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AI & Organizational Design

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a presentation (YouTube) that recommend all Directors of HR, R&D, Product Management … watch and consider

invite them!

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AI &
Organizational Design

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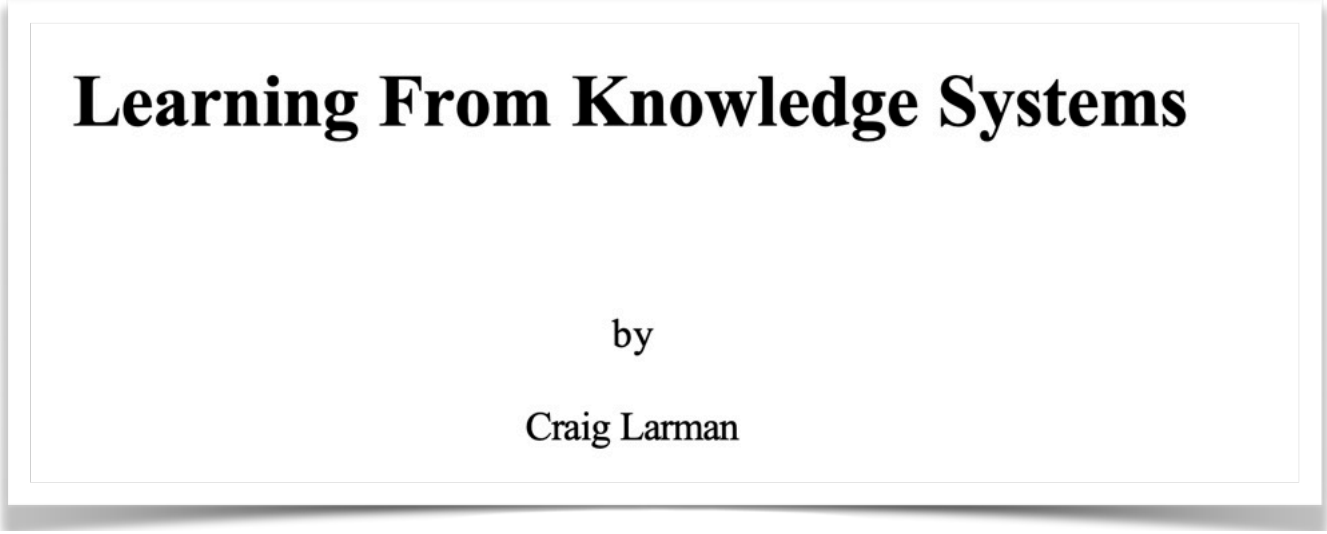
Background

AI: a passion since late 1970s

paid full-time AI developer starting 1986

graduate CS thesis:
2nd-generation AI automatically
learned from a 1st-generation AI …



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2020 LeSS Conference Keynote: AI & Org Design

LeSS conf keynote 2020 - learning adaptiveness.key

45% Zoom | Add Slide | Play | Table | Chart | Text | Shape | Media | Comment | Share | Format | Animate

GPT-3

“Det er vanskeligt at spaa, især naar det gælder Fremtiden.”

“It is difficult to predict, especially about the future.”

old Danish proverb

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not 2024 predictions

3-5 years: 2027+

9

first time in career comfortable saying "revolution"

