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PROBLEMS AND CLOUD COMPUTING BASED SOLUTIONS WITH THE SUGGESTED DATABASE FOR ARCHAEOLOGICAL VISITORS

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ABSRACT--*Cloud Computing is going to modify the approaches of users who using the resources in the internet. In this research Article, the problems facing by the visitors and the Cloud based solutions as a data model can be provided with its usage. If the visitor accompany with this model, this will help the visitor in various aspects such as planning in travel, boarding place, destination of journey, Hotels, Restaurants, mode of travel to reach the monument, route map according to the budget specified by the user, the area statistics and pollution factor with necessary prevention equipments with the feedbacks, ratings and reviews of the previous visitors. These implementations also can be applicable to other fields.*

Keywords*—computing, based, solutions suggested, database, archaeological, visitors*

I. INTRODUCTION

1.1 The Issues of Archaeological Databases

The Department of archaeology holds more information and data which can be used by huge volume of computers. This information which includes the intensities and types can be utilized by various kind of people in different requirements such as visitors, archaeologist and volunteers. As a result, an archaeological dig generates thousands of pages of supporting documents and data from the field (Hoopes 1997; Seeley 2005). Because of this, most modern archaeological data is frequently held in a computer database (Banning 2000). However, databases and computers have created challenges as well. For example, databases do have the ability to help improve research, management, and storage of data, but it has come with a cost. Some of these costs become clear when we consider the situation when different agencies use diverse database programs which are incompatible with each other.

It can be seen that each database might have been developed using unique data structure that can make it difficult to merge or compare the data between databases (Williamson 2000;Myers 2000). Further, even if the same identical software was used, different users have different needs for the software. For cost efficiency of a project it is better that the databases serves present needs, rather than a more general set of operations (Williamson 2000). From a cost point of view, this describes that most databases are designed to meet the needs of each individual project. The different information provided by the unauthorized agencies or group will lead the visitor with more expenses. All the related information available in a single roof or in a cloud as a Software which is provided by

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the authorized forum such as the Dept. of Archaeology, it will be reliable to the visitor. The safety and genuinity of the visitor also can be tracked by the model.

1.2.A Solution to the Problem

The University Montana's archaeological database was developed by using Microsoft Access, for the needs of the MYAP project (Montana Yellowstone Archaeological project). As part of the agreement with the National Park Service, all retrieved information is to be given to the Yellowstone cultural heritage department. Unfortunately, the National Park Service uses a different database software program (ICMS) created for their needs and does not have the ability to communicate with Microsoft access. This has caused great amounts of time in the converting of time to be spent converting the data to import it into the Park Service's database. The following data model can be used as a bridge between the visitors and the realities. The model can help to streamline the process of planning for a visit to an area of archaeological monuments and survey fields. This model describes the incompatibility issues with the existing models formulated by various countries. In this article we have provided the required information in the dataset which can be available in a cloud as a software, after finding the problems facing by the visitors. The implementation of cloud to keep the feedbacks, ratings and reviews which were provided by the previous visitors safely. As cloud is a secured environment, nobody can easily modify these factors for their own betterment.

2.1 The List of problems faced by the visitors:

1. There is lack of mass tourism in a place or in a day or month. The visitors suggests that the increase in visitors will reduce the cost.
2. The visitor must be educated about the travel and monuments where he/she want to see within the cost budgeted by him/her.
3. The overseas visitors must be scheduled in a particular months.
4. The revenue deviations for the maintenance of the monuments by local/Dept. of Archaeology/state or Central Government not available.
5. There is a lack of basic facilities and hygienic such as rest rooms and Urinals.
6. There is lack of information about the monuments and facilitators to give details of history about the monuments.
7. There is a lack of safety around the monuments.
8. There is more pollution in the area surrounding to the monuments.
9. The behavior of local people money oriented and not co-operating to the visitors.
10. There is a lack of road maintenance and accident, emergency procedures are not provided by the Government or the available procedures are not reliable.
11. The available waste management is poor.
12. The Environmental regulations are maintained very poorly.

2.2 The List of solutions for the list of problems available in the Data model:

1. In the data model the field "Period to see" will help the user to plan him/herself at the right time for the visit which will be afford in a nominal cost.

2. If the visitor accompany with this data model and its future work, it will guide the user about culture, heritages and survey information and monuments..

