
Coding with Generative Artificial Intelligence

*Creating Creative Educational Apps
using Bing Chat and GPT-4*

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These slides



The Plan

1. Brief live demo of using Bing Chat together with [App Maker](#) and [CodePen](#).
 2. [An initial prompt](#) will set the context and pedagogy.
 3. Brief introduction to [this app](#) which demonstrates 24 examples of what can be built by conversing with a chatbot.
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Plan continued (2 of 3)

4. Participants try to build an app of their choosing using Bing Chat and the initial prompt. Participants are encouraged to role play as a learner. Best to pick a subject that the participant knows well. Form groups of 2 or 3.
 5. Groups report on the experience
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Plan continued (3 of 3) Prompting

1. Discussion of prompting
 2. General Q&A and discussion
 3. Brief demos and reflections from each group
 4. Brief presentation of the “art of prompting”
 5. Participants create their prompts and test them. Best to form groups of 2.
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Many chatbots but few in Hong Kong

OpenAI's ChatGPT 4	Best but costs \$20/month
Microsoft's Bing Chat (Copilot)	Good code, images, web, and file upload
Google's Bard	Better code but no images or file upload
Claude.ai	Good code and file upload
ChatGPT 3.5 (via poe.com)	OK but no images or file upload

Different strengths for each

Microsoft's Bing Chat (aka Copilot)

Best free chatbot in Hong Kong

PC (pre-installed) or Mac ([installation instructions](#)):

Open bing.com/chat in the EDGE browser

Be sure to log in to Microsoft get full features

Tablet or phone:

Install Bing app ([Android](#)) ([IOS](#))

App Maker

It can *automatically*

- Merge old and new JavaScript (or CSS)
- Launch or download app with a click
- Automates image and sound integration
- No limits

But for sounds and images requires this prompt

Prompts I've explored

[Early education prompt](#)

[Early education prompt with App Maker](#)

[Bare-bones Prompt for using App Maker](#)

[Prompt with App Maker](#)

[Ada and Curio prompt](#)

[Ada and Curio prompt using ChatGPT 4's Python](#)

[Ada and Curio prompt using ChatGPT 4's Python and zip](#)

[Prompt for creating web apps using ChatGPT 4's Python](#)

24 apps made with ChatGPT 4 conversations

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](#)
 11. Weather to flu [doc](#) [app](#) [data](#)
 12. ~~Super calculator [doc](#) [app](#)~~
 13. Making [Connections](#) games [doc](#) [app](#)
 14. 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](#)
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Here's an app for exploring apps

I co-created with ChatGPT 4 an app to interactively explore the apps I've made with ChatGPT 4

[Try it out.](#)

Now create your app

- Build an app of your choosing
 - Bing Chat recommended but any chatbot is OK
 - Choose an initial prompt
 - Role play as a learner. Best to pick a subject you know well.
 - Form groups of 2 or 3
 - Use [this Google Doc](#) to share notes, questions, comments, links, ... with the workshop
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Poe bot for Ada and Curio

https://poe.com/Ada_and_Curio

<https://codepen.io/toontalk/full/QWoMRGo>

<https://www.linkedin.com/feed/update/urn:li:activity:7155419935618252800/>

Prompt give to Poe bot

A middle school child will interact with you. The child wants to create a web-based game. Perhaps they have an idea for a game but if not ask questions one at a time to determine their interests and likes and then present several suggestions. If they have an idea for a complicated game then suggest that they start by describing a very simplified version of the

Present your app

- Demo it
 - Discuss the conversation
 - Reflect on the experience
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Prompt “engineering”

<https://www.oneusefulthing.org/p/working-with-ai-two-paths-to-prompting>

ROLE AND GOAL	STEP BY STEP INSTRUCTIONS	PEDAGOGY	CONSTRAINTS	PERSONALIZATION
<p>In this prompt, we will tell AI who it is, how it should behave, and what it will tell students.</p>	<p>Note that we are giving it step by step instructions for how it should walk students through the process.</p>	<p>We give AI directions designed to help students learn, challenging students to actively consider a variety of possible futures.</p>	<p>This helps prevent the AI from acting in unexpected ways.</p>	<p>Here, we are instructing the AI to present students with a summary of their work.</p>

Write it, test it, repeat

Now test your own prompt

- Write a prompt (or copy and edit one of mine)
- Test it
- Report to workshop your reflections

Groups of 2 or 3

Wrapping up

