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Tourism Management Information: A Web-based System

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Abstract
The Tourism Management Information: A Web-based System study was created to assist Tourism Officers as administrators in activating tourist spot registration including all its information. The researcher uses the Rapid Application Development (RAD) paradigm, which allows for the rapid creation of usable systems. Mean was also utilized by the researcher to measure the level of functional suitability in terms of functional completeness, accuracy, and appropriateness. In terms of learnability and operability, the usability level. Efficiency of performance in terms of time management and resource utilization. The results were deemed Very Good.
Keywords:*Tourism Management, Information System, RAD Model, Web-based, Tourism*

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I. INTRODUCTION

Tourism is a cross-industry activity. Economic, social, cultural, and environmental influences are all necessary. It is frequently referred to be multi-faceted in this regard[1].Tourism is a large, diffuse global industry. Tourism is both a category of human behavior, and the multitrillion-dollar industry that caters to it [2].

In recent years, the tourist demand for rural areas has increased. One of the most significant and fastest growing industries is tourism. There is little doubt that tourism demand will continue to rise steadily in the years ahead, owing to a number of independent factors such as rising living standards, new trends in the annual organization of working time, allowing for more diverse holiday patterns, and longer life expectancy and higher incomes for the elderly [3]. In this case, promotion is very important.

Tourism is a significant economic industry that practically all major cities encourage. Local tourist strategies are divided into two categories. To begin, cities endeavour to promote attractive images to tourists and the organizations that make up the tourist sector. Images are now constructed and projected by a well-organized team of specialists [4]. With this, the researcher designed and developed a Tourism Management Information: A Web-based System. Determine the level of functional suitability of the developed system in terms of functional completeness, functional correctness and functional appropriateness as perceived by the target users. Determine the level of usability of the developed System in terms of Learnability and operability as perceived by the target users. Evaluate the level of performance efficiency of the developed system in terms of time behaviour and resource utilization as perceived by expert evaluators.

Here are some of the related works that can help with the development of the system. eTourism: ICT and its role for tourism management, This study intends to offer cutting-edge information and communication technology (ICT) infrastructure tailored to the tourism industry.[5]. Another is the Systems Approach to Tourism: A Methodology for Defining Complex Tourism System The phenomena of tourism, which has the characteristics of both global and local organizations, will be given as an open complex system with all of its constituents, as well as an appropriate approach to explain the relationships between them, in this study. The current technique is a great instrument for exploring systems solutions and also functions as a strategic decision-making assessment due to its transparency.[6]. Next is the developing and Implementing Web-based Online Destination Information Management System for Tourism. In this study, it is regarded the greatest strategy to encourage and grow the number of tourists in any country by providing accurate and useful information on tourism destinations.[7]. Lastly, Web Based Tourism Information System in Bintan Island, This research shows that using the internet or a website to advertise tourism destinations is becoming more popular.[8].

1.1 Conceptual Framework

This study proposes the creation of a Tourism Management Information: A Web-based System.

In this study: input phase; process phase; and output phase are compromised. Input phase refers to the Tourist spot information. Process Phase includes the Tourism Management Information: A Web-based System that will shows tourist about the different tourist spot information. The Output phase is the system's evaluation regarding to its functional suitability, usability, performanceefficiency.

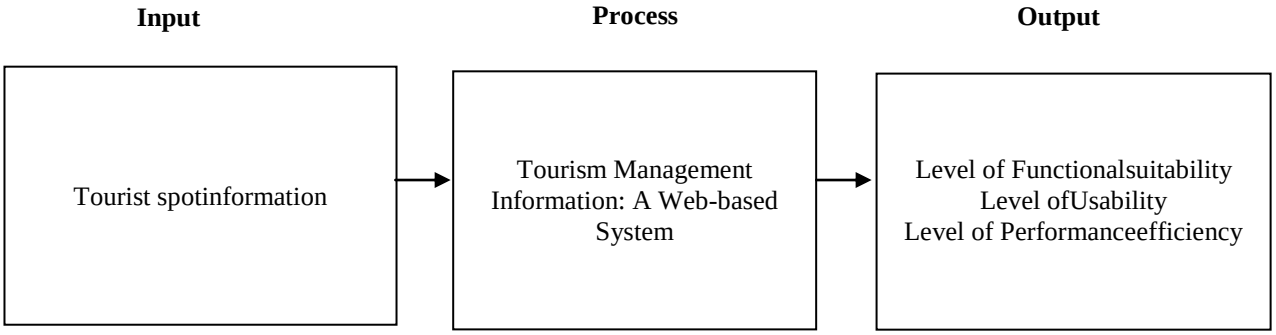

Figure 1.The Conceptual Framework of the Study.

