Epic

by:

# The PowerPuff Coders

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## **Topic Area**

* NLP/Contextual Text Generation

## **Project Name**

* Epic (RPG)

## **Problem Statement**

Good storytelling makes for good gameplay in roleplaying games. Creating storylines that are adaptable to gameplay is challenging and takes away from the game’s experience. Furthermore, getting together with multiple people to play isn’t always convenient.

## **Proposed Solution**

The proposed solution is to use NLP to create storylines that are adaptive to user responses. This is difficult to do with normal methods because reacting to player input yields finite results with hardcoded responses. To add to the complication, the ability to keep the context of what is happening means interpreting and understanding player responses is difficult, but also generating a new, dynamic response that makes sense in the context of the player’s response is even more difficult. Responding to any player input with an appropriate response just isn’t possible with typical hardcoded methods. The model will be trained with transfer learning on GTP2/3 and the addition of DND gameplay transcripts. When starting the game, the user can enter the start of a storyline or select from a list of story starting choices. The output of the model will be a continuation of the storyline given. The player can then start to respond with whatever they want to do. This response is the other input. The model will then generate a contextual response to the player’s choice that continues the story.

## **Data**

* [GPT2/3](https://github.com/openai/gpt-3) (transfer learning)
* Training on DND scripts from YouTube

## **Timeline**

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| --- | --- |
| September 27 | * Setup Git Repo/Invite Team Members   + - *Skyler McMullen* * Cloud Environment on Conda/.yml file   + - *Carson*     - Add environment.yml to Git * Transfer Learning Demo on Git   + - *Everyone* * Start playing with GPT2/3   + - *Everyone* should try downloading and running GPT2 * Get DND transcripts   + - *Everyone* can try and get at least one DND/Roleplaying script * Discuss the best places we found for getting data |
| October 4 | * Make sure everyone’s environment is working * Setup GPT and make sure everyone has access   + - *Carson* * Decide on layers for transfer learning   + - *Everyone* |
| October 11 | * Get more DND transcripts   + - *Everyone* * Set up Training environment on the server   + - NB to Google Cloud Platform     - *Carson* * Data cleaning/processing/formatting   + - *Everyone* |
| October 18 | * Train on DND transcripts * Start User Interface/Setup Website server/environment   + - *Carson* |
| October 25 | * Working on API for interface to call * Start User Interface/Setup Website server/environment   + - *Carson* |
| November 1 | * Deploy User Interface * Make sure it’s accessible |
| November 8 | * Add in API calls to interface   + - *As a team* * Debugging API/Website   + - *As a team* |
| November 15 | * *Everyone* get user feedback |
| November 22 | * Refactor environments for production   + - *Carson* * Optimization/Refactoring   + - *Everyone* * Implement User feedback   + - *Everyone* |
| November 29 | * Divide Presentation Parts * Start Final Presentation |
| December 6 | * Practice Presentation/Finalize Video |
| Final: TBD | Final Presentation/Video |

* Stretch Goals
  + Voice to text response
    - Differentiating Speakers