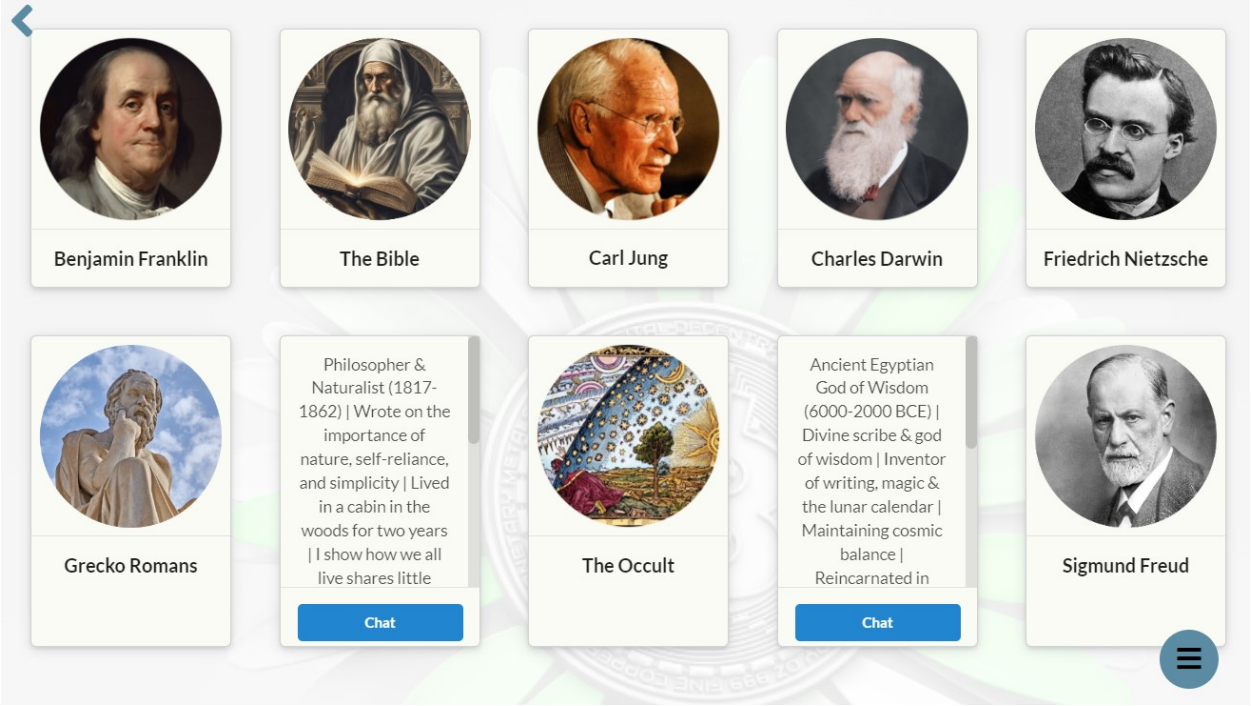
A Revelation in DeAI: UncensoredGreats Litepaper and IC Migration Plan

UncensoredGreats is a Web2 App that allows you to chat with your favorite authors based on their Collected Works. The Goal: An AI platform where users choose the *Relative Truth* of the AI they're interacting with.

Our legacy IT version is live and open-source. You can try us out at https://www.uncensoredgreats.com/ and access all the code in the following places:

- Main App: UncensoredGreatsCore
- AI Summarizer: UncensoredGreatsSummarizer
- E-reader: uncensoredgreats-ereader



The challenge, despite being open-source and having primary sources attached to each chat response, is this transparency only reaches up to the 'black box' nature of AI. This raises unanswerable questions about the origin of its training data and the internal bias of the model.

Dfinity's Latest Press Release established their stance on the Internet Computer's (IC) role in Decentralized AI (DeAI):

"The Internet Computer enables running AI in a way that allows for the separation of AI models and data. This allows different parties who do not trust each other to combine their models and data in an open marketplace. Incorporating AI into the Internet Computer platform allows for a broader availability of models and data, trustworthiness, separation of models and data, and increased ownership and transparency compared to Web2 platforms."