predict historical like Industrial Revolution

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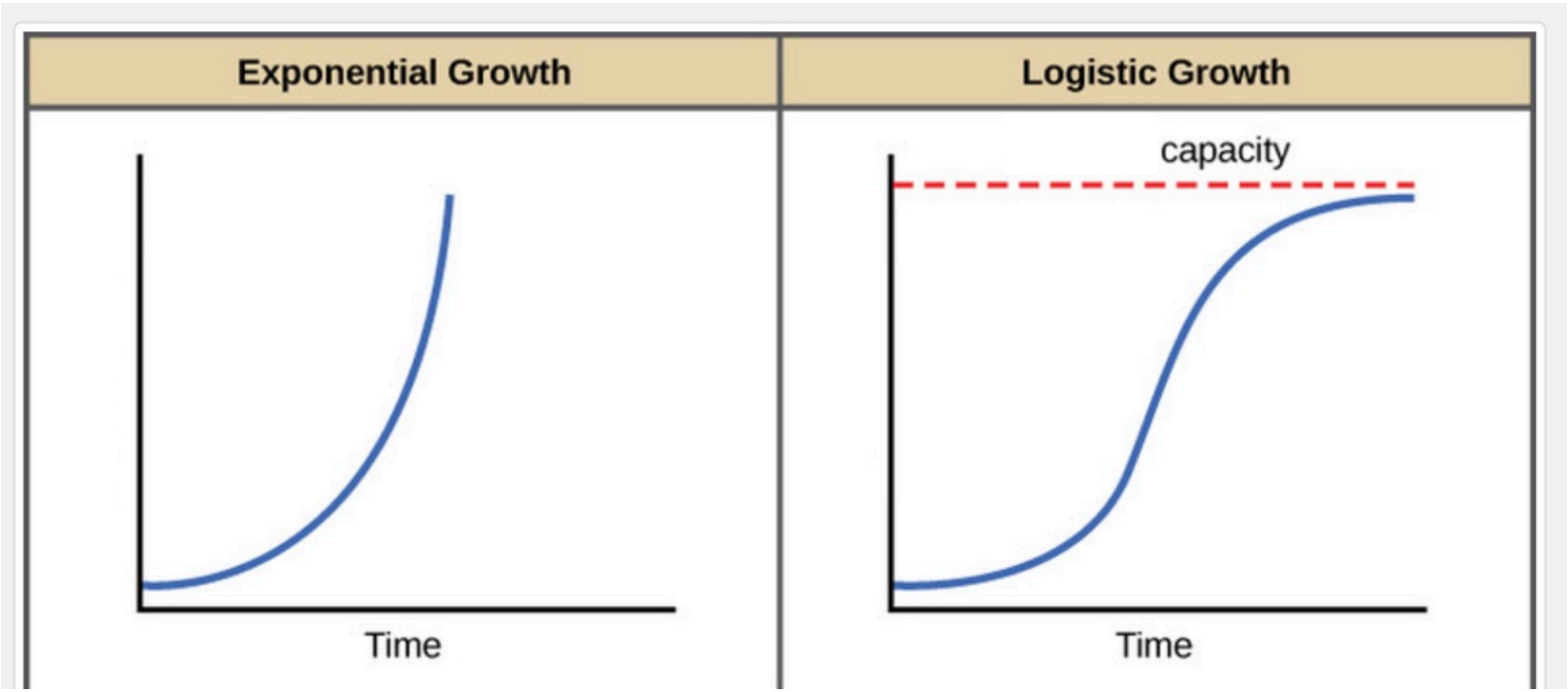
AI tools in 2023

