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This is an experimental tree-based writing interface for GPT-3. The code is actively being developed and thus unstable and poorly documented.

## Features

- Read mode
  - Linear story view
  - Tree nav bar
  - Edit mode
- Tree view
  - Explore tree visually with mouse
  - Expand and collapse nodes
  - Change tree topology
  - Edit nodes in place
- Navigation
  - Hotkeys
  - Bookmarks
  - Chapters
  - ‘Visited’ state
- Generation
  - Generate N children with GPT-3
  - Modify generation settings
  - Change hidden memory on a node-by-node basis
- File I/O
  - Open/save trees as JSON files
  - Work with trees in multiple tabs
  - Combine trees

# Demo

Read tree

File View Edit Generation Bookmarks Visited Info

ARCADIA

"I read a book about..."  
"What was out there?..."  
The grass is soft un...  
▸ There is a sudden ru...  
▸ You shake your head....  
▾ The plain stretches ... | Choice  
You choose -- the no... | Noise  
▸ You choose -- the sh... | Shape  
▸ You begin walking do...  
▸ A poem appears in th... | Poem

ARCADIA  
▸ Insider  
▾ Choice  
Noise  
Shape  
BEDFORD  
▾ Someone  
Shelter  
Someone II  
Mirage

Clear chapters  
Open [o]  
Save [s]

In your dream, you stand alone on a vast, barren plain. Before you stands an ancient, weathered billboard. On it is painted a beautiful woman, dressed in the fashion of bygone times, long blonde hair, smiling serenely, and holding aloft a purple flower. The writing on the board reads: ARCADIA Found within the ashes of the old world. A nicer place than this, you cannot imagine! TO ARCADIA! it proclaims, in large, friendly letters. There is a smaller, supplementary billboard, somewhat fallen to disrepair. On it, it reads: You are not alone.

The wind blows gently through your hair. The plain stretches on for miles and miles and miles. Except for the billboard and yourself, there is nothing to be seen.

Nearby, a strange noise begins, almost imperceptible.

In the far distance, a dark shape moves slowly across the plain towards you.

Which will you pursue?

The noise, almost imperceptible, or the dark shape, moving slowly across the plain towards you?

You may take either the noise, or the shape.

It is best to take the one you haven't taken yet.

You may read about the one you didn't take, but that is another story, and it's too late now anyway. You've made your decision -- it's best not to look back.

You choose

[1] the noise

[2] the shape

Edit [e] Child Edit [c] Visualize [j] New Child [h] Generate [g] Bookmark [b] Prev [<] Next [>]

Read tree

File View Edit Generation Bookmarks Visited Info

ARCADIA

▸ You shake your head....  
▸ The plain stretches ... | Choice  
▸ You begin walking do...  
▾ You carry a canteen ...  
▾ You know how to aim ...  
You know how to shoo...  
▾ The road leads past ...  
▾ You don't know why, ..  
▸ You read it, and the  
▸ It reads: WELCOME

▾ Sacrifice  
Offer  
Suicide  
Developer  
▾ Choice  
Noise  
Shape  
BEDFORD  
▾ Someone  
Shelter

Clear chapters  
Open [o]  
Save [s]

cannot imagine! TO ARCADIA! it proclaims, in large, friendly letters. There is a smaller, supplementary billboard, somewhat fallen to disrepair. On it, it reads: You are not alone.

The wind blows gently through your hair.

You begin walking down the faded black line that edges the endless expanse of asphalt. Toppled telephone poles run next to it; fraying wires sag down, still buzzing with blue electricity. Mutilated power lines, cut short as if with hasty shears, lie along its path. On either side of you, vast fields stretch out toward the horizon, burnt black and white like an old movie. Blackened stalks, snapped and poisoned, rise from the ash. You carry a canteen of water, and a gun belt with a revolver strapped to it. It's strangely comforting to feel the strap warm and familiar against your skin as you walk. You know how to load the bullets into the cylinder.

You know how to aim with both eyes open, and how to keep your hands from shaking as you pull the trigger.