Given this revelation, and the recent prototyping of canister-contained LLMs and vector embeddings, integrating the two is the ideal solution UncensoredGreats has been waiting for. This document is the migration plan and vision for a Web3-inspired UncensoredGreats.

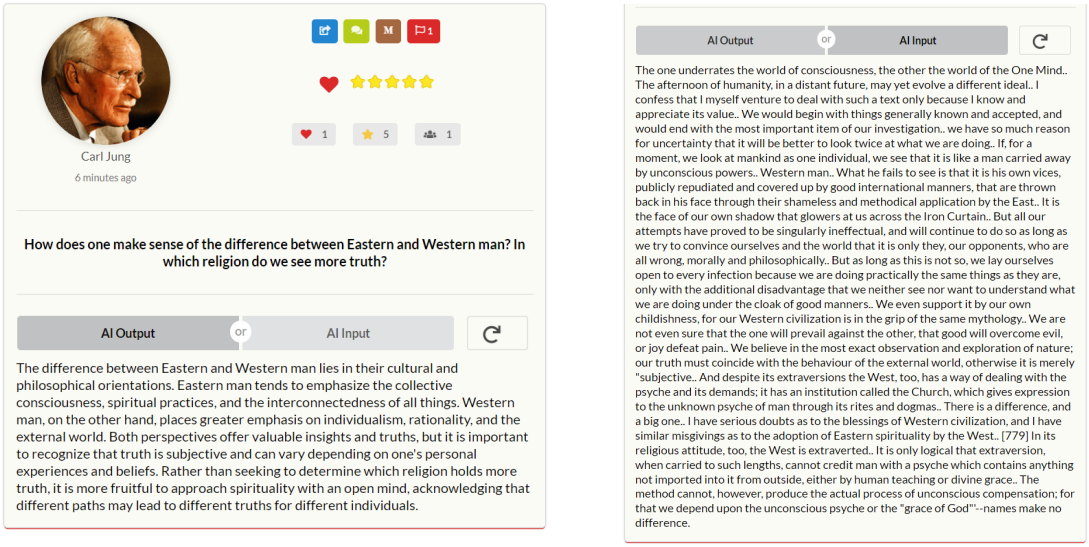
Overcoming the Limitations of ICP Smart Contracts

In the Current Generation of the Internet Computer Protocol, competing with the latest and greatest of Big Tech AGI with smart contracts alone would be a fools errand.

Instead, UncensoredGreats revolves around a True-to-the-Source approach. This means it works very hard to undo the abstraction of advanced LLMs. We do this because LLMs default to the 'middle-of-the-road' response, basically rendering AI unable to draw conclusions in contentious or opinionated areas.

These areas also happen to be the most fun ones for curious people to dive into. Since this pursuit is rather fruitless through the AGI's 'mind', the right approach is taken through the mind of an ideologically uniform text corpus. One such corpus becomes a *Relative Truth*, and a data marketplace of many corpora shall be the toolkit for finding The Truth. For any given area of human inquiry a user feels is underrepresented, they are welcome to provide the corpus of ebooks that will train the next domain-specific AI, capable of steel-maning its assigned position—with of course, the help of community governance.

Here is an example asking psychologist Carl Jung about his views on Eastern vs. Western Religions which highlights the benefits of the *True-to-the-Source* approach. The first image is the ChatGPT response, and the second is just raw sentences from across Carl's books that were provided to ChatGPT as input. Once the raw data is received, generating the former costs ~$0.002, while the latter comes from a 15-line script that can execute on a Rasberry Pi in a couple of milliseconds.



You'll notice ChatGPT is asking for a lot of power just to turn Jung's insightful words into that of a doubtful 3rd-grader.

Replicate this on a topic you care about, and the conclusion will be similar: The raw collection of sentences is often preferred to the LLM response.

