ISSN 2706-655X Vol.3, Issue 1: 33-38, DOI: 10.25236/IJFET.2021.030106

Privacy Security of Personal Information in China's Top 10 Online Game Platforms

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Abstract: *With the develop-ment trend of online games in the era of big data as the break-through point, the privacy of personal in-formation on Chinese game plat-forms was studied by referring to the collec-tion and use of personal information in the priva-cy agree-ments of the top 10 online game platforms. Based on numerous theoretical facts, sup-plemented by scientific and reason-able analy-sis, substan-tive sugges-tions were put forward from three aspects: the users' right to know, the operators' authority for and the legal provisions about the purpose of personal in-formation, providing valuable opinions and devel-opment plans for the solution and improve-ment of the personal in-formation privacy is-sue on Chi-nese online game plat-forms.*

Keywords: *privacy right; per-sonal in-formation protection; user's right to know*

1. Intorduction

The continuous evolution of com-puter networks and mobile applications has drastically changed the nature of their security and privacy. [Manshaei, M. H., Zhu, Q., Alpcan, T., Bacşar, T., & Hubaux, J. P. 2013].The digital era provides an opportunity for online game operators to "collect and use" users' personal information data, but also leads to the frequent disputes over infringe-ment of online game users' personal pri-vacy rights by online game operators. Users need to agree to and authorize operators to use personal information when registering game accounts, and such personal information is detailed such as name, e-mail, IP address, even password, etc. "It seems that the idea of information privacy should not be lim-ited to denying others access to our per-sonal information, but should be ex-panded to allowing us to control how our personal information is used and where it goes," Charles Freed suggested.Internet users should know the use and direction of their personal information, but the fact is that technological progress and infringement means emerge one after another, Internet users have no way to know the use and direction of their per-sonal information. [Qian Li,Jinke Tan.2015].This kind of net-work security privacy disputes seriously infringed the personal privacy rights of network users, which extended the tradi-tional privacy infringement to the net-work level [Wang Yegang 2020], presented an increasingly serious trend, and also posed a severe challenge to the traditional protection mechanism of personal information [Li hanyan 2020].The analysis of the privacy agree-ment of top 10 online game platforms in China is helpful to know the illegal use of personal information and the infringe-ment of privacy right by China's online game platforms, and then solutions were put forward. Therefore, this kind of net-work security privacy issue is very wor-thy of research and attention.

2. Current Situation of the Collection and Use of Personal Information of Top 10 Online Games in China

The information collected by online gaming platforms often contains personal information, and an important issue when the information is used is its privacy.[Zou, L., Chen, L., & Özsu, M. T. 2009] The privacy-related agreements of Top 10 online game platforms in China were collected from their official websites and expressed in codes. The following writing mode was adopted: letters A-J refer to 10 online platforms respectively, numbers 1 and 2 refer to platform privacy agreement and user agreement respectively, and number 3 refers to other regulations (see Table 1)

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Table 1. Privacy agreements of top 10 online game platforms in China

S/N	Top 10 Online Game Platforms in China	Code
1	GOG Game Platform Privacy Agreement	A1
	GOG.COM User Agreement	A2
2	Origin Privacy Agreement	B1
	Origin Agreement	B2
3	Steam Privacy Agreement	C1
	Steam User Agreement	C2
4	Uplay Privacy Policy	D1
5	WeGame Children's Online Privacy Protection Statement	E1
	WeGame Software License and User Agreement	E2
	WeGame Privacy Protection Guideline	E3
6	Blizzard Battle Privacy Policy	F1
	Blizzard Battle End User License Agreement	F2
	Blizzard Battle - Restrictions on the Protection of Minors	F3
7	Cube Game's Privacy Protection Policy	G1
	Cube Game's User Agreement	G2
8	Nintendo Privacy Agreement	H1
	Nintendo Usage Agreement	H2
9	SONKWO Privacy Policy	I1
	SONKWO Service Agreement	I2
10	Netease Privacy Agreement	J1
	Netease User Agreement	J2

