Research on Countermeasures of Strengthening Information Security Education of College Students

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Abstract. This paper aims to study the countermeasures of strengthening information security education of college students, improve college students' awareness of personal information protection, and effectively protect college students' personal information security. By means of literature survey and field investigation, this paper investigates and studies the degree of college students' awareness of personal information protection, and puts forward feasible countermeasures to curb the occurrence of college students' personal information leakage events in China. In the current information age, the premise of using college students' personal information is to ensure that their personal information is not leaked. Therefore, this paper puts forward an overview of college students' personal information protection, analyzes the problems existing in college students' personal information protection, and puts forward specific feasible countermeasures. The conclusion is that in order to strengthen the information security education of college students, colleges and universities must construct the guarantee mechanism of "four integration" of the country, industry, colleges and universities.

Introduction

In recent years, with the advent of the era of big data, the 4V features of big data itself, namely a large number, diversity, high speed and value, have aroused great interest of for-profit organizations in citizens' personal information, and they have increased efforts to mine the hidden value of big data behind user information and make profits. However, at present, China's big data industry is still in its infancy. From the perspective of national legislation, industry norms, corporate ethics and citizens' awareness of personal information protection, there are a series of defects, which enable lawbreakers to take advantage of the situation and citizens' personal information leakage events emerge in an endless stream.

As an active group of network social networking, college students are exposed to numerous information leakage events on social networking software, which is extremely unfavorable to the development of the country, society and industry, and at the same time, extremely harmful to the personal interests of college students. Therefore, it is urgent to ensure the personal information security of college students in such an information age under the background of big data. Based on this, this paper starts from the "research on countermeasures for colleges and universities to strengthen college students' information security education", gives an overview of college students' personal information protection, analyzes the problems existing in the four main participants of the country, industry, colleges and universities as well as college students, and gives feasible countermeasures for colleges and universities to strengthen college students' information security education.
Overview of College Students' Personal Information Protection

The Concept of Personal Information Protection for College Students

"Personal information" appears frequently in our daily life, even can be called "the hot word of The Times". But today, there is no clear concept of the definition. It is generally believed that it consists of personal basic situation, work and economic situation, personal preferences, personality, temperament, appearance, ideology and so on. College students, as a special group connecting school and society, play a crucial role in the digital information construction of colleges and universities in China. Therefore, their personal information also has distinct characteristics, which are embodied in: school records, growth records, rewards and punishments and consumption preferences.

From the perspective of information management, the protection of college students' personal information includes integrity, authenticity, secrecy and other factors, which are closely related to the realization of college students' personality interests. This is because personal information is in a complete and true state, so as to avoid improper evaluation by the public, which is an important prerequisite for the protection of college students' personal dignity. At the same time, personal information is kept secret and not improperly disclosed. It is a necessary condition for college students not to be disturbed so as to maintain life peace and personality freedom. [1]

Characteristics of College Students' Personal Information

Universality: Under certain circumstances, the mastery of information will have a decisive impact on certain things, and now we live in an era of rapid development of information. People's daily life is increasingly inseparable from the network, especially the group of college students. [2] College students' personal information is very extensive, in addition to the name, sex, nationality, birthday, id number, home address, domicile of origin and other personal basic information and attending college, professional class, rewards and punishments, outside school basic information such as hobbies, speak in the social network also includes in this chat records, web browsing history, shopping consumption records, and the application software with the use of personal social information such as trace. The potential value of big data makes for-profit organizations and institutions focus their development on users' personal information in order to better define and depict accurate "user portrait" through data analysis, and formulate marketing plans and development goals of enterprises. But there are also many bad businesses in this process through malicious disclosure, misuse, abuse of user personal information to seek personal gain. The wide range of personal information of college students greatly increases the risk of their personal privacy disclosure.

Identifiability: Identifiability is one of the main characteristics of personal information and an objective criterion to judge the subject of personal information. [3] As the name implies, identifiability refers to the ability to accurately identify and depict the unique subject of personal information through the specific content of the user's personal information, so as to obtain various behavioral preferences, living habits and personality characteristics of the subject of information through analysis, so that criminals can take advantage of it. College students are the mainstream users of social networks, and their browsing records in various application software will be marked by the system. When we browse the interface again, we will find that the system automatically launches a series of content related to previous searches. At the same time, various for-profit organizations and institutions have cooperated to establish alliances and share user data in order to further accurately locate users. Take TikTok and Taobao as examples, when we browse products on Taobao, it will mark our browsing records in real time and share data with TikTok. At this point, when you turn on the TikTok, you will frequently receive all kinds of Taobao related goods short video. This kind of personal information of college students as a result of the identification of privacy disclosure events are emerging one after another.
Problems Existing in the Protection of College Students' Personal Information

Insufficient National Network Environment Supervision

As the main body of network platform supervision, the national government should strengthen the supervision of information expansion channel and information acquisition channel on the basis of constructing network sharing platform and realizing information resource sharing and the most powerful channel for regulation is legislation. [4] However, at present, China only explicitly refers to "personal information" or "user information" in the network security law of the People's Republic of China, the passport law of the People's Republic of China and the id card law of the People's Republic of China. On the one hand, the scope of application is small, the authority and responsibility of departments are not clear enough, and there is no special government agency to deal with the case of personal information disclosure, which makes it difficult for users to protect their rights in a timely manner after being infringed. On the other hand, most laws and regulations are not deterrent or effective. They only explain and stipulate the infringement and do not involve specific punishment measures in the articles, which leads to lax law enforcement and poor effect of law enforcement.

