

Personalized Web-based Recipe Repository

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Abstract : A large number of dedicated websites about cooking have popped up on the Internet during the past few years, allowing people to access thousands of recipes from all over the world. Choosing the best website is challenging due to the abundance of the so-called cooking blogs. In response to the challenge, a Personalized Web-Based Recipe Repository system has been developed to manage recipes in an innovative way. Users not only can store and find new recipes, but can also save their personal recipes, as well as the ability to modify or remove their own recipes at any time. JavaScript, PHP, CSS and MySQL were used in the construction of the website and followed the standard development methodology which consists of phases such as planning, requirement gathering, design, development and evaluation which take nine months to complete. The usability test was carried out with 30 respondents. The results revealed the score above 90 percent for all the tested items which include design and layout, simplicity, effectiveness, learnability and satisfaction. The website has several advantages, such as making it easier and more flexible for users to look for different recipes, which saves them time from having to go through numerous food blogs. Additionally, it can also serve as a repository for the user's own recipes and suggest similar ones that they might like. At the same time, it gives the user the desired flexibility and a more engaging and exciting manner of searching, saving, modifying, and removing recipes, eliciting a multi-sensory experience for the user. The inclusion of a recommendation function provides an entertaining approach for users to look for recipes.

Keywords: Recipe Repository, Cooking Blog, Personalized Web-based Recipe Repository

1. Introduction

Living in the age of the internet means that every day, vast amounts of data are being uploaded to the internet. Currently, tenth of thousands websites are available on the internet that supply various forms of information for filtering purposes, such as photographs, texts, and videos. Food lovers employ various methods to keep their preferred recipes for future use, ranging from traditional recipe book to cooking blogs. The sheer volume of data posted online by recipe bloggers worldwide is overwhelming. It takes some time for the food lovers to find recipes that they will enjoy in the sea of sub-par websites

and cookbooks [1]. It creates hassle as they need to go from one site to another, looking for their preferred recipe.

There are many personal cooking blogs created by individuals to pool the recipes such as *cikmatahariku* [2], *masammanis* [3] and *GoodyFoodies* [4]. Mainly, the creation of these blogs is motivated by the individual's passion in cooking. As for the first blog, *masammanis* is a blog run by housewives interested in cooking, interior design, and photography. The blog is used by its creator as a platform to express family's favourite recipes, hobbies, and life stories. The blog, however, consists only recipes of the Malaysian cuisine. The *cikmatahariku* blog is also managed by a housewife and served as a platform for sharing recipes and stories about life. Compared to *masammanis*, *cikmatahari* blog has an additional category which is gardening tips. The blog focuses on cake recipes and traditional Malay cuisines.

Nowadays, there is a growing interest in using repository for keeping the data. GitHub is one of the world's most popular software development platforms that provide Git repository hosting service. The primary advantage is it consolidates the data landscape into a single location [5]. Recipe repositories such as in [6,7] have become popular nowadays as abundance of recipes are now available in digital form. Yet, not everyone has the skill to create his or her own repository to keep and manage the recipes.

The Personalized Recipe Repository (PRR) discussed in this paper was created for food lovers who have difficulty storing their own recipes and searching for recipes from other bloggers. It is an innovative website that places a focus not only on the capability to retain any personal recipe but also on the capability to update or remove own recipes at any. The main idea behind this prototype is that to give the user the needed flexibility as well as a more engaging and interesting way of searching, saving, altering, and eliminating recipes, prompting a multi-sensory experience for the user. The integration of a recommendation tool makes searching for recipes more enjoyable for users.

2. Materials and Methods

Various tools were used to develop the PRR. CSS and JavaScript are the first tools used in web-based construction to control the look and feel of the site. Second, HTML is utilised as the standard markup language for web-based documents. Next, php and MySQL are the components used by the developer to store data in a database and subsequently by the system to establish a connection. cPanel, on the other hand, serves as a conduit for technical commands to the web server's website support applications. Web platform is more cost-effective and the developer benefits from a great amount of freedom in terms of when, where and how the work is done.

The prototyping approach utilized in this project consists of five phases as shown in **Figure 1**. This methodological model is essential for controlling the entire management process by means of efficient decision-making and problem-solving, as well as for assisting in determining what steps to take in order to supply and implement the task within the allotted time frame. Because it takes nine months to perform all of the tasks included in this model, i.e., panning, requirement gathering, design, development, and evaluation, it is considered an appropriate candidate to be used as the model.

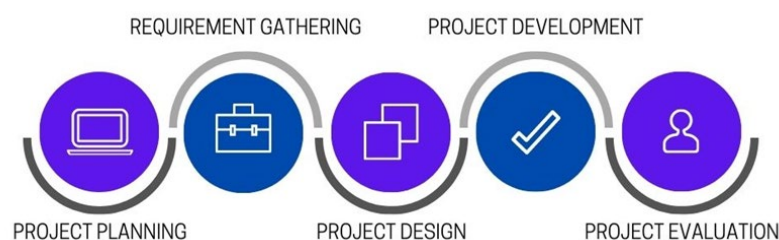


Figure 1: Prototyping methodology model

3. Results and Discussion

The interface of the PRR prototype are as shown in **Figure 2**. The login page show in **Figure 2(a)** allows users to sign up to create an account and login to start populating their repository with their preferred recipes. The current version of PRR allows users to classify their recipes into 6 different cuisines, as shown in **Figure 2(b)**. In addition, users can add, edit and delete the recipes. **Figure 2(c)** shows one example of the populated repository consisting of a few recipes tagged as Japanese cuisines. Click on the recipe then the details of the recipe will be displayed, as show in **Figure 2(d)**.

