

# EDUGraph

- Hello. My name is Larion, and with my colleague, Greg, we developed a cutting-edge learning tool for students based on the latest technology of knowledge graphs.:

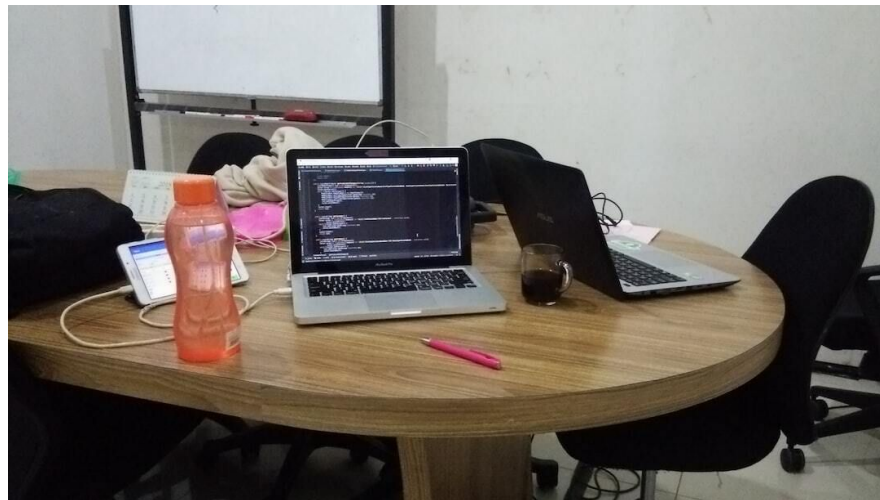


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# The Decline of Lexical Knowledge

- In the age of LLMs, the significance of lexical knowledge is declining.:
- All information is just a binge-search away.:
- Existing learning apps only teach datasets, overlooking all inner connections.:

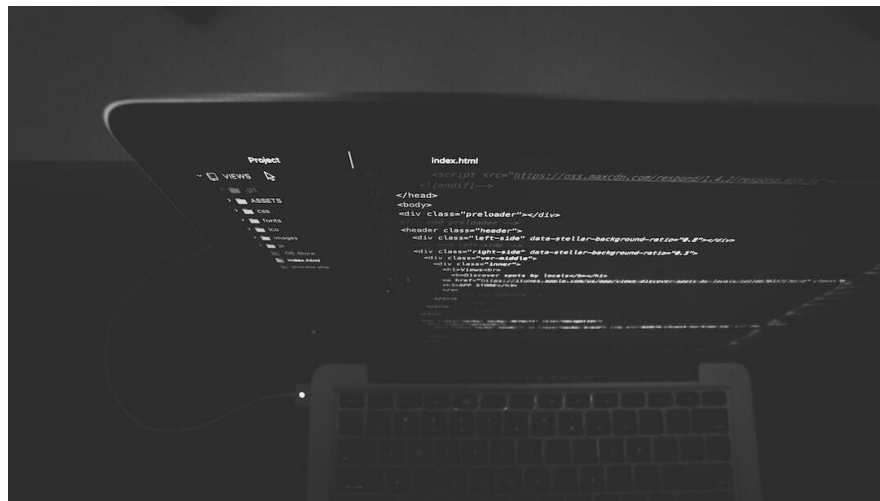


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# Our Solution

- We proposed a solution for this problem.:
- By creating a mind map of a given subject, the user can:: - Walk around the topic. - Immerse deeper in the given material.
- But first, we have to talk about knowledge graphs.:



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# Knowledge Graphs

- **Not half a year ago, Microsoft's best researchers published a paper called:** “From Local to Global: A Graph RAG Approach to Query-Focused Summarization”.
- **They introduced the technology today called GraphRAG.:**
- **This is the technology we use in our project.:**

