

Teaching Content Design of Information Management for University Student of E-Commerce Major

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Abstract. Information management is an emerging and comprehensive interdisciplinary discipline with the development of information science, computer and communications technology in recent years. Meanwhile Information Management is one of an important courses for e-commerce major college students. However, due to the interdisciplinary nature of e-commerce major, teaching content of information management for e-commerce major students requires careful design. In this paper, according to the cross-cutting nature of e-commerce major, we carefully design and organize the teaching content of Information Management course to promote the learning and teaching effectiveness of student and teachers respectively.

Introduction

Information management is an emerging discipline in recent years with the development of information science, computer and communications technology. The birth and development of the discipline marks that the applications of information management in people's daily work and life has reached a new height. In fact, the management and application of information almost come into all fields such as government, industry, academia, etc. Therefore, almost all universities, colleges and in

At present, many different colleges and universities have set up e-commerce major. However, unlike computer science and business major, e-commerce discipline is a fusion of different disciplines and technologies. Therefore, the teaching content of Information Management for e-commerce major student should be carefully designed and organized. In this paper, according to the cross-cutting nature of e-commerce major, we carefully design and organize the teaching content of Information Management course considering the combination of traditional knowledge of information technology with the innovative technology content under the current new trend such as big data processing and social manufacturing.

Overall Content Design

E-commerce is a fusion of computer science, marketing, management, economics, law and modern logistics, which aims to train college students into professionals of profound economic, management theory, information technology. These abilities will enable students to be excellent in modern business activities. Therefore, a comprehensive e-commerce major need to master e-commerce, computer networks, information technology and other knowledge and skills.

Figure 1 shows the overall content design of information management course for university student of e-commerce major, which is divided into three parts. The first part is the IT fundamental, including basic knowledge of computer software and hardware, database and database management systems, and computer networks. Due to the rapid development of information, a variety of companies and organizations need to be sensitive to IT technology. Although not to be computer professionals, e-commerce students are required to be good at IT technology, where hardware, software, DBMS and computer network are basic knowledge that cannot be neglected. The core part of the designed content is management information system which taking into account business

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competitive advantage, collaborative information systems and business intelligent. These three parts follow the content about e-commerce and Web2.0 background. Finally, we design some content concerned with some most recent new technology and new trend such as big data processing and application, social manufacturing, etc. The paper will explain in detail below for these new teaching content.