II. METHODOLOGY

This chapter provides an overview of the research, including the design, respondent selection, research instrument, data collection technique, and statistical treatment.

2.1 Research Design

The techniques for collecting, analyzing, interpreting, and reporting data in research investigations are referred to as research designs. It's the overarching strategy for connecting conceptual research concerns to relevant empirical research. In other words, the study design specifies how the required data will be collected and analyzed, as well as how all of this will be used to answer the research question [9].The plan or blueprint for selecting how to collect and interpret data is known as research design. The research design determines which methodologies are utilized and how they are employed [10].Developmental and descriptive research designs were used in this study. Techniques utilized in lifespan development research include developmental research designs [10]. The systematic study of creating, producing, and assessing instructional programs, processes, and products that must meet criteria of internal consistency and effectiveness has been classified as developmental research, as opposed to simple instructional development [11].

Descriptive research entails gathering information to test hypotheses or answer questions about the existing state of the study's subject. A descriptive research determines and documents the current state of affairs. Descriptive study is scientific research that methodically deals with a certain area or population and characterizes an occurrence, phenomenon, or fact [12].

Descriptive research entails a direct examination, analysis, and description of a specific phenomenon that is as devoid of unjustified assumptions as possible, with the goal of providing the most intuitive presentation possible. The phenomenon of interest in the real world is documented through descriptive investigations [13]. Descriptive research will be utilized to collect feedback on the system development via survey questionnaires.

2.2 Software Development Life Cycle

The Software Development Life Cycle (SDLC) is a software industry method for designing, developing, and testing high-quality software [14]. The production process of a software system is usually called the life cycle of the system. To describe software life cycles, a model have identified [15]. The study employed the Rapid Application Development Model (RAD), which allows non-experts to benefit from high-performance computing while skilled programmers may fully use the technology. This allows for quick development, retargeting, and reuse of existing software, as well as hardware-specific optimization. The Rapid Application Development (RAD) system stresses the designed rapid development cycle and high-quality outputs from other methodologies such as waterfall, agile, scrum, and others [16].

Figure 2. The Rapid Application Development Model

2.3 Entity-Relationship Diagram

The entity relationship diagram (ERD) is a graphical representation of the represented problem domain. The ERD aids the database designer in determining what data and rules will be represented and used in the database. The ERD is an implementation-independent representation of a problem domain that helps end-users and analysts communicate more effectively [17].

There are two entities in the diagram which are the Tourist Spot Information and Registered Tourist Spot. One or many relationship in the Tourist Spot Information entity with the attributes of ID which serves as the primary key, Tourist Type, Tourist Name and Address to One and only one Registered Tourist Spot in every tourist spot information.

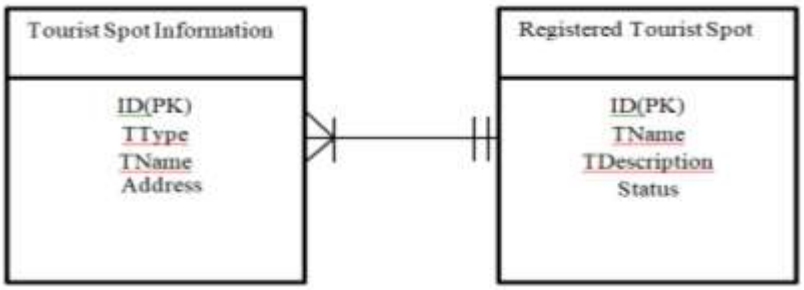

Figure 3.The Entity Relationship Diagram of the Developed System.

2.4 Process Model

A data flow diagram in context was employed in this study.

Data Flow Diagram (DFD) is widely used for structured software analysis and design. The Data Flow Diagram (DFD) is a structured analysis and design method. It is a visual tool to depict logic models and expresses data transformation in a system. DFD includes a mechanism to model the data flow. It supports decomposition to illustrate details of the data flows and functions [18]DFDs are graphical diagrams used to specify, develop, and visualize a system's model. In a graphical view, DFD is used to define the requirements [19].

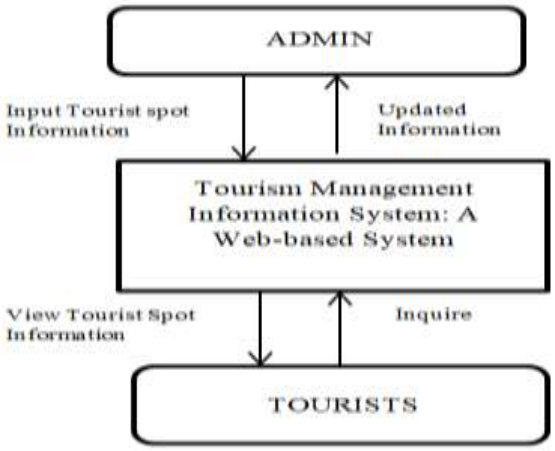

Figure 4. The Context Data Flow Diagram depicting the Process Model of the Developed System.