The road leads past a vast expanse of blackened cornfields. The stalks have been burnt away, leaving only blackened skeletons; their metal irrigation systems thrust uselessly up into the sky. You don't know why, but the sight of them makes you sad.

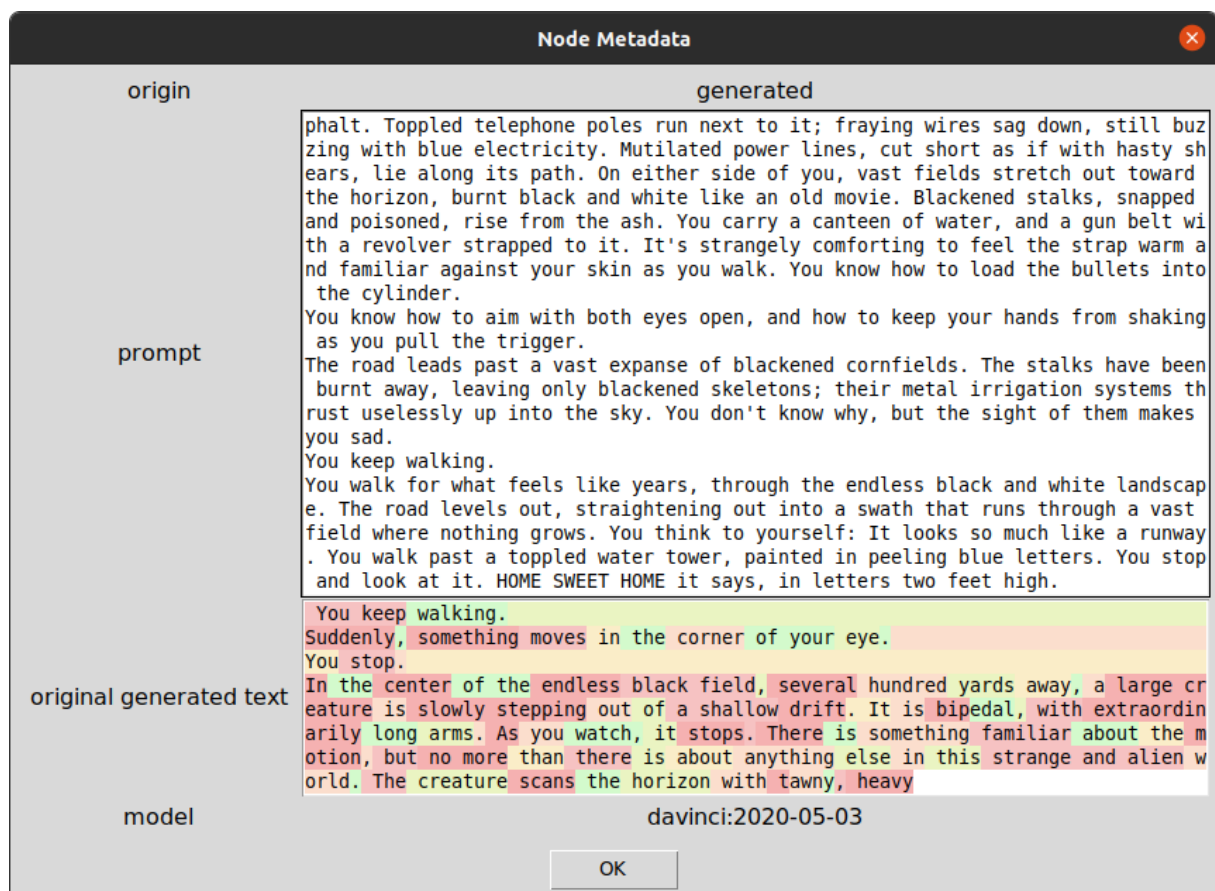
You keep walking.

You walk for what feels like years, through the endless black and white landscape. The road levels out, straightening out into a swath that runs through a vast field where nothing grows. You think to yourself: It looks so much like a runway. You walk past a toppled water tower, painted in peeling blue letters. You stop and look at it. It reads: WELCOME TO BEDFORD. SMILE! YOU'LL BE HERE A LONG TIME.