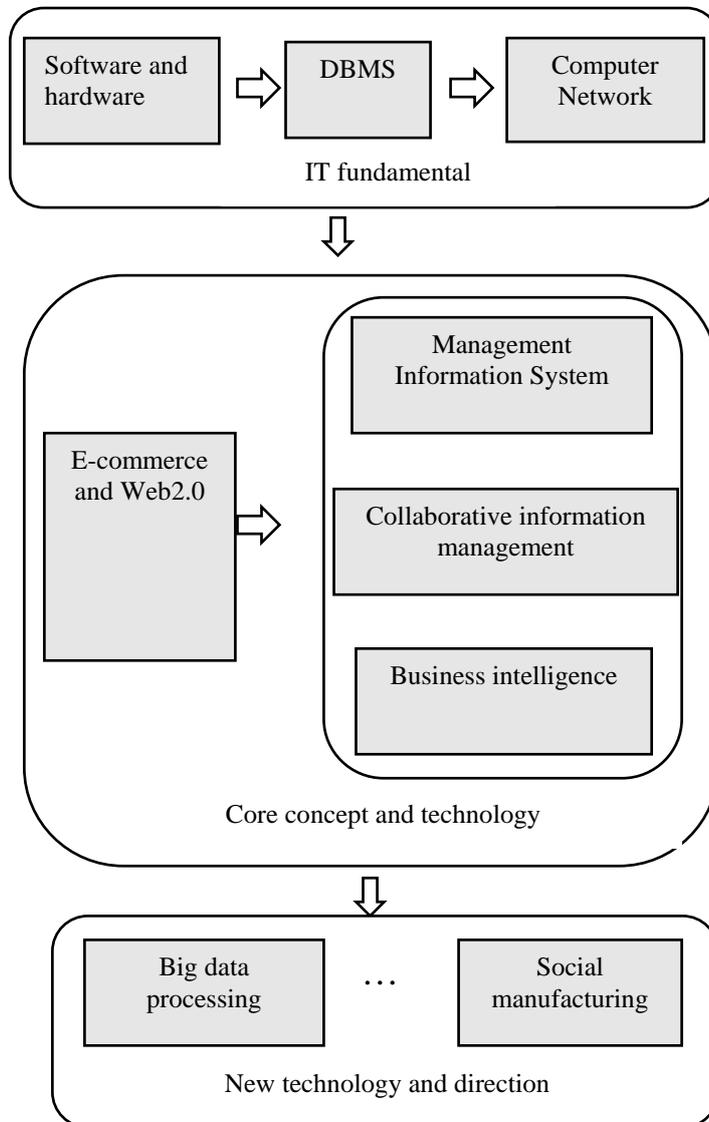


Fig.1 Design of overall teaching content of Information Management

New content under the new technological background design

With emerging of blog, social networking, location-based services (LBS), as well as cloud computing, internet of things and other technology, data is growing and accumulating at an unprecedented rate [1, 2]. There comes the big data age. In the context of big data, the course content of information management should advance with the times. In the following part of this paper, we design the new teaching content considering the current technology background of big data.

Big data. As shown in figure 2, some typical applications of big data are introduced firstly. The second part is the core part about the key technology and flow of big data processing, which include three section. The first section will introduce tools for big data acquisition ETL tools, which can obtain data from heterogeneous data sources and finally load them into data warehouse or data mart for online analytical processing or data mining. In addition, natural language processing (NLP), is an important tool for data processing. The second part involves a variety of data storage technology. Historically, databases, data warehouses, data marts are also designed to try to solve the problem of large-scale data. However, for big data, new tools need to be employed. Therefore, various NoSQL

distributed storage solutions and systems should be introduced. The third part includes big data analysis techniques, which is the core of large data processing. Traditional analytical techniques such as data mining, machine learning, statistical analysis, etc. need to be promoted to suit for the large volume of big data.

Finally, the content is about how to show the result of data analysis. Visualization is one of the most effective means of to interpret large amounts of data. Common visualization techniques are tag cloud, historical flow, spatial information flow and so on.

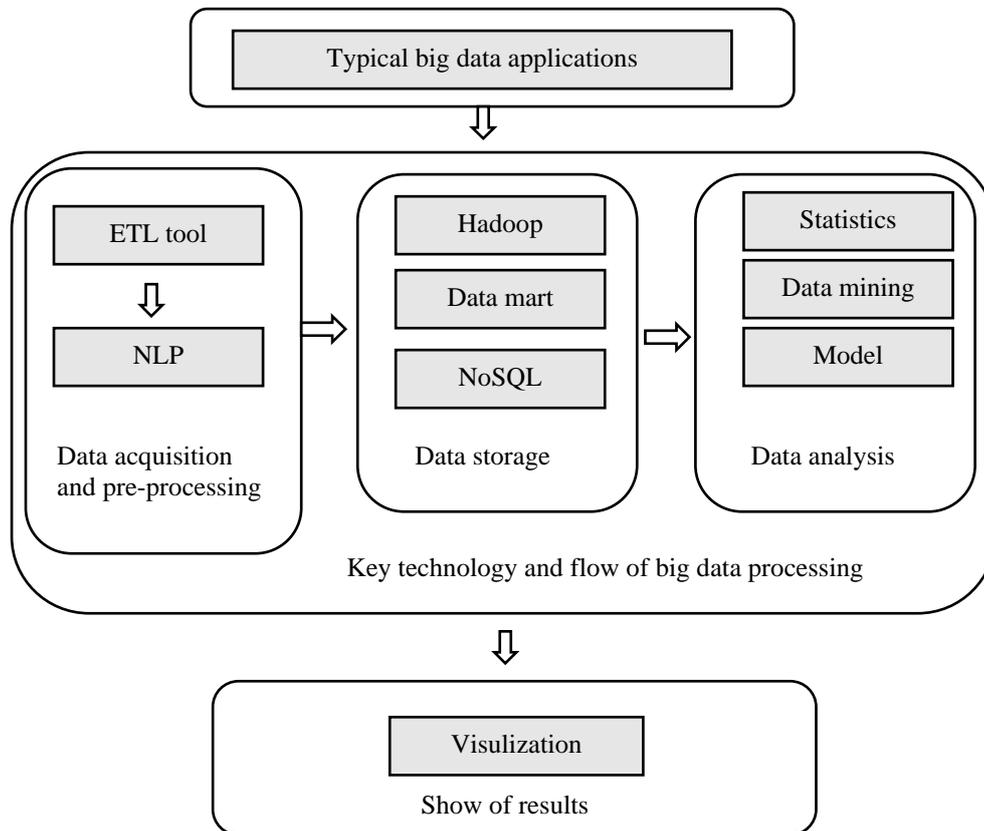


Fig.2 Content design of big data

Social manufacturing. Recent years, derived from the rapid prototyping and rapid manufacturing, 3D printing technology which is the core means of plus manufacturing, has caused global concern, and is believed to cause profound changes in the manufacturing process [3, 4, 5]. Such modern manufacturing model is called social manufacturing. Social manufacturers can change traditional passive manufacturing process into active and real-time process by customization responding to the needs of users. Therefore, students of e-business major should have knowledge of the key concepts, technologies and applications of social manufacturing.

