# Designing Safety Confirmation System on Smart-phones Cooperating with Messaging System for Lecture Information
## - A Case Study of Niigata University -

## Kouki ABE[1] and Munenari INOGUCHI[2]

[1] *Undergraduate Student, Faculty of Engineering, Niigata University, Niigata, Japan*
[2] *Assistant Professor, Research Institute for Natural Hazard and Disaster Recovery,*
*Niigata University, Niigata, Japan*

*Email: t11i313c@mail.cc.niigata-u.ac.jp*

**ABSTRACT :**

**1. Background and Objectives**

Once disaster occurs, we worry about safety of our family, our friends, our colleagues and so on. To know their safety, we utilize commonly "safety confirmation system", which many kinds of private companies provide. However, these are introduced by organization unit, such as company, city office, university, and so on. This means that people belonged these organization are not accustomed to those system, because it is usual that a safety confirmation system is independent for only disaster response. Against this issue, we decided to design and develop a new type of safety confirmation system for students of university which is used in their daily lives as students in university.

**2. Design New Type of Safety Confirmation System for Students of University**

Firstly, we focused attention on what is needed for students in their daily lives. We found that they wanted to know the information about lecture announcement on each day. This means that the system could be used daily if it can provide the lecture announcement periodically. We think that this idea has a commonality among students belonged universities.

Secondly, we tried to developed the system connected the server directly which manages lecture announcement registered by professors, however there was a huge obstacle which is "Protecting Personal Information". The reason why its server maintains personal information is that which student takes which lecture, and that which student gets how score. Against this issue, we found that we always get lecture announcement by email. This means that the mail server also gains those announcements as an email. Therefore, we decided to utilize this mail server to retrieve the lecture information written on email. This issue is specified to our university; Niigata University.

Thirdly, we designed the big-picture about how to cooperate with the mail server. By selecting this way, we can protect personal information, because only a student knows his/her user-id and password to log in to mail server. Therefore, we defined that our system should require a student's user-id and password which is equipped as a log-in interface.

Fourthly, we designed the functions to gain students' safety. We insisted that our system should be simplified considering the situation after disaster occurrence. Therefore, we analyzed which information should be reported to university about students' safety. We designed that two information are required, and one information is to be gathered if possible. Two required information are "Safety/Injured/Want to read message" about their status, and "Home/Shelter" about their location. One additional information is their detailed location; this should be reported on map.

**3. Result of the Design of our "Safety Confirmation System" for Students**

Following our design as described above, we make it concrete. We designed the user-interface which should be developed on our system, and how to cooperate with mail server. Fig.1 shows the whole picture about how our system should behavior putting the screenshots of user-interface in. Fig.2 shows how our system should retrieve lecture announcement of each student from mail server.
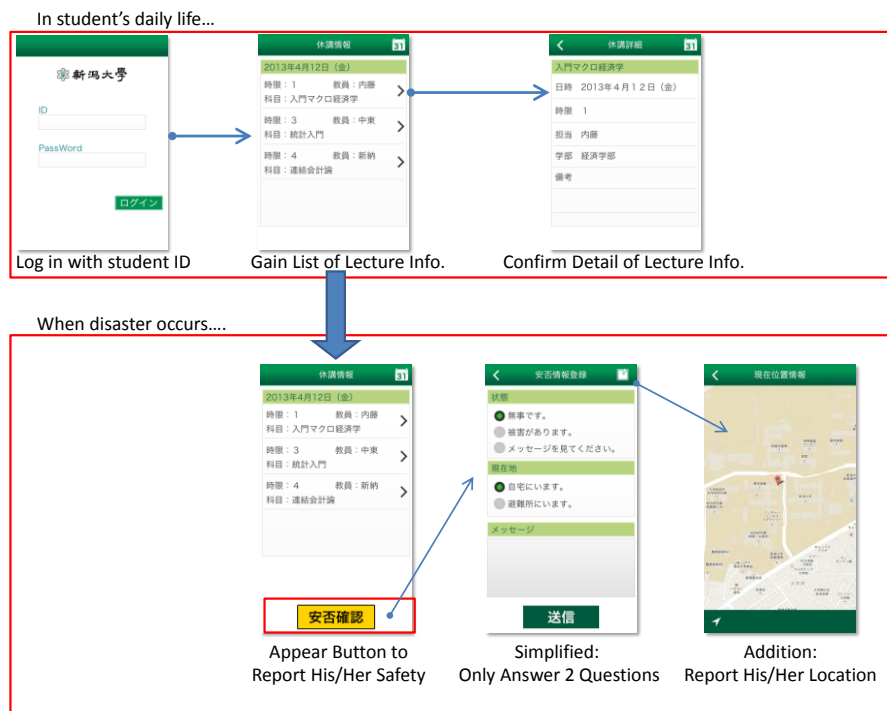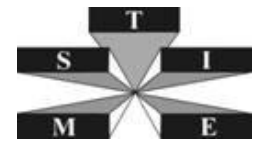
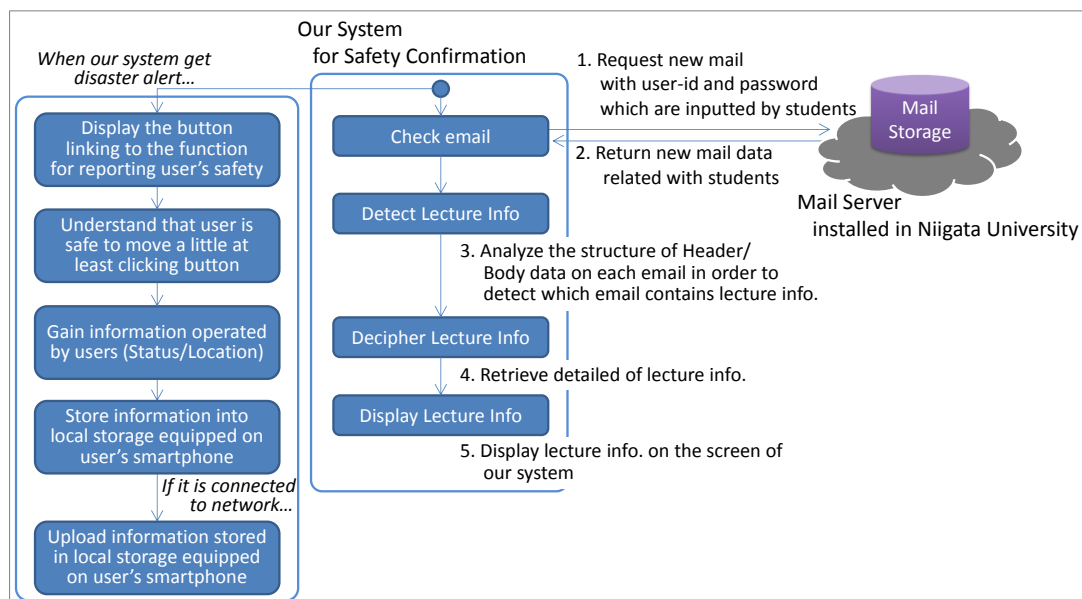Fig.1    Whole picture about how our system should behavior



Fig.2    How to retrieve lecture information from mail server protecting personal information

## 4. Conclusion

In this research, we designed an application of safety confirmation system for students in our university understanding the actual situation of our university. Especially, we paid attention to protecting personal information, and making our application simplified but useful concerning the situation after disaster occurrence. However, now the result of our research remains in design. In near future, we are planning to develop this application, and to implement it to smartphones belonged to students in our university actually. We believe that we can gain some kinds of problems in utilizing through implementation, and we promise to solve them. Furthermore, we are eager to implement our application to all university in Japan, and to contribute to improvement of our resilience against disasters.