2.1 Current Situation of Collection and Use of Personal Information

According to the analysis of the col-lection and use of personal information in the privacy agreements of top 10 online game platforms in China, it can be seen that the top 10 online game platforms in China all collected and used users' E-mail addresses, geographical locations and user names. The collection of users' mobile phone numbers was not mentioned in A1, B1 and C1, while men-tioned in all agreements of other 7 game platforms. I1 did not mention the use of the user's name, C1 clearly stated that the user's name would not be used to set up the user's account, and the privacy agreement of other 8 game platforms all used the user's name to set up the user's account. 8 agreements of 10 platforms used the user's date of birth. Platform F required non-private information such as the user's age, date of birth and gender, while G1, I1 and J1 didn't mention. A1, B1, C1, E3 and H1 all mentioned the issue of the head portrait of the user's account, while D1, F1, G1 and I1 did not make relevant provisions on the issue of the head portrait. In addition, F3 prompted children not to upload the real portrait as the head portrait during the use of platform services while other agreements didn't. All 10 online game platforms required users to provide geo-graphic location information. For exam-ple, C1 pointed out that the platform needed users' geographic location infor-mation to complete the delivery of con-tent by using the distributed server sys-tem. The online game platforms will encrypt the account password set by the user after collecting it. If the user forgets the password and cannot log in the ac-count, he/she can retrieve the password by means of e-mail verification of identi-ty information, etc. (see Figure 1).

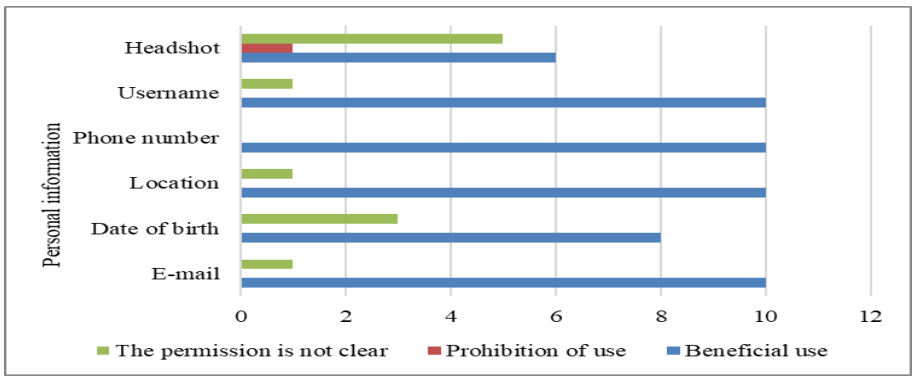

Figure 1. Collection and use of personal information of top 10 online game platforms in China

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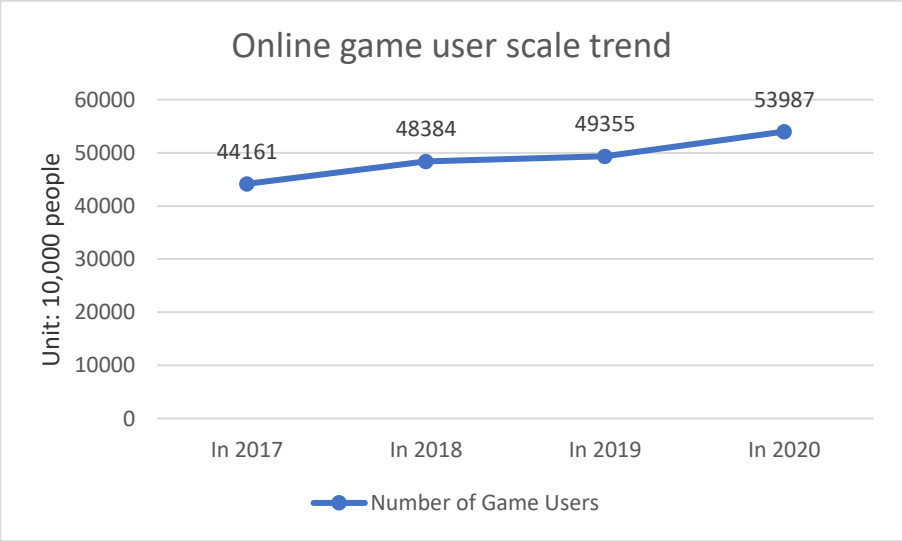

Figure 2. Online game user scale trend

2.2 Excessive Collection of Personal Information

In A1, GOG clearly pointed out that the account password, date of birth, head portrait and geographical location it collected would be protected by GOG account password encrypted. This also meant that the game platform cannot bypass users and directly use their per-sonal information, and none of the other 9 network platforms clearly pointed out the protection of the account password itself. All these platforms collected users' mobile phone numbers, mobile phone numbers in China were often bound to various websites, and even mobile phone numbers can be perfect substitutes for user names. Therefore, the leakage of mobile phone numbers is likely to cause many accounts (such as QQ and WeChat) under the user's name to face the risk to be stolen. Of the 10 platforms analyzed, 8 collected the date of birth of the user. The date of birth is not only the age information of the user, but also the password information of the user. After all, there were always people who showed special preference to using birth-day as a password.

