A Web-Based Comparative Analysis Decision Support System: Wedding Arch

L. Y. Por[1], R. F. Boey[2], T. F. Ang[3] and C. S. Liew[4]
Faculty of Computer Science and Information Technology,
University of Malaya,
50603, Kuala Lumpur,
MALAYSIA

Abstract: A long list of preparations usually awaits soon-to-be brides and grooms before their auspicious wedding ceremony. The most common hassles the brides and grooms face includes registration of marriage, wedding photographs, location for the occasion, dinner ceremony, guest lists, seat placements and the list goes on. Without guidance and recommendations, these brides and grooms face the unpleasantness of hunting for the suitable bridal products and services. The ideal world for any couple is to be able to retrieve information on the available products and services, such as types of services and price lists, in the shortest possible time. However, the ideal world is a very lowly part of reality. A web based wedding planner that lessens the hassles and progressively shortened the time consuming process is a step towards the ideal world. It would be desirable if the brides and grooms are able to acquire the information online or within the same location and subscribe to a service that is able to assist them in the preparations. Wedding Arch is a web based comparative analysis decision support system that assists the brides and grooms in the process of planning their wedding.

Key-Words: Wedding arch, Wedding planner, Decision support system (DSS), Budget planning and Web-based.

1 Introduction

In the coming age of the twenty-first century, the bridal products and services industry has a very high chance of turning into one of the generating service industries in Malaysia. Not only will the service be provided to soon-to-be brides and grooms, it is noted that there is a rising demand for customers renewing wedding vows. With the exquisite sceneries in the country, such as the wonderful beaches, Malaysia can be promoted to be one of the major wedding destinations. However, before the country is able to reach that status, it is crucial to gather all the information in an easy to find one-stop centre.

The Internet plays an important role in this service industry. Thus, is will be a wise choice to make the information centre easily available via the cyberspace. In fact, a web based wedding planner can be easily acquired from the information superhighway. Unfortunately, these web based wedding planners are definitely not familiar to the Malaysian cultures. In reality, most of the planners do not promote products and services that can be obtained in the country.

Usually, potential customers have to price hunt from one bridal provider to another. A better way for these potential customers is to wait until the next bridal expo to search for the most suitable products and services. As such, the providers are losing out potential clients in the long run. These providers are limited to printed materials, recommendations and bridal fair to attract customers to their services.

Currently, only a handful of Malaysian web based planners are available. And from those limited planners, most of the websites provides only static information with very limited interactivity. In some cases, the information in the websites is not updated for the convenience of users. While there are better web based planners, most websites provide only simple directory of the products and services without any direct communication with the providers. Further more, the information are scattered in many places without much effort for any organization. Likewise, if the websites are not updated frequently, the advertisements and directory

posted may not reflect the current promotions and contact numbers of the providers.

Consider a scenario where a couple is trying to search for information to renew their wedding vows after a wonderful twenty-five-year marriage. The information they need includes advices on the wedding photographs and dinner ceremony. Plus, they are on a budget. The couple may want to search for additional services available if it does not exceed their budget.

In this scenario, it would be agreeable if the couple is able to utilize a decision support system (DSS) that can assist them in making decisions for their wedding renewal ceremony. A decision support system is a class of computer based information system or knowledge based system that, in very different manner, supports decision making activities [1].

This paper discusses the work on developing a Malaysian web based DSS wedding planner that will assist couples in making decisions for their wedding preparations and recommending services based on their preferences and budget. Besides, the web based wedding planner will also be an electronic commerce portal for providers and vendors to advertise their products and services to potential customers.

2 Planner Design

The wedding planner is a web based system emphasizing on the products and services that can easily be obtained in Malaysia. The system can be utilized by both potential customers and vendors or providers of the bridal products and services. Administrators of the system will be maintaining the web based application in terms of updating the information and keep track of both members and the vendors.

