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## 論文の内容の要旨

Online Social Networks (OSNs), i.e. Facebook, Google+, Twitter, etc., currently play an important role in communication and social interaction. The main goal of OSNs is to provide an available space where the user, or creator, can create and post information. At the same time, this information is consumed by other users, or readers, anywhere at any time. OSNs bring the users closer even though they may be of different race, religion, or gender and living in different places around the world. Therefore, they are viewed as tools for communication, and social interaction. However, when the number of users with different cultures in OSNs increases, the variety, amount, and sensitivity level of information also increases dramatically. Accordingly, users in OSNs are facing many problems caused by cultural differences, such as information overload, loss of privacy, misunderstanding information, in-group-out-group bias, and so on.

This research focuses on reducing the problems of information overload, over consumption and loss of privacy in information sharing by consideration of the cultures in OSNs. This is because information is an important mediator in communication and social interaction among users in OSNs. Furthermore, it is presently sent and received by users without consideration of cultural differences. Thus, the users, both readers and creators, cannot fully take advantage of OSNs. For example, the users receive too much information, and lack the ability to control that information.

For the consumer, the information overload problem originates from different cultural patterns of text, large numbers of users in OSNs, and the large amount of information. This problem causes the readers difficulty in finding interesting and important information, creating feelings of confusion, anxiety, and

annoyance when readers consume excessive information on the Social Network Page (SNP). Consequently, readers cannot adequately consume high-quality information. To address the information overload problem, cultural differences in information consumption are investigated by using a survey.

A set of influential features and factors is additionally prepared to filter the information based on cultural differences. Subsequently, a new type of Information Feed Mechanism (IFM) is proposed. It considers the cultural differences in selecting interesting information to appear on the reader's SNP. The proposed IFM helps the readers to consume interesting information within a short period of time. The most suitable information, based on the reader's current situation and nationality is served to them, which is good for both businesses and readers. The proposed IFM can be applied to very large data sets, providing exponential growth in OSNs by using a parallel concept. The analyzed results of the proposed IFM can also be adopted by many countries, societies, and businesses.

For information sharing, the loss of privacy is a crucial problem in OSNs due to lack of collective privacy protection. Only the owner who creates and posts the collaborative information on OSNs, can control it. The co-owners who are associated with the collaborative information, might lose privacy from tagging, mentioning, or sharing such information posted by the owner without asking their permission. Moreover, the co-owners might not realize their information is being managed by others. It is possible that collaborative information might leak to unwanted target readers. To balance the need for information sharing and the privacy protection of the owner and co-owners, a Collective Privacy Protection (CPP) is proposed. The concept of majority vote is applied to the proposed CPP. The co-owners can make a decision whether or not to allow this collaborative information to be posted on OSNs by consideration of the privacy policy. The proposed CPP identifies the privacy conflicts between the owner and co-owners and provides a suitable solution for those conflicts, although only one co-owner can reject the privacy policy. By using the proposed CPP, the owner and co-owners share the collaborative information on OSNs with less privacy concerns, because the collaborative information will not leak to unwanted target readers. The proposed CPP encourages the owner to take responsibility for the co-owners' privacy by asking permission. The proposed CPP brings about negotiation of privacy, based on the cultures of the owner and co-owners by asking their permission. This indicates that many factors influence the co-owner's response, such as power distance, individualism vs. collectivism and so on. In addition, the proposed CPP helps reduce the crime problems in society, e.g. robbery, defamation, and violation of portrait rights.

Based on this research, the variety, sensitivity and large amount of information coming from users of different cultures cause information overload and loss of privacy will be controlled, reducing stress for the users. The users can take full advantage of information consumption and the information sharing in OSNs.

Keywords: Cultural differences, Information feeding, Privacy protection, and Online Social Networks

### 論文審査の結果の要旨

Arunee's research aims to support the cultural aspects in Online Social Networks (OSNs) by solving the information overload problem, and losing privacy problem. She realized that the OSNs, e.g. Facebook, Google+ and Twitter, have presently played an important role in communication. When users with different cultures utilized the services of the OSNs, many problems rose unintentionally. Her research provided the most suitable information to the users based on the user's culture, and the user's current situation with less annoyance. Furthermore, it protects the user's privacy when he/she posted the collaborative information on the OSNs.

During the final defense, she showed this research could contribute to many social aspects, and academic aspects. For the social aspects, firstly, her research could be applied to many countries around the world. Secondly, it was good for both the users in the OSNs and the marketers for the marketing plan. Finally, it reduced the crime problems in the societies, such as robbery problem, defamation problem and portrait right violation. For the academic aspects, her research could be utilized in many research fields, such as user interface design based on culture, collaborative work based on culture, and negotiation in the privacy and business based on the culture.

Based on Arunee's research, the users with different cultures could fully take advantages from the services of the OSNs with less tension. This research has excellent quality and also satisfied all of the necessary requirements. Regarding to this, we are appreciated to approve the completion of doctoral degree to RATIKAN Arunee.