

Synergy E-business-Based Control Mode of Perception Mechanism

Abstract. This paper puts forward the concept of perception technology in e-commerce and constructs synergy e-business platform through CSCW work environment to research the collaborative communication protocol and system model. Sensory information trees is constructed by the perception of synergy e-business investigation and analysis of data; establishes collaborative e-commerce structure and coordination control model of perception mechanism under the synergy e-business environmental requirements and sensory information data structure.

Streszczenie. Artykuł przedstawia założenia technologii percepcji w e-komercji. Konstruowana jest platforma synergii e-business przez uwzględnienie teorii CSCW – Computer Supported Cooperative Work. (**Mechanizm percepcji w systemie sterowania synergią e-businessu**)

Key words: e-commerce, Perception technology, Coordination control mode

Słowa kluczowe: e-business, synergia, mechanizm percepcji

Introduction

The rapid spread of the Internet, making the electronic Commerce(e – Commerce) have mushroomed rapid growth and development. But as the enterprise electronic (e-Business) degree and electronic commerce development in the network becomes mature, traditional e-commerce pure rely on Internet with liquidity and changeful, and only offers a few fixed service to achieve the purpose of Business transactions, it is no longer possible to meet customer needs. In order to meet different customers' needs, general enterprise obviously can't manage on its own resources to achieve, so with other enterprises through collaborative cooperation such as Supply Chain Management which is currently one of the important topics in the electronic commerce research [1].

The real world, many semi-structured and unstructured questions can't to solve by the traditional way of analysis or processing program, it must be in the system environment which can provide an interactive support with groups, through group discussion, communicated and coordination, and work together to find solutions. Therefore, constitute synergy e-business is a kind application of important and has extensive prospects of the development. This paper mainly discusses the theory and applied basic theoretical issues and uses CSCW theory, the method and technology application in electronic commerce.

1 Perception technology of synergy e-commerce research

In collaborative work process, sensory information is the necessary cooperation related information to improve the efficiency of collaborative work. Sensory information should be divided into static perception information and dynamic sensory information, human perception of dynamic perception information often is more sensitive. At present, perception problem research focuses on the perception way in CSCW application system, and mainly concentrated on the study in the collaborative working space of synergy [2]. Transferring the natural language and the body language to other collaborative working space through the communication technology is one of the major problems which perception research.

1.1 Synergy e-commerce

Cooperation is one of the emphasis features of synergy e-commerce, for each other between enterprises, the relevant products, logistics or services that relevant information exchange through appropriate real-time intermediary and push through the synergy e-commerce to improve real-time quality service, will achieve integral e-

commerce transactions optimization. Compared with traditional enterprise alliance, synergy e-commerce use the characteristics of Internet to relay required information for each other, can not only shorten the time of transaction process, the more can reduce cost of spending could ever, and it can also provide rapid support in order to meet different customer service needed, so synergy e-commerce will clearly in the future on e-business development is quite important [3].

1.2 Cooperative awareness concept

Awareness is usually defined as a kind of knowledge, for certain facts cognition. In CSCW system, we think that awareness is notice information and shall include three meanings at least^[4].

- (1) Awareness is environmental knowledge about dynamic environment and it should change as the time-varying environment;
- (2) Awareness is achieved by the perception information which is collected from the environment;
- (3) Awareness is a kind of means, it is for a particular purpose service. General types of cooperative awareness including Organizational Awareness, Situation Awareness, Informal Awareness, Social Awareness, Structural Awareness and Working Spatial Awareness.

In synergy e-commerce operation, through the network link, several cooperation people can be located in the different areas, and even in different time online discuss supply and marketing etc. In order to let the online user can timely learnt their cooperation's state it certainly will exist coordination and detect mechanism, and awareness is the basic premise to achieve this coordination and detect mechanism, it is the most important part of synergy e-commerce structure.

1.3 analysis of sensory information in synergy e-commerce environment

Sensory information content usually contains user's current state and action. But there are many different conditions that may cause change of perception content and form in synergy e-commerce structure. Sensory information may contain content:

- (1) Who: The data about users, such as online address, authority, in specific website information such as the registered information on users, it is convenient for the state and the most basic part;
- (2) When: This part describes if users are online and when once online;
- (3) Where: Contains users are (or once) browse pages;

- (4) What: The operations to its web page or to do with other users' interaction among each other;
- (5) Domain: Engaged in work for different situations, and the extent of the same information value is bound to be different;
- (6) Focus : Sometimes the user will make different requirements of perception.

Above this information, "object" is the most basic user material, different grades of sensory information with all by its composition. This study will be the first to put sense information according to the hierarchical tree structure, each to the next layer is another level of awareness. In view of the above information for the analysis of perception, in order to make the system and users can obtain the sensory information needed to discuss communication protocol which can understand sensory information, and include different sensory information. The protocol includes Client to server message and Server to Client message. Through these two directions' directions' entire sorts' format defined and transmission of sensory information, the server can adequately learned that each user and record the state, processing, then processed data is sent out. Customers can get the basic information and state of their users timely, so in the whole group to all the users can fully understand each cooperation objects, and make the whole dynamic system to operate effectively. Therefore, this study for the collaborative e-commerce environment, constructing the coordinated control mode of perception mechanism, this mode can improve the perception mechanism collaboration degree and ensure the consistency of the data.

