Sticky notes - TEXT Generation Unplugged

Objective

- Students will act as the text generator and create a story.
- Students will explore how Artificial Intelligence uses N-grams to generate text

Materials needed

- pen/pencil
- Sticky notes or small sheets of paper
- A separate space to run the games
- Replace the missing word paper (1x student)

Setup

1. On a table apart from all students, place a pile of sticky notes and a pencil
2. Give the students an order or put them in a line
3. Give each student the "Replace the Missing Word" worksheet
4. Write the first two words of the story; one per sticky note.
5. Lay out the words beside each other with a pile of blank sticky notes to the right.

POST-IT #1	POST IT #2	POST IT #3
THE	HORSE	(BLANK)

How it works

1. One at a time students approach the table and write the next word in the story on the next post it note – one word per post it note.
2. Before the next student approaches the table, the teacher/moderator moves the words one space to the left.
    a. Post it #2 covers Post it #1, Post it #3 covers Post-it #2
    b. A new blank post-it is generated (post-it #4)

POST-IT #2	POST IT #3	POST IT #4
HORSE	FLYS	(BLANK)

3. As each student comes to the table they generate one new word and the teacher/moderator moves the words to the left.
4. Run through this process until you feel that the class has written enough of a story to be worthwhile to read to the class.
5. Students can work on the "Replace the Word" worksheet in their downtime between adding new words
6. Lay out all of the post-it notes and have someone read the story aloud

Follow-up/Discussion

- Did you find it difficult to generate a new word? Why did you choose the word that you did on your turn? What data have you been trained on in order to generate that word?
- What would happen if we only had one previous word to look at? What if we could see 3 previous words rather than just 2?
- What if we could see ALL previous words in the story rather than just 2 or 3?
    - Alternatively, run this exercise: **All previous words version** - each student gets one piece of paper and writes the first sentence of a story on the top of a paper. Students then all pass their paper to the student beside them at the same time and everyone adds a word to the paper they received before passing the paper again. Students continue to pass the papers and write a new word.

Teacher Notes

In this exercise students should begin to contemplate:

- Why are they choosing each word that they add
- How laborious it might be to write a story, paper, etc when you can only see the two words before.

This model is called Ngrams. An n-gram is a collection of n successive items in a text document that may include words, numbers, symbols, and punctuation. N-gram models are useful in many text analytics applications where sequences of words are relevant, such as in sentiment analysis, text classification, and text generation. N-gram modeling is one of the many techniques used to convert text from an unstructured format to a structured format. N-grams rely on the last couple of items when parsing through data to find the next most relevant word. We will explore how the computer does this in the next activity.