

I Wrote an Intelligent Editor to Supercharge the Process of Writing Articles.

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Writing can be a powerful medium to express our thoughts, share our Domain knowledge, and build our personal brand. Yet, most people do not write.

In this article, I want to share an Editor I coded that can help us write better, easier, and faster, by alleviating the challenges most of us face when writing. It can help us write better white papers, research reports, project proposals etc. I call the editor the Fountain Pen.

The Editor uses AI to help us build a narrative around our topic using our own research. However, unlike most RAG applications, this editor is not intended to generate content for us. Rather, the intention is to assist us through the process of converting our ideas and research into a narrative. The Fountain Pen simplifies various complexities involved in the process of writing content, allowing users to focus on the core message without being mired in the peripheral challenges.

The Editor is coded in Typescript and works on any web browser with minimal setup. I will share a GitHub repository at the end of the article.

Before we can delve into the editor, let us understand why most people struggle with content writing. let us also chart the process of writing and understand the most time-consuming steps involved in it. Then we can better understand how AI can help to reduce some of this complexity.

Why do We Struggle with Writing

We find writing intimidating for several reasons.

The first challenge is the 'clean slate problem.' It is difficult to know where to start [SD1] when faced with a blank page or an empty editor window. That initial step is often the most challenging one.

Another reason people struggle to write is the misconception that non-fiction writing requires artistic skills. Sure, writing is an art for Hemingway, Ishiguro, or Tagore. But for the rest of us, it is a systematic process that can be learned and mastered.

Additionally, there is a common bias we all live with: "Everyone knows what I know." We think writing articles about our expertise is pointless. Most of us often struggle with understanding what to write about, feeling uncertain about whether the topic we want to write about is too trivial for anyone's taste.

The Fountain Pen can overcome some of these challenges.

The Fountain Pen was a weekend project for me to start with. I aimed to reduce the time it takes me to write an article with some AI Magic. But when I discussed the idea with a few friends who I think should write more, I realised I could create a tool to help us all overcome the challenges. A tool that can help us write more, better, and easier.

Before we can discuss the Fountain Pen, let us understand the process of writing non-fiction content briefly, and then see how we can automate several of these steps using AI.

The Writing Process

Broadly, the process of writing involves these steps.

Start by selecting a topic that represents the theme of our writing. We also note down the personas of our primary readers. Every decision to add or remove the content will depend on these two inputs.

Jot down rough notes without worrying about grammar. We dump every thought that comes to mind into these notes to create a corpus of unstructured text.

Add research content to our notes. Research on the topic is essential. Adding web links and PDF (Portable Document Format) files to the research

material can aid in expanding our notes. We bookmark all these research documents in the article and, if needed, copy, and paste some content to our notes for reference.

Refine and cluster similar points together to create sections. The outline of the article automatically emerges out of this exercise.

Steps 2, 3 and 4 are the most time-consuming. It can take several days to compile relevant content.

Refine our outline to create a narrative.

Start writing our content. This step is simple if we do well with curating notes. Once we complete this step, The first draft is ready.

Tighten the content by removing redundancies, shorten the paragraphs, and remove unnecessary text, while being mindful of our reader's personas.

Catch a friend who can be coerced to proofread the article and correct the spelling and punctuation errors.

Add a pinch of humour, memes, and some poor jokes, and publish :)

It seems like a lengthy process but worry not. It becomes intuitive after the first few times. And with the Fountain Pen, several of these steps can be either partially or fully automated.

Remember, the idea is not to use AI to generate your content for you. That would be a waste of your and your readers' time. The idea is to use AI as an assistant to expedite several of these steps and make the process slightly less intimidating.

Why this editor?

LLMs (Large Language Model) are quite good at generating content now. We inadvertently keep ChatGPT window open, while jotting our thoughts down. It can also read our documents and respond with specific content. So, one may ask...

If ChatGPT can generate content by itself, why do we need an AI editor to author articles?

In fact, that is exactly why we need an Intelligent editor. We do not need a content generator; we need a

writing assistant.

Anything the Fountain Pen can do, Chat GPT can do as well. The Fountain Pen itself uses GPT at its back end. However, being a specialist assistant for narrative building, it can do everything about the content writing process better, faster, and easier than ChatGPT.

For example:

ChatGPT can generate content, but it cannot help us build a narrative. It is the narrative that makes a great article great, not the content.

The process of back and forth with GPT is too time-consuming. It adds a lot of friction to our writing process.

ChatGPT can generate content based on our documents, but it cannot point us to the content in the document that may be relevant to us for our narrative.

Moreover, it cannot use web links.

We need extensive prompting and supply the relevant context manually for every section of our article.

In essence, the Fountain Pen is an interface for GPT highly customised for the content writing experience.

The Fountain Pen

I named it the fountain pen mostly because I love fountain pens. I still use an old Sheaffer. But also because the name puts a little bit of art back into the writing process :).

Here is what it looks like.

Image by the Author

It is a fairly basic editor for now. It has a main panel and a side panel. The main panel is for writing the content, the side panel sports a notes panel, and various AI tools.

The content in the main editor is structured as sections at the back end. A section contains everything from one heading to the next. Each

sections have its own notes. The notes panel shows the notes attached to the section at the current cursor position.

At any cursor position, the backend keeps the following attributes handy for the AI to use:

Title

Title Notes

Current Section Heading

Current Section Text

Current Section Notes

Relevant Document Chunks (Vector search)

This set of attributes is called the current context.

I integrated 5 AI tools in the fountain pen assistant panel. Each of the tools uses the current context to achieve the task it is tuned for.

Image by the Author

1. Add references.

References can be added either as web links or as pdf files.

Weblinks can be added using the interface itself. PDF files can be added to the data/documents folder in the repository (Uploading documents through the UI is still to be implemented). After adding the pdf file click the 'ADD DOCUMENTS' button in the panel. Once the 'ADD WEB LINK' or 'ADD DOCUMENTS' button is clicked, the content is chunked, vectorised, and saved into a vector store.

2. Search Excerpts.

If we do it manually, we would go through each research document one by one to find relevant content and add it to our notes. With the search excerpts tab, we can just run a semantic search and get relevant research automatically. This cuts down the most time-consuming steps of the process by multi-folds.

The semantic search can be used for every section of

the article independently. It uses the current context to search for the relevant text chunks from our references.

3. Extract Writing points.

This tool takes the current context, retrieves relevant documents from our references and extracts a list of points most pertinent to the section. This also works on every section independently. So, we can create detailed notes, or even content per section using the Writing Points tab.

4. Generate Outlines

This tool uses the title, and the title notes to suggest an outline of the article. It works best when we have a rich corpus of notes in the title section.

The headings can be directly copied to the main editor using the blue button that appears next to the suggested headings. When the headings are copied to the editor, the description of the heading is also copied to the notes of the respective section. We can use this tool multiple times to sample headings and give the article a good outline.

5. Suggest content

The 'Suggest Content' tab uses the current context and suggests initial content for us to start crafting our sections. Here again, the richer our notes, the better the content and the suggestions. So, it is worth spending time curating notes for the sections before writing the content.