Table 2. Online gaming platforms are suspected of excessive collection of infor-mation

	GOG	origin	steam	uplay	We Game	Blizzard Battle	Cube Game	Nin tendo	SON KWO	Ne tease
The IP address	√	√	√	√	√	√	√	√	√	√
Mobile device identifier	√	√	√	√	√	√		√	√	
The operating system	√	√	√	√	√	√	√	√	√	√
Browser Type	√	√	√	√	√	√	√	√	√	√
Buddy list	√	√	√		√	√		√	√	

2.3 Improper Use of Personal Information

The platforms may be merged, ac-quired, transferred or otherwise similarly transacted with its development of busi-ness, so that users' personal information may be transferred as a part of the transaction during this process. What circumstances do such transactions need to ensure that information is not illegally collected from third parties? Of top 10 online game platforms, 4 did not clearly define the relationship between parent companies and subsidiaries and the pro-cessing of information collected by each other. Although parent companies and subsidiaries are inextricably linked, they are two legal persons in law. When in-formation transfer between parent com-panies and

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subsidiaries causes the dam-age of information, if parent companies and subsidiaries prevaricate with each other, it will be difficult to protect the legitimate rights and interests of users.

2.4 Reasonable Legal Rights Maintenance of Users

Privacy agreements are suspected of imparity clauses. Once a game user did not agree with the privacy agreement set in advance by the game platform, it meant that he/she could not register successfully or enjoy some restrictive ser-vices. When Internet users felt that their privacy rights had been violated and sought legal protection, platforms often used their privacy agreements as a pre-text.

3. Analysis on the Collection and Use of Personal Information of Top 10 Online Games in China

3.1 Analysis on the collection of personal information

The online gaming platform is be-coming a social platform, but the chang-ing features of these systems, coupled with mass adoption, have exacerbated problems of privacy and presentation management.[Madejski, M., Johnson, M. L., & Bel-lovin, S. M. 2011] Some Blank, Bolsover & Dubois The New Privacy Paradox page 2 evidence points to growing con-cern among Internet users about online privacy and increased concern over the ability of users to manage their infor-mation privacy online, for instance utiliz-ing the privacy settings on popular SNSs. A 2013 Pew study found that 50 percent of Internet users were worried about the information available about them online, compared to 30 percent in 2009.[Blank, G., Bolsover, G., & Dubois, E.2014] Brief gener-alization of the privacy policy: there is no clear explanation on the purpose, method, scope, preservation period and place of collection and use of personal information, and the privacy clauses are not effectively displayed. The phenome-na of violating personal information emerge in endlessly because of non-transparent operation of operators and users' weak awareness of personal priva-cy protection. Such of situation has at-tracted the attention of the supervisory authority of China. According to the information from official website of Cyberspace Administration of China, The Method of Determining the Illegal Collection and Use of Personal Infor-mation by App (Draft for Comment) has been open to the public for opinions since May 5, 2019. The draft for com-ment makes clear provisions on the col-lection of personal information by App operators and provides guidance for App operators to conduct self-examination and self-correction. In addition, in the Clause 6 of Self-evaluation Guidance for the Illegal Collection of Personal Infor-mation, it requires App operators to clearly notify the users of the purpose, method and scope of collection and use personal information collection and use. If the third-party code is embedded, the operators shall get the consent of users.

Inviting suspicion of excessive col-lection of personal information: game operators collect a large amount of per-sonal information that is not directly related to the services provided and fail to comply with the relevant regulations to minimize the collection of personal information. In accordance with Article 41 of the Network Security Law of the People's Republic of China, network operators shall follow the principles of legality, propriety and necessity in collec-tion and use personal information, make public the rules of collection and use, clearly indicate the purpose, manner and scope of collection and use information, and obtain the consent of the collected person. Network operators are not al-lowed to collect personal information unrelated to the services they provide, and may not collect and use personal information in violation of laws, admin-istrative regulations and agreements between the two parties [Tai Jiangli, 2019].