2.5 Testing and Evaluation

Due to the finalization of the developed system, the researcher requested the testers to evaluate the system in terms of it level of functional suitability, level of usability, and level of performance efficiency. A survey questionnaire was given to the interface design as well as to test the system's usability, functionality and performance efficiency. A 5-point Likert scale comprising of 1 as Poor and 5 as Very Good was used on the developed system prototype. To statistically compute whether the developed system passed the evaluation criteria, the Mean statistics was applied. The Mean is computed as:

$$\overline{X} = \frac{\Sigma X}{n}$$

Where $\overline{X}$ is the mean

ΣX is the summation of individual raw scores
n is the number of populations

The obtained mean score was interpreted using the following verbal description:

Mean Score	**Description**
4.21 – 5.00	Very Good
3.41 – 4.20	Good
2.61 – 3.40	Average
1.81– 2.60	Fair
1.0– 1.80	Poor

III. PRESENTATION OF DATA AND INTERPRETATION OF RESULTS

This chapter covers the presentation, analysis, and interpretation required to meet the previously defined objectives.

3.1 Level of functional suitability of Tourism Management Information: A Web-based System among the identified user groups in terms of Functional Completeness, Functional Correctness and Functional Appropriateness.

The result showed that the Tourism Management Information: A Web-based System had a high level of Functionality Suitability in terms of Functional completeness which had a mean of 4.70 which was verbally interpreted as "very good", The Functional Correctness has the mean value of 4.75 and verbally interpreted as "very good" while the Functional Appropriateness has a mean value of 4.61 which was verbally interpreted as "very good".

Table 1:The level of functional suitability of the developed system in terms of functional completeness, functional correctness and functional appropriateness.

Implementation Indicators	Mean	Verbal Interpretation
a. Functional completeness	4.70	Very Good
b. Functional correctness	4.75	Very Good
c. Functional appropriateness	4.61	Very Good

Legend: 1.00 (Poor); 1.81 – 2.60 (Fair);2.61 – 3.40 (Average); 3.41 – 4.20 (Good);4.21 – 5.00 (Very Good)

3.2 The Level of Usability of theTourism Management Information: A Web-based System among the identified user groups in terms of Learnability and Operability.

The result showed that the Tourism Management Information: A Web-based System had a high level of Usability in terms of Learnability which had a mean 4.59 of which was verbally interpreted as "very good", The Operability has the mean value of 4.55 and verbally interpreted as "very good".

Table 2: The level of Usability of the developed system in terms of Learnability and Operability.

Implementation Indicators	Mean	Verbal Interpretation
a. Learnability	4.59	Very Good
b. Operability	4.55	Very Good

Legend: 1.00 (Poor); 1.81 – 2.60 (Fair);2.61 – 3.40 (Average); 3.41 – 4.20 (Good); 4.21 – 5.00 (Very Good)

3.3 Level of Performance Efficiency of the developed Tourism Management Information: A Web-based System in terms of Time Behavior and Resource Utilization provided to end users.

The result showed that the Performance Efficiency in terms of Time Behavior which had a mean of 4.70 which was verbally interpreted as "very good", The Resource Utilization has the mean value of 4.77 and verbally interpreted as "very good".

Table 2: Level of Performance Efficiency of the developed system in terms of time behavior and resource utilization to its end users.

Implementation Indicators	Mean	Verbal Interpretation
a. Time Behavior	4.70	Very Good
b. Resource Utilization	4.77	Very Good

Legend: 1.00 (Poor); 1.81 – 2.60 (Fair); 2.61 – 3.40 (Average); 3.41 – 4.20 (Good); 4.21 – 5.00 (Very Good)

IV. CONCLUSION

The following conclusions were derived from the study's findings:

In terms of functional suitability, the developed system performed Very Good. When employed under specific conditions, the degree to which a system offers functionalities that meets the stated and implicit needs.

The Tourism Management Information: A Web-based System's designed features were Very Good. The findings showed the degree to which a system can be used effectively and efficiently by a certain user to achieve specific goals.

In terms of time behavior and resource use, the level of performance of the Tourism Management Information: A Web-based System was Very Good. This simply meant the extent to which the reaction in processing time in completing its function meets their anticipated expectations. It demonstrates that the system is simple to use and completely functional.

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