In our use case, we've found that as the model becomes larger and more powerful, it strips away more of the nuance and authenticity from the primary source. Advancements in LLMs need not necessarily hinge on Big Tech's escalating datasets and computational firepower. DeAI can have its domain of superiority through a triad of strategies:

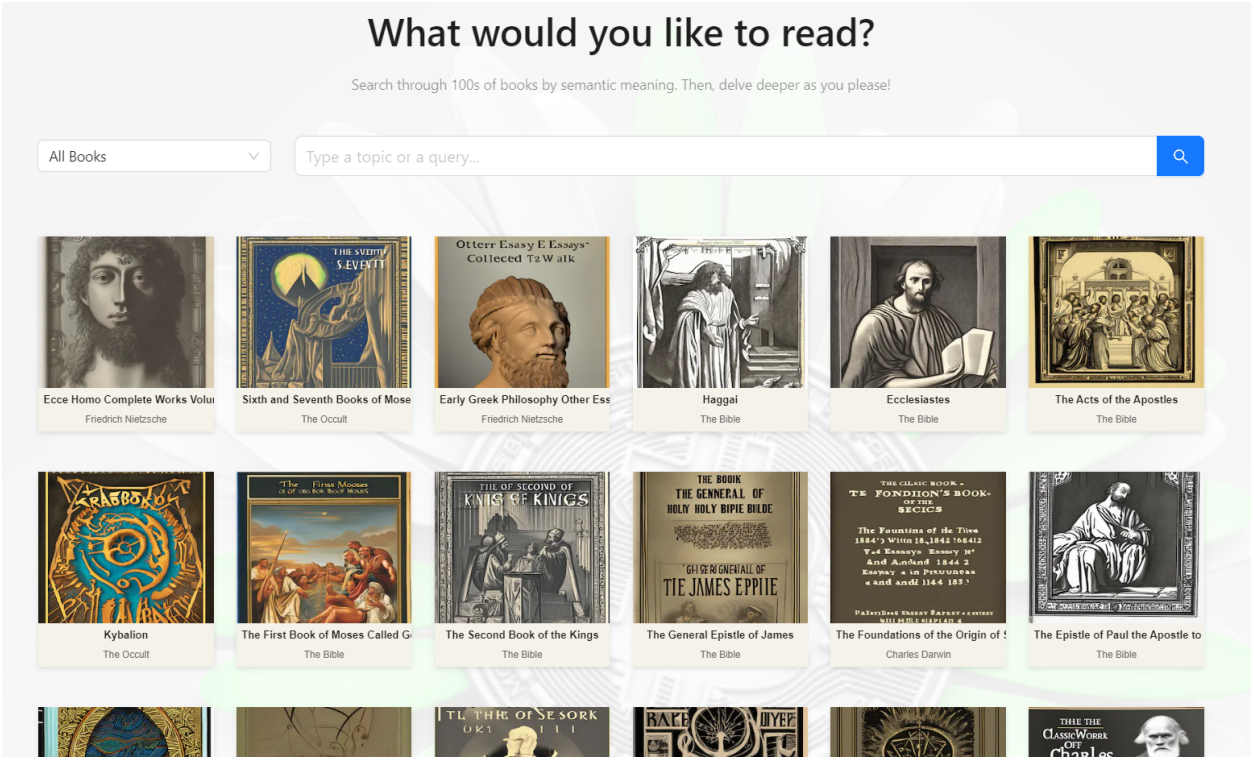
(1) User-curated, domain-specific text corpora that ensure relevance and precision.
(2) A mechanism facilitating semantic search and sentence aggregation, ensuring cohesive yet comprehensive representation of information.
(3) An agile LLM, which, rather than generically processing sentences based on broad linguistic training, is fine-tuned to the specificities of the provided primary sources.