- *baby* ***"1.0"*** products

- capabilities ***increasing*** every "6" months, perhaps ***accelerating***



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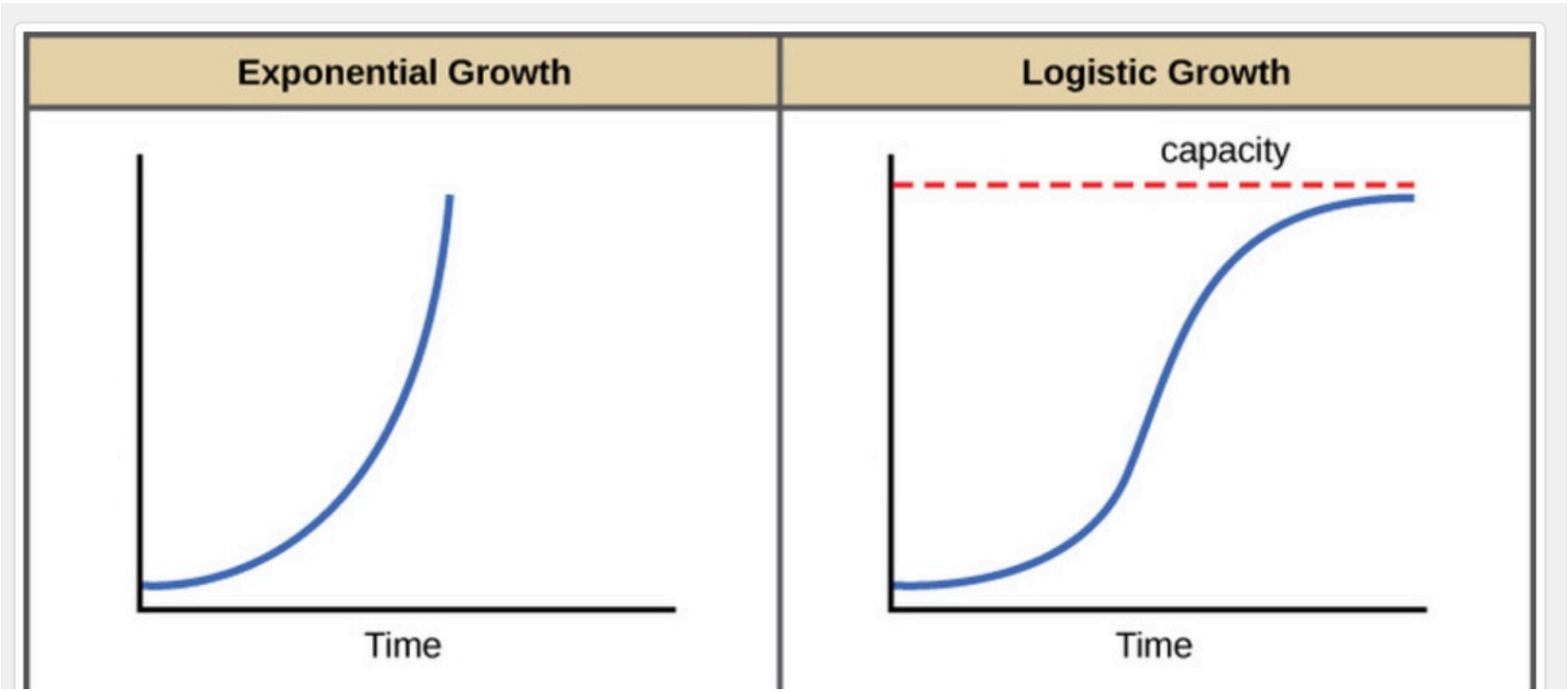
Limits of Growth?

- the ***training data***?

- BIG question: can **synthetic data** takes us further?



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regardless of limit, a
10+ year ride of
EXPLOSIVE growth
in AI capabilities

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anyone criticizing based on 2023 1.0 AI tools ("Oh, it can't do X very well") is missing the point…wait "3" years!!!

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why highlighting

AI & org design? …

15

concept/product market fit
of LeSS org design

+

impact of AI in product dev

ie, a *LeSS market opportunity* to improve the world of work

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minor terminology...

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"AI developer" =
developer of AI systems

what to call a developer
strongly focused on ***using***
AI tools to develop?

