Local Risk Management Information Sharing System

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ABSTRACT

In this paper, we propose a system to promote people's risk management that uses grassroots information in local area. Therefore, from our investigation people want to know the real state of affairs, what kind of experiences people had, or how they coped with them before anything bad happened. The feature of our system is that it gathers and formalizes information related to local risk management information. The system provides useful information by arranging it with time and geographical attributes. Through the process of development, we discussed with ward office and local volunteer staff, how to secure reliability and accuracy, personal privacy issues and etc, aiming at practical use and continuous management. Using this system enables people to share their experience and knowledge before crime actually occurs.

1. INTRODUCTION

In recent years, many people have been requesting the practical use of ICT (Information and Communication Technology) in the field of local community. Especially demands for safety and security are high, because of crime or trouble has become increasing in local area [1]. To secure safety and a peace of mind, it is essential to obtain helpful information for the crisis management. We have developed a system to support people's safety and security in their daily lives, aiming at gathering and sharing grassroots information with many people to prevent and solve crime in local area. An information gathering and sharing system for crime prevention is designed based on investigations and discussion. Then, we develop the system by using XOOPS. From the evaluation, we consider that our system, developed based on the concept for this research, is effective.

2. SYSTEM CONCEPT

From our investigation and discussion, we consider that the followings points are important for the concept of system:

-Gather facts about one's surroundings. This includes information on the what, when, and where of suspicious events. This information should be gathered formally, by taking suitable offerings into account.

-Experience, wisdom, knowledge, etc. should be included in the information gathered from residents. This means local residents can effectively act as advisors when information is being accumulated.

-The information held by public organizations needs to properly sorted and offered as general-measure information as well as information specialized for local areas.

-It is necessary to design an offering structure according to the type of suspicious event and to the attributes of the information. Particularly, time and geography are the critical factors to arrange information.

-Observed information should specify the place. Information on incidents like a fact of false claim by postcard should be arranged at the town level to consider the privacy.

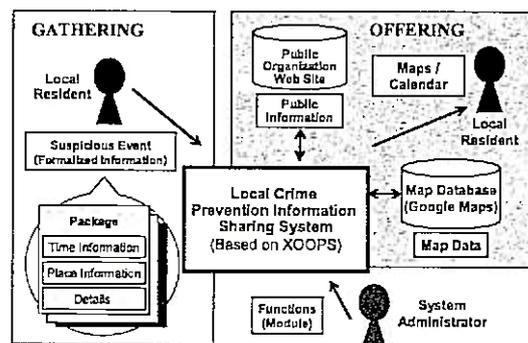-To find the most recent crimes, all information should be arranged by time.

Figure1. Concept of the system

3. SYSTEM FEATURE AND CONSTRUCTION

Figure2 shows a system construction of the system. The information is input by users via special online forms. This means we gather not only information from general users, but also that from public organizations that can provide reliable data. Such information is intelligibly displayed as a map combining a time category table by effectively using RSS (RDF Site Summary) and Google Maps. In this research, we constructed the system by using XOOPS, which is typical open-source CMS (Contents Management System) software, taking into consideration factors such as account management and function management. XOOPS is suitable for this system because it contains many functions, including user management, a message-sending function, a search function, and site link construction, etc.
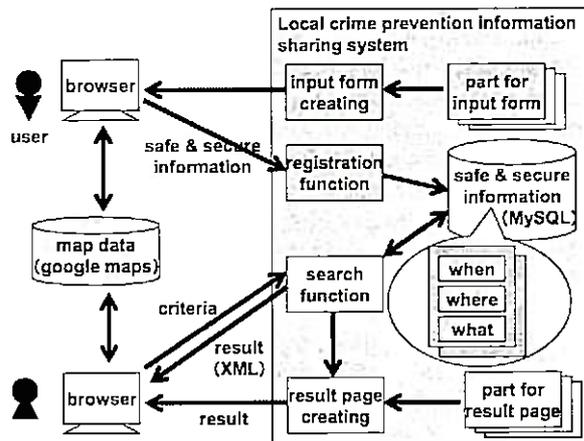

Figure2. System Construction

The feature of our system is that it gathers formalized information related to crimes and suspicious events, and offers coherent information by arranging time attributes and geography attributes. This system can easily search the latest criminal techniques, crime scenes, and the nature of crimes committed. Therefore, it is possible to gather and offer information that is different from that on mailing lists or BBS (Bulletin Board Systems). Besides these basic functions, we can easily add other functions as modules, since different users have different needs.
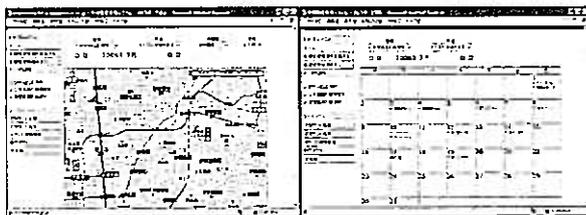

Figure3. System screen

4. EVALUATION

We evaluated our system by analyzing comments from 5 users who cooperated in this study. The evaluation method was based on analysis of their opinions about the system. Most of them replied affirmatively to the question of "Do you want to try to use this system?" Examples of extracted comments include: I want to try it if it is easy to operate. / I want to use it if I am likely to find what I am looking for. / I think that such a system is necessary. Extracted comments from the question of "What do you think about the functions with which information can be shared by time and geographical attributes, and the other functions?": I think it is good to grasp information about one's local area on a map regarding suspicious persons, etc. / I want to try to use the mechanism that enables me to share information with my family. From this evaluation, we consider that our system, developed based on the concept for this research, is effective. We also understand that it is important for the system to be easy to use when a crime or suspicious incident has occurred.

5. CONCLUSION

In this research, we designed a system to acquire information about crimes and suspicious incidents in local area, which is in high demand but difficult to find. Moreover, this system can gather regular and reliable information via the user management function, and it can share requested information with time and space attributes. The usefulness of the system was confirmed, although the evaluation was only a preliminary one.

We predict that use of those systems in practice will make it possible to share intelligence and experiences among people before something happens. In sharing the latest information, defenses can be built against ever-evolving criminal techniques. Moreover, this should produce a deterrence effect by raising local residents' awareness of daily safety and security.

6. REFERENCES

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