



Humanities Computing

M. N. O. Sadiku¹, S. R. Nelatury², S.M. Musa¹

¹College of Engineering, Prairie View A&M University, Prairie View, TX 77446

²School of Engineering and Engineering Technology, Pennsylvania State University, Erie, PA 16563-1701

Email:sadiku@ieee.org;srn3@psu.edu;smmusa@pvamu.edu

Abstract Humanities computing is the use of computers and the Internet to advance research, teaching, and scholarly activities in the humanities. It represents an exciting integration of technology and textual culture. It is a practice of representation, a form of modeling. It is a discipline in which the computer is used as tool for modeling humanities data. This paper provides a brief introduction to humanities computing.

Keywords humanities computing, digital humanities, computing humanist

Introduction

The computer is a general-purpose machine. The introduction of the computer networks such as the Internet has been one the most significant developments of the last century. Many humanities scholars have been hesitant to use it to conduct their traditional tasks of teaching and researching. However, recently, the humanities are undergoing a major transformation due the emergence of a deeply networked humanities and humanities scholars' increasing use of information technology as a scholastic tool [1].

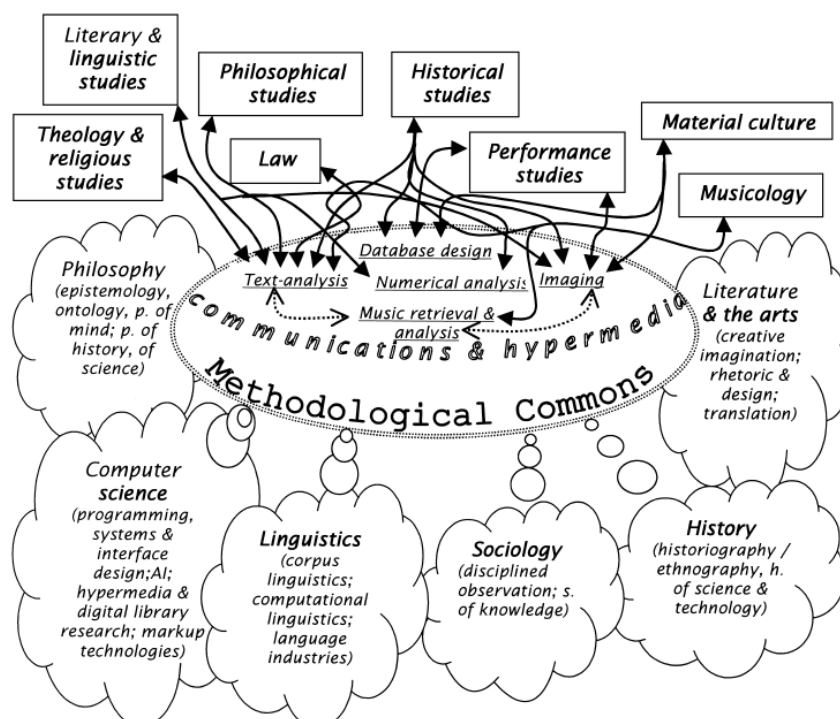


Figure 1: A rough intellectual map for humanities computing [2]



Humanities computing, also known as digital humanities, encompasses any approach in arts and humanities that addresses and embraces the empowering societal shifts afforded by technology. What brings humanities computing together is essentially a common interest in methods, tools, and technology.

In humanities computing, computer is used as tool for modeling humanities data. Humanities computing involves the use of computers, the Internet, and related emerging technologies to enable the creation and sharing of humanities scholarship in ways not possible in traditional humanities practice. Humanities computing activities compete with other intellectual pursuits like history, literary study, religious study, etc. In a world dominated by digital technology, humanities computing attempts to let humanists catch up with the latest computing advances. A rough intellectual map for humanities computing is shown in Figure 1 [2].

Humanities computing/digital humanities is the marriage of two areas of study: IT and the humanities. It is the application of computational methods and related tools to address specific humanities problems. It has under its mandate all of the disciplines in the humanities. Humanities computationalists seek to answer scholarly questions in linguistics, history, and art by using the computer to process large amounts of data.

