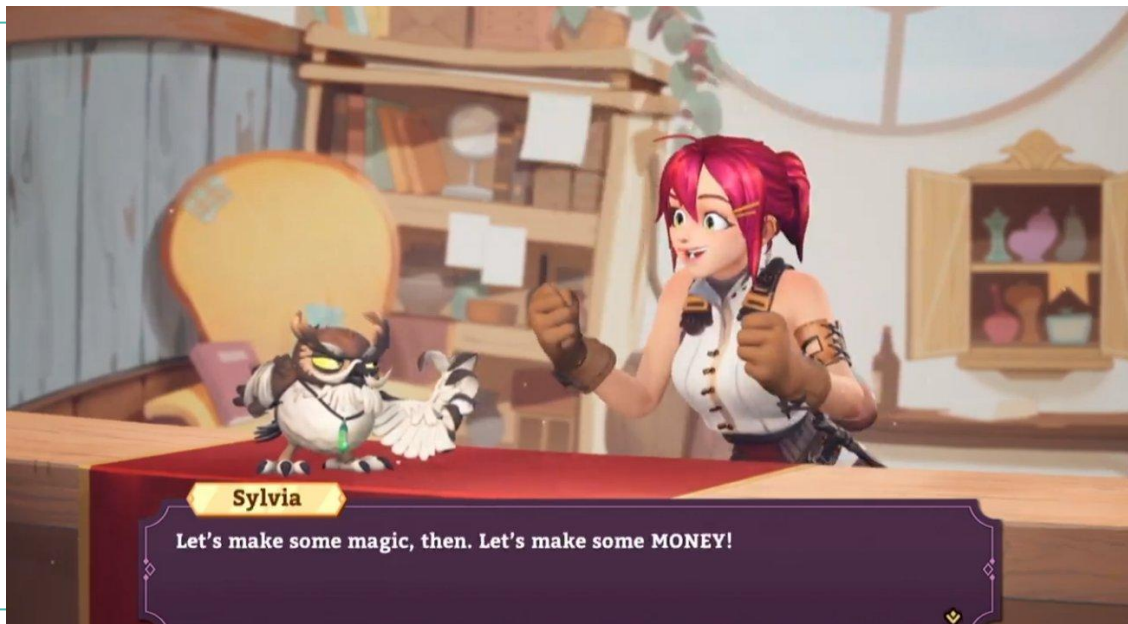


# Dynamic Dialog Engine



Created by:  
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Summer Challenge Project: MakeSchool Colab with Microsoft & Lyft

# HISTORY

## **Today is Forever:**

- Time Travel in a 24hr loop to do as you like.
- Branching dialog trees.
- Coming of age scenario where you develop courage.
- Develop a Brutish or Charming conversational personality



# PROBLEM

## The brain is too good at recognizing patterns

### **Linear Dialog is bad in a video game:**

- Forcing a player to relive a moment is never fun.

### **Issues with my game:**

- Dialog becomes repetitive.
- I created an impossible argument scenario
  - The challenge is easily solved through boring brute force.

# IDEA

## Make dialog dynamic

### **Communication is organic:**

- Time travel isn't linear like a movie reel.
- You come up with the words in the moment

### **HOW?**

- Natural Language Processing and Machine Learning

### **What it would look like**

- NPC's would communicate unique lines of dialog each time they are spoken with. Not selected from a list, but constructed dynamically. With added emotion based on user interactions.

# PROCESS

I'm going where others have not gone before

## DATA SET

Scripts!

**What kind of scripts? - Our model needs to be focused.**

- Books have too much descriptive
- Movies are good, but the perspective is towards another actor

## Games!

- Dialog is directed towards the character (in RPG & Dating Sims)

**Problem.... There are none!?!?**

# CHALLENGE

## Reaching out

- Hunter.io, FindThatLead.com, Mentor at Microsoft & Lyft

## Past contacts

- <https://fantranslators.info/projects/rocket-slime-3ds/>



Success! Four scripts from Shin Megami Tensei.

# DATA CLEANING

```
/.*(\{FF00\}|\{C7B8\})|(?!\{FF8\d\})(\{.\{4\}\})|(<.*>)|(\[.*\])|(\#\..*)|"\\n|\\n|\\r|/g
```

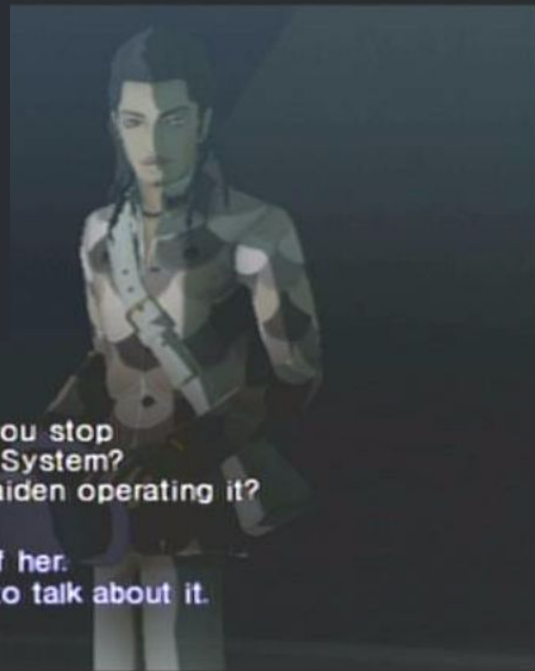
```
msgctxt "37"  
msgid ""  
"{FF05}{0ADE}{FF19}{C7B7}Voice{C7B8}{FF16}You, bearer of the five Manji...\n"  
"You have earned the right to journey\n"  
"backwards in time.\n"  
"{FF03}{FF02}{FF05}{0ADF}If you so wish... You may attempt to\n"  
"retake the path you have been walking,\n"  
"but with new powers...\n"  
"{FF03}{FF00}"  
msgstr ""
```

I'm sure that I'll be able to provide you with guidance.  
I know it's difficult for you to understand.  
But, we're out of time.  
If you can find me on your own,  
I promise that I'll tell you everything  
The answers to all your questions,  
and what my true feelings are  
It is time to settle this, once and for all.

Hijiri

But, how did you stop  
the Nightmare System?  
Wasn't that Maiden operating it?

- I saved her.  
I took care of her.  
I don't want to talk about it.



# TENSORFLOW

## Independent Study

- This project is beyond my current knowledge, git good!



TensorFlow 2.0 Complete Course - Python Neural Networks for Beginners Tutorial

freeCodeCamp.org 459K views • 4 months ago

Learn how to use TensorFlow 2.0 in this full tutorial course for beginners. This course is designed for Python programmers looking ...

- Studying the NLTK toolset.
  - Tagging parts of speech, Lemmatizing, Wordnet, Classification.
- Studying Tensorflow
  - Keras tutorials
- Completing my Machine Learning course (prereq knowledge)



# CURRENT RESULTS

- Machine learning takes lots of processing power.

## Google Colab

- [https://colab.research.google.com/drive/1dpU53qSNizPTf8liHI7ew6tiJ\\_MnZBlm#scrollTo=5m3JiKeUVRwY](https://colab.research.google.com/drive/1dpU53qSNizPTf8liHI7ew6tiJ_MnZBlm#scrollTo=5m3JiKeUVRwY)

What is Google Colab?

**Google Colab** is a free cloud service and now it supports free GPU! You can; improve your Python programming language coding skills. develop deep learning applications using popular libraries such as Keras, TensorFlow, PyTorch, and OpenCV. Jan 26, 2018

## Sample Output

```
Epoch 80/80  
49/49 [=====] - 3s 54ms/step - loss: 0.2747
```

```
I believe in power.  
I'm see us down attacks that I'll see you again.  
A new fusion to looooooilly sorry ad if I ms.  
The Mantra and Nihilo even go to Asakusa.  
Peelieve in your heart  
I shall now turned this world with the strong and make a partoce.
```

# FUTURE PLANS

## Summer Challenge Project ends Aug 3rd

- Build a few models as proof of concept.
- Observed models look BAD!

### **Potential Improvements:**

- Write my own dialog, allow the model to focus on the individual character.
- Sentence types: Create a library of sentence types and build individual models for them. Dialog writing in the game would be a selection of sentence types.
- Create a character database of knowledge. When key words are used by the character, generate them as sentences.