Novel smartphone based interactive system to prevent food allergy in school

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Background

As most school provides lunch group meals for all students in Korea, students with food allergies are at risk of exposure to their own allergenic components contained in school meal. **Each school provided food allergen labelling of school meal to the student's parents every month**, and this information can be checked at the web page of **National Education Information System (NEIS)** of ministry of education. However, parents often do not check food allergen labelling, and even also in parents of students with food allergies. Although there have been increasing event related to food allergies, no active intervention to prevent food allergy existed in school itself.

Objective

We aimed to develop a smartphone application called "food allergy alert" to prevent adverse allergic events from school group meals.
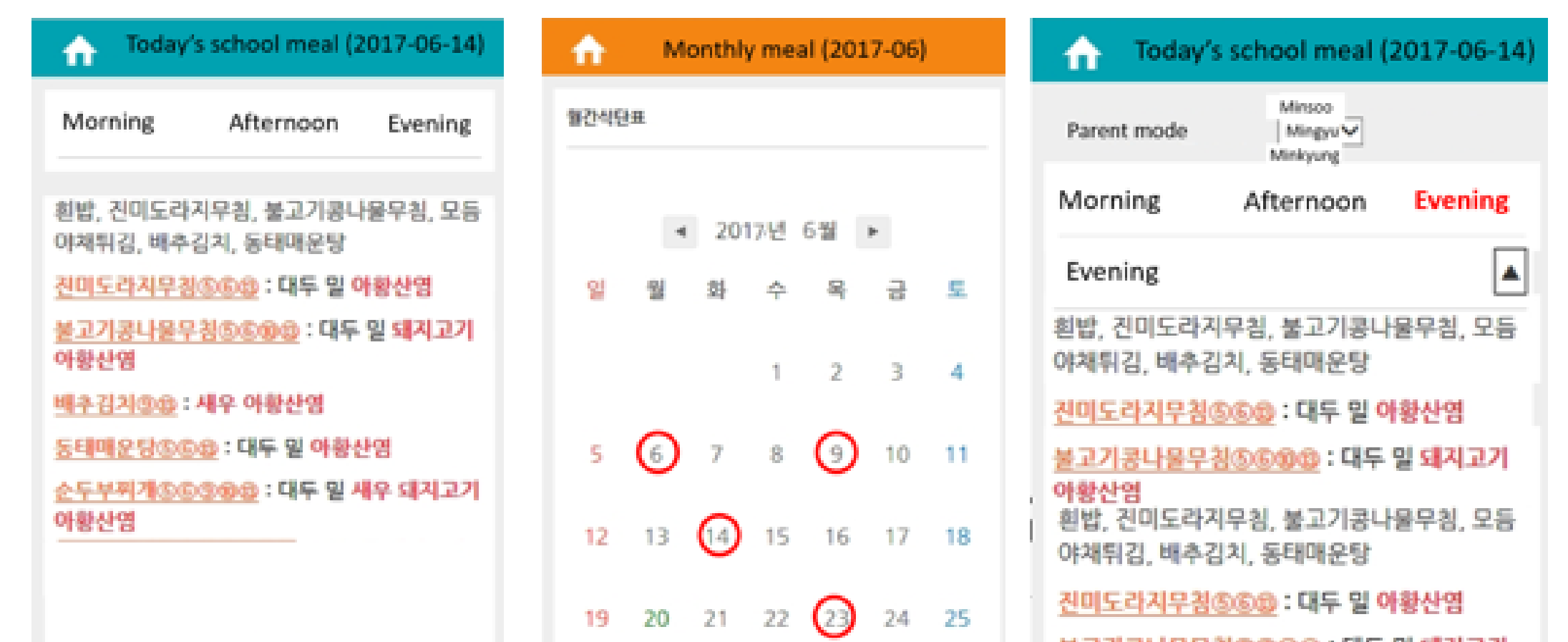
Overall scheme

Our application

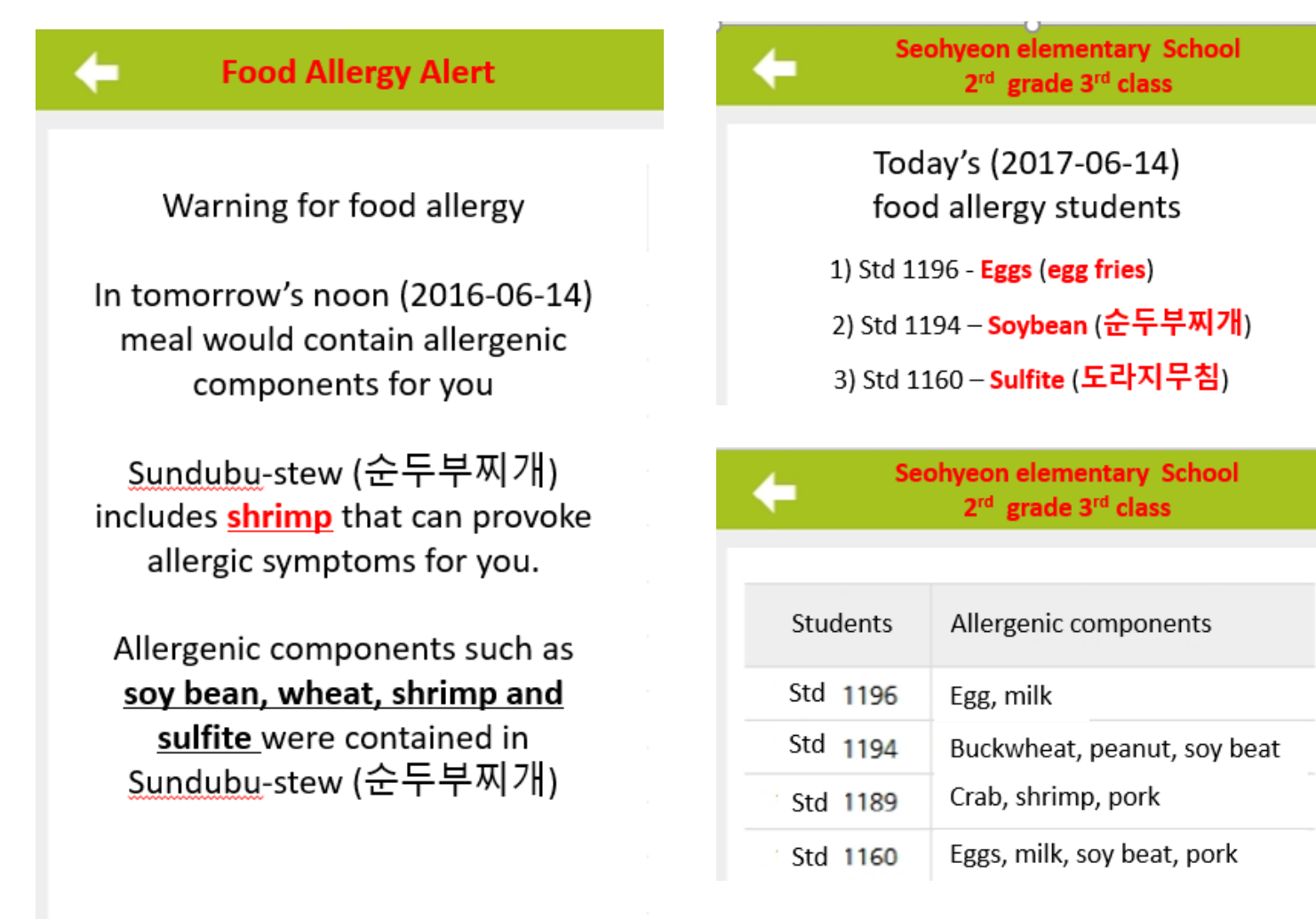### 1) Set user's information before using

a. When sign up, choose one of the following positions; **student, parent or teacher**
b. Enter the **name of the school** tat are attending, and decide when to receive **alarm for the food allergy alert**
c. Select **any of 18 ingredient list** that NEIS provided labeling information for allergenic components in school food
d. the 'food allergy alert' app automatically downloads the monthly school meal table of the user's school including food allergen labelling throughout parsing the web server of NEIS

2) Labeling information on allergenic components

a. Users can easily see whether allergenic components are contained in the daily menu through the app.
b. Users also easily check the risk days that allergenic components included in school meal in monthly calendar.
c. If parent have siblings with food allergy and already registered the information of sibling's school and food allergy, they also check the individual sibling's allergy information on school food.

3) Food Allergy Alert to patients/parents and homeroom teacher

a. The app automatically alarmed 'food allergy alert' at specified time when allergenic components contained in daily school.
b. Homeroom teacher can review the allergenic profiles of students with food allergies and also receive the 'food allergy alert' of students with food allergy in the class.

Conclusion

We developed the smartphone-based novel interactive system to prevent food allergy accidents in school. Student with food allergy and their parents easily check the food allergy labelling and can avoid exposure to allergenic foods. Homeroom teacher can also easily provide appropriate intervention to prevent food allergy accident in school. We are planning to apply this system in elementary school and test the usefulness and feasibility of this application.

Contact

Food Allergy Allergy in Sschool Food is freely downloaded in following addresses. We yet provide services for Korean language. Please contact us for any question.

Google Playstore: https://goo.gl/MuPmgT

Apple App store: https://goo.gl/IuKvDA

Developer e-mail: irreversibly@gmail.com

Acknowledgement