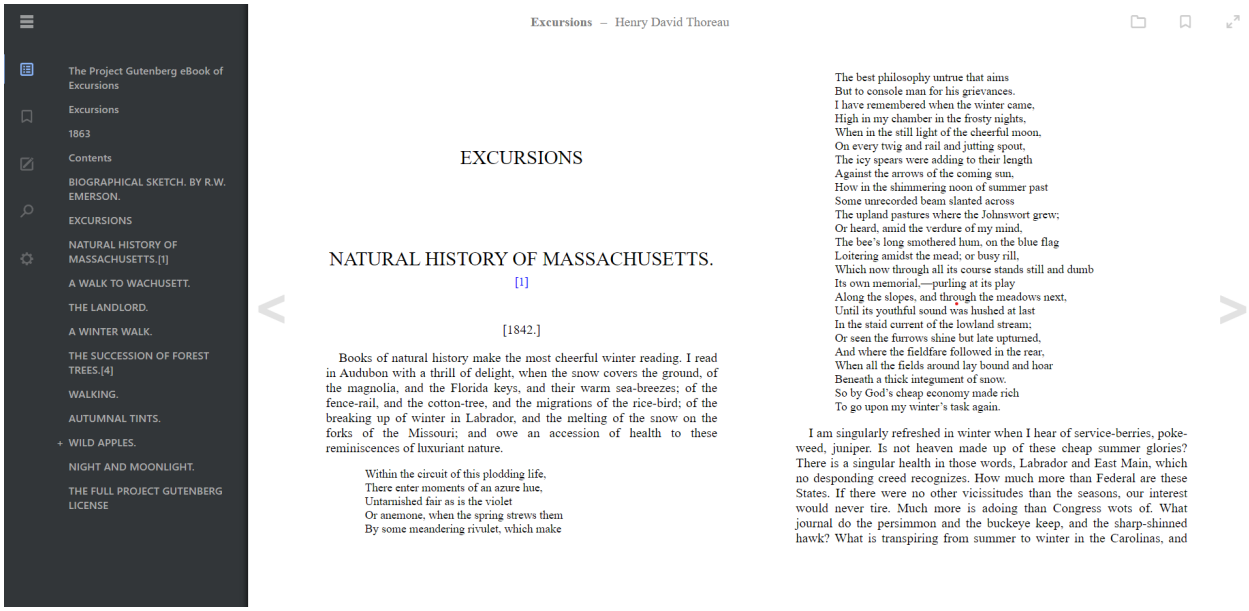
The Current State of UncensoredGreats

The UncensoredGreats service exists in pages on the web access: Semantic Library, The Greats, and Timeless Media. Below is the function of each.

[Semantic Libary]

Here users can search through thousands of books, be returned relevant pages based on a query and semantic similarity search, and read any of the e-books in full.