2 Coordinated control mode of the perception mechanism in e-commerce

2.1 Construct data structures of sensory information

In order to deeply understand the information requirements of sensory from user and enterprise and get a large collection of online trading information, constructing the data structure of sensory information, to provide data base for finding the information transmission protocols and processing algorithm. A study suggests that the sensory information data structure according to the tree is appropriate and consider algorithm from the trading collaborative process of the electronic commerce system.

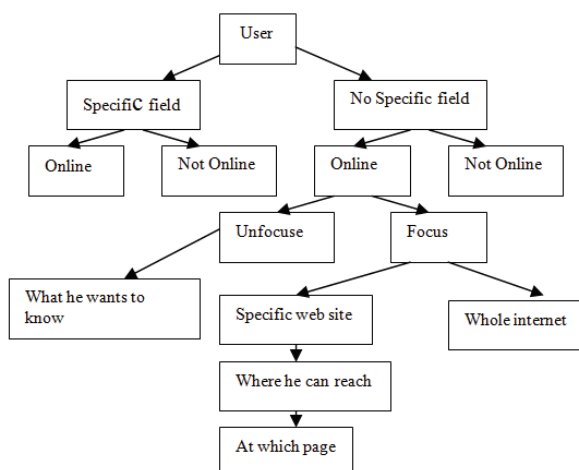


Fig. 1 data structure of sensory information

It usually may appear several companies or departments to various cooperation through the network in the world of synergy e-commerce. With two department personnel to design development, for example, the personnel through

network for cooperation. This may need to know its partners is currently browsing web pages or is engaged in this work, the information of perception in transmission we must add "at which site", "at which page" or "doing what" data, etc, in order to really master present state of personnel; And in some cases, some cooperation people can be located in the different regions.

2.2 Establish coordination control mode of perception mechanism

This perception model system of collaborative work consists three layers:

- (1) The client, It only contains presentation logic, is through the application server to access database, is a visualization of user interface, it integrates various synergy and interactive tools, mainly responsible for client data collection and user event acquisition.
- (2) Synergy application servers, mainly is stored and management the dynamic information in collaborative process、work with communication and synchronization between each client、in charge of data transfer between the presentation layer and data layer、transaction processing, etc.
- (3) Synergy database, mainly deposit some basic static management information.

In order to realize the dynamic cooperative perception, application server and every client all resides a cooperative perceive agent. The cooperative perceive agent among the application server also maintain a perception table and a Notification server. Perception table deposits all online users' current dynamic state information, such as user name, position, action and concerns, etc; The Notification server transmits the information what the application server received to related participants, so they can perceive other users' real-time changes of state. The system perception agent structure is as shown.

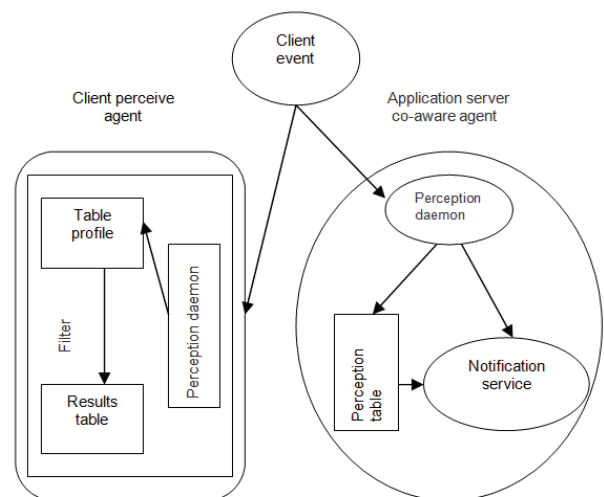


Fig. 2 Coordination control mode of perception mechanism

Its detailed work process is as follows: The client receives users' handle and process of all kinds of incidents, and the information of state was sent to the application server, server perceives the agent's monitoring process, when it receive this information, take the information to update the information what is in the perception table, and through the server, put these change state sent to other relevant users, after other users receive the news immediately refresh the online perception information on the sense list according to the table profile.

3 Conclusion

This research provides clear thinking and summarize CSCW research; Analyze the connection and difference between distributed information processing system and CSCW application system with synergy e-business system; Investigate and analyze the perception data of synergy e-businesses and constructed a sensory information tree; Explore the establishment of collaborative e-commerce structure and collaborative control model of perception mechanism with the synergy e-business environment request and cognitive information data structure.

(1) Combine the CSCW technology and electronic commerce; research the key technology of synergy commerce system. Synergy e-commerce system is the development direction of electronic commerce; this research provides the theory, method and technology to create the e-business system of multiple users sharing data and consensus decision-making for the future.

(2) Catch the key technique in the collaborative e-commerce - perception mechanism this core, puts forward the tree level classification ideology of perception mechanism, and provides the foundation of data and algorithm for the standardization and transmission and the communication protocol of perception mechanism.

(3) Fully considering synergy e-business system's essential characteristics-more people interaction, human is the essential starting point in the design process in order to improve the local response speed and enhanced user's

ability of collaboration and establish the coordination control mode of perception mechanism.

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