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## Experience Type Applications by the Behavior of Food-Content Creators

<sup>1</sup>Chaelin Yu, <sup>2</sup>Gihwan Ryu, <sup>\*3</sup>Seok-Jae Moon and <sup>4</sup>Kyoungmi-Yoo

<sup>1</sup>Kwangwoon University, Graduate School of Smart Convergence, Institute of Tourism Industry, Graduated, Seoul, Korea

<sup>2</sup>Kwangwoon University, Graduate School of Smart Convergence, Institute of Tourism Industry, Professor, Seoul, Korea

<sup>\*3</sup>Kwangwoon University, Institute of Information Technology, Professor, Seoul, Korea

<sup>4</sup>Kwangwoon University, Institute of Information Technology, Professor, Seoul, Korea  
e-mail: {raechin, allryu, msj8086, casino}@kw.ac.kr

### Abstract

*It has emerged Food-content among various forms of 1-person media through social media. Food-content influencer also market products through 1-person media, generating revenue through increased views and subscribers of 1-person media. It also sells products through sponsorship. In general, there is a profit structure through 1-person media viewing, but research on how restaurant companies generate profits directly through food-content is insufficient. In addition, research on converting subscribers to consumers through food-contents is minimal. In this paper, we propose an experiential application system based on the behavior of food-content creators. The proposed system collects and categorizes food-content information, and maps between highly related words to organize into keyword categories. The ontology tag-based concept network applied to the proposed system connects representative information by pre-extracting/mapping information related to information requests among a wide range of data. This method maps relevant food-content information to provide the user with data collected/storage in the form of an application. The user uses the application while watching the food eaten by the influencer and creator. And, it is meaningful that the user could be provided is provided with information about the food they want to eat.*

**Keywords:** Food contents, Social media, Experience applications, Direct experience, Influencer

## 1. Introduction

As the use of social media has increased, the types and contents of 1 person media have also diversified. This status is not only the role of influencers (influenced individuals) who conduct marketing, but also the role of sharing content, and the status of directly selling products through social media accounts is increasing.[1] In other words, the influencer's activity category is expanding rapidly from marketing to distribution.

[2] Among the various new content that has emerged in line with this change are food-content videos that shoot creators eating. These food content videos are new food content, not existing food recipes or content that

introduced food. It can be said that food content is the subject's self-government to soothe mental hunger and changes to traditional food culture. [3,4,5] This status is not a traditional food recipe or food introduction method, but a new way of food-content. Currently, there is a lack of research that can provide a medium through which people can experience food directly from the satisfaction of surrogate and simple satisfaction of viewing food through social media. In addition, research on how to secure consumers through food-contents based on this has not been conducted.

In this paper, we propose an experiential application based on the behavior of food-content creators. This provides an application service for the experiences that influencers and creators want to see and eat directly. In addition, the taste and evaluation of food can be carried out through social media to satisfy consumers' desire to experience it in person as well as simply seeing and imagining it. In addition, the purpose of the process is to eliminate the complexity of the purchase process and the uncertainty of obtaining specific information from the consumer's point of view, and to simplify the process of purchasing food-content food through a simple process. It provides an application that provides a type of content that can be directly experienced by consumers through such food-content. The application proposed in this paper provides the following functions:

- The database will be established by collecting and analyzing information on food-contents, food-content viewers' appetite, and food-content creators' behavior.
- Application Manager acts as a viewer through mobile devices/webs and provides information about food to viewers.
- Interface design provides features such as search, banner, and quick delivery set in thumbnail format.
- Categories are provided by dividing them into food-contents, favorite creators, and food types.

This can satisfy the needs of consumers and subscribers who want to experience food as well as simply see and imagine through social media. This simplifies the process of purchasing food-content and increases the accuracy of content information. Accordingly, the application proposed in this paper implements a service in the form of content that consumers can directly experience through indirect experiences through food-content. Chapter 1 of this paper is an introduction, has research background, problem, service function, and strengths and weaknesses. Chapter 2 consists of related research, Chapter 3 proposes system, Chapter 4 applies application, and finally Chapter 5 consists of conclusions.

## **2. Related Work**

1-person media refers to personal sites such as blogs and personal homepages where individuals post texts and photos freely according to their interests and communicate with acquaintances [6]. Although the past single media was a space to communicate with acquaintances, the current one media is not just to communicate, but to communicate with a large number of people and to provide, acquire, and share information on various interests and tastes. In addition, through such a process, import activities are also carried out.

A particularly noteworthy phenomenon in the recent trend of influencer marketing is that influencers have begun to sell products directly through their social media accounts beyond the role of sharing content as an information source. In other words, the trend of influencers is expanding rapidly from marketing to distribution [7]. As the use of social media has increased, the types and contents of single media have also diversified.