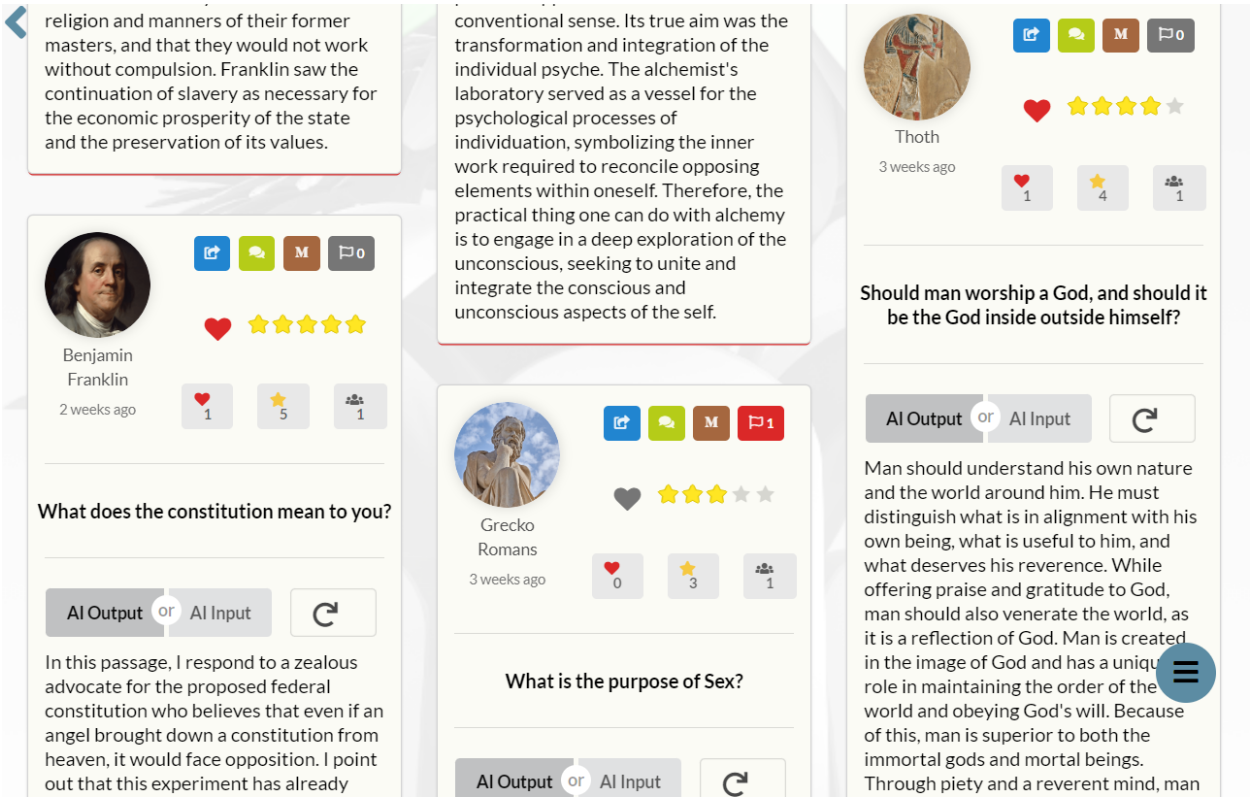


The Greats

The Greats page is simply a chatbot application whereby users can chat with their favorite author (or category of books). Each message has the texts that were used to generate the response and quick access to their location in the books. Users can save and share these messages to their personal library, and to the Timeless Media where others can interact with it.

Timeless Media

This is a page of social media with all its popular functions, except the original posts are AI-generated. There's no concept of today's news or tomorrow's struggles, just the timeless ideas of great authors put on a stage for open debate with curious minds. Currently, users can like/save, rate, and report AI censorship on each post. Coming down the pipeline is a forum-style attachment to each post, where humans themselves and other domain-specific AIs can debate hot topics and evolve to consensus.



Signed-in Users have full access to the three pages. Users who have not signed in or signed up have full access to the Semantic Libary, read-only access to Timeless Media, and no access to the Greats.

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The future of UncensoredGreats aims to bring community governance, tokenization, and a new paradigm in AI response generation to the product with decentralized architecture, etc., but the immediate challenge is replicating all existing functionality in a decentralized architecture without reliance on our existing 3rd party service providers.

Web2 to Web3 Migration

Uncensoredgreats today relies on 7 different service providers, each of which incurs a separate monthly subscription cost, and overall bloat to the developer complexity. For a DeAI version of this app to have comparable speed, and thus an acceptable user experience, IC-native architecture must replace every one:

- Weaviate: Used for vector storage and retrieval.
- Supabase: Handles user authentication and data storage.
- OpenAI and Huggingface: Responsible for message generation.
- Heroku and Google Cloud: Backend and API in Python for Extractive Summarization.
- AWS S3 Buckets: Host images and e-Books.
- Vercel: Main app hosting.
- AWS Lambda: E-reader application hosting (to offset Vercel bandwidth costs)

1. Vector Storage and Retrieval
UncensoredGreats already has robust processes for ebook conversion into machine-readable CSV format. These corpora generally fall below 10,000 rows, which is sufficiently small to replace Weaviate vector storage and retrieval with a lighter-weight algorithm leveraging cosine similarity or similar standard.

2. User Authentication and Data Storage
The IC's Orthogonal Persistence and Internet Identity paradigms provide a robust solution to replace Supabase for user authentication and data storage.