As mentioned, users will have to register as members to fully utilize the web based system. Non members are only able to partially use the application. The basic function of the non member module is the registration, searching and viewing functions. The searching and viewing function includes the process of searching and viewing of advertisements from the various registered vendors.
Vendor module includes the registration, login, posting and updating advertisements. Similarly to the member module, vendors will have to register with the system before they are allowed to post or update any advertisements.

As for the member modules, all the basic non member functions are included with a little extra as the incentives in the customer oriented factor in electronic commerce. The extras include the budget planner, which will be discussed further in the paper, and promotions for the members. The promotions that are offered are part of the product bundling strategies which ideally combines products and services from various vendors into a single package and handled by the system administrators. Bundling is a very popular sales-promotion tool, in which a critical issue is to decide what products should be sold together in order to improve sales [2]. Bundling of the products and services from different vendors can hardly be found as most vendors preferred to work independently. The strategy opted by the web based application can be quite a catch for potential customers.

Besides that, members are allowed to communicate directly with the administrators and registered vendors. The system is committed to pass on messages as the way of communication from the members to the vendors, vice versa and from the members to the administrators, also vice versa. Thus, members can opt to use the messaging services provided by the web based application to interact with the desired vendors or contact the vendors by their own means of communication.

Before any members are allowed to use the budget planning system, also the DSS system, they are required to login to the wedding planner. Fig. 1 shows the user interface of the system whereby users are required to login to the system before they are able to fully utilize the web based application.

The first part of the budget planning is the interaction between the user and the system. The user is required to answer a few questions to obtain the requirements for the wedding preparations. The user will need to provide his/her budget for the ceremony based on the four major requirements in a wedding; the wedding photographs, dinner ceremony, honeymoon and wedding cake.

Fig. 1: The User Interface

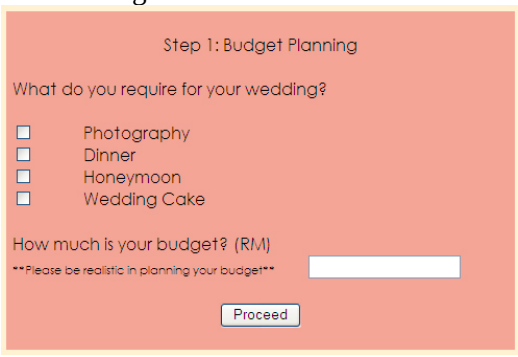

Fig. 2: The Budget Planning System

The second set of questions for the user is based on his/her answer from step one, as shown in Fig. 2. The next step is for the user to provide the ranking for each category that are important in the user's wedding ceremony, shown in Fig. 3. The decision making results will be based on the answers given during the questionnaire. The planner stores the information provided for future referencing from the users.

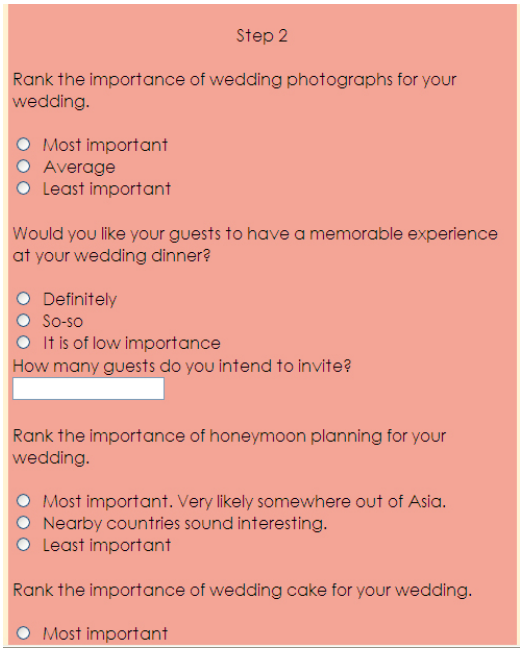

Fig. 3: User Interaction for the System

Beside the functional design, the wedding planner also taking into account of poor Human Computer Interaction (HCI) usually causes human errors in the context of embedded systems [3]. Therefore, HCI is very important to the user interface design as it encourages the operator (user) to perform correctly and protect the system from common operator errors. Therefore, simple and natural dialog, speak user's language, minimize user's memory load, consistency, feedback, clearly marked exits, shortcuts, precise and constructive error message, prevent errors, help and documentation [4] have been prepared.