Figure 3 shows the new content design in social manufacturing for information management course for e-commerce major student. The content includes three parts. The first part is the home and abroad history and current situation of social manufacturing, so that students could have a comprehensive understanding of new technologies and trends. The second part is the key concepts, technologies involved in social manufacturing. Among them, support technologies for social manufacturing are cloud computing, networking and big data technologies, where big data technology is the learning content that goes before social manufacturing. After that, learning content includes core concepts and technologies such as “long tail” which describes personalized search and needs and “crowdsourcing” manufacturing which is the new mode of modern manufacturing. In addition, 3D printing is another core content of social manufacturing which is precisely the direction of development of new technologies and the topic of research. The third part of the content is the management for the entire social manufacturing system.

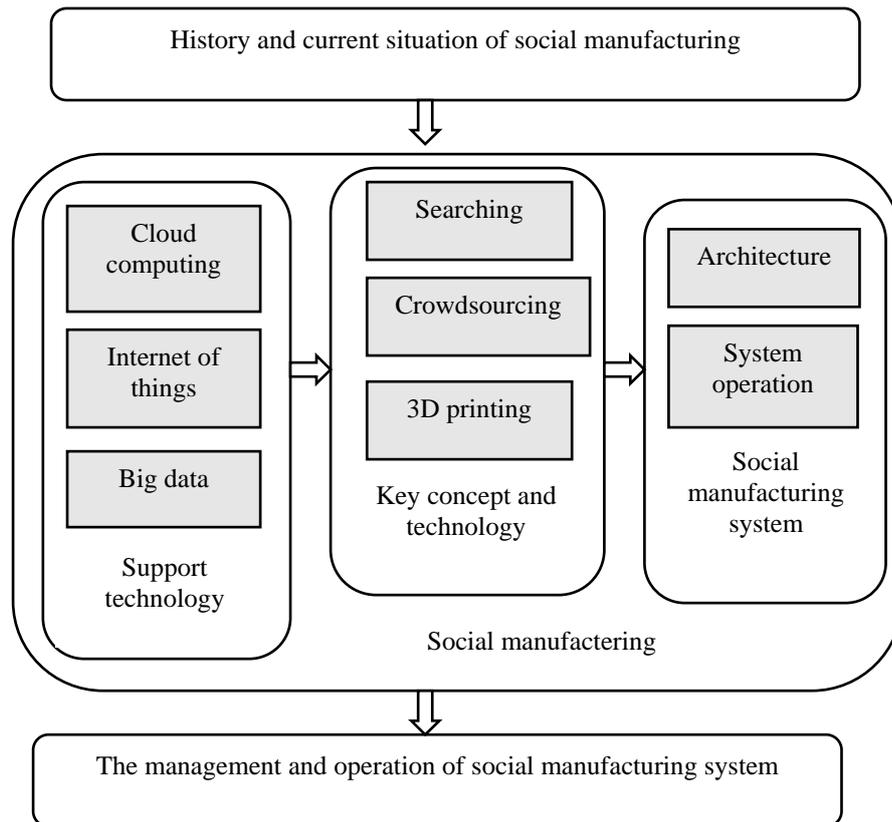


Fig.3 Content design of social manufacturing

Summary

In this paper, we design and organize the teaching content of Information Management course for e-commerce major university students. We believe that our design will promote the learning and teaching effectiveness of student and teachers respectively.

Acknowledgment

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References

- [1] X.F. Meng, X. Ci: *Big Data Management: Concepts, Techniques and Challenges*, Journal of Computer Research and Development, Vol. 50 (2013), p. 146
- [2] X.F. Meng, Y. Li, J.H. Zhu: *Social Computing in the Era of Big Data: Opportunities and Challenges*, Journal of Computer Research and Development, Vol. 50 (2013), p. 2483
- [3] T. Campbell, C. Williams: *Could 3D Printing Change the World? Technologies, Potential, and Implications of Additive Manufacturing*, Strategic Foresight, Report(1)(2011).
- [4] F.Y. Wang: *From Social Computing to Social Manufacturing: A New Frontier in Cyber-physical-social space*, Proceedings of the 2nd International Conference on SCA, 2012.
- [5] T. Wohlers: *Additive Manufacturing and 3D Printing*, State of the industry, 2011.