, die KI einsetzen, erledigten im Durchschnitt

- **12,2 Prozent mehr** Aufgaben
- waren **25,1 Prozent schneller**
- erzielten **40 Prozent bessere** Ergebnisse als Menschen ohne KI-Einsatz.

Die Ergebnisse der Wissensarbeiter, die vorher zusätzlich eine **KI-Schulung** bekamen, waren im Durchschnitt noch besser und ihre Ergebnisse gleichmäßiger verteilt (höhere Dichte).

Grafik: kaho. / Quelle: Dell'Acqua et al. 2023

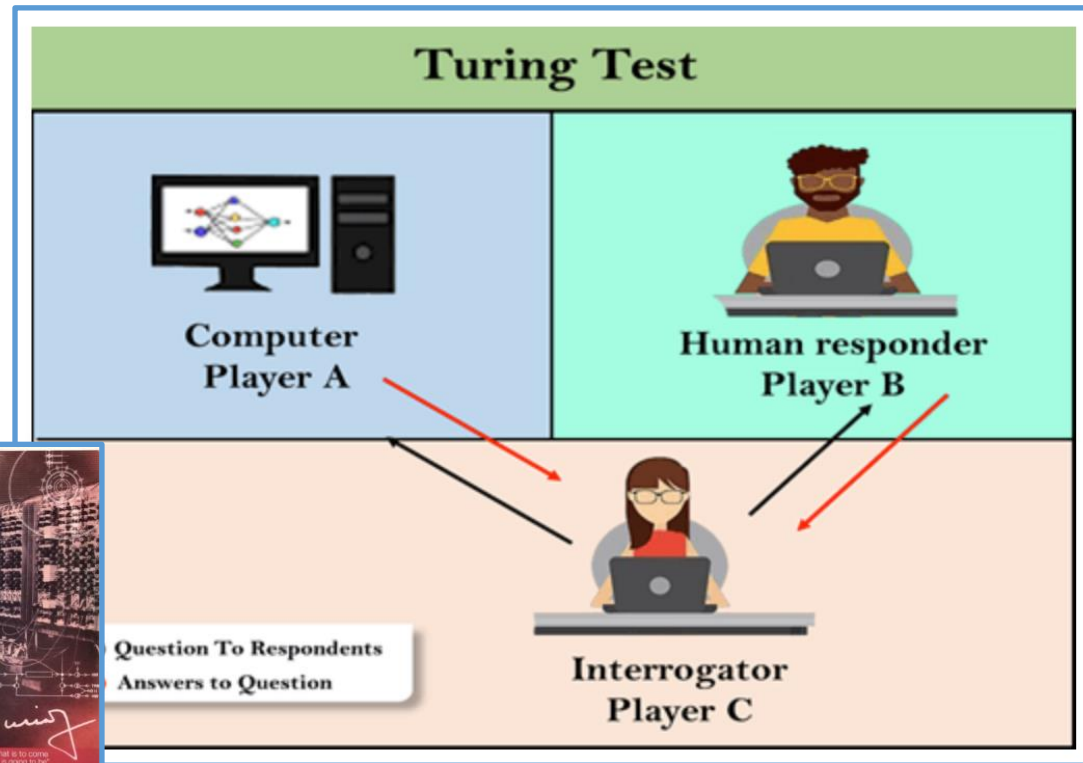
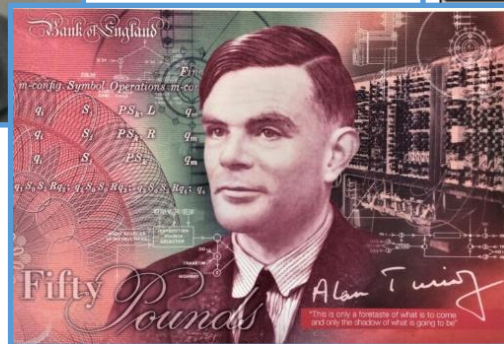
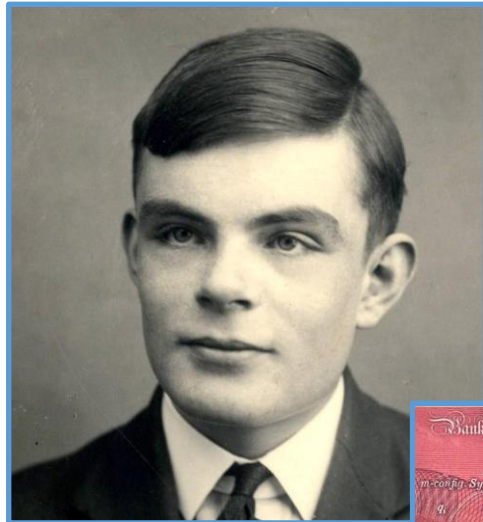
**AI will not replace humans.
Humans using AI will replace
humans not using AI.**

Alan Turing, CAPTCHA and the Turing Test

- In 1950, computing pioneer Alan Turing predicted that within a few decades, computers would convincingly mimic human intelligence.

What means „CAPTCHA“?