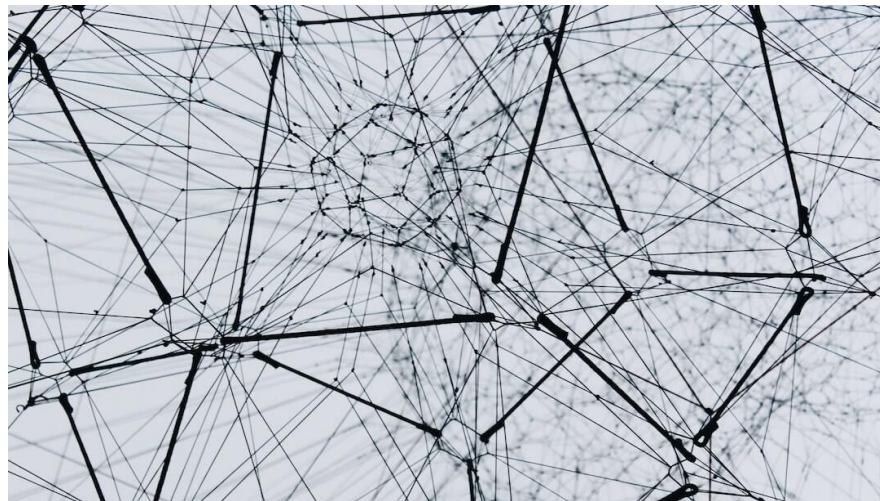


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# GraphRAG Technology

- Essentially, this technology creates mind maps out of anything an LLM can interpret.:
- Initially, it was only for the LLM's own use.:
- We saw the potential to automate the creation of human-readable mindmaps.:
- This could help in many different sectors.:



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# Engineering Prompts

- **Our first job was to engineer prompts to ensure::** -  
The machine creates mind maps readable by humans as well as LLMs.
- **Combining graphs can lead to creating new ones::**  
- By enriching the data from other sources. - By ensuring the data used is factually undisputed.



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# Implementing the Technology

- **We soon realized how well this technology could be implemented::** - To solve the problem of current learning apps. - To enhance the learning experience.
- **Let's see how our solution works.:**

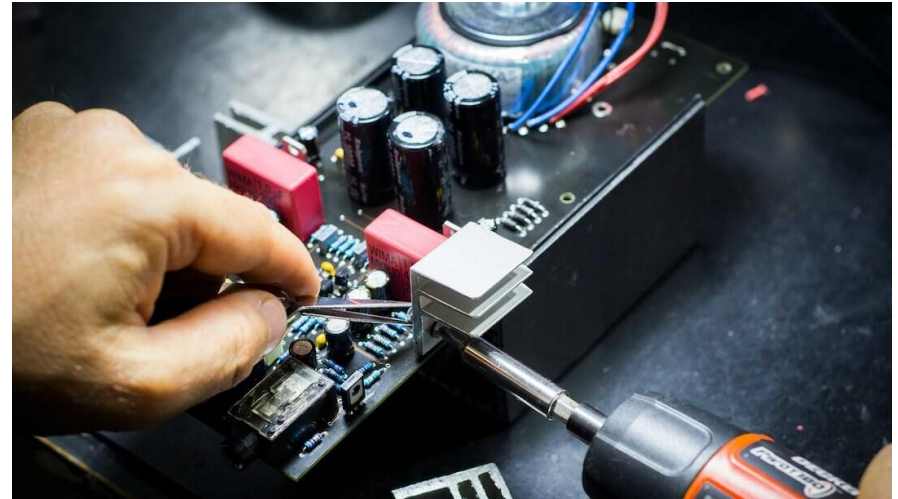


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# Key Features

- **Our solution has four main features::**
- **Mind map generation:** - Visualize the topic comprehensively.
- **Immersion:** - Deep dive into the subject matter.
- **Active recall:** - Enhance memory retention.
- **Enquiry exploration:** - Ask questions and explore answers.



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# How It Works

- The user uploads a document (class notes, textbooks, or an article):
- Falcon 180B generates a mind map using our custom prompts.:
- The student explores the topic and sees internal connections unfold.:
- They can ask questions from the AI using the input data.:
- Active recall and test features help solidify their knowledge.:



Photo by SOULSANA on Unsplash

# Future Plans

- **We plan to create a database for previously uploaded topics.:**
- **Extend this technology to different areas such as::**
  - Chatbots - Philological research
- **We believe Edugraph's technology is the future for successful education.:**



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