“Enaknyoo!”: A Web Based Application for Food Lover Guide to Indonesian Culinary

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Abstract- Indonesia is a large archipelago with prodigious kinds of foods in various tribes and regions. Each of those foods has their own unique special sensation which is so appealing to food lovers. However, there are still so many people do not know yet about special foods from various region in Indonesia. The main problem is simply the lack of information regarding Indonesian foods. Therefore, there is a necessity of accurate information so that food lovers can easily obtain knowledge about foods in certain area, along with its nutritional information and allergen alert. This paper proposes a web based application which integrated with Google Maps API to ease its users in obtaining culinary information in each area. This application can facilitate domestic and foreign tourists to discover locality special meals. The application also includes figures, nutritional information, and people's reviews that can give a great support in introducing special foods from Indonesia, as well as other countries.

Keywords- Food Lover, Food Technology, Indonesian culinary, Web Application, Wiki

I. INTRODUCTION

A. Indonesian Culinary

Comprising 17,500 islands, Indonesia is the world's largest archipelagic state. Besides that, with a population of over 200 million, it is the world's fourth most populous country. Indonesia has many distinct ethnic (over 300 ethnic groups), linguistic, and religious groups (Network, 2007). One thing that can represent ethnic’s characteristics is the food, and there are thousand kinds of food which enrich diversity of Indonesian culinary.

However, most of Indonesian people are lack of knowledge about their own culinary. Perhaps they know about their own ethnic’s food but they not really recognize foods from other ethnic groups. It is shown that many sites on the internet that discuss about Indonesian culinary only focused on foods from one or two ethnics. This matter is actually quite important because food tradition is also a part of cultural diversity and heritage that need to be preserved. While on the other side, there is also a necessity to promote Indonesian culinary to the international communities, specifically for food lovers.

Based on the elaborated backgrounds, it sought ideas on how to introduce all the cuisines of Indonesia via internet. Not only presenting about the kind of Indonesian foods, but there are also nutritional information and allergen alert arising from these foods, hence make “Enaknyoo!” a sophisticated food information source which provides scientific way to promote Indonesian culinary.
**B. Web-Based Application**

With the emerging vast development of computer and internet, people nowadays are accustomed to utilize these technologies because of the massive amount of information it contains. Internet has become a popular trend for people in terms of searching quick information. This is including about the news, health, education, technology, travel, and also about food.

The interesting thing in the internet is that it offers more point of views on the information, which can provide the audiences more options, and consideration before taking actions or decisions. For example, many websites now provide fields for public to post consumer's comments or feedback, while psychologically, people tends to believe other customer's testimony that posted online rather than the company's advertising.

From the business owner side, many developers now also provide various services to support online applications or websites, such as embedded application programming interfaces (API). Those features can support and increase the interest and clarity values of information that contained in the website. Besides, with the availability of free sources and templates, developing website is now become an easy work.

It is able to be concluded that online website is the solution if we want to publish or market our business or product, i.e. in this case, foods. This solution is supported by two main reasons; number one, because that is the people's trend, and of course number two, because it's not difficult to develop. However, there should be appealing instances that abide with the website to make it more riveting than any other food website. Whether it comes from the information it contains or the features to present the information.

**II. METHODS**

“Enaknyoo!” development process involves two major project component; firstly, the food and health information as the knowledge resource acquisition problem, and secondly, the website component as the knowledge representation problem. The methods on how the problems are solved are elaborated in the next section.

**A. Knowledge Acquisition**

Data of all Indonesian food and recipe obtained from websites and mass media. Nutrient values for multi-component foods can be calculated by summing nutrients of all ingredients and their amounts contained in the food. The most frequently used methods for calculation of nutrients from recipes are the Yield Factor Method and the Retention Factor Method. Schakel et al. (1997) provide the following detailed procedure:

1. Select or develop an appropriate recipe.
2. Collect weight and nutrient content data for each ingredient.
3. Correct ingredient nutrient levels for weight of edible portions where appropriate.
4. Correct ingredients for effects of cooking: If data for cooked ingredients are available, use yield factors to adjust from raw to cooked weights; if data for cooked ingredients are not available, use data for uncooked ingredients, applying yield factors to adjust for weight changes, and retention factors for nutrient losses or gains during cooking.
5. Sum weights of ingredients to get weight of recipe.
6. Sum nutrient values of ingredients to obtain nutrient value of recipe.
7. Adjust recipe weight and nutrient levels to reflect changes in fat/water when whole mixture is cooked; make any additional refuse adjustments; apply retention factors if available for whole recipe.
(8) Determine the quantity of prepared food produced by the recipe.

(9) Determine the final values per weight (e.g., per 100 g), volume (e.g., per cup), or serving portions as desired.

**B. Website Development for “Enaknyoo!”**

The process in web development can be divided into several life cycle phases, just like typical software development phases. This also applies to “Enaknyoo!” The phases including: analysis, specification, design & development, content writing, coding, testing, promotion, and maintenance. After the elaboration regarding to the information that going to be put inside the website, the requirements for the website are actually able to be concluded.

There are several options of website types that may suit to “Enaknyoo!” requirements, e.g. question-answer site, blog, community site, forum site, review site, social networking site, or wiki site. However, since “Enaknyoo!” require collaborative adding and updating from its contributors, discussion board, easy navigation, and most of all: scientific style of presenting information; a wiki is considered as the fittest type of website for “Enaknyoo!”

Wiki is a web application where its content can be easily updated by its contributors. The difference between wikis and blogs or other content management systems, is that wikis are inherently amorphous. It establishes a connection between pages based on the content relationships. The architecture of wiki is very suitable for knowledge management.

Overall, a wiki site is very suitable for “Enaknyoo!” For the developer, wiki provides an easy development, easy implementation, and easy maintenance content management; while for the user, wiki provides an easy navigation, and easy understanding knowledge source.

To complete the website and enhance its ability, “Enaknyoo!” also equipped with several embedded application such as Google Map to support its explanation regarding locations and directions, comments & discussion board to receive inputs and disputes from audiences, share buttons, and other external resources section.

**III. RESULT & DISCUSSION**

In this chapter, the result of “Enaknyoo!” development is elaborated and discussed. There are several points which describe the outputs of this project regarding food information as the website resources, and content management.

**A. Website Architecture**

Before the elaboration on how the contribution and moderation works, the website architecture needs to be cleared out first.

“Enaknyoo!” site is developed based on MediaWiki, an open source wiki content management system, and officially used by Wikimedia Foundation websites such as Wikipedia.org, Wikinews.org etc. MediaWiki offers a powerful, scalable, and feature-rich environment for wiki development. The architecture of “Enaknyoo” can be described with a conceptual web site diagram as shown in figure 1.

So hierarchically, there are four main web pages under the index; articles, account, help, and about. The articles consist of wiki pages, along with their attributes such as Google Map, share buttons, comment board, and external links section. Wiki provides discussion board feature that can be used to post questions for any reader’s disputes. Wiki also allows these pages to be edited by contributors. This is done in the Edit section.
Practically, to ease user navigation to articles, “Enaknyoo!” also provide index of food list, either alphabetically, or location-based, or food-type based. User also can do advanced search, by setting the search parameters such as food type, location, allergen type, etc.

**B. Contribution**

Knowledge acquisition phase for “Enaknyoo!” can be described as a standard method on how to get nutritional values of foods, as well as other information. The next problem is how to apply the method for all food in the Indonesian culinary list. This is a massive undertaking.

It is concluded that, there is no way to complete knowledge acquisition phase (in short period of time) to get all information about all Indonesian foods. So, the best way to satisfy the requirements is to obtain the information gradually; with support from contributors.

Contribution in this case, is defined as information about food (whether nutritional information, ingredients, allergen alert, price, or locations) or even comments, customer opinions and feedbacks, testimonies, and any other inputs that may support and improve the comprehensiveness and quality of “Enaknyoo!” wiki.

**C. Administration & Moderation**

Content management tasks in “Enaknyoo!” may divided into several steps.

Firstly is the information presentation, by putting all the obtained information from knowledge acquisition phase to “Enaknyoo!” web pages, and then arrange them based on their appropriate corresponding location and setting for wiki pages architecture.

Secondly, is the moderation for every contribution that comes into “Enaknyoo!” This is including official contributions, public contributions, discussion and comments.

Since the progress of adding the knowledge base of “Enaknyoo!” is done gradually and continuously, the administration and moderation for the wiki content also needs to be done continuously.

**IV. CONCLUSIONS**

The development of “Enaknyoo!” is done based on some motivation. First is to promote Indonesian culinary to wider audiences and food lovers. “Enaknyoo!” uses a different way in presenting the information, by provides the user with scientific information on food nutrition. Secondly is to help food lovers to get comprehensive information about Indonesian food, especially the location. This is done by establish “Enaknyoo!” on an appropriate site architecture: wiki, plus several features to support easy navigation and access.

To complete the knowledge base of “Enaknyoo!” on Indonesian culinary, a gradual and continuous style of data development is chosen. Contributors are highly needed to support the project development, and on the other hand, moderation also needed to control and manage the contributions.
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REFERENCES


