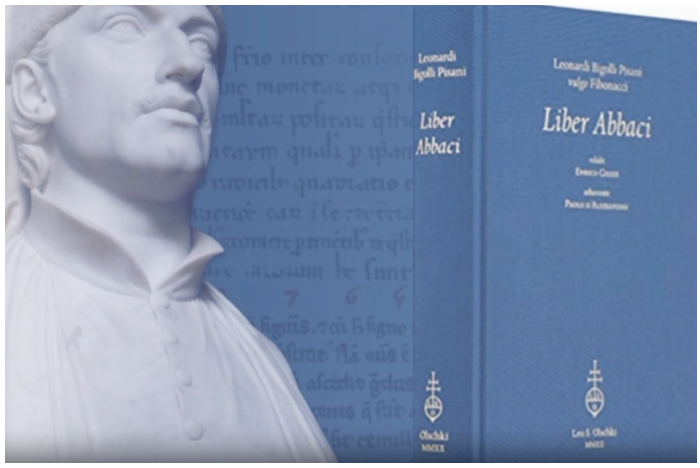
CASE STUDY DIGITAL CRITICAL EDITION OF LIBER ABBACI

WORKING GROUP

A group of scholars of mathematics and ancient sciences, led by Professors Pier Daniele Napolitani and Paolo D'Alessandro, under the aegis of the Museo Galileo in Florence, based on the critical edition edited by the late Professor Giusti and Professor D'Alessandro for the publishing house Olschi, have decided to create a digital critical edition of Liber Abbaci, one of the most significant works in the history of mathematics, written by Leonardo Pisano, known as Fibonacci.

NEEDS

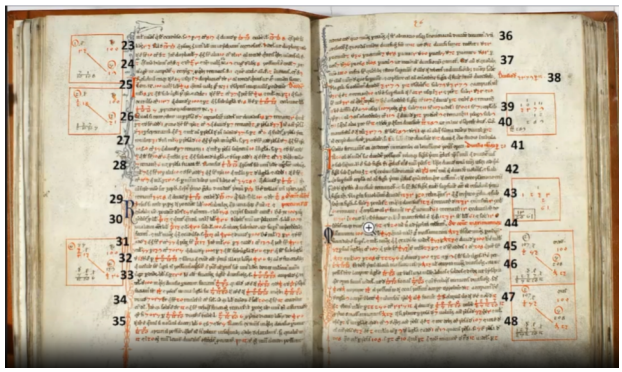
Digitizing a complex work like a critical edition poses some significant challenges. The first is visually reproducing the methods and conventions scholars are accustomed to and do not want to give up. Then there are all the opportunities offered by the tool's interactivity, which, for example, allows one to "click" from one part of the text to another or to navigate through the so-called "apparati," where sources, citations, variants, the "stemma codicum," and much more can be found. Furthermore, in a mathematical work, one must find a way to represent formulas using the methods of the time, which are very different from those used today, without sacrificing their comprehensibility for a modern reader. A real puzzle, both logical and computer-based.



THE PROJECT

To meet these needs, eLabor has developed over time, in collaboration with Professors Napolitani and D'Alessandro:

- a specific language, called MauroTeX, because it was originally developed for the critical edition (digital and printed) of the mathematical works of the Renaissance scientist Francesco Maurolico, and because it is based on the LaTeX language, widely used in the mathematical world and beyond, capable of describing all these interactions;
- a software that, starting from an edition encoded in MauroTex language, can produce both the printed edition and a real digital critical edition, in practice a website, with all the features described above.



A NEW FORM

Professor Napolitani's team encoded Liber Abbaci in MauroTeX and produced a series of other computer objects, such as formulas, tables, diagrams, and more, integrated into the main language. These objects ultimately formed the requested digital critical edition, published on the Museo Galileo website and available at the following link: https://bibdig.museogalileo.it/fibonacci/.

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