

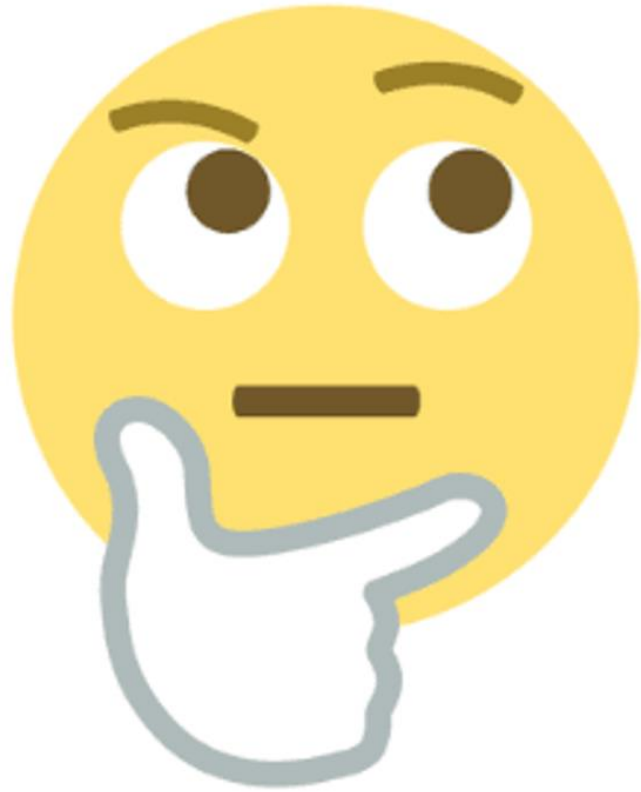
Idea Generation Strategies for Student Writing with AI-NLG Tools

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Learning and Teaching Expo
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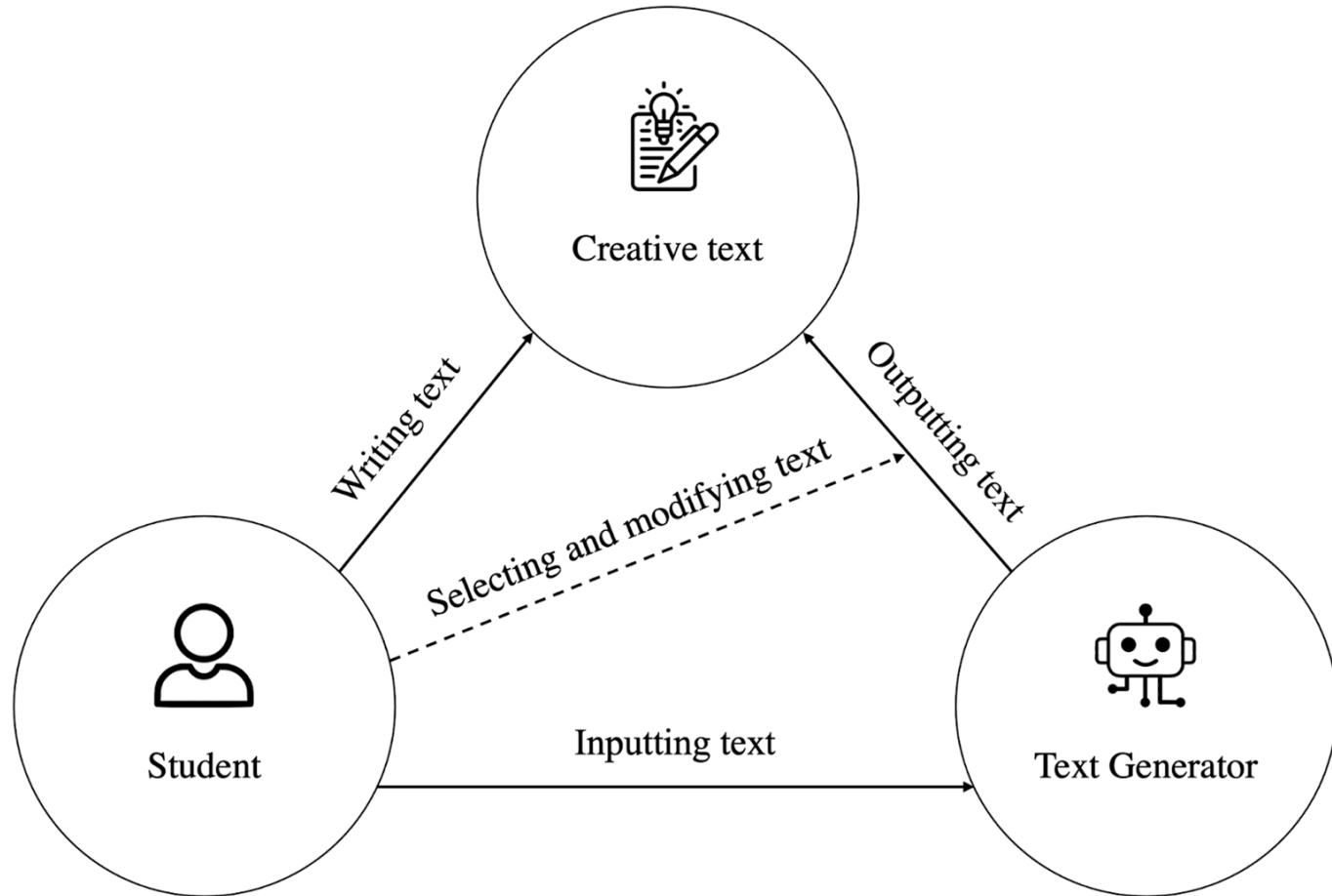
Overview