3.2 The Issues during the Use of Personal Information

The infringement of personal in-formation will never ever be limited to the collection of the personal infor-mation. The improper processing and illegal use of personal information is the extreme infringement of personal infor-mation. Of course, there is clear legisla-tion on the use of the personal infor-mation in China. According to Article 42 of Network Security Law of People's Republic of China, network operators shall not divulge, tamper with or destroy the personal information they collect. It is not allowed to provide personal infor-mation to others without the consent of the collected persons. If anyone, in viola-tion of the relevant regulations of the state, sells or provides personal infor-mation of citizens to others, violator will be convicted and sentenced for the crime of infringing upon the personal infor-mation of citizens. For the cases of gross violation, violator shall be sentenced to fixed-term imprisonment of not more than three years or criminal detention, and concurrently or independently be sentenced to a fine. For the cases of es-pecially gross violation, violator shall be sentenced to fixed-

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term imprisonment of not less than three years and not more than seven years and concurrently be sentenced to a fine.

3.3 Analysis on Remedies for Personal Information Infringement

Scholars have expressed their dif-ferent opinions on the remedies for per-sonal information infringement. Ye Min-gyi pointed out that Civil Law of China provides general and special remedies when the personal information was vio-lated. These infringements, in addition to the typical damages of mental pain caused by the exposure of the privacy of information subjects, there are also a variety of new types of damages, such as data disclosure, causing or contributing to downstream crimes, which shall be selectively recognized by tort liability law[Ye Mingyi 2018]

Generally speaking, under the cur-rent legal norms in China, the legal reme-dies for the infringement of personal information is not enough, the system remains to be improved, and there is still a lot of room for improvement.

4. Improvement Suggestions

4.1 Prevent Improper Collection of Personal Information

First of all, the external supervision shall be strengthened, and relevant gov-ernment departments shall supervise the industry regulations formulated by the game operators to form a good atmos-phere. Secondly, the government shall strengthen the publicity of the im-portance of network privacy and im-prove citizens' awareness of prevention. On the other hand, the game operators shall indicate the use, scope, and storage period and storage location of personal information in their privacy agreements with users, so that users have the right to know. The operators themselves shall follow the principles of necessity, legiti-macy and rightfulness and not collect the same series of personal information re-peatedly. For example, the operators can take one of the user's contact infor-mation either e-mail or mobile phone number. Finally, the operators shall for-mulate emergency plans in event of the infringements.

4.2 Limit the Authority Scope of the Operators

The operators shall improve their own confidentiality system and shall not transmit or sell users' personal infor-mation to subsidiaries or third-party companies without the consent of users. Not only shall the operators have this awareness at the management level, but also drive their employees to implement this obligation. In order to prevent infor-mation disclosure and the security prob-lems of third-party storage, the operators shall develop their own memorizer, strengthen cryptographic technology and intrusion detection technology, etc. [Wei Lai Zheng Yue 2010]

4.3 The Improvement of Privacy Settings for Game Users

While gaming networks do allow users to control who they share con-tent with, access control policies are notoriously difficult to configure cor-rectly. In fact, users' privacy Settings don't match their sharing inten-tions.[Madejski, M., Johnson, M. L., & Bellovin, S. M.2011] Empower users to partici-pate in the content of privacy Settings, rather than following established pri-vacy policies as at present.

4.4 The Improvement of Relevant Legal Provisions

For the present imputation of the right of privacy, the principle of fault liability should be improved to the prin-ciple of no-fault liability, which will quali-tatively improve the proof for the in-fringer and the punishment of accounta-bility. Then, compensation for the men-tal and property losses caused by the afterwards protection, illegally use, buy-ing and selling personal information shall also be included into the law. When in-fringement act occurs, the collection procedure of electronic evidence shall also be standardized. Finally, the rele-vant special laws and regulations shall be formulated and implemented as soon as possible.

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5. Conclusion

The development of internet tech-nology makes the personal information increasingly transparent. China's online game platforms illegally collect and use user's personal privacy information with-out the user's consent and authorization, which makes the traditional personal privacy infringement extend to the net-work level, which seriously endangers the protection of users' personal privacy. Through the analysis of the illegal collec-tion and use of personal information in the privacy agreement of the top 10 online game platforms, this paper puts forward the improvement suggestion for the problems of excessive collection range of personal information, unrea-sonable use of personal information and reasonable protection of users' rights from three aspects such as users' right to know the purpose of personal infor-mation and data, operators' rights of access, and a sound legal system for network protection of privacy rights, aiming to strengthen the protection of user's personal information in the online game platform, protect the lawful priva-cy rights and interests of individuals, improve the legal system for protecting online privacy and create a reasonable and lawful environment for protecting online privacy.

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