3 Planner's Algorithm

The planner's decision system combines both rule based technique and the deduction technique. The system acquires user preferences and budget from the questionnaires. Firstly, a list of the vendors for each category of photography, dinner ceremony, honeymoon and wedding cakes is prepared. Price ranges for each category are acquired based on the preferences and budget provided. The information gathered are then combined and calculated to produce the total cost. Any of the products or services where the cost is greater than the budget is eliminated. So does any package combinations where the cost is greater than the budget. The process is repeated for all the combinations and categories while retaining only those that meet the user requirements.

After the searching and calculations process is completed, the system continues to display prices based on user preferences according to the categories. The system will also suggest combination packages for the users based on his/her budget. There is a possibility that the system returns more than one combination packages. In this scenario, the system will pick the first three packages and display them. The algorithm is shown in Fig. 4.

```
Start
    Get user preferences
    Get user's budget
    Retrieve list of vendors for
      photography, dinner ceremony,
      honeymoon and wedding cake
    For each category
        Get price ranges based on budget
          and preference
        Calculate total cost
        Eliminate products/services with
          cost greater than budget
        Eliminate combinations with cost
          greater than budget
    End for
    Display prices based on preferences
      according to categories
    Display first three combination
      packages

    Store preferences and budget
    If results not suitable
        Repeat process
End
```

Fig. 4: The Algorithm for the Planner

4 Preliminary Results

Several experiments were conducted to try out the functionalities and effectiveness of the web based wedding planner. The tests were conducted on the functionality of the budget planning system. The input for the user preferences was photography and dinner ceremony. The budget for the test was RM 10 000. The photography category was ranked the most important while the dinner ceremony was ranked average and must be able to accommodate 200 guests.

Fig. 5: Results according to preferences

Fig. 5 shows the results of the algorithm based on the user preferences while Fig. 6 depicts the results of combination packages based on the user's budget.

The system provides a hyperlink to the selected advertisements for both the results. The links are clickable from the advertisement titles which allow users to view the detailed advertisements from the various vendors. If the packages displayed are not suitable for the users, they can repeat the whole process of planning the budget by clicking on the "Change Plan" link at the bottom of the page.

Fig. 6: Results of combination packages according to budget

5 Conclusions and Future Work

This paper presents a web based wedding planner that can be promoted as a one-stop centre for bridal information, as well as a portal for electronic commerce for various bridal products and services providers in trading their expertise. The system allows users, vendors and administrators to communicate directly via the messaging services. Besides, the system also practices the bundling strategies to enhance sales and promotes the products and services by various vendors.

Several enhancements can be added to improvise the system. Such enhancements includes guest lists, seat arrangements for the dinner ceremony, cultural weddings, credit card payments and most importantly a budget planner that can be built

dynamically and flexible to add categories in the future.

References:

[1]http://en.wikipedia.org/wiki/Decision_support_system.

[2] Tzyy-Ching Yanga, and Hsiangchu, 2006, Laib Comparison of product bundling strategies on different online shopping behaviors, Electronic Commerce Research and Applications, Vol 5, Issue 4 , pp. 295-304.

[3] Shelton C. P., 1999. Human Interface / Human Error. [online]. Available from: http://www.ece.cmu.edu/~koopman/des_s99/human/ [Accessed 15 August 2005]

[4] Wharton, C., Rieman, J., Lewis, C., Polson, P., 1994. Usability Inspection Methods. New York: John Wiley & Sons, Inc.