1. Problem
2. Student Writing with AI-NLG Tools
3. Idea Generation Strategies
4. 1st Human-AI Creative Writing Contest for Precious Blood
Secondary School
5. 1st Human-AI Creative Writing Contest for Hong Kong Secondary
Schools





A conceptual framework for student-AI collaborative creative writing (Woo, Guo & Chu, in progress)



A screenshot of an AI-NLG writing tool

Copy or type text. Submit and the machine will generate text.

inp

Once upon a time, there was a beautiful girl called Amy and she lived in a small town with her family.

output

7.8s

Once upon a time, there was a beautiful girl called Amy and she lived in a small town with her family. The town was small, and everyone knew everyone, and everybody had a lot of fun. And it was a very nice town. Everything was perfect.

But then Amy got a job as a nanny and realized that she wasn't making enough money to support her family, and she decided to move. She was going to find a new home. She really wanted to

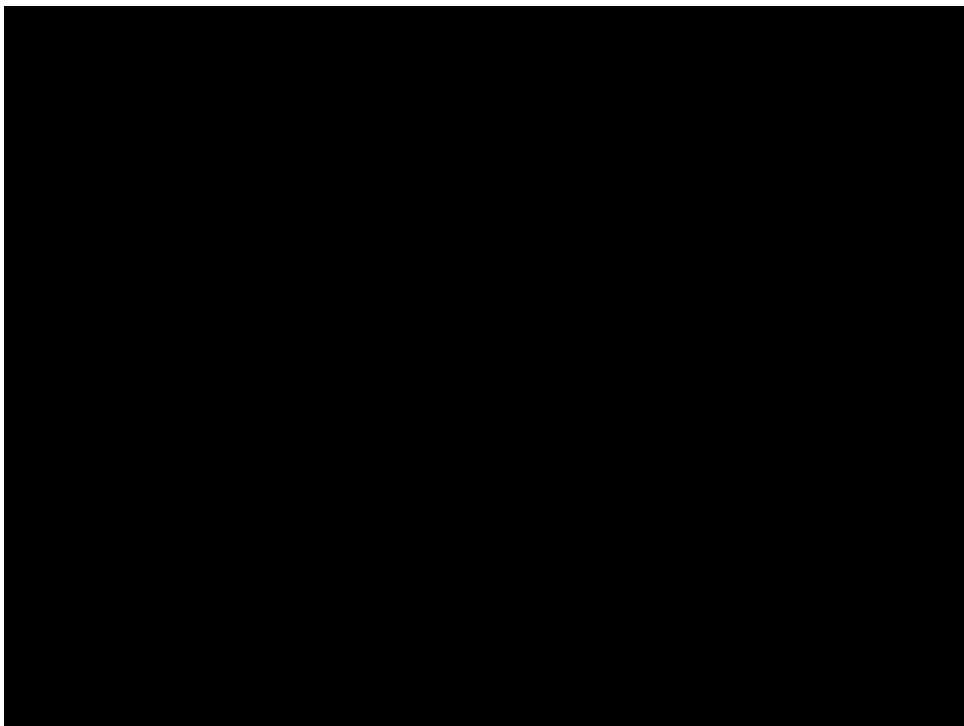
清除

提交

AI-NLG Writing Tool