College students are the mainstream group of social software users, but the uneven quality of social software market is often the main cause of information leakage of college students. Due to the lack of review and approval system and supervision over the listing of various application softwares by relevant departments of the national government, many applications with the tendency to infringe upon the personal information of college students sneak into the market. They are advertised with gimmicks and slogans to attract young people to download and collect personal information and software-related operation information when they register for profit.

Weak Industrial Operation Management and Network Ethics Construction

With the advent of the era of big data, more and more Internet companies are springing up like bamboo shoots after a spring rain. While digitization and informatization bring many conveniences to people's lives, some enterprises also aim at the "opportunity" of loopholes in the supervision in the early stage of industry development, trying to take advantage of users' personal information to make profits. As an important part of the national informatization construction, many functional departments of colleges and universities cooperate with Internet enterprises outside the university. However, as this industry has just started in China, there is a lack of a reliable and authoritative industry supervision organization. At the same time, the development of various enterprises is uneven. Although the development trend of this industry is vigorous, there is a lack of system and efficiency, resulting in frequent industrial chaos. In recent years, due to the poor enterprise information management mechanism, college students' personal information leakage incidents emerge in an endless stream. The internal reasons are that the enterprise itself has insufficient protection of college students' personal information, lacks the cultivation of employees' information moral literacy, and has not formed a reliable network moral construction mechanism of the enterprise.

The Absence of Education Mechanism of Information Management and Security in Colleges and Universities

Colleges and universities are the cradle of talent cultivation in China. All functional departments store a large amount of students' personal information, including other kinds of individual information, teaching resources and scientific research results. However, most colleges and universities do not have a systematic information management mechanism, which leads to frequent leakage of personal information of college students. On the one hand, there are technical defects and loopholes in the information system itself; on the other hand, relevant personnel in the information management department are not highly qualified in information ethics, and leak students' personal information due to their poor technical operation level or out of personal interests. In addition, college students' awareness of personal information protection is generally not strong, which reflects the current lack of education mechanism of information security in colleges and universities in China. At present, most
colleges and universities do not make the teaching plan of information security education course. For information security education time, content, teaching materials, teachers, and so on, there is no unified long-term planning, mostly in the report, publicity and other ways. The piecemeal education mode makes the channel for college students to obtain network information security education not smooth and flexible, and the information content is not comprehensive and systematic. [5] This series of information security education system lack of problems, to a large extent, leads to college students lack of vigilance and attention to personal information protection. While undertaking the teaching task of cultivating college students' professional skills and practical abilities, colleges and universities should also pay attention to their awareness of education, accelerate the improvement of the education system of information security for college students, effectively improve their awareness of personal information protection, and guarantee their personal information security.

**College Students' Awareness of Personal Information Protection Is Shallow**

As the largest group of Internet users, college students are in contrast with their own information security knowledge, information security awareness, information ethics, ethics and other information security literacy, which makes it difficult for college students to identify the merits and falsity of information and easy to be deceived. [6] At the same time, its weak awareness of personal information protection is the main reason for the frequent occurrence of college students' personal information leakage incidents. The specific performance is as follows: first, college students do not have a detailed understanding of the download of various good and bad soft wares, resulting in illegal enterprises to use their personal information for profit. Second, in public places, in order to use the free wireless LAN, they often agree directly with the relevant public account to obtain personal details without considering, so that commercial and profit-making organizations can use information mining to obtain users' personal preferences. Third, many students often use a relatively single pure digital information, such as birthday, student number, mobile phone number, etc. when setting the password of application software login, which is at high risk of theft. Fourth, the current college students are keen on entertainment, media and life. They like to share their lives and disclose their personal privacy in WeChat, micro-blog, QQ space and other social software. Little do they know that while sharing, the photos and location released have already revealed personal privacy. In addition, college students' awareness of safeguarding their rights is weak, and they often choose to take it in their face of telecom fraud or disclosure of personal information, which leads to the continuous low attention paid by college students to the protection of personal information.

**Problems Existing in the Protection of College Students' Personal Information**

**At The National Government Level**

The national government is the mainstay to guide the sustainable and healthy development of all walks of life. Only comprehensive national legislation and strict law enforcement can truly promote the development of the country and society and protect the personal information security of college students. First, the law of the People's Republic of China on cyber security should be further improved. The provisions of this law concerning the disclosure of user information should be clearly explained, law enforcement should be strengthened, a special personal information protection center should be set up, and a service center that is specifically responsible for the integration of the functions of personal information protection legislation, rights protection and control should be built. Secondly, relevant experts and scholars should be organized to speed up the establishment of "personal information protection law", and adopt hierarchical and multi-angle legislation for different groups, especially the protection of personal information of college students. Thirdly, jointly with the ministry of education and local education bureaus, "college students' awareness of personal information protection" was launched to popularize the knowledge of personal information protection for college students. At the same time, cooperate with universities to further accelerate the
construction of education system of information security for college students, so as to effectively improve the personal information security literacy of college students through all-round implementation of talent training programs, teaching plans, teaching materials and teaching staff. Finally, the government should further improve the network security supervision technology, comprehensively review the unlisted application software and interpret the user privacy policy in detail. Only through the security inspection system can the software be listed and operated, and truly manage the information leakage cases of college students from the source.

**At The Level of Industrial Enterprises**

As a partner directly sharing information with colleges and universities, Internet enterprises are also obligated to protect the personal information security of college students. And it can be carried out from the following aspects: first, strengthen industry self-discipline and industry ethics. The Internet industry and information holders should consciously protect the privacy of college students and help solve the problem of privacy protection according to their own development characteristics. [7] Second, improve information security and protection technology and strengthen enterprise operation and management capabilities. The core competitiveness of an Internet enterprise is reliable information security protection technology, which can be achieved by strengthening the training and guidance of technical personnel, the research and development and improvement of core technology of information security protection, and the construction of emergency mechanism for user information leakage emergencies. Third, all enterprises should establish a college student personal information protection and self-discipline association, such as China Internet finance industry association. They can guide and supervise enterprises, urge them to change their preference of arbitrarily damaging information security and infringing upon the interests of college students' personality in order to improve business performance, and guide them to achieve win-win results through cooperative games with college students. [8]

**At The University Level**

Colleges and universities are the main places for college students to study, work and live. They play a vital role in improving college students' awareness of personal information protection. At the same time, they should fulfill the obligation of protecting college students' personal information. First of all, the school should establish a leadership responsibility system, clarify the responsibility of network information management, establish a supervision system for departments that own or manage students' personal information and a system for the use of students' personal information, and standardize the standards for collecting students' information. [9] Secondly, the protection of college students' personal information education was included in the general education curriculum system and included in the talent training plan. Regularly hold relevant lectures and various information security knowledge competitions and other interesting activities to fully mobilize the enthusiasm of college students. In addition, new media such as radio station, school newspaper, official public account and publicity board newspaper can also be used to publicize security education outside the classroom, so as to popularize relevant legal knowledge of college students. Finally, the school can also set up "college students' personal information protection consulting center", which is responsible for teachers of relevant majors of the school, recruit certain students as volunteers of the consulting center, carry out education activity of personal information protection publicity for students of our school, and provide relevant consulting services.

**At The Individual Level of College Students**

As the main body of personal information protection, college students should, on the premise of abiding by national laws and regulations, proceed from their own reality and practically improve their awareness of personal information protection and rights protection. First of all, when using social software, we should pay attention to the following issues: before registration, carefully read the relevant user privacy policies; When registering, carefully set the scope of personal information
disclosure; Be careful with "third-party applications" when publishing information. [10] Secondly, college students should face up to the personal information leakage incident, do not panic or be timid when something happens, timely contact with instructors and teachers, go to the nearest public security bureau to report a case, take up the legal weapon to fight against personal information infringers, and protect their legitimate rights and interests. Thirdly, college students should cultivate their own information security literacy, develop regular modification of social software passwords, not randomly connected to public places free wireless LAN, timely clean up mobile phone computer viruses and other good surfing habits and can really do a preventive, and be away from personal information leakage events. Finally, we should actively participate in the college students' information security education courses, timely pay attention to college students' personal information security protection related information, to improve our own information security literacy into practice.

Conclusion
In the current information age, protecting the personal information security of college students is the basic condition for using their information, and the personal information and legitimate rights and interests of any citizen shall not be violated. In this paper, the degree of personal information protection awareness of college students is investigated by means of literature survey and field investigation. At the same time, this paper deeply analyzes the problems existing in the protection of college students' personal information among the four participants: the country, industry, universities and college students, and proposes specific feasible countermeasures based on the problems. The conclusion is: in order to strengthen the information security education of college students, the whole society must participate and work together. First of all, at the national level, we should attach great importance to the personal information security education of college students, accelerate the improvement of relevant laws and regulations and formulate specific protection laws for college students' personal information, and at the same time vigorously publicize relevant knowledge of personal information protection. Secondly, at the level of the industry, it is necessary to establish an industry autonomous association for the protection of college students' personal information, formulate industry development norms and rules, and improve the information ethics of employees. Again, at the level of the university, to elevate the status of the college students' personal information security education to the education of talent cultivation, combined with the relevant professional courses in a comprehensive scientific information security education, and opened the network classroom regularly popularize knowledge of college students' personal information security, at the same time to update and improve the relevant platform of the information construction of colleges and universities, protect college students' personal information from disclosure. Finally, college students on an individual level, the most important thing is their own to set up the consciousness of personal information protection, at the same time to form good habits of information protection in our daily life, actively understand and learn relevant knowledge, and establish a correct sense of rights protection, when their own interests are violated, must take legal weapons to maintain their own active rights and interests.

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