Summary Alexandria

When looking for a topic for our database we were looking for something that could be useful, something that could be used later to solve real world problems. And while doing some research we came across an article in IEEE.org. IEEE.org is an organisation with more than 420,000 members in over 160 countries that is dedicated to engineering, computing and collecting information about technology.

This article was titled *Medical and Biological Engineering in the Next 20 Years: The Promise and the Challenges* and it was about the main future goals of engineering in those areas, goals that all of us will be facing once we graduate as biomedical engineers. Between those objectives we can find the following:

* Engineering personalized health care
* Engineering solutions to injury and chronic diseases
* Create New Medical Diagnosis Capabilities by Utilizing a Universal Medical Image Database
* Train the next generation of diverse and interdisciplinary professionals

If we analyse these points, from the first two, we can see that the number of treatments, the number of medical procedures and devices used to cure diseases is going to rise up really quickly.

Looking at the third one, a universal image database would allow all medical images worldwide to be collected and sorted by a disease state or pathology. A database of image data from around the world would allow for new development of automated machine-vision-based diagnosis algorithms, for example an algorithm to distinguish between healthy cells and  tumoral ones, that would otherwise be limited to smaller samples, allowing for an improved detection of disease.

The last point gathers need for the next generation of bioengineers and health care providers to be highly trained in both research and moving between different areas of knowledge, between disciplines that may not be the ones they have specialized in but that they are nevertheless going to face problems related with.

Taking into account these objectives has resulted in an interdisciplinary database that gathers information from different areas of medicine and technology, focusing on the procedures and devices used  for treating diseases. All of this supported by a collection of clinical images and scientific papers to serve as a guide for future users.

To sum up, we can say this database is made to help especially biomedical engineers, and also other professionals found in the same fieldwork such as doctors, engineers, physicists, chemists, biologists…

One of the possibilities Alexandria has, is to be connected in the future to Google Scholar. Google Scholar is a freely accessible [web search engine](https://en.wikipedia.org/wiki/Web_search_engine) that indexes the full text or metadata of [scholarly literature](https://en.wikipedia.org/wiki/Scholarly_literature) across an array of publishing formats and disciplines. The idea is to link Google Scholar to Alexandria, so Alexandria is both automatic and continuously updated with new information so professionals have a reliable site to consult when needed.