History

Unlike many other interdisciplinary disciplines, humanities computing has a very well-known beginning. Humanities computing originated from Italy in the late 1940s with the Jesuit scholar Roberto Busa's work. Roberto Busa persuaded IBM to offer technical and financial support for creating a computer-generated word concordance of the works of Thomas Aquinas, who was one of Christianity's greatest thinkers. The 1960s witnessed the establishment of some centers dedicated to the use of computers in the humanities. The arrival of the Internet (more especially the World Wide Web) had an impact more than any other thing during the 1990s. The Internet made it possible to carry out collaborative projects in a way that was never possible before. Through the Internet, humanities computing is reaching a much wider audience [3]. Given this history, the digital humanities computing can be regarded as a field that is fairly young.

Applications

Humanities computing is using computing and digital technology to diversify the humanities, changing what we know about human culture. It is providing tools and techniques for humanities researchers to engage in digital scholarship. Applications of humanities computing include linguistic statistics, history, and digital media.

- *History*: The advent of digital technologies is changing and challenging the ways historians practice their craft. The way they collect, present, and store information has changed rapidly in recent years. Humanities computing has allowed historians to approach their source material in digital form, as data. Collaboration is essential for historians working in humanities computing [4].
- *Digital Media*: The humanities computing is doing humanities work with digital media, like video games. It involves the effort to consider how the human capabilities and capacities are developing through digital media.

Benefits and Challenges

Humanities computing can contribute substantially to the growing interest in putting the cultural heritage on the Internet, for the general public. Tools and techniques developed in humanities computing can assist research in facilitating the digitization and encoding processes.

However, the emerging discipline of humanities computing has been plagued by a neglect on the part of the broader humanities community. There is the problem of standardization in recording corpora and texts.

Conclusion

The humanities computing is a movement within the humanities that aims to design, develop, promote, and use digital tools to support work in the various disciplines of the humanities. It is as a collaborative, open, and emerging field of inquiry. There has been a steady increase in the number of courses and degree programs in humanities computing.



Humanities computing is currently being renamed digital humanities since digital humanities is much broader and more generally aligned with the wide-ranging concerns of the traditional Humanities. The semantic web is our future and it will require formal representations of the human record. For more information on humanities computing, one should consult the books in [3, 5-8] and the three journals devoted to it: *Computers and the Humanities*, *Literary and Linguistic Computing*, and *International Journal of Humanities and Arts Computing*.

References

- [1]. P. Svensson, "Humanities computing as digital humanities," 2009
<http://www.digitalhumanities.org/dhq/vol/3/3/000065/000065.html>
- [2]. W. McCarty, "Humanities computing" in *Encyclopedia of Library and Information Science*. New York: Marcel Dekker, 2003, pp. 1224-1235.
- [3]. S. Hockey. *The History of Humanities Computing: A Companion to Digital Humanities*. Blackwell, 2004.
- [4]. R. C. Gillis, "The life and letters of Prince Edward Island Proprietor Captain John MacDonald of Glenaladale: An exercise in humanities computing," *Masters Thesis*, University of New Brunswick, 2005.
- [5]. W. McCarty, *Humanities computing*. Palgrave Macmillan, 2014
- [6]. R. Siemens and D. Moorman (eds.), *Mind Technologies; Humanities Computing and the Canadian Academic Community*. University of Calgary Press, 2006.
- [7]. S. Schreibman, R. Siemens, and J. Unsworth, *A Companion to Digital Humanities*. Blackwell Publishing, 2004.
- [8]. S. E. Jones, *Roberto Busa, S.J., and The Emergence of Humanities Computing: The Priest and the Punched Cards*. New York: Routledge, 2016.

About the Authors

Matthew N.O. Sadiku is a professor in the Department of Electrical and Computer Engineering at Prairie View A&M University, Prairie View, Texas. He is the author of several books and papers. His areas of research interest include computational electromagnetics and computer networks. He is a fellow of IEEE.

Sudarshan R. Nelatury is an associate professor at Penn State University, The Behrend College, Erie, Pennsylvania. His teaching and research interests lie in electromagnetics and signal processing.

Sarhan M. Musa is a professor in the Department of Electrical and Computer Engineering at Prairie View A&M University, Texas. He has been the director of Prairie View Networking Academy, Texas, since 2004. He is an LTD Sprint and Boeing Welliver Fellow. His research interests include computer networks and computational electromagnetics.