https://huggingface.co/spaces/Wootang01/text_generator_three





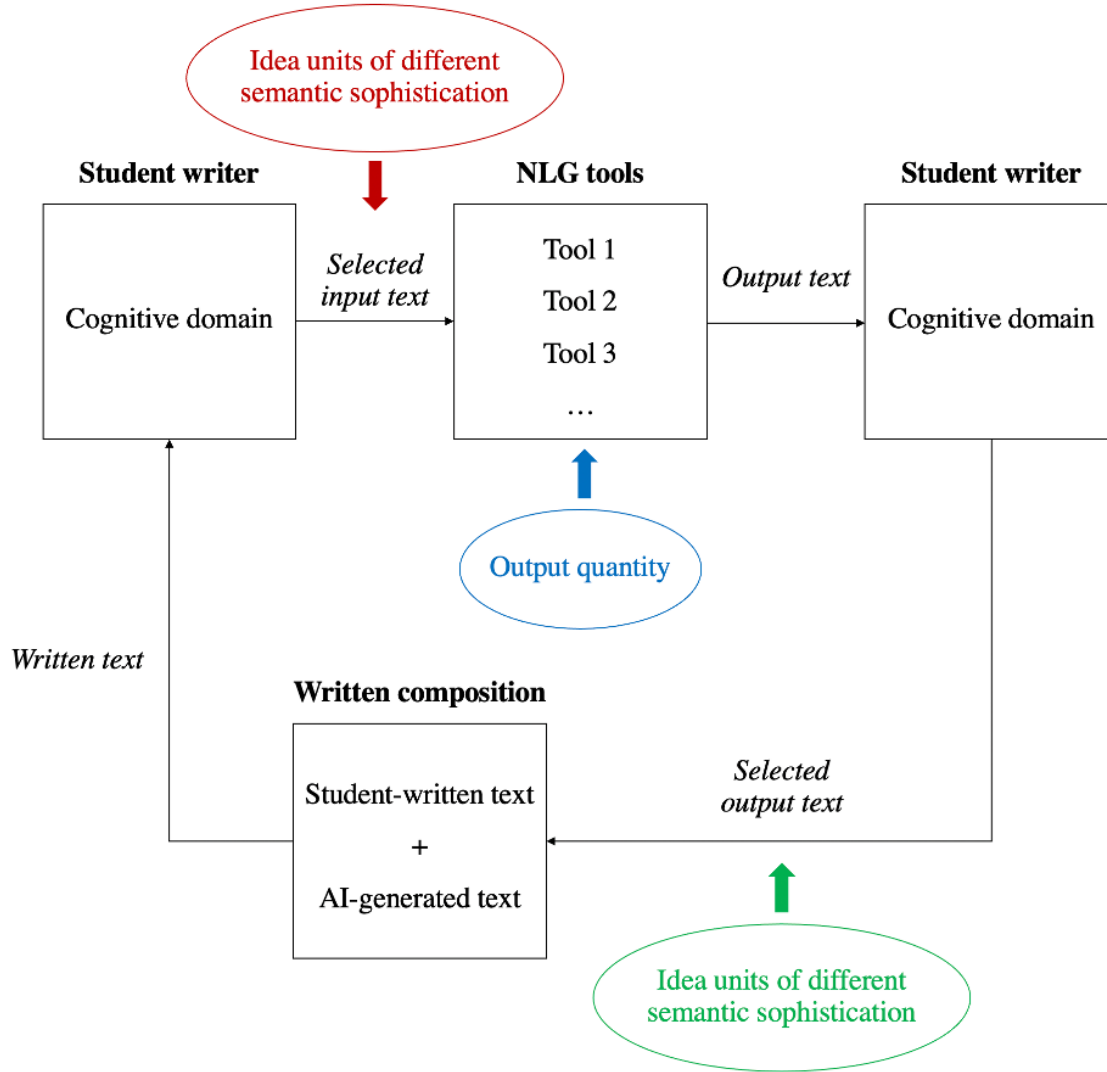
A screenshot of a story written with a student's words and AI words

Charity Begins At Home

On a cold rainy night at Brighton, London in 1948, a baby golden retriever was born into the world.

Little did the parents know it, they just created a new kind of hybrid dog. A hybrid that will forever change the way that we look at life. **Due to the baby's appearance, he was abandoned by his parents. Now, the parents were unable to look after him properly. The baby was found in the back of a garbage truck a few months later and was sent to a shelter nearby.**

The pup was left inside the shelter for lots of months until one fateful day. A person came and adopted him, the person treated the pup harshly. All the neighbours around could hear the pup crying everyday. One of the neighbours called local animal control agency and the abuser was arrested for animal cruelty. After the tragedy, the pup was put into another foster home.