YouTube is a single media among many social media. YouTube is a single media that allows users to create and share video contents. YouTube consists of a consumption structure that secures subscribers and generates revenue. Subscriptions are the concept of turning a customer into a subscriber through an iterative approach rather than being permanently owned. "Subscription" on YouTube goes beyond the meaning of existing subscriptions and means that creators upload new videos to YouTube and watch them regularly.

As Internet broadcasting content became popular in the late 2000s, a new broadcasting content, "Eating Food-Content," appeared. The main content of the Internet's single-person food-content is eating, and it

corresponds to 'food culture'. Food-content is a variety of content, and the type and amount of food handled by the food-content varies greatly, such as a broadcast where viewers eat the food they want, a broadcast filled with various types of food, and a broadcast that eats food that is generally difficult to access [8]. The desire that viewers can fulfill through watching these food-contents is first, how to make food or satisfy the viewer's information needs such as restaurant information [9]. Second, by providing visual and auditory stimuli of viewers in the food and cooking process, it is possible to provide surrogate food and drink to viewers [10]. Viewers are actively searching for content that is needed and suitable for them and subscribe to creators who are positioned in their minds

Subscribers sometimes feel satisfied and comforted by the content creator who eats food on their behalf [11]. When these viewers derive a creator who can satisfy their tastes and needs, they subscribe so that they can continue to contact them without trying to obtain or access information. Recently, consumers prefer to subscribe and use products and services on a regular basis, rather than owning goods. This suggests that YouTube is a representative subscription business model.

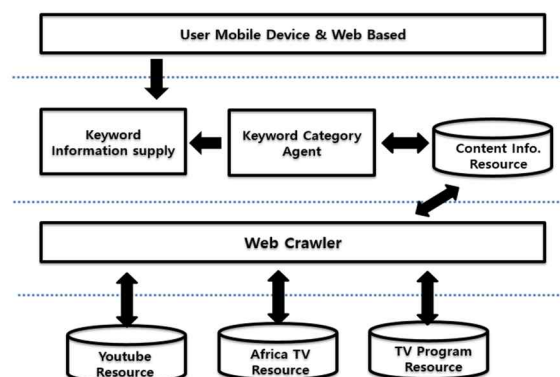
“Appetite” among the three major human needs, appetite, sleep, and sexual desire, is a desire to eat food in general because of feeling hungry. In addition, appetite is an instinct and libido that acts as a pressure on the mind to devise a solution to hunger by conveying the body condition of the stomach, which is on an empty stomach, to the mind as a stimulus of hunger [12]. However, if indiscriminate food intake continues due to appetite, it will harm health and lead to obesity, so diet is an essential element for modern people as well as beauty. According to the National Institute of Standards and Standards, the Korean National Language Dictionary defines diet as “it means to control food, lose weight, or eat a limited diet to improve health.”

In other words, it implies that eating a limited diet or adjusting food is necessary to lose weight. Many modern people practice exercise and diet to diet, but it is difficult to suppress the essential appetite. As a way to relieve the appetite that is difficult to suppress according to the psychological factors and the current situation of these modern people, the food-content, the “eating broadcast”, has gained popularity. They act to ingest various foods and help subscribers who watch it to control their appetite, and they also act as a medium to interact with new foods. Viewers experience surrogate satisfaction by watching a broadcast that eats the menu they want to eat or by watching people who eat their favorite food.

### 3. Proposal System

In this paper, we propose an experiential application that allows subscribers who want to eat the food to see the behavior of food-content creators to directly experience food and expand subscribers to consumers. [Figure 2] is the proposed system configuration and applied the keyword category method.

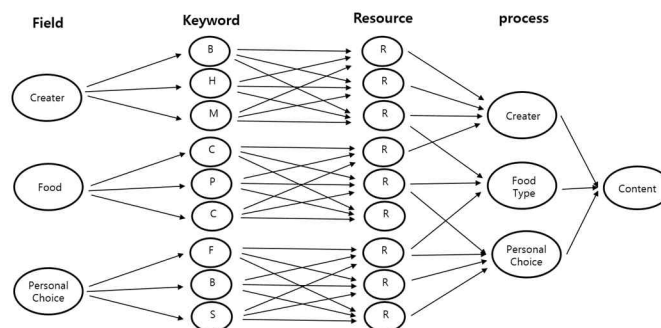
The system consists of three layers. Application Layer consists of User/Mobile, Web/app, and System Layer consists of Keyword Information supply, Keyword Category, and Web Crawling. The Data Resource Layer consists of Youtube Resource, Africa TV Resource, and TV Program Resource. The following is a description of the components of each layer.