- Completely Automated Public Turing test to tell Computers and Humans Apart





```
Welcome to  
  
EEEEEE LL      IIII ZZZZZZZ AAAAA  
EE      LL      II      ZZ  AA  AA  
EEEEEE LL      II      ZZZ  AAAAAAA  
EE      LL      II      ZZ   AA  AA  
EEEEEE LLLLLL IIII ZZZZZZZ AA  AA  
  
Eliza is a mock Rogerian psychotherapist.  
The original program was described by Joseph Weizenbaum in 1966.  
This implementation by Norbert Landsteiner 2005.  
  
ELIZA: Is something troubling you ?  
YOU:  Men are all alike.  
ELIZA: What is the connection, do you suppose ?  
YOU:  They're always bugging us about something or other.  
ELIZA: Can you think of a specific example ?  
YOU:  Well, my boyfriend made me come here.  
ELIZA: Is it important to you that your boyfriend made you come here ?  
YOU:  He says I'm depressed much of the time.  
ELIZA: I am sorry to hear that you are depressed.  
YOU:  It's true. I am unhappy.  
ELIZA: Can you explain what made you unhappy ?  
YOU:  █
```

CTSS auf einer IBM 7094

Plug-ins

... gibt es nicht mehr!

... dass sind jetzt GPTs!

<https://chat.openai.com/>



- The inside story of ChatGPTs astonishing potential
TED-Talk from OpenAI co-founder Greg Brockman
https://www.ted.com/talks/greg_brockman_the_inside_story_of_chatgpt_s_astonishing_potential
- Top 5 der beliebtesten Sprachtools:
 - Chat Interface von OpenAI [ChatGPT](#)
 - Unterhaltung mit fiktiven Personen: [character.ai](#)
 - Google [Gemini](#) (vormals BARD) [Bard](#)
 - plattformübergreifender Chatbot [Poe](#)
 - Texte schreiben und Hilfe bei Formulierungen mit [Quillbot](#)
- Top [50 GenAI Web Products](#)
- [There is an AI for that](#)
- [z/OS Manual Search](#) by Living Mainframe

- Sora von OpenAI
<https://openai.com/sora>
- Teachable Machine
<https://teachablemachine.withgoogle.com/>
- Moral Machine
<https://www.moralmachine.net/>
- Lernen mit Robotern
<https://www.roberta-home.de/>

- Andrew Ng – The Near Future Of AI
<https://www.youtube.com/watch?v=KDBq0GqKpqA>
- CS50 Fall 2023 - Artificial Intelligence
<https://www.youtube.com/watch?v=0KmqnxXYJvA>
- CS50 Tech Talk – Large Language Models and the End of Programming
<https://www.youtube.com/watch?v=JhCl-GeT4jw>
- Sascha Lobo bei Markus Lanz
<https://www.youtube.com/watch?v=oyZ87y38zsl>
- The inside story of ChatGPTs astonishing potential
TED-Talk from OpenAI co-founder Greg Brockman
https://www.ted.com/talks/greg_brockman_the_inside_story_of_chatgpt_s_astonishing_potential

Sonstiges

Saying Yes: The Rise of Cheryl Watson-Walker

By Penney Berryman

APR 2, 2024



Cheryl Watson-Walker

Top Mainframe Influencer

Beiträge von Marna



Marna Walle • 1.

z/OS Installation, Upgrade, and Management

6 Tage •

Hello z/OS sysprog friends. I just published a very important blog which you should read (and act upon!). Now is the time to move your z/OS 3.1 dependency from Semeru 11 to Semeru 17. This blog explains what is happening and why it is so important.

<https://lnkd.in/eRA9CtXJ>

#ibmZ #ibmzOS #ibmzOSMF



No time for Fooling

marnasmusings.com • Lesedauer: 2 Min.

IBM Launches Mainframe Skills Council with SHARE and Other Key Organizations to Support New Generations of Mainframe Talent

ORLANDO, Fla., March 6, 2024 /PRNewswire/ -- IBM (NYSE: [IBM](#)) introduced the [Mainframe Skills Council](#) during this week's SHARE conference in Orlando, to provide a forum where global organizations will foster a skilled, diverse, sustainable workforce for the mainframe platform. In addition to IBM, the council includes organizations spanning IBM clients, IBM partners, academia, user groups, non-profits, and open communities that will collaborate to implement mainframe skills development solutions. Initial members include Academic Mainframe Consortium, Albany State University, Broadcom, DNB Bank, HOGENT, M&T Bank, Northern Illinois University, Rocket Software, SHARE, and 21CS.

"We are enthusiastic about the idea of being an inaugural member of the Mainframe Skills Council and look forward to a lively and fruitful exchange of information. To be able to operate mainframes efficiently and securely in the future, well-trained personnel are the most important prerequisite," said Wolfram Greis, President Academic Mainframe Consortium, Germany. *"The non-profit Academic Mainframe Consortium supports universities and other academic institutions with infrastructure, know-how, and lecturers."*

- European Mainframe Academy
<https://www.mainframe-academy.de>
- OpenHPI Mainframe MOOC auf Deutsch
<https://open.hpi.de/courses/mainframes2017>
- OpenHPI Mainframe MOOC auf Englisch
<https://open.hpi.de/courses/mainframes2018>
- Academic Mainframe Consortium e.V.
<https://amc-ev.org>
- YouTube Channel fit4mainframe:
<https://www.youtube.com/channel/UCiafs3ZVc4XC8Q-ETLMaA0g>
- Blog:
<https://fit4mainframe.com/>

QUESTIONS? REMARKS?