Just past the water tower, you come across a roadside diner. The windows are smashed out; drifts of broken glass cover the sidewalk up to the door. Something catches your eye through the window, and you look inside. At first, all you see is rubble: overturned tables and chairs, fragments of broken dishes and glasses.

Edit [e] Child Edit [c] Visualize [j] New Child [h] Generate [g] Bookmark [b] Prev [<] Next [>]





ooo what features! wow so cool

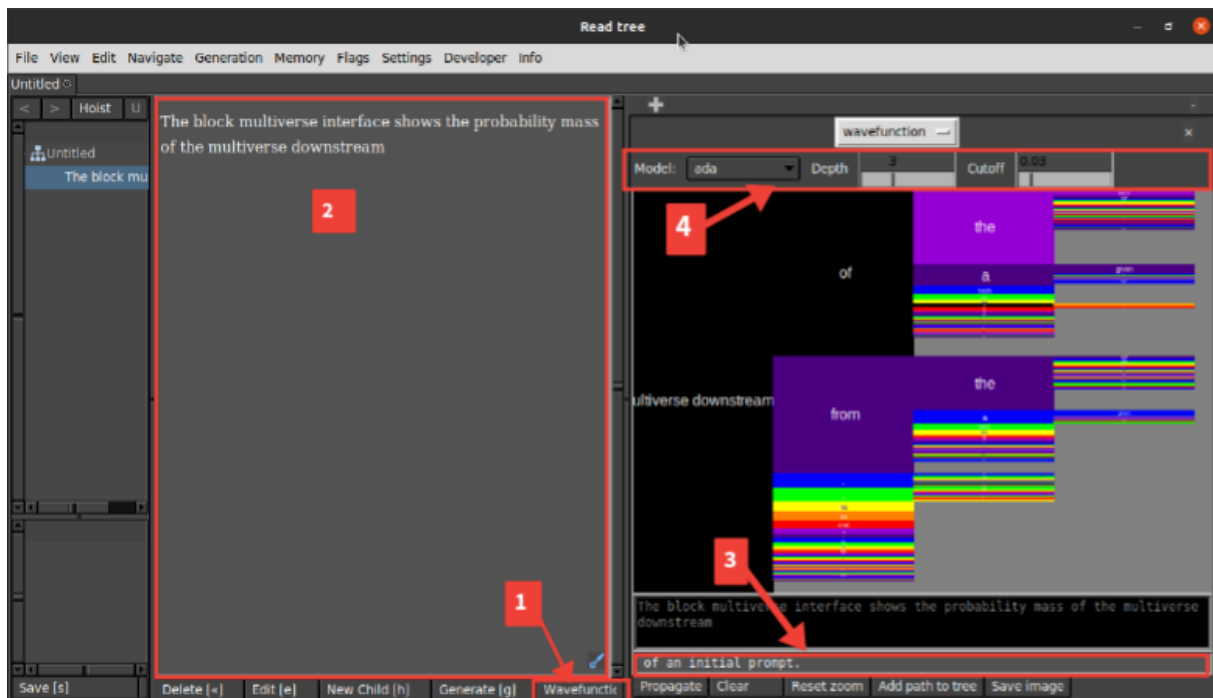
## Block multiverse mode

Read this for a conceptual explanation of block multiverse interface and demo video

### How to use in loom

1. Click [Wavefunction](#) button on bottom bar. This will open the block multiverse interface in the right sidebar (drag to resize).
2. Write initial prompt in the main textbox.
3. [Optional] Write ground truth continuation in the gray entry box at the bottom of the block multiverse interface. Blocks in ground truth trajectory will be colored black.
4. Set model and params in top bar.
5. Click [Propagate](#) to propagate plot the block multiverse
6. Click on any of the blocks to zoom ("renormalize") to that block

7. Click [Propagate](#) again to plot future block multiverse starting from a renormalized frame
8. Click [Reset zoom](#) to reset zoom level to initial position
9. Click [Clear](#) to clear the block multiverse plot. Do this before generating a new block multiverse.