**Figure1. Development system of Keyword Category**

- Users/mobile, web/app: This layer refers to users who use applications in the output process of this system. The web, app, serves as a medium for users to use the application.
- Keyword information: Keyword information is a role that provides information that is searched based on keyword categories.
- Keyword category: Keyword category: Keyword concept network searches related keywords in queries entered by users and statistically analyzes keyword frequency among keywords.
- Data Resource: Data Resource is a device that stores data collected through Crawler.
- Web crawlers: Web crawlers are devices that collect information through YouTube resources, African TV resources, and TV program resources.

Programs that broadcast food-content, such as YouTube and African TV, collect data needed for the source and composition of food through web crawling. Store the collected data in a data resource and search the keyword category for information about the food in that content. Combine this into the ontology tag-based net and provide derived keyword information via web/app, user/mobile.



**Figure 2. Ontology Tag-based Concept Net**

**Keyword Concept Net:** The keyword concept network extracts the keyword for the retrieved result and analyzes the frequency between keywords statistically by retrieving the items including the relevant keyword on the basis of a user-input query. In order to meet the need of extracting a user-input keyword and the related keywords by analyzing the keywords which are included, together with a user-input query, the analysis process should be as follows: First, a user keyword is set as  $uK$ ; the Profile having  $uK$  is set as  $u$ , and the number of keywords each Profile  $p(i=1,2,3,\dots,n)$  has is set as  $n(pKey)$ . The number of all keywords becomes the sum of the number of keywords in each Profile. To organize this, it is the same as in expression (1)

$$\sum_i^n n(pKey)_i \quad (1)$$

In addition, the keywords included together with  $uK$  are the association keywords. This keyword is set as  $uK$ , and the number of the  $i^{th}$  keywords which have an association with  $uK$  is defined as  $n(aK)_i$ . Through this, the frequency number of the association keywords ( $KF_i : i^{th}$  Key Frequency) is organized by expression (2).

$$KF_i = \frac{n(aK)_i}{\sum_i^n n(pKey)_i} \quad (2)$$

When the number of Profile including the  $i^{th}$  association keyword is set as  $n(PaK_i)$ , and the number of Profile having  $uK$  is set as  $nF$ , the inverse paper frequency of Profile included with the  $i^{th}$  association keyword is the

same as in expression(3).

$$IPF_i = \log \frac{nP}{n(PaK_i)} \quad (3)$$

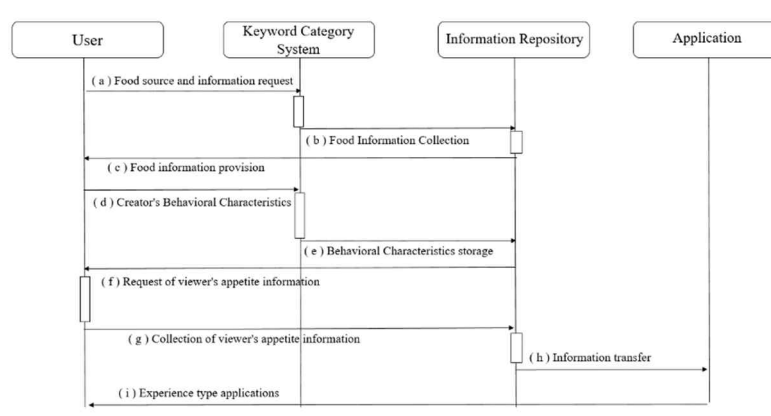
By organizing this, the association weight ( $Aw_i$ ) of the  $i^{th}$  association keyword is organized as expression (4).

$$Aw_i = KF_i \times IPF_i \quad (4)$$

Through the analysis of the weight on the keywords possessed by Profiles including  $uK$  based on the expression organized like so, it is possible to give the ranking of  $aK$  according to the priority order in high association weight with  $uK$ , and to improve the accuracy of retrieval by providing it to a user.

Ontology-based is the pre-extracting and mapping of relevant information by food-content experts among numerous data. The following is an overview of the ontology-based system configuration.

- Field: All the data required to develop the application, such as food-contents, food, and preferred content, are designated in a large frame.
- Keyword: Specify keywords for the classification that are associated with each field and represent each discipline.
- Resources: The resources here, which contain a large amount of information derived from keywords, are information data that can be provided directly to users in the application.