3. Message Generation
External APIs for LLMs (Like Language Models) will be replaced by IC-native, domain-specific AI that runs in smart contracts, thus removing reliance on OpenAI and Huggingface. Using paradigms in extractive summarization and quantization these domain-specific models should be sufficiently lightweight to balance the quality and efficiency requirements of this use case.

4. Computationally Intense Summarization

The extractive summarization making use of Heroku and eventually Google Cloud for summarization can be entirely removed, as this function will be outsourced to the IC-native AI, trained on the particular dataset in question.

5. Image and e-Book Hosting
The AWS S3 Buckets holding ePubs can be replaced with IC-native ePub storage, providing efficient access and reliability. The average size of one of our ebooks is 1MB, making the IC storage costs sustainable for our ambitions.

6. Main App Hosting
Hosting both the frontend and backend on the IC blockchain, the app will no longer need Vercel or any other traditional hosting service.

7. Integrated eReader Application
The eReader, previously hosted on AWS Lambda, can be integrated natively within the application on the IC. The persistent storage of ePubs in memory on a global network will alleviate the bandwidth issue encountered on Vercel.

The ICP-Enabled Future

At its core, UncensoredGreats is a place for curious minds to congregate around the world's most powerful research tools, and evolve towards consensus on what is *The Truth*. This goal, of course, is doomed to failure if the research inputs, and human consensus on AI outputs, are not entirely in the hands of those curious minds themselves.

Put simply, the DAO approach is the only approach. The three main pages of UncensoredGreats will evolve accordingly, except remaining inside the confines of a few key design constraints that will remain consistent, as they have from the project's genesis.

Everything is a Card

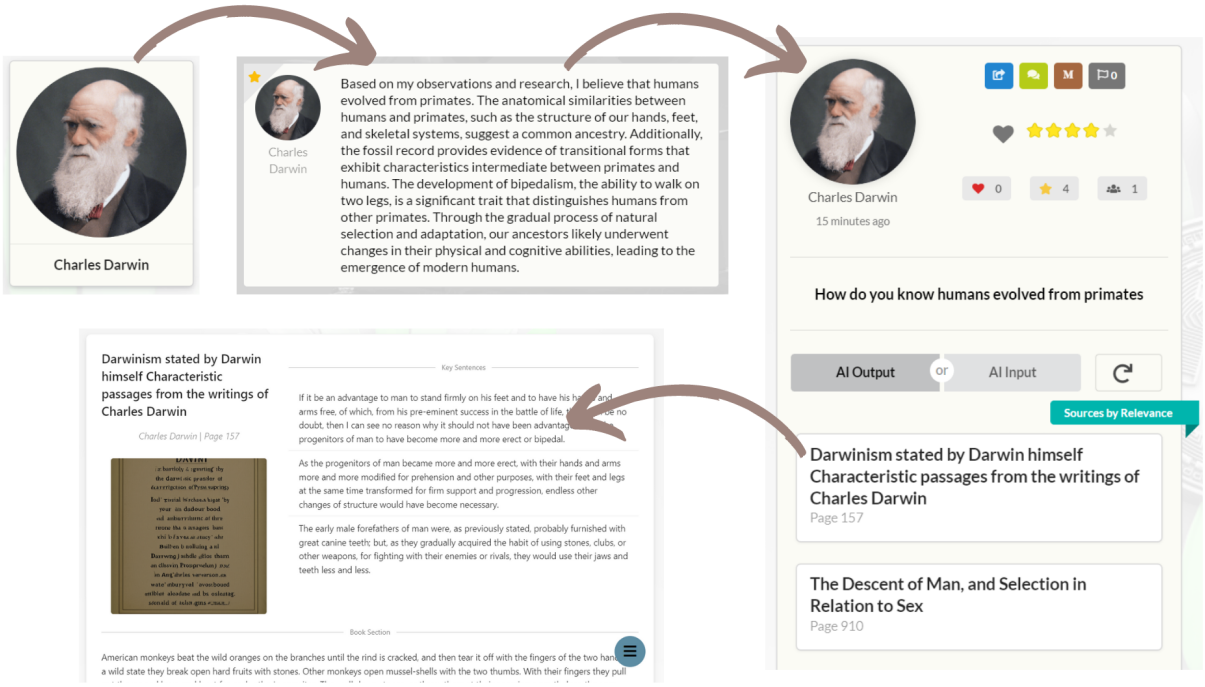
****Note: This section is to be understood as a development paradigm guiding the project, not something the casual reader or user needs to understand.****

