

Thirteen Years Experience of Collaboration of Computer Science and the Humanities in Japan

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Abstract: In this short report I will try to survey the history and current activities concerning collaboration of computer science and the humanities in Japan. Some of the issues to be solved in the future will be given.

1 Introduction

In 1989, a special interest group named “Computers and Humanities” (SIG-CH) was established in the Information Processing Society of Japan (IPSJ), one of the most major academic societies in a computer science field in Japan.

For that day, it was quite a unique group in the IPSJ SIG's. Thirteen years have passed since then. How did it make a progress or not during the period? This report describes the activity of SIG-CH and some related activities in Japan concerning the collaboration of computer science and the humanities.

2 Prehistory

When we talk about the birth of SIG-CH we have to mention the activity of the National Museum of Ethnology (NME) established in Osaka 12 years before the birth of SIG-CH.

NME was founded by the Ministry of Education, and it is not a mere museum but it also has a function of a research institution which is quite similar to institutions in national universities.

The first president of the NME, Dr. Tadao Umesao, had a firm belief that not only research institutions in science and engineering fields but those in humanities and social science fields have to be armed by novel computer systems.

He introduced a main frame computer system and several subsystems for image and au-

dio signal processing. It was 1979, and there was no PCs, and functions of Japanese character processing were still subjects of research and development. It was truly an ambitious decision. It was not a mere computerization of museum's record management, but it was the first step of computerization in the humanities research in Japan. Several researchers of computer science major have been employed at NME with the intention of doing joint research with humanities researchers.

Computerization of the exhibition and use of computers in research at NME have attracted attention since then. Many research results which were made possible by the computer processing have been obtained.

3 Birth of the SIG-CH

In the late 80's the age of PC came, and museum computerization got into the steady status. Based on these experiences at NME, researchers who were engaged in the research computerization activities in NME discussed about the necessity of the place for academic discussion and presentation, and proposed the establishment of a special interest group to the IPSJ. The proposal was accepted by the authority of the IPSJ, and the first SIG meeting was held in May 1989 at NME.

Since then, the meetings of SIG-CH have been held constantly at a pace of four times a year. At each meeting about 7 to 9 research papers are scheduled to be presented and the

proceedings have been published by IPSJ constantly as the “IPSJ SIG Notes” series. Eventually we have held 54 meetings and 433 papers have been presented so far.

4 Activity of the SIG-CH

It is not easy to describe the characteristics of the researches presented at SIG-CH in short. From the view point of information processing techniques, almost one third of the papers have been related to the text processing and another one third to the image and multi-media processing.

As far as I understand, computerization in humanities studies has originally begun for researchers in linguistics and literatures to handle text information at hand. However, because, in Japan, it had long been difficult to handle our own character “Kanji” by computer systems, entry of researchers of this field into computerization was delayed compared to the Western countries.

Therefore, at the early stage, computerization in humanities studies in Japan has driven by computer scientists who were majoring in image and multimedia processing. The fact that the National Museum of Ethnology was the first major institution where collaboration of computer science and the humanities took place might produce this tendency.

However, as PC and Kanji character processing spread, the research activity of text processing started to rise in SIG-CH. This might be a natural and desirable trend. Some activities of text database sharing have been initiated.

In this way, SIG-CH got into today’s steady status. At the present time, about 300 researchers has been registered in SIG-CH.

The SIG-CH has also started to arrange the annual symposium “Computers and the Humanities” since 1999. The first through third symposia were held as a national conference, but the fourth one, this conference, is held as a joint international symposium with PNC and ECAI. In the symposium around 30 reviewed papers have been presented every year.

5 Related projects

We must also mention about research activities supported by “Grants-in-aid for scientific research” offered by the Japanese Ministry of Education. The project named “Computers and the Humanities” was operated from 1994 until 1998 fiscal years. This was a big research project in the category called “Priority areas research” of the “Grants-in-aid”.

Professor Akifumi Oikawa at the Graduate University for Advanced Studies managed the total project, and the following 4 sub-groupes have been organized under a supervisory group.

- Databases
- Image and multimedia processing
- Text processing
- Statistical analysis

On an application basis, 61 research groups consisting of about 200 researchers from both computer science and the humanities joined the project.

The project has produced various results, and contributed to the progress of computerization in the humanities research. Research reports were published annually during the period, and a set of introductory text books was also published by the persons concerned.

This project, as a whole, was rather a comprehensive and interdisciplinary one, and was the initiative in the collaboration. Several research projects with individual subject followed this project.

6 Digital archiving in Japan

Through the above mentioned projects we began to notice that sharing of academic information by the use of digital technology and the Internet environment is as important as the individual research activity. Especially, 1994, the year we started the Grants-in-Aid project, was the “first year”, so to speak, of the WWW. At the beginning, the progress of WWW in humanities field has been rather slow, but in the last year of the project, most of the humanities researchers noticed the importance of WWW

as a research tool and an information sharing tool.

Just at that time, term “digital archives” has began to obtain popularity in Japan. Digital archives is literally interpreted as the system and/or the movement of digitally archiving cultural properties like historical documents, paintings, traditional art objects and so on. This is truly the movement of storage and inheritance of data for sharing. Development of “digital archives” is, of course, desirable for the humanities research.

Several activities for digitizing cultural properties have started in Japan, largely for precious historical art objects like national treasures. Japan Digital Archives Association has been organized to promote the digital archiving project in Japan¹. However the characteristics of this activity are somewhat different from what expected in the academic fields. Namely, industrial utilization of national cultural properties and promotion of allied industry seems to be implicit objectives of the movement.

Ritsumeikan University has established the research center named “Art Research Center”² in 1998. The purpose of the center is to collect, archive and distribute the academic digital data mainly concerning intangible cultural properties, e.g. performing arts, dance and crafts. Nearly one million items of data are already digitized, including Japanese woodblock printings concerning Kabuki play and scenarios of Japanese movies and TV programs etc. Some of the data, which are copyright free, are open for research collaborations.

7 Concluding remarks

Collaborations between computer science and the humanities in Japan are surveyed. We have devoted the effort for continuing SIG-CH activities, which has been one of the major meeting places for computer scientists and humanities researchers.

We may pride ourselves on this SIG-CH’s achievement. However, there are some points which we must reconsider: As the SIG-CH is

rather comprehensive and covers broader area in the humanities, it is difficult for us to make in-depth discussion at the meetings. When the use of computers in the humanities research becomes commonplace, the significance of SIG-CH might be diminished. And, of course, this situation may be quite welcomed.

The problems also we have to mention is that not the content-oriented but the system-oriented thought is still dominant in Japan, which may spoil the collaborations. What we have to consider is how well the data will be utilized among many peoples. However, this kind of data-oriented, contents-oriented approach is not yet major. We can find some examples, where wonderful systems have been prepared but no data are open for collaborations.

We think we have to promote content-based researches further. However, infrastructures of both social systems and human resources for preparing and servicing reliable data are not yet well established in Japan. For the further collaboration and sharing of academic information resources, preparation of this type of infrastructures is required. We recognize that this might be one of our missions.

¹<http://www.jdaa.gr.jp/prj/e-prj.htm>

²<http://www.arc.ritsumei.ac.jp/>