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GLAD developer

Generative-ai &
LLM-**A**ssisted
Development

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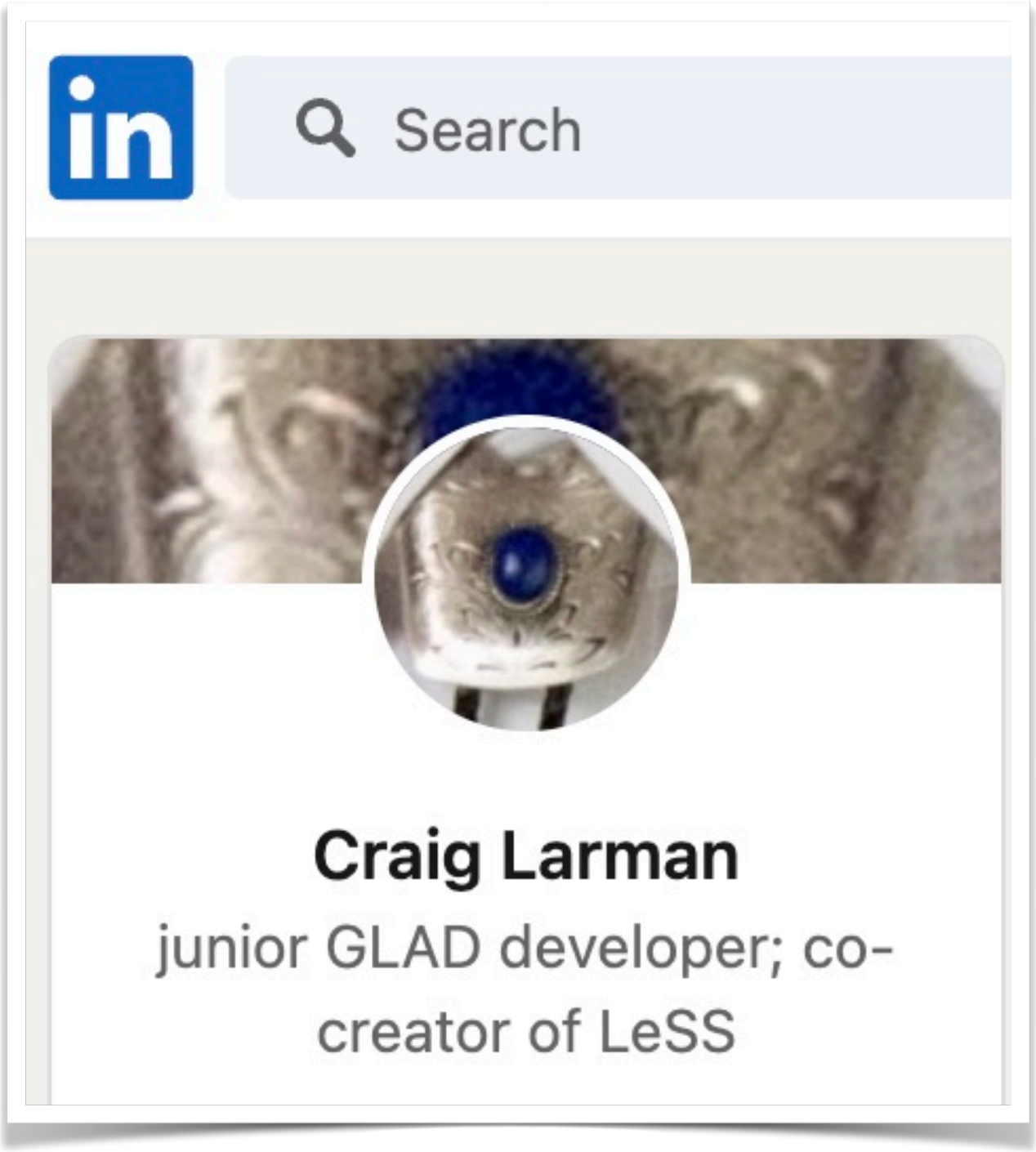
Search
Craig Larman
junior GLAD developer; co-creator of LeSS

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Demo

Routine (Single-Specialist) **Expertise**

- product managers
- business analysts
- artists
- UI/UX designers
- data scientists
- testers
- coders (front end, back end, …)
- DB designers
- architects

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Org Design Impacts

Automation ***Supplanting*** Humans

1. routine *math* (1940s)
2. routine *movement*/CNC (1940s)
3. routine *info workflows* (1950s)
4. **routine expertise** (2020s)

   >with powerful ***task-specific*** AIs

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Routine (Single-Specialist) **Expertise**

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- DB designers
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Routine (Single-Specialist) **Expertise**

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- artists
- UI/UX designers
- data scientists
- testers
- coders (front-end, back-end, ...)
- DB designers
- architects

routine

expertise

has/will be automated by AIs

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"AI tools won't replace my single-specialist routine-expertise job"

(says the wishful-thinking BA/Designer/Coder/…)

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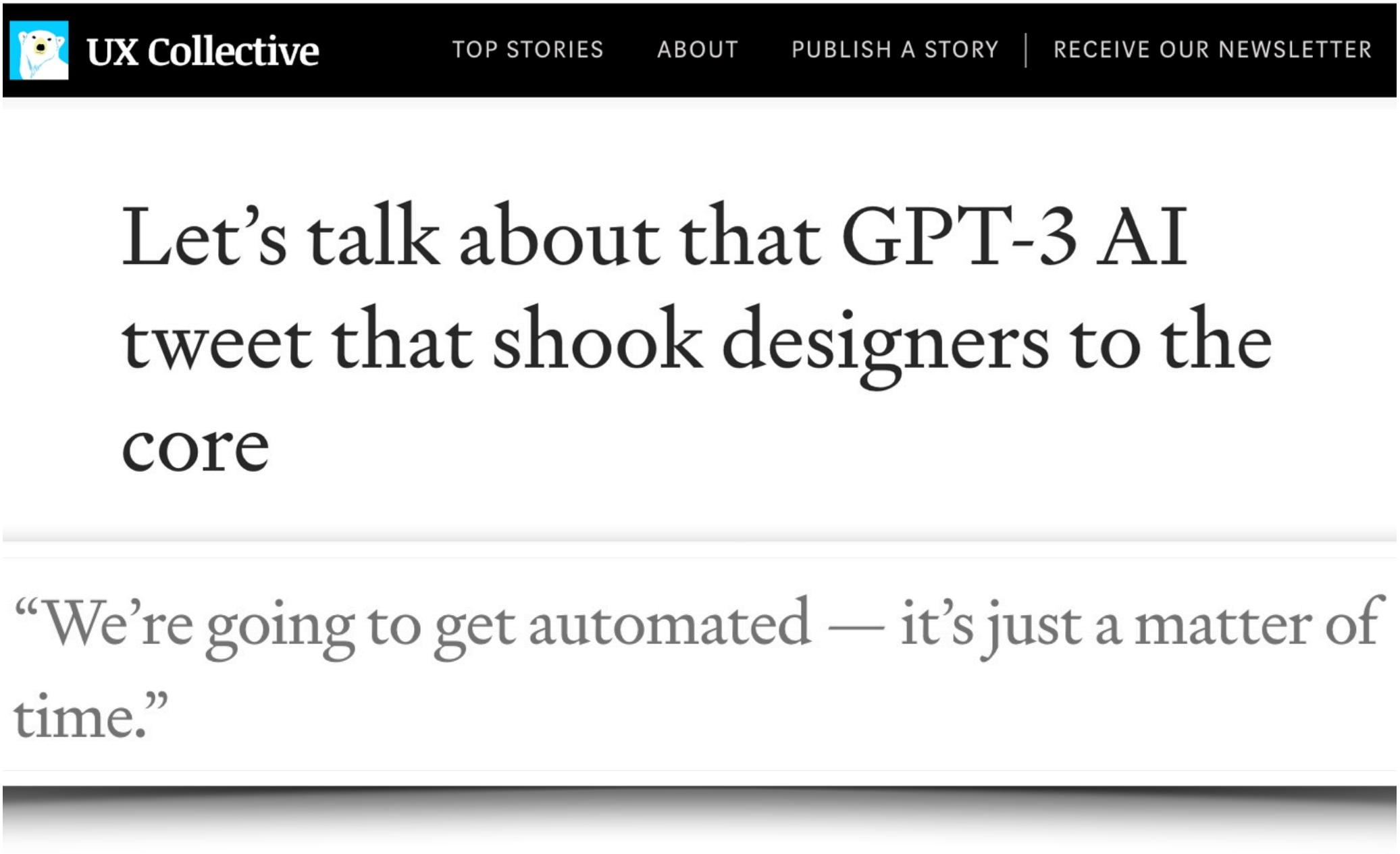
UX Collective
TOP STORIES
ABOUT
PUBLISH A STORY
RECEIVE OUR NEWSLETTER
Let's talk about that GPT-3 AI tweet that shook designers to the core
"We're going to get automated — it's just a matter of time."

the ***key*** analysis…

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CONCLUSION #1 …

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Entire Website & Services: 1 minute!

all the HTML, CSS, Javascript

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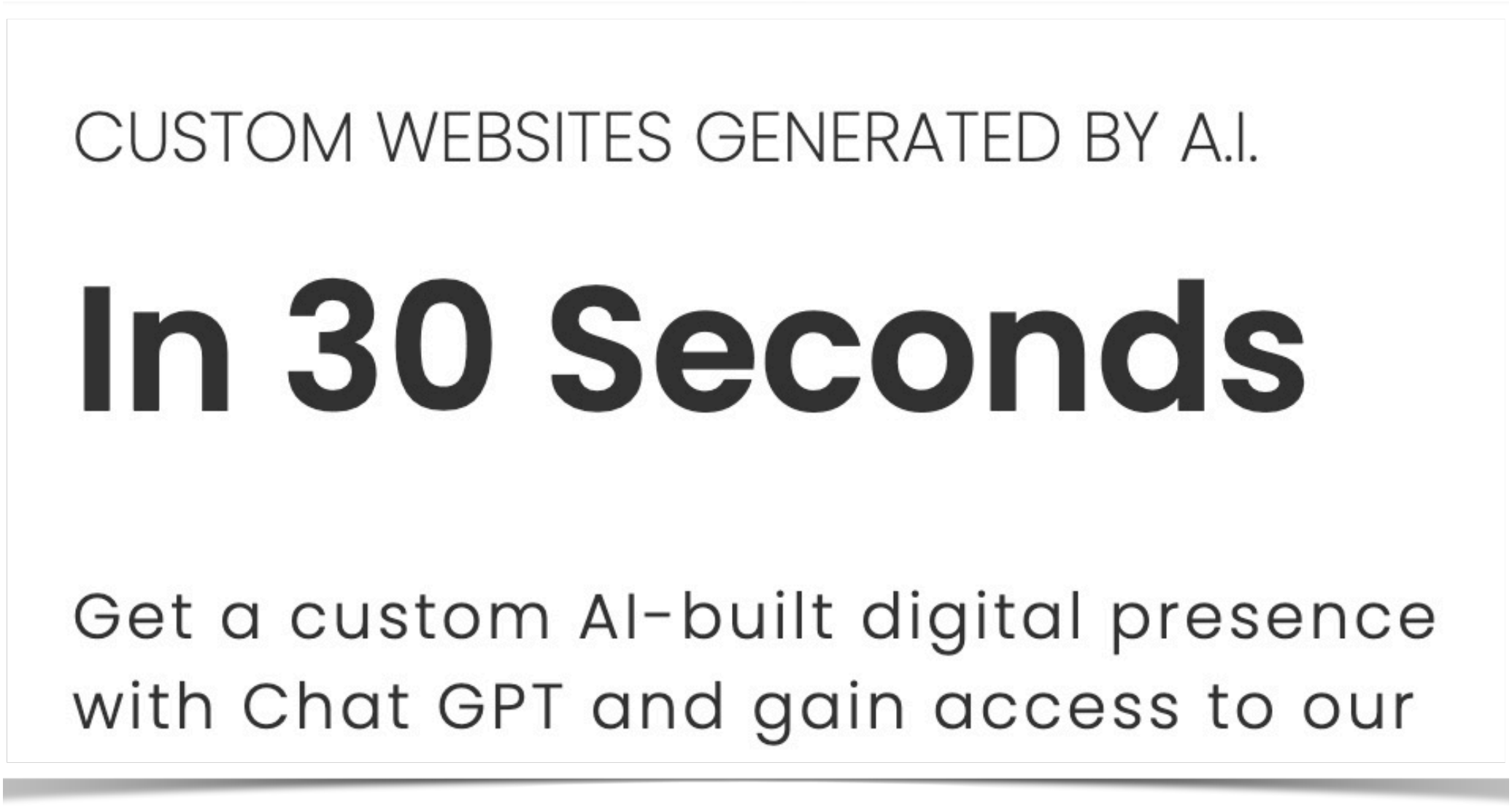
30 seconds!



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18 minutes!

Web Summit Rio 2023: Building an app in 18 minutes with GitHub Copilot X

GitHub CEO Thomas Dohmke demonstrated the power of GitHub Copilot X live on stage.

33

7 minutes! $1!

Artificial intelligence chatbots can create software in 7 minutes for less than $1 - study

By: Bohdan Kaminskyi | 13.09.2023, 20:32

34

for entire system… in *MINUTES*

HOW TO GUIDE

I Used GPT-4 to Raise My Test Coverage to 100% in Minutes

It’s really easy.

35

story: Lisbon coach & automated testing

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Task	Traditional Human	GLAD dev	GLAD-Trad Ratio	rounded
complex art graphic	2 pd	5 seconds	1:11520	**10,000**
video	10 pd	2 minutes	1:2400	**2,000**
design & code website	50 pd	1 minute	1:24000	**20,000**
0->100% coverage	100 pd	1 pd	1:100	**100**
mobile app	100 pd	18 minutes	1:2666	**3,000**

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MAIN point

- with AI tools ***100x-20,000x*** less effort or time
  - not a mere “20%” (1.2x)
- with less errors
- with novices or ‘general’ devs
- with very low learning effort

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Conclusion #1

1,000x faster/easier

not 1.2x faster/easier

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anyone criticizing based on 2023 1.0 AI tools ("Oh, it can't do X very well") is missing the point…wait "3" years!!!

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CONCLUSION #2 …

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"I will simply work more efficiently in my single-speciality, with AI"

(says the wishful-thinking BA/Designer/Coder/…)

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really? …

43

imagine a *single-specialist* UI or DB designer that can do, with AI tools…

240 person-days (1 year) of output…
in 2-20 person-days

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240 person-days of output

->

2-20 person-days

what will UI/DB designer do for the **remaining “220” days?**

45

what will UI/DB designer do for the remaining “220” days?

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perhaps they will create
1000X MORE UIs & DBs?

NO, because there is no customer demand

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what will the UI/DB designer do for the remaining "220" days?

perhaps fire all but 1 designer, who "does all the design"?

1. **UNLIKELY**, because they ***still*** have "200" days free

2. **UNLIKELY**, because other developers can use these tools to quickly learn & create designs

3. **UNLIKELY**, because it would create unnecessary delays and weak feedback loops

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Conclusion #2

a **single**-specialist
won't have enough
single-specialist work
for all 240 person days

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CONCLUSION #3 …

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what will the UI/DB designer do for the remaining “220” days?

perhaps fire all but 1 designer, who “does all the design”?

1. UNLIKELY, because they *still* have “200” days free

2. UNLIKELY, because other developers can use these tools to quickly learn & create designs

3. UNLIKELY, because it would create unnecessary delays and weak feedback loops

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BIG Idea

AI makes it ***much*** easier to **learn** new skills & tools

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a UI/DB Designer can much more easily/quickly learn & do…

automated testing
front-end coding
etc

therefore…

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BIG Idea

1. primary
2. secondary
3. tertiary

skills learning with 24x7 infinitely patient *world-expert* AI teachers

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Conclusion #3

AI tools make it easy & fast to learn new skills & subjects

… and make it easy to multi-learn & multi-skill

55

CONCLUSION #4 …

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if DB Designer does DB tasks for “20” days per year, and also learns/does UI design, programming, testing, etc for “200” days…

why do they have the single-specialist job title “DB Designer”?

why is the career path “DB Designer-1, DB Designer-2, …”?

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BIG Idea

HR impact:

new role & responsibilities:
broad job title, with career path
multi-learning

eg. **Product Developer, PD-1, PD-2, …**

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Then, Not a Team of *Single*-Specialists

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Team of multi-learning GLAD PDs

multilearning product developer
multilearning product developer
multilearning product developer
multilearning product developer
multilearning product developer
multilearning product developer
multilearning product developer
multilearning product developer

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this is not a new idea…

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Harvard Business Review

LEADING TEAMS

The New New Product Development Game

by Hirotaka Takeuchi and Ikujiro Nonaka

FROM THE JANUARY 1986 ISSUE

Moving the scrum downfield

From interviews with organization members from the CEO to young engineers, we learned that leading companies show six characteristics in managing their new product development processes:

1 Built-in instability

2 Self-organizing project teams

3 Overlapping development phases

4 "Multilearning"

5 Subtle control

6 Organizational transfer of learning

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increasingly, job skill will be

skill in multi-learning over skill in single-doing

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Conclusion #4

AI tools ->

multi-learning
Product Developers ->

career path is multi-skilled

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CONCLUSION #5 …

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novelty of knowledge work

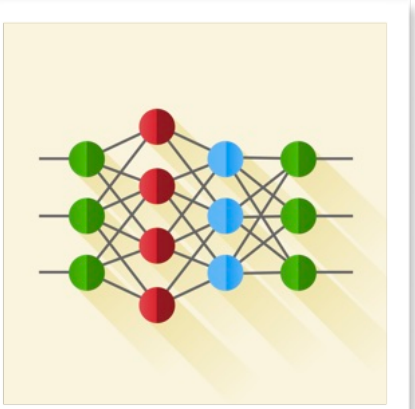
(low)
routine

(high)
learning

has/will be automated by AIs

after training AIs do NOT learn

Milestone AI Paper



AIs fail this test

On the Measure of Intelligence

François Chollet *
Google, Inc.
fchollet@google.com

November 5, 2019

"The intelligence of a system is a measure of its **skill-acquisition [learning] efficiency**"

Humans excel at this test

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Conclusion #5

the value-add for human developers will be their ability to…

LEARN NEW SKILLS

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CONCLUSION #6 ...

69

what existing organizational design is consistent with…

teams of multi-learning Product Developers that do end-to-end full-stack work?

70

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Conclusion #6

the LeSS org design is based on multi-learning Product Developers,

… the direction that AI tools are influencing

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CONCLUSION #7 …

73

"This won't change manager roles"

(says the wishful-thinking manager)

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there is no DB Design Group

since no DB Designers,

so, is there a...

DB Design manager? NO

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Conclusion #7

an org design based on multi-learning Product Developers ->

few single-specialist groups ->

few single-specialist group managers

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CONCLUSION SUMMARY

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Conclusions

1. 1,000x faster/easier, not 1.2x
2. single-specialists won't have enough specialist work for all 240 person days
3. AI tools make multi-learning easy/fast
4. AI tools -> multi-learning Product Developers -> career path multi-skilled
5. human value-add will be ability to multi-learn, not single-do
6. LeSS org design is based on multi-learning Product Developers; dovetails with AI influence
7. few single-specialist groups -> few related managers

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concept/product market fit
of LeSS org design

+

impact of AI in product dev

ie, a *LeSS market opportunity* to improve the world of work

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Close

welcome to connect with me!

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structured Q&A

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