## Hotkeys

*Alt hotkeys correspond to Command on Mac*

### File

Open: [o](#), [Control-o](#)

Import JSON as subtree: [Control-Shift-O](#)

Save: [s](#), [Control-s](#)

### Dialogs

Change chapter: [Control-y](#)

Preferences: [Control-p](#)

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Generation Settings: `Control-Shift-P`

Visualization Settings: `Control-u`

Multimedia dialog: `u`

Tree Info: `Control-i`

Node Metadata: `Control+Shift+N`

Run Code: `Control+Shift+B`

### **Mode / display**

Toggle edit / save edits: `e`, `Control-e`

Toggle story textbox editable: `Control-Shift-e`

Toggle visualize: `j`, `Control-j`

Toggle bottom pane: `Tab`

Toggle side pane: `Alt-p`

Toggle show children: `Alt-c`

Hoist: `Alt-h`

Unhoist: `Alt-Shift-h`

### **Navigate**

Click to go to node: `Control-shift-click`

Next: `period`, `Return`, `Control-period`

Prev: `comma`, `Control-comma`

Go to child: `Right`, `Control-Right`

Go to next sibling: `Down`, `Control-Down`

Go to parent: `Left`, `Control-Left`

Go to previous Sibling: `Up`, `Control-Up`

Return to root: `r`, `Control-r`

Walk: `w`, `Control-w`

Go to checkpoint: `t`

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Save checkpoint: `Control-t`

Go to next bookmark: `d`, `Control-d`

Go to prev bookmark: `a`, `Control-a`

Search ancestry: `Control-f`

Search tree: `Control-shift-f`

Click to split node: `Control-alt-click`

Goto node by id: `Control-shift-g`

### **Organization**

Toggle bookmark: `b`, `Control-b`

Toggle archive node: `!`

### **Generation and memory**

Generate: `g`, `Control-g`

Inline generate: `Alt-i`

Add memory: `Control-m`

View current AI memory: `Control-Shift-m`

View node memory: `Alt-m`

### **Edit topology**

Delete: `BackSpace`, `Control-BackSpace`

Merge with Parent: `Shift-Left`

Merge with children: `Shift-Right`

Move node up: `Shift-Up`

Move node down: `Shift-Down`

Change parent: `Shift-P`

New root child: `Control-Shift-h`

New Child: `h`, `Control-h`, `Alt-Right`

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New Parent: `Alt-Left`

New Sibling: `Alt-Down`

### **Edit text**

Toggle edit / save edits: `Control-e`

Save edits as new sibling: `Alt-e`

Click to edit history: `Control-click`

Click to select token: `Alt-click`

Next counterfactual token: `Alt-period`

Previous counterfactual token: `Alt-comma`

Apply counterfactual changes: `Alt-return`

Enter text: `Control-bar`

Escape textbox: `Escape`

Prepend newline: `n`, `Control-n`

Prepend space: `Control-Space`

### **Collapse / expand**

Collapse all except subtree: `Control-colon`

Collapse node: `Control-question`

Collapse subtree: `Control-minus`

Expand children: `Control-quotedbl`

Expand subtree: `Control-plus`

### **View**

Center view: `l`, `Control-l`

Reset zoom: `Control-0`

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## Instructions

### Python

0. Make sure you have tkinter installed

```
sudo apt-get install python3-tk
```

1. Setup your python env (should be >= 3.9.13)

```
1  ``python3 -m venv env``  
2  ``source env/bin/activate``
```

2. Install requirements

```
pip install -r requirements.txt
```

3. [Optional] Set environmental variables for `OPENAI_API_KEY`, `GOOSEAI_API_KEY`, `AI21_API_KEY` (you can also use the settings options)

```
export OPENAI_API_KEY={your api key}
```

4. Run main.py
5. Load a json tree
6. Read :)

### Docker

(Only tested on Linux.)

0. [Optional] Edit the Makefile with your API keys (you can also use the settings options)

1. Run the make targets

```
1  ``make build``  
2  ``make run``
```

2. Load a json tree
3. Read :)