3. The field "Periods to see" can only be updatable by the authorized forum.

4. The revenue deviations for the maintenance of the monuments by local/Dept. of Archaeology/state or Central Government can be updatable by the authorized forum within the cloud. The user has to register him/herself with the data model.

5. The locations of basic facilities such as rest rooms and Urinals can be viewed in the navigations system and hygienic information can be provided by the previous visitors as ratings, reviews and feedbacks. data model.

6. There is lack of information about the monuments and facilitators to give details of history about the monuments.

7. The Emergency procedures and the way to the nearest police station from the monuments or the survey fields and contact numbers are available in the data model.

8. Before planning the pollution factor surrounding to the monuments can be identified and intimated to the user.

9. If the user accompany with the data model it will suggest the authorized facilitator. He/She will take care about this kind of problems.

10. With the comments field the user can able to give his/her own comments and remarks about the road and monument maintenances. This can be viewed by the authorized forum and the necessary actions will be taken against the suggestions. Accident and Emergency procedures are available in the data model for to help the visitor.

11. The user can suggest his/her own suggestions, if it valuable this can be submitted to the higher official for further processing .

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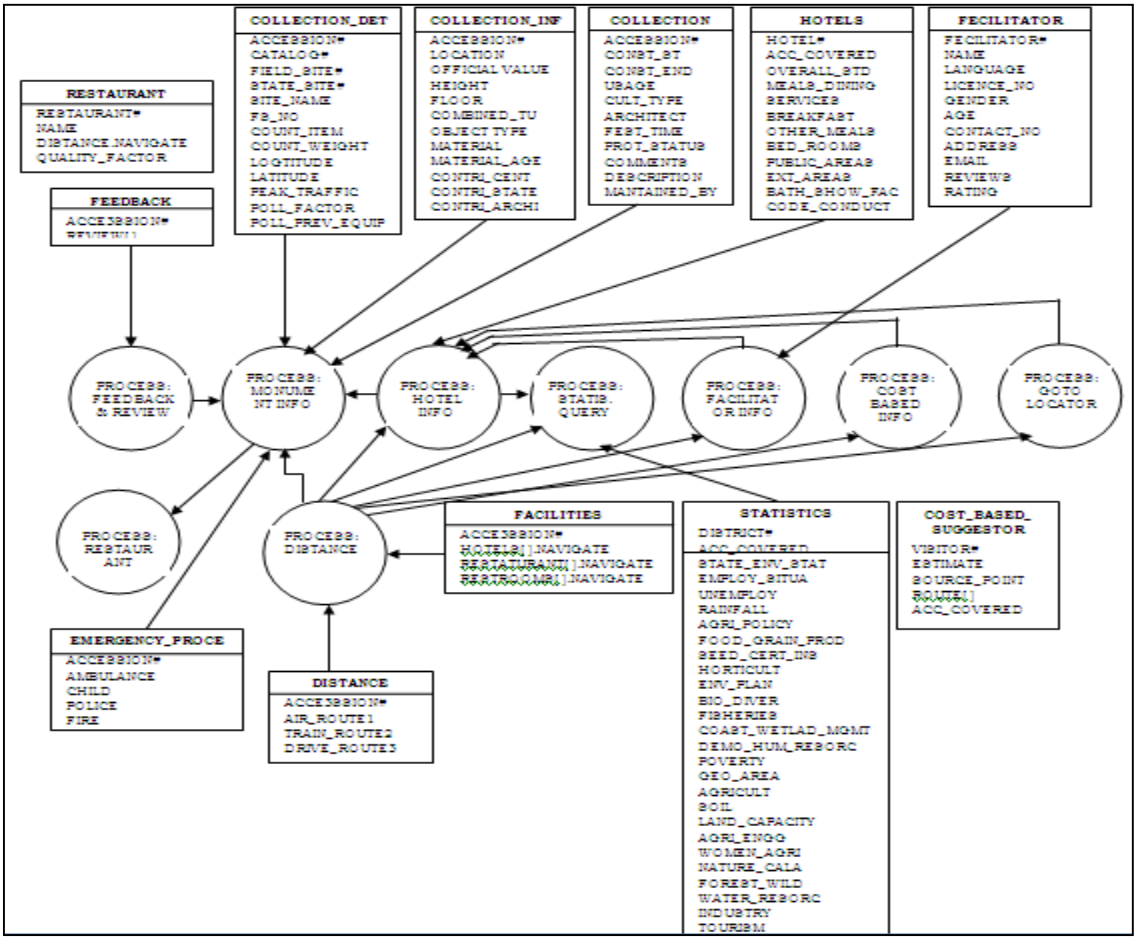
3.1 Implementation of Problems and Solutions in Predicate Logic

