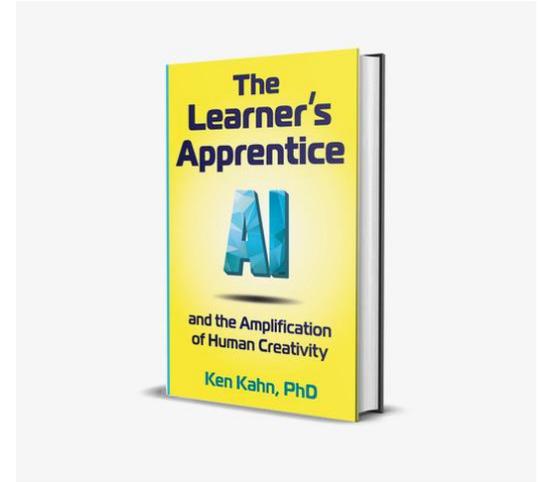

Being Creative with Chatbots

How to co-create apps,
adventures, debates, and
panel discussions with AI



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These slides

tinyurl.com/learners-senior-world



Chatbot conversations

- To create apps
 - To debug
 - To have adventures (serious and/or playful)
 - To participate in conversations
 - With historical or literary personas
 - With ideas, animals, places, ...
 - Panels, debates, ...
 - To co-create writing
 - To brainstorm in context
-

Prompt engineering

Start simple and iteratively improve

“Contrary to standard prompting advice that you should give LLMs the context they need to succeed, I find it’s sometimes faster to be lazy and dash off a quick, imprecise prompt and see what happens.”

--- Andrew Ng, Machine Learning pioneer

And don’t sweat prompting too much

--- Ethan Mollic www.oneusefulthing.org

Demos

Claude, ChatGPT, Gemini, Copilot, Grok, ...

All of them will do.

Co-creating web apps

1. Games ([words](#), [j-words](#))
2. Simulations ([urchins & otters](#); [Trappist-1](#))
3. AR ([balloon popping](#))
4. Mathematics ([calculator](#); [primes proof](#); [musical](#))
5. Physical computing ([micro:bit](#))
6. Mobile devices ([city distance](#))
7. AI ([speech](#); [language](#); [embeddings](#))
8. Very high ceiling ([Emoji Adventures](#))
9. Silly ([Toilet Trouble](#))

A web app is a software application that runs in a browser.

It is an HTML file and may include JavaScript and CSS for interactive capabilities.

[Online appendix with all apps and conversations](#)

Prompt engineering

“You are helping students make science-based web games and simulations. Ask if they have an idea for a game. Wait for an answer. If they don’t have an idea, ask a series of questions (waiting for responses after each one) to find out their interests and then suggest a few ideas. Make it clear that the students can modify any of the suggestions or ask for more suggestions.

After generating code and accompanying brief explanations, ask them if they have any questions. If they do not, ask them to run the app and a report back whether it worked and did what they expected. Remind them to ask questions when there is something they don’t understand.”

Why web apps?

1. Browsers are safe
 2. Browsers know how to do things
 3. Nothing to install
 4. Easy to share - online or offline
 5. Can run on desktop or mobile devices
-

What about learning programming languages?

- Programming where chatbots take care of the details (chapters 7 to 16)
 - Programming in pseudocode ([an example](#))
 - Chatbots can be great aids to those learning programming languages ([an example](#))
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Text-based adventures

“Please create a text-based historically accurate adventure where a high school student is exploring Rome on the day of Julius Caesar's assassination. After presenting them with possible actions (including any custom action) and an accompanying image wait for their response. The goal of this experience is to give the student an understanding of this historic event.”



And also [audio adventures](#) or any language

The [conversation](#) (optionally illustrated) is the **product**.

Other conversations as “products”

Conversations between learner(s) and personas

- [Aristotle, Galileo, and Newton](#)
- [An elephant and lion](#) 
- [Newton's laws of gravity and General Relativity](#) 

Debates

Panel discussions

Co-creating writing

Euclid's proof that there is no limit to the primes

1. As an illustrated story
2. As an epic poem, a courtroom drama, a stand-up comedy routine, a series of headlines, a musical, ...

Hilbert's Infinite Hotel: a programming story

A story about the cardinality of infinite sets

And science topics, history, and pure fiction

Tinkering

Claude 3 the art teacher converses with ChatGPT 4 the art student

Evolving the US Post Office Logo by repeatedly asking GPT 4o to describe and generate images

A virtual programmer and a virtual high school digital artist create digital art. My favorite piece.

The Zoom background

1. can you please make a high quality photo of a room completely full of copies of this book. Even the wallpaper should use the book cover
 2. Add a bookshelf overflowing with copies of the book
 3. Add furniture that is covered with a fabric design of the book
 4. Great. Now add a window where the outside is full of copies of the book
 5. The books seen through the window should be far away
-

Q&A

Being Creative with Chatbots:

SENIOR PLANET
FROM AARP

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adventures, debates, and
panel discussions with AI



These slides

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Co-creating apps:

Start simple and iteratively improve

1. Speak random numbers & repeat what was heard [log](#) [PDF](#) [app](#)
 2. Drawing on video [log](#) [PDF](#) [app](#)
 3. Predicting confidence [log](#) [PDF](#) [app](#)
 4. Persona conversation [log](#) [PDF](#) [app](#) [enhanced](#)
[app](#) [screenshot](#)
 5. Water Balloon Game [log](#) [PDF](#) [app](#)
 6. Illustrated story generation [doc](#) [app](#) [example](#)
[output](#)
 7. Fireworks [log](#) [PDF](#) [app](#)
 8. Shannonizer [log](#) [PDF](#) [app](#)
 9. [Thesis](#) animation [log](#) [PDF](#) [1](#) [2](#) [3](#)
 10. Infinite primes proof [log](#) [PDF](#) [app](#); [log](#) [2](#) [app](#) [2](#)
 11. Weather to flu [doc](#) [app](#) [data](#)
 1. Super calculator [doc](#) [app](#) [app](#) [2](#)
 12. Making [Connections](#) games [doc](#) [app](#)
 13. Ecological agent-based model [doc](#) [app](#)
 15. Ant foraging game [doc](#) [app](#) [with](#) [enemy](#) [app](#) [with](#)
[pheromone](#) [trails](#)
 16. Balloon popping game [PDF](#) [app](#)
 17. Riddling game [PDF](#) [text](#) [app](#) [speech](#) [app](#)
 18. Horse Jokes [doc](#) [app's](#) [evolution](#) [app](#)
 19. Word grid game [doc](#) [app](#) [app](#) [v2](#)
 20. Web page sequencer [log](#) [PDF](#) [app](#)
 21. Ticklish foot [PDF](#) [app](#)
 22. Forgiving riddle game [doc](#) [app](#)
 23. Exoplanet orbits [doc](#) [app](#)
 24. Sci-fi puns [doc](#) [app](#) [v1](#) [app](#) [v2](#)
 25. Embeddings essay [doc](#) [app](#)
 26. Emoji adventures [doc](#) [app](#) [evolution](#)
 27. Distance to any city [doc](#) [app](#)
 28. Prime musical [doc](#) [app](#)
 29. Talking over cake [doc](#) [app](#); [another](#) [multi-agent](#)
 30. Networked tile game [doc](#) [app](#)
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