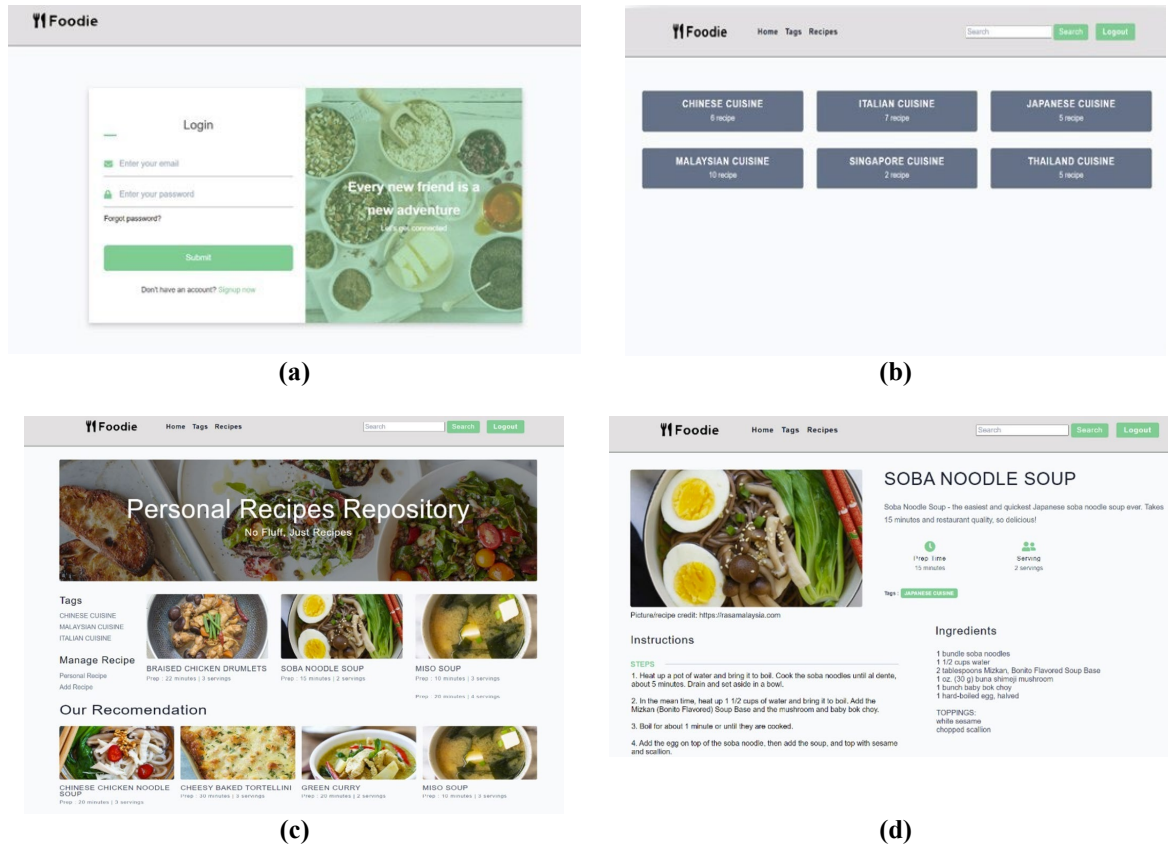


Figure 2: Interface of PRR

The prototype of PRR were evaluated by 30 respondents which include 12 males and 18 females. The majority of the respondents are 22 years old. The questionnaire consists of 6 dimensions, i.e., design and layout, simplicity, usefulness, effectiveness, learnability and satisfaction. The findings revealed an average score greater than 4.5, which is equivalent to more than 90% of the possible points on a scale of 1-5 as most out of 30 respondents answered “Agree” and “Strongly Agree” to the items they evaluated. **Figure 3** shows the average score of the usability evaluation that has been conducted.

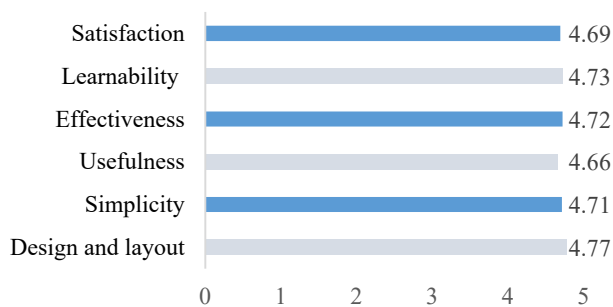


Figure 3: Usability Evaluation

4. Conclusion

A Personalized Recipe Repository is prototype of a web-based system which was developed to aid users in storing their own personal recipes in one place. The system assists individuals in searching for numerous recipes in a more flexible and quick manner, reducing the time spent scouring multiple cooking blogs. The performance of the developed prototype has been successfully proven with a list of recipes and a recommendation section. Due to the time constraint, only basic features such as add, edit and delete the recipes were incorporated into the current version of PRR. In the future, PRR need to be improved by adding more features such as save/bookmark recipes, calorie information for each dish as well as halal/haram tag information for all recipes stored in it.

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