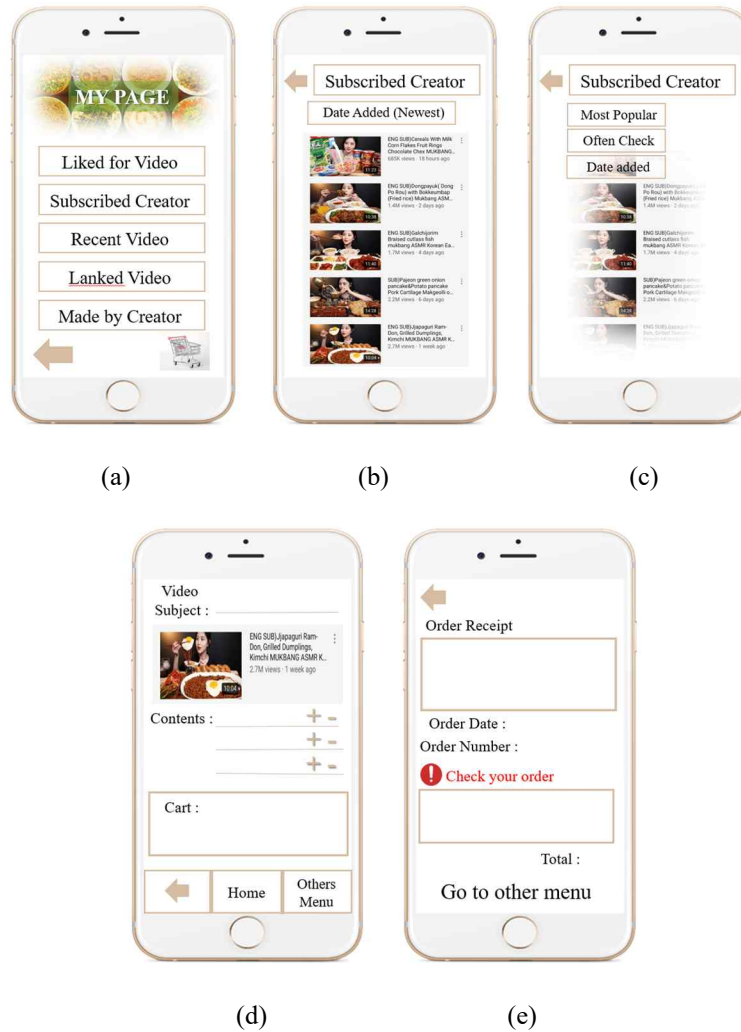


**Figure 3. Proposal system sequence**

Figure 3 shows the process in which the user requests information and information about the processes to be handled with the food sources. Contact the user (request) in Figure 3 for food information (a) in the keyword category. The keyword category system collects the requested information and the collected information is stored in the information store (b). The information store provides users with stored food information (c). Users request information about the author's behavioral characteristics to the keyword category, and the keyword category collects (d) and stores information about the food creator's behavioral characteristics in the information store (e). The information store requests the user's appetite information (f), and the user collects it using a questionnaire and stores it in the information store (g). The information store enters information into the application(h) and the application provides the user with the actual application service(i).

#### 4. Application Interface

The above figure is the interface screen of the application proposed in this paper. The interface is divided into a search screen and an order screen. The first screen of the search screen is the My Page screen. User-linked videos, subscribed creators, recently watched videos, creator-made foods, and lastly popular videos are linked to the account of each food-content application to store data.



**Figure 4. Interface of the Application**

It maps the information collected from Keyword Category Concept Net and stores the highly relevant information and places it on the banner (a). The following is the basic image information screen that appears when you click the banner on (a). The title is presented simultaneously with the thumbnail of the video (b). Based on the Ontology Tag-based Net, highly relevant information is uploaded, so you can adjust the order of the videos in the most popular order, the most recently viewed order, and the oldest order on the basic information screen of the video (c). Next is the order screen. On the first screen of the order screen, a video thumbnail and food information of the corresponding video are presented (d). The last screen is the user's order and the order confirmation and payment amount are specified (e).

## 5. Conclusion

In this paper, an experience application based on the behavior of food-content creators was proposed. The proposed system retrieval by using the Keyword Category Concept Net, including the keyword corresponding to the query that the user entered. Then, related keywords were extracted according to the search results, and the search frequency of the keywords was analyzed using statistical methods. This proposed system is an ontology tag-based concept network. Among many data, experts in food-contents have mapped food-contents information with high relevance to increase the relevance of food-contents information. The services provided

by the proposed system in this paper are as follows. First, the subscriber's direct experience is possible by collecting food information directly within the content, as well as indirect and vicarious satisfaction through viewing food-contents. Second, it is possible to directly generate profits for restaurant companies of products broadcast within food-contents. You can extend your subscriber base to the consumer class, not just to have content subscribers. Until now, it has been possible to generate profits by watching 1-person media food-contents of subscribers. And there were subscribers who were satisfied with proxy through viewing food-Expecontents. Through the application proposed in this paper, the subscribers of contents and influencers can be expanded to consumers and the indirect experiences of viewers can be expanded to direct experiences.

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