

## **Web-Based Tourism Decision Support Information System**

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### **Abstract**

*Tourism is one of the potential resources that can be developed by each region. As one of the resources that generate foreign exchange for the country, this requires optimization in the provision of services to further support the potential of tourist areas to be visited. When this study was conducted, tourism in bangkok has used internet media in promotion. However, the system used is still not perfect. This problem comes from poor tourism data management and still not maximal some facilities in the running system. With some of these problems, it is time for the old system to be fixed. Not only to improve it, the author suggested to create some new features such as Simulation features and Decision Support features. In this study, the research method used is descriptive and action research, while the system approach used is structured with the method of system development using waterfall model. The tools used are context Diagram, data Flow Diagram (DFD), Data Dictionary, and Entity Relationship Diagram (ERD). Database design tools in the development of this information system is the normalization and table relation. The programming language used is PHP, with Adobe Dreamwaver CS5 tools. For the database, This Information System uses MySQL and for decision making, this information system uses the AHP (Analitical Hierarchy Process) method with the creation of this information system, the author hopes that the information system that the author makes in the future can improve the quality of service for tourists and can help top tourism management in Bangkok to make decisions.*

**Keywords:** *Information Systems, Decision Support Systems, Simulation, AHP (Analitical Hierarchy Process), Tourism.*

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## **INTRODUCTION**

Tourism is one of the potential resources that can be developed by each region, as one of the resources that generate foreign exchange for the country. This requires optimization in the provision of services to further support the potential of tourist areas to be visited. Optimization of this potential is based on that tourism is a sector that emphasizes more on a provision of services by optimizing the potential of tourist areas. Supporting factors to facilitate travel in the city of bangkok, thailand is the presence of adequate transportation and accommodation, such as the availability of web Services about tourism objects in Bangkok.

However, the system used is still not perfect. This problem comes from poor tourism data management and still not maximal some facilities in the running system. With some of these problems, it is time for the old system to be fixed. Not only to improve it, the author suggested to create some new features such as Simulation features and Decision Support features. In this study, the research method used is descriptive and action research, while the system approach used is structured with the method of system development using waterfall model. The tools used are context Diagram, data Flow Diagram (DFD), Data Dictionary, and Entity Relationship Diagram (ERD). Database design tools in the development of this information system is normalization and table relations. The programming language used is PHP, with Adobe Dreamwaver CS5 tools. For the database, This Information System uses MySQL and for decision making, this information system uses the AHP (Analitical Hierarchy

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Along with these objectives, it is necessary an information system and technological facilities as a liaison between tourists and the tourism office. The development of technology as a promotional tool is one of the best alternatives to promote tourism. Therefore, currently the tourism office in bangkok has a site that is used as a means of promotion and introduction of Tourism for tourists, both local and domestic. This is a breath of fresh air for the development of Tourism Promotion in Bangkok. But on the way, the author found some weaknesses of the site owned. Among them are the following. First, is the site that became a means of promotion pariwisata currently still using less effective technology. The existing site is still a portal sistus where tourism data displayed on the site is still not integrated and well-systemed. Second, with not integrated and well-structured tourism data system, then it resulted in less good important features of the site. One of the features that are the main concern of researchers is the feature of displaying tourism, both derived from search engine features and displaying tourism data directly. In terms of search engine features, weaknesses occur in addition to the lack of data management, existing weaknesses occur also because the variables used to search for tourism is still very simple.

the author proposes the construction of an information system that has a better ability, which is able to provide some decisions and recommendations for tourists who are looking for tourist attractions. Tourism decision support information system is the answer to all existing problems.

Not only provide decision support for tourists, later all the information used to provide information for tourists is expected to also be able to be a useful information for the Tourism Office itself. Collecting data with certain variables is the main purpose of making this information system.

## **RESEARCH METHODS**

The method used by the author in collecting data in this study is the descriptive method to make a systematic, factual and accurate picture of the facts and properties of a particular research object.

System development methods are methods, procedures, concepts of work, rules for developing a system that will be used as guidelines for how and what to do during this development. The system development method consists of a methodology oriented to processes, data and objects.

The method of system development used by the author in this study is to use the SDLC methodology waterfall model or waterfall.

The steps of the WaterFall can be explained as follows:

1. Requirements analysis and definition is the stage of collecting the data needed in full and then analyzed to define the needs that will be met by the program to be built.
2. System and software design is the design stage of the program to be created, after the required data has been completed and is complete.
3. Implementation and unit testing is the stage of translating the design of the program into code using a programming language that has been determined, the program is built directly tested in units, whether it works well.

4. Integration and system testing is the unification stage of the program units and then tested as a whole.
5. Operation and maintenance is the stage of operation and maintenance of the Environment program.

## **RESULTS AND DISCUSSION**

### **Implementation**

In building this information system the author uses XAMPP 1.8.3 as web server software, PHP version 4 as developer software, Google Chrome as a web browser, and MySQL is used as a database creation software (database). This information system has been implemented with the domain name [spk.dewanrahadyan.com](http://spk.dewanrahadyan.com)

Here are some implementation limitations of this web-based tourism decision support information system :

- 1) tourism that will be displayed and tested the level of proficiency in this information system focuses on superior tourism in Bangkok..
- 2) for the simulation of Tourism recommendations, the parameters used for the search are the amount of expenses owned, the type of Tourism and the location. For this type of tourism, there are three options, namely Nature, Culture and special interests. The three parameters are taken based on the assumption that the choice of Nature will bring results to tourism with the type of nature, the choice of Culture will bring results to the type of cultural tourism, and the choice of special interest will bring results to the type of tourism that is a special object or special interest. The standard is made based on the list of tourism that the author has, where tourism is divided into 3 types, namely nature, culture and special interests. For tourism locations in the simulation of Tourism recommendations, the choice is divided into three, namely cities, villages, or both. These three parameters are made to limit the simulation results of Tourism recommendations.
- 3) for alternative decisions in this information system, the author limits 3 alternatives. This is done because this information system uses the data taken in realtime to make decisions. This is done to maximize the results of decision-making by the system.
- 4) for AHP calculation, the calculation process is carried out directly using a database containing EV of each criterion and alternative patterns that the author managed to find. It aims to shorten decision-making time.
- 5) The author uses the EV pattern in this information system. This is done because the author has found a pattern, where with 3 alternatives, the level of importance of each alternative to the criteria will form a pattern. Any alternative that has more data than any other alternative based on any existing criteria, it will be more important than any other alternative. Based on this, the EV used is the result of the calculation of the pattern  $a > b > c$ ,  $a > c > b$ ,  $b > a > c$ ,  $b > c > a$ ,  $c > a > b$ ,  $c > b > a$ . So the number of EV pattern databases used in this information system can be 6 pieces. For more details please see attachment

## **CONCLUSION**

Based on the research that the author did, the author has managed to find some problems in the old system, basically the most basic problem of the old system is the problem of tourism data management. Therefore, the author can draw conclusions :

1. The design and manufacture of new information systems with well integrated data management facilities is the best solution for tourism promotion and management, because it is proven that with the use of integrated information systems, not only tourists will benefit but also the tourism office itself.
2. With the creation of this information system, the Department of Tourism and tourists will get updates and additions to facilities that previously did not exist in the old system. These facilities include search, simulation and decision facilities. Search is a facility that was previously problematic in the old system, but with the use of information systems that the author designed, tourists will no longer have trouble finding the tourism they want. This is due to the number of variables that are more than the old system. So is the case with simulations and decisions, with these two features, now both tourists and the tourism office will get better and quality information about tourism in Bangkok.

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