



[microresearch]

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Universal Scientific Database

Open Collaboration^{*†}

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Abstract

Science is about connections. A very suitable application of mathematical graph theory can be accomplished for tracking all the human scientific knowledge.

keywords: open science, database

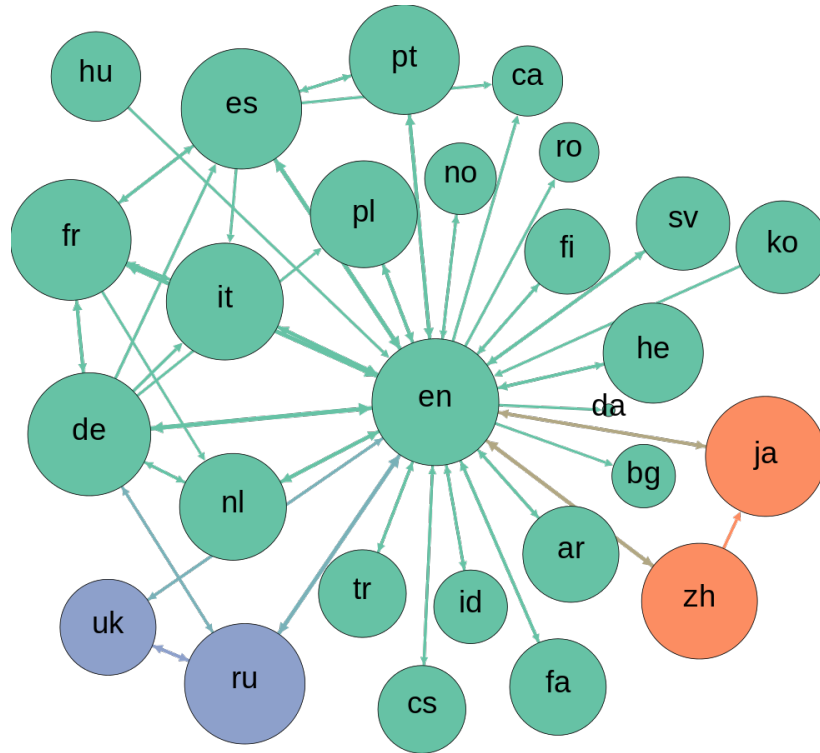
Tracking Human Knowledge

1. Consider a universal and unique database available worldwide, accessible by any computer.
2. The following guidelines can be used to track human knowledge within the *Universal Scientific Database*.
3. Assign a unique nine-digit code to each and every scientific content.
4. In (3), add a title and a definition in the fewest possible number of words.
5. Neither duplication of codes nor redundancy of content is allowed.

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6. Link ALL the human knowledge, using (3), in a mathematical graph [1–6].
7. The following figure illustrates an example of a graph.
8. Figure 1: Wikipedia multilingual network graph [7].



9. In (6), the vertices contain the codes, and the edges are the mathematical proofs, relations, or potentially logical connections (conjectures, ideas etc.).
10. For each edge, a different code is designated.
11. Each module (vertice + edge + vertice) can be delivered in PDF format.
12. Note that there are 10^{41} nine-digit codes (vertices and edges) without repetition.

Summary

13. A graph is made up of vertices which are connected by edges.

14. One edge is represented by a PDF file, and it contains ALL the necessary steps to go from vertex A to vertex B.
15. The steps should be maximally didactic to streamline new scientific discoveries from the incomers.
16. Data and results are collectively gathered by means of Crowd and Citizen Science.
17. The quality of each graph is properly reviewed by specialists.

How to start?

18. Begin with the most relevant knowledge datasets.
19. The purpose is to make the content trackable within our current technology.
20. The vertices and edges are jointly created by the community.
21. One edge is a complete “do it yourself,” published in a journal.
22. It is important to assign one number for each argument to support discussions in the scientific forums [8,9].

Final Remarks

23. Integrating ALL scientific knowledge in one unique Universal Database would foster Open Science.
24. This is a unification of crowd, citizen, and open science, alongside with a cleverly designed technology.
25. Science is about relations, connections, and the necessary means to achieve them.

26. The vertices are the discrete amounts of knowledge, and the edges are the “do it yourself.”
27. vertice = result/definition; edge = do it yourself

Open Invitation

Review, add content, and co-author this paper [9, 10]. *Join* the **Open Collaboration**. Send your contribution to mplobo@uft.edu.br.

Ethical conduct of research

This original work was pre-registered under the OSF Preprints [11], please cite it accordingly [12]. This will ensure that researches are conducted with integrity and intellectual honesty at all times and by all means.

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