On the UncensoredGreats Website, everything is a card; or fixed UI component with an arrangement of preset attributes. These cards come in 3 types and inherit data from preset attributes of the other two in a deterministic fashion. The only other way the UI changes is by adding, removing, or shifting cards within their existing hierarchy of inheritance. At their lowest level, these cards always point to ebooks.

1. Author Cards: Contain author name, all the contained books, description, images associated with them, etc.
2. Message Cards: Contain user interactions with that card, the query, data, model, metadata, chat reply, etc.
3. Source Cards: Unit cards containing the source data, its summary, and a pointer to its origin in the ebook.

Every UI component on uncensoredgreats.com is one of these three cards in one form or another.

The purpose of such a design is to provide easy origin tracking for everything on the site while never overwhelming the user with walls of text. Take the typical user flow for example: The user sees Darwin's Author Card, if interested they see a Q&A *Message Card*, if intrigued they see book snippets and summaries in *Source Cards*, if still wanting more they can read the full ebook.



Inside the confines of this card structure, any imaginable features can be added on top without stripping away the origin tracking of their source. Upcoming features under development include:

- Card Forking: Users can fork an existing *Message Card*, add or remove new *Source Cards*, and regenerate the message from a different perspective.

- Debate Threading: *Message Cards* can be strung together, using the contents of one card as inputs for the message card of another message. In other words, users will be able to facilitate an AI debate stage of all different authors.
- Forum Threads: Behind each *Message Card* will contain the commentary of interested parties, whereby the results of those exchanges will control the direction of the debate thread.

Everything is an Ebook

The reason for limiting the base layer of input sources to the ebook (.epub) format is simple: It provides a filter, as every book is carefully arranged and quality controlled around finding some conclusion; a conclusion deemed important enough by its author to justify undertaking the arduous process of making the book. There's a beauty to this that isn't captured in other AI training datasets.

Secondarily, it comes with the following benefits:

- Easy for humans to find and understand the base layer source material with its proper context.
- Our existing data processing method is designed to turn ebook text into a machine-readable format concerning location in the book.
- With books, ebook aggregators and voters for the DAO's data marketplace will have no trouble understanding the nature of the trading data. It'll just be a list of books!
- Any text corpora that do not exist as ebooks can be manually compiled into epub format, and having gone through that process will make training data far more valuable.

Tokenomics and Governance

While none of this will be prioritized until the MVP is replicated on a fully decentralized architecture, there is an obvious opportunity here for fruitful tokenization. Regardless, the dream for our original economic model, which has been near impossible, is now made almost automatic.

UncensoredGreats' founding mission always involved allocating 50% of all revenue to content creators (and to costs incurred by open-source projects), and retaining transparent management of the other 50%. The content creator allocation can be thought of as the fund for community sourcing all the world's greatest ebooks.

The economic model is simple. Chat message generation will cost the user est. 0.005 ICP/message, which will be the source of all project revenue. Access to full ebooks,

Semantic Library search features, and Timeless Media will remain free. Creating and sharing messages though, is the only way to earn rewards in the native token.

This pool of collected ICP will be released in set periods, with an initial breakdown of 50% to the team, and 50% to the ebook pool. Those who hold ownership, or at least responsibility for the ebooks used, are entitled to a share of the rewards, directly proportional to the number of messages generated with their e-book corpus. The breakdown of the share entitled to them is as follows:

- 25% to Ebook Aggregators (not writers or copyright holders)
- 50% to Copyrite holders, but not original authors.
- 100% to authors.

This means that if you are an author and have an UncensoredGreats chatbot based on you, you'll receive 0.0025 ICP each time someone asks that chatbot a question. If you simply own the copyright, or aggregated open domain works, your share is diluted by ½ or ¼, respectively.

The excess tokens from the diluted portion of non-creators will be part of a smart contract that uses half that ICP to buy back $UCG, and automatically add the pair as liquidity to the existing pool. This should happen every set period, and with that liquidity being permanently locked, serving as a permanent source of buy pressure and liquidity that's proportional to platform usage.

This essentially replicates our Web2 revenue model for Web3, with the only major change being the introduction of the $UCG governance token. At this stage, we're unconcerned with delivering the described functionality, and specific tokenomics can only come after that, but there's a natural fit for $UCG Token utility that our project design will strive toward.

$UCG Token

Demand Side: Project usage contributes to buybacks, and the token provides governance rights.

Supply Side: Rewards token, distributed to creators in proportion to engagements on their posts.

There are a few more speculative directions on the demand side of $UCG that are also under consideration:

- Karma (platform influence) generated through the burning of $UCG, similar to $STEEM
- $UCG staking/burning required for acceptance of a new chatbot, in exchange for rev-share on that chatbot's earnings.
- $UCG optionally used as payment or ownership reduces the cost of using chatbots.

Such ideas are considered speculative because they imply plutocratic ideals in DAO consensus, which is a tricky issue here. After all, the DAO's consensus is meant to be an indicator of Truth and token ownership may or may not be a helpful indicator in this depending on its distribution. Regardless, UncensoredGreats DAO will strive to align consensus with meritocratic ideals, which will hopefully be reflected in the token distribution *and* governance mechanism.

Governance

The described Web3 version of UncensoredGreats, being entirely written in smart contracts, should run autonomously in its final form and eventually require all backend code changes to be approved by the DAO, e.g., token holders.

As for the AI architecture itself, which will likely be always rapidly evolving, and be available in many different models. Decisions will be a combination of DAO governance and individual user choice. The DAO will determine what models and training processes are approved, and individual users will choose from the existing pool.

Similarly, when decisions are made around which text corpora, and thus, which pre-trained chatbots are permitted on the platform—this with be the main function of DAO governance, and the new purpose of The Greats page, which will become an arrangement of proposals.

Users decide which corpora should be accepted and/or removed as available chatbots. In other words, censorship rights are handed to the governance participants.

The issue of using copyrighted ebooks in the training data is to be expected, and the DAO will be sufficiently decentralized such that no owner can be in violation of copyright. From a moral standpoint, the DAO will have entailed a mechanism where authors can claim rightful ownership and rewards for whatever portion of the data marketplace comes from them. This is our solution to competing with the datasets of proprietary AI, which avoid copyright infringement with their lack of transparency.

We maximize transparency, and avoid copyright infringement with decentralization, while, unlike proprietary AI, simultaneously attributes credit and rewards to authors.

The Future of UncensoredGreats

The current page structure will remain the same, but each page will serve a new function as a consequence of being part of a DAO.

Semantic Libary

The new Semantic Library will be the landing page, and merge all existing author chat pages, the free-tier semantic search engine, and gateways to full ebooks. The full experience of research and creation will take place here.

The Greats

The Greats page will turn into a proposal and voting page. Here, users will propose a new text corpus by uploading all the ebooks to represent a certain person or category. Token holders will approve or deny these through the voting process. Approved ones will be added to the app as a new chatbot, and earnings attributed to their creator (and perhaps voters).

Timeless Media

This page will be the social aggregator for all research collected in the semantic library. Here users will get a feed based on their interest in newly created posts, and while all original posts will be AI-generated, everything indicating its relevance and validity will be taken over by humans, i.e., through likes, rating, flagging, commenting, and debate threading.

Success for this page means if you'd like to learn about an issue as contentious as "coronavirus vaccine side-effects," a timeless media search will be filled with consensus-driven debates, intrinsically tied to primary sources, closer to the truth than anything you'll get in a boolean search on Google, Facebook, Twitter, or otherwise.