Input Strategies

1. One semantic level -- for example, one sentence at a time
2. Semantic levels -- for example, words; or sentence
3. Sequenced semantic levels -- for example, paragraph then last sentence

Output Strategies

1. More than one semantic level:
 - a. Simple -- for example, topic, useful words, words that make sense
 - b. Sophisticated -- a sentence, best sentences, topic sentence, start of the story (exposition), a wide variety of ideas, (specific) details

AI-NLG Writing Tool Design Strategies

1. Quantity of output
2. More than one output instance
3. Sophisticated output strategies

發獎項: Second prize; certificate of participation

獎學生: 5th Vicinity Nizan Shoba

發獎項: Certificate of participation

獎學生:

1st Human-AI Creative Writing Contest

Two lesson plans for the 1st Human-AI Creative Writing Contest

Title	Introduction to AI-writing tools	Writing a short story
Purpose	To provide hands-on experience with AI-writing tools	To provide scaffolds to compose a short story
Intended learning outcomes	<ol style="list-style-type: none"> 1. I can locate an AI-writing tool and use its features. 2. I can develop a method to interact with an AI-writing tool. 3. I can evaluate AI-writing tools. 	<ol style="list-style-type: none"> 1. I can plan the characters, time, place and sequence of events for a short story. 2. I can decide on appropriate AI-writing tool output text. 3. I can edit and integrate output text in my story.
Actual learning activities and procedures	<ol style="list-style-type: none"> 1. To introduce the assessment rubric and examples of digital writing skills 2. To practice inputting text, reading output text and thinking of story content 3. To reflect on story content and AI-writing tools 	<ol style="list-style-type: none"> 1. To brainstorm the characters, time, place and sequence of events of a short story 2. To input elements of a story into an AI-writing tool 3. To write elements of a story on Google Docs, including output from an AI-writing tool
Materials or resources	<ol style="list-style-type: none"> 1. AI-writing tools 2. Google Docs 3. Computers with Internet access 4. Zoom 	

Workshop Reflection Questions

		<u>Workshop no.</u>					
Number	Reflection Question	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
1	How do you feel writing a short story using your own words and a machine's words?	1	1	1	1	1	
2	What is your plan to write a short story using your own words and a machine's words?	1					
3	If you could only use one text generator to write your short story, which would you use? And why?	1	1				
4	What was your plan today to write a short story using your own words and a machine's words: How did you decide which words, sentences or paragraphs to put into a text generator? How did you decide which AI words, sentences or paragraphs to include in your story?		1				
5	Did you have a goal for today's session? If so, what was it? And did you achieve it?			1	1	1	1
6	Please share a screenshot of your text generator input and output. Why did you choose that text generator? How did you decide which words, sentences or paragraphs to put into a text generator? How did you decide which AI words, sentences or paragraphs to include in your story?			1	1	1	1
7	How did you feel after attending these workshops?						1
8	What is the most important thing you learned after attending these workshops?						1
9	What is one thing you would like to have learned in this workshop?						1

Contest Assessment Rubric

<u>Weight</u>	<u>Content</u>	<u>Language</u>	<u>Organization</u>	<u>AI</u>
30%	<ul style="list-style-type: none"> · Content fulfils the requirements of the question · Almost totally relevant · Most ideas are well developed/supported · Creativity and imagination are shown when appropriate · Shows general awareness of audience 	<ul style="list-style-type: none"> · Wide range of accurate sentence structures with a good grasp of simple and complex sentences · Grammar mainly accurate with occasional common errors that do not affect overall clarity · Vocabulary is wide, with many examples of more sophisticated lexis · Spelling and punctuation are mostly correct · Register, tone and style are appropriate to the genre and text-type 	<ul style="list-style-type: none"> · Text is organized effectively, with logical development of ideas · Cohesion in most parts of the text is clear · Strong cohesive ties throughout the text · Overall structure is coherent, sophisticated and appropriate to the genre and text-type 	· Not applicable
20%	<ul style="list-style-type: none"> · Content just satisfies the requirements of the question · Relevant ideas but may show some gaps or redundant information · Some ideas but not well developed · Some evidence of creativity and imagination · Shows occasional awareness of audience 	<ul style="list-style-type: none"> · Simple sentences are generally accurately constructed. · Occasional attempts are made to use more complex sentences. Structures used tend to be repetitive in nature · Grammatical errors sometimes affect meaning · Common vocabulary is generally appropriate · Most common words are spelt correctly, with basic punctuation being accurate · There is some evidence of register, tone and style appropriate to the genre and text-type 	<ul style="list-style-type: none"> · Parts of the text have clearly defined topics · Cohesion in some parts of the text is clear · Some cohesive ties in some parts of the text · Overall structure is mostly coherent and appropriate to the genre and text-type 	· Not applicable
10%	<ul style="list-style-type: none"> · Content shows very limited attempts to fulfil the requirements of the question · Intermittently relevant; ideas may be repetitive · Some ideas but few are developed · Ideas may include misconception of the task or some inaccurate information · Very limited awareness of audience 	<ul style="list-style-type: none"> · Some short simple sentences accurately structured · Grammatical errors frequently obscure meaning · Very simple vocabulary of limited range often based on the prompt(s) · A few words are spelt correctly with basic punctuation being occasionally accurate 	<ul style="list-style-type: none"> · Parts of the text reflect some attempts to organize topics · Some use of cohesive devices to link ideas 	· AI words used in long chunks (more than 1 sentence in length) and in short chunks (less than 5 words in length).

A summary of scores from the 1st Human-AI Creative Writing Contest rubric

	<u>Average mark of three adjudicators</u>			
Criterion (full mark)	<u>Student H</u>	<u>Student M</u>	<u>Student S</u>	<u>Student W</u>
Content (3)	3	2.5	2.66	2.83
Language (3)	2.33	2.5	3	2.66
Organization (3)	2.66	2.33	3	2.66
AI (1)	0.5	0.5	1	1
Total	8.5	7.88	9.66	9.16

A screenshot of a story written with a student's words and AI words

Charity Begins At Home

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Little did the parents know it, they just created a new kind of hybrid dog. A hybrid that will forever change the way that we look at life. **Due to the baby's appearance, he was abandoned by his parents. Now, the parents were unable to look after him properly. The baby was found in the back of a garbage truck a few months later and was sent to a shelter nearby.**

The pup was left inside the shelter for lots of months until one fateful day. A person came and adopted him, the person treated the pup harshly. All the neighbours around could hear the pup crying everyday. One of the neighbours called local animal control agency and the abuser was arrested for animal cruelty. After the tragedy, the pup was put into another foster home.

There is some good in the world and it is worth fighting for

Daniel Fleck walked around the Invention Fair searching. A huge water tank caught his eye.

"Bubble break! Get your b-bubble b-break here!!"

Daniel walked to the counter, a young man was floating inside the water tank.

"...Huh?"

Next thing you know, Daniel is talking business with this kid, Charlie.

"So, what's this all about?" asked Daniel, holding the test tube in his hand.

Charlie pushed back his huge glasses nervously.

"It's a formula that helps you b-breathe underwater," he stuttered.

"Does it work?"

Charlie beamed in excitement and told him his lifelong project. Daniel nodded, glanced over the water tank and the test tube in his hand. "It won't kill me, right?"

"Of course not!" Charlie slammed his hand on the table. "I tried it on myself!"

Daniel nodded, drank it and jumped inside the water tank. He held his breath. Then suddenly he felt a sharp jab on his foot. He gasped...gasp...gasp. But didn't feel the burning sensation of drowning. There was a transparent bubble helmet protecting his head. And he can breathe!

"I'm sorry! Bad Jacob, bad!" Charlie screamed, reaching for his pet lobster.

Daniel got out and grabbed Charlie's shoulders tightly.

"WE.NEED.TO.TALK"

Six months later, "Finally, it's finished! I can't wait to show this to Mr Fleck!" Charlie

<u>Descriptor</u>	<u>Student H</u>	<u>Student M</u>	<u>Student S</u>	<u>Student W</u>
Total no. of words	542	270	495	498
No. of students words (% of total words)	374 (69)	124 (46)	378 (76)	436 (88)
No. of AI words (% of total words)	168 (31)	146 (54)	117 (24)	62 (12)
No. of AI chunks	9	3	12	6
No. of human chunks	10	4	13	7
No. of long AI chunks	4	3	6	1
No. of short AI chunks	0	0	4	1
Avg. length of AI chunks	19	49	10	10

		<u>Types of AI words</u>	
		<u>Complete</u>	<u>Incomplete</u>
Amount of AI words	Majority		Student M
	Minority	Student S, Student W	Student H

1ST HUMAN-AI CREATIVE WRITING CONTEST



AIMS

- To develop Hong Kong students' and teachers' competence to create and to use AI for learning
- To develop students' creative and productive skills
- To increase student engagement with English

CONTEST RULES

Programming

Two lesson plans for the 1st Human-AI Creative Writing Contest for Hong Kong Secondary Schools

Title	Composing an AI-writing tool	Writing a short story with an AI-writing tool
Purpose	To provide hands-on experience with computer programming language	To provide hands-on experience with using an AI-writing tool
Intended learning outcomes	<ol style="list-style-type: none"> 1. I can access and use a website's features. 2. I can program an AI-writing tool. 3. I can modify a tool's parameters. 	<ol style="list-style-type: none"> 1. I can locate an AI-writing tool and use its features. 2. I can develop a method to interact with an AI-writing tool. 3. I can edit and integrate output text in my story.
Learning activities	<ol style="list-style-type: none"> 1. To open a space on Hugging Face. 2. To introduce features of the Python programming text type and to practice copying language 3. To introduce features of an AI-writing tool and to practice changing its features 	<ol style="list-style-type: none"> 1. To practice inputting text, reading output text and thinking of story content. 2. To write elements of a story on Google Docs including output from an AI-writing tool 3. To introduce the contest assessment rubric and story exemplars
Materials	<ol style="list-style-type: none"> 1. Hugging Face Spaces 2. Computers with keyboards and Internet access 	<ol style="list-style-type: none"> 1. AI-writing tool 2. Computers with keyboards and Internet access 3. Google Docs 4. Story outline

Composing an AI- writing tool



Workshop 1: 1st Human-AI Creative Writing Contest for Hong Kong
Secondary Schools

Wootang01 Update app.py d948bb3


5 minutes ago

</> raw history blame edit delete

67 Bytes

```
1 import gradio as gr
2
3 gr.Interface.load("huggingface/gpt2").launch()
```

A screenshot of Python code for an AI-writing tool on Hugging Face Spaces

Spaces: Wootang01 / **text_generator_three**  like 0 Running [View logs](#)

App [Files and versions](#) [Community](#) [Settings](#)

main [text_generator_three / app.py](#)

Wootang01 Update app.py [1f4e701](#)

15 days ago

[raw](#) [history](#) [blame](#) [edit](#) [delete](#) [Safe](#)

341 Bytes

```
1 import gradio as gr
2
3 title = "Text Generator GPT-J-6B"
4 description = "Kindly input your text, submit and the computer will predict subsequent words for your text."
5
6 gr.Interface.load("huggingface/EleutherAI/gpt-j-6B", inputs = gr.inputs.Textbox(lines=5, label="Input text."), title=title, description=descri
```

```
import gradio as gr
from gradio import inputs
from gradio.inputs import Textbox
from gradio import outputs
from transformers import pipeline

title = "Next Sentence Generator"
description = "Try this text generator!"
examples = [
    ["Zoe Kwan is a 20-year old singer and songwriter who has taken Hong Kong's music scene by storm."],
    ["Zoe's big break came when the godfather of Cantopop Sam Hui stumbled upon a YouTube video of Zoe singing."],
]

generator2 = gr.Interface.load("huggingface/EleutherAI/gpt-neo-2.7B")
generator3 = gr.Interface.load("huggingface/EleutherAI/gpt-j-6B")
generator1 = gr.Interface.load("huggingface/gpt2-large")

gr.Parallel(generator1, generator2, generator3, inputs=gr.inputs.Textbox(lines=5, label="Enter a sentence to get another sentence."), title=title, description=description, examples=examples).launch(share=False, enable_queue=True)
```

gpt2

Input

Once upon a time, Dr Woo lived in Hong Kong. He

Clear

Submit

Output

Once upon a time, Dr Woo lived in Hong Kong. He ia loved his life and he did not allow his young sons to have any other choice but to grow up and become a full member of the Chinese revolutionary movement.

1st Human-AI Creative Writing Contest Revised Rubric

<u>Score</u>	<u>Content</u>	<u>Language</u>	<u>Organization</u>	<u>AI Words</u>
5	HKDSE level 6	HKDSE level 6	HKDSE level 6	AI words compose less than $\frac{1}{3}$ of the total number of words in the text
3	HKDSE level 4	HKDSE level 4	HKDSE level 4	At least 8 AI chunks of any length
1	HKDSE level 2	HKDSE level 2	HKDSE level 2	AI words used in long chunks (more than 1 sentence in length) and in short chunks (less than 5 words in length).

**Does your
school want to
join?**

<https://sites.google.com/pbss.hk/humanaicontest/home>