PROBLEMS	SOLUTIONS
1.week V month(mass tourism)= ∄	1. Period to see(datamodel)⇨time(visit)^ nominal cost(visit)
2.Literate(visitor)= ∀ & budget(visit(monument))= ∀	2.Visitor(datamodel) ^Visitor(future work) ⇨user guidance(culture,hertages,survey inf(monuments))
3.month(visitor(overseas)) ⊃months	3.(updation(period to see(data model))) authorized forum= T
4. ∄(Revenue_deviation)	4. Revenue(monument(datamodel)) ⇨update(authorized forum(inf))
5. ¬(Hygenic(Restrooms ^Urinals)	5. (Feedback(ratings ^ reviews(datamodel))) update(navigation)

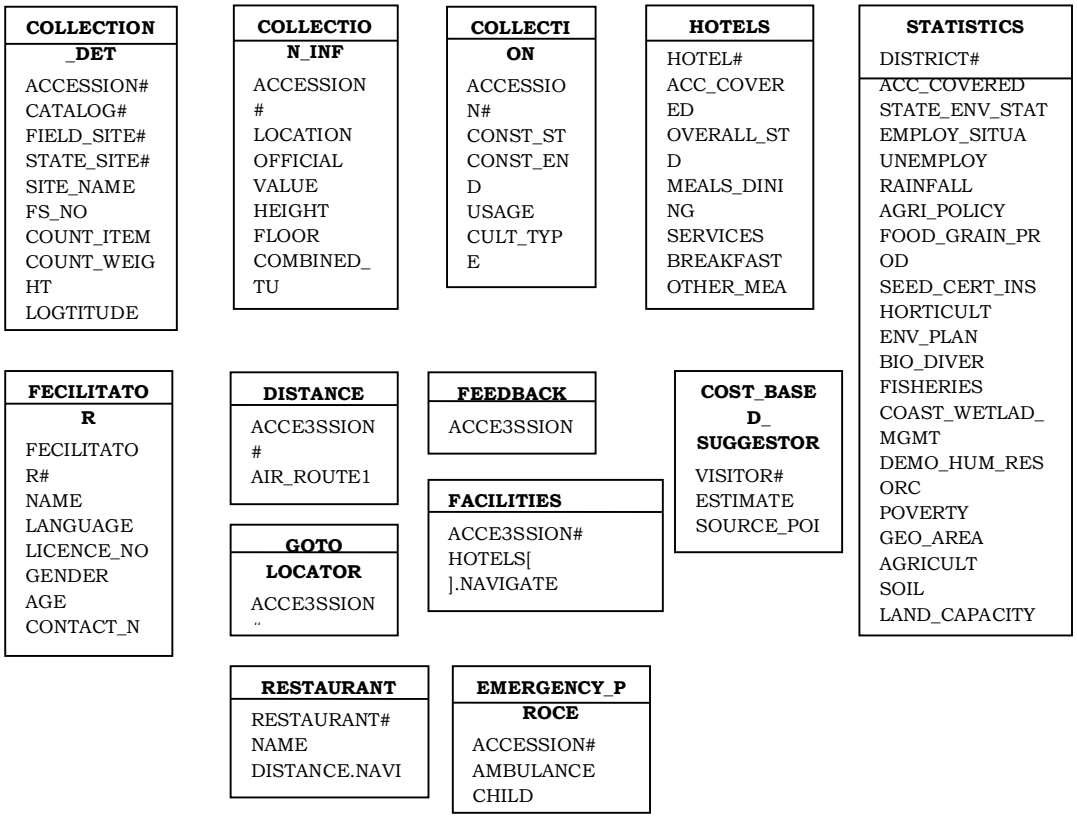
6. ¬(Sufficient(inf(monument,facilitator))	6. (facilitator(daqtamodel(monument)) ⇨Select(visitor)
7. ¬(Sufficient(safety(monument)))	7. (Emergency Proce(monument) ^Police station(monument))(datamodel)= T
8.pollution(monument) ⇨T	8. Pollution equipments(datmