

# I am Ssam: Learning Benefits of the Korean Wrap Food

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**Abstract.** We made a mobile game *-I am Ssam-* to introduce Ssam and learn the benefits of the Korean wrap food culture using motion sensors and touch screen. This game will review all procedures and provide recipe that focuses on methods and benefits of the Ssam. In the Ssam, we sometimes add raw garlic to remove the greasy taste of meat. And also, many experiments have established the effect of raw garlic on cancer. So, we have to remember this precious fact tucked into a meal. *I am Ssam* makes the Korean food and the culture more interesting to know.

*I am Ssam* will work following the procedure. First, the user has to select a leaf, the main material of the Ssam. And then, select any pieces of food. Shake the smart device to wrap up the Ssam. After finishing this procedure, you will get information on the nutrition, and its effect. This can be the best chance to learn about Korean food culture and folk remedies.

**Keywords:** Food · Culture · Calorie · Nutrition · Ssam

## 1 Introduction

In recent years the popularity of Korean culture has been increased. Specially, Korean food is the real missionary of Korean culture. More and more people in the world enjoy eating Korean food. One of the major foods prepared and eaten in the world is the Bibimbap, Korean mixed rice with meat and assorted vegetables. And another food, Ssam is also becoming popular in other countries. World trend is changing to Asian food culture. Specially, Korean foods are rich in vegetables.

The meaning of ‘Ssam’ is ‘wrapped’, refers to a dish in Korean cuisine in which, usually, leafy vegetables are used to wrap a piece of meat such as pork or other filling.

*I am Ssam* is a handheld digital Korean wrap food simulator that can be simply used by people in order to have a Korean food Ssam. Many people in Korea are enjoying traditional Korean food Ssam. The Ssam is made with many kinds of unique vegetable from Korea such as Korean lettuce and Chinese cabbage (Fig. 1).



**Fig. 1.** Korean wrap Ssam has many vegetables

These days, the effect of the Korean wave is fast sweeping the world. Korean wave is not only K-pop and Drama but also the Korean food culture. Many people in the world already tried Bibimbap, the mixed rice with vegetables (Fig. 2).



**Fig. 2.** Korean favorite food bibimbap advertisement in US (left) and shape of bibimbap (right).

There are many reasons why people try to eat Korean food. The keyword is healthy. Actually, one of the well-known Korean food is the dog meat food. TV programs in other countries laugh at these food cultures in Korea. There is no truth in this rumor. We have to change the thought and also have to promote the right culture of the Korean food.

We already know about the effect of the smartphone. Nowadays, there are already various food-related applications in the market. *I am Ssam* is using the touchscreen in the smartphone to select vegetable, and any other traditional spice.

## 2 Related Work

Our study is similar to many applications which can teach food recipe. Our goal is calculating calorie and nutrition of the Ssam to get the right information.

Nowadays, there are special kiosk based ordering system in McDonald Korea. We call it a signature burger ordering system. Choosing bread, and any other things can be automatically ordered by this system. And also can pay with a credit card. Calorie and nutrition calculation is a matter of course [1] (Fig. 3).



**Fig. 3.** McDonald's new ordering system is using touch screen, pay system, and notification bell in Korea.

*Noom* series are food and exercise logging application. User can simply put the name of the food to automatically calculate the calorie. Using smartphone sensors to detect the activity and location of the person's daily life. When input begins, *Noom* automatically activate the calorie calculator [2–4]. This part is similar to our study. However, calculating Korean food is difficult in single *Noom* application. *Noom* is specialized in western culture. Using custom registration can make up for any other food calorie. But it is difficult and unclear for common people to use (Fig. 4).

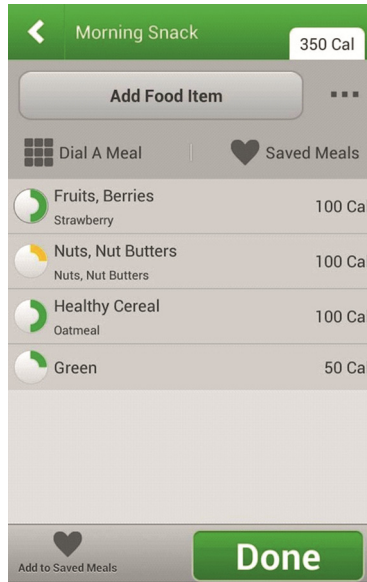


Fig. 4. Screenshot of the food calculating part in Noom

### 3 Design and Implementation

Some details of *I am Ssam* are as follows. Each of food items has own part. First, the user inputs a main wrap. Koreans are enjoying several vegetables for the Ssam wrapping (Fig. 5).



Fig. 5. Koreans love Korean lettuce, perilla leaf, Chinese cabbage, and Keil for Ssam

Second, select main dish such as pork, beef, and raw fish. Also rice is the user's choice. Also the Korean mushroom, green onion, and garlic are the most popular item for Ssam. At the end, select sauce to make rich taste. After selection, must shake your smartphone to mix your items together. Your calorie and nutrition will calculate after finish up wrapped Ssam.

*I am Ssam* is designed to simply and easily. The basic design of the form is a real situation that people who tried Ssam can understand already. We put simple drag and drop controlling method for the application (Fig. 6).



**Fig. 6.** Using I am Ssam [5]

The *I am Ssam* is a multi-platform application that can be used on any other smart devices. We used a smartphone touch screen to show the situation and any other information. The motion sensing system is a common way in these days. We used both gyroscope and accelerometer to measure the movement of eating. The hand movement can be calculated to make a funny mixing action.

## 4 Evaluation

We simply tested for people who are eating Ssam. We wanted to know usability and the effects of the application. Two types of *I am Ssam* user can be taken. The first is just a player who wants to get information only. Second is the user who wants to calculate the calorie and nutrition of the Ssam in the restaurant. After using *I am Ssam*, participants were interviewed. The interview inquired about their interest, and discovered things about Korean food. Many people worried about eating Ssam by hand. But in Korea, we wash our hands before eating food. This is also the table manner in Korea. This can be the best chance to learn about Korean food culture and folk remedies (Fig. 7).



**Fig. 7.** Washing hands with wet towel is one of the Korean culture

## 5 Conclusion

*I am Ssam* is a system through which a person can simply and easily learn the benefits of the Korean wrap food culture. We submit an application for an open exhibition, Games4Health, University of Utah [6]. Unfortunately, the award was not ours, but the audience in Utah was kept asking of Korea and its food culture.

Knowing calories and nutrition of each item can keep healthy diet life. At this point of view, *I am Ssam* is trying with special application to overcome an unhealthy eating habits. We have to pay attention to the possibility of the future. The first is many types of items have to add. In this study, we tested only little range of Ssam items. In the future, we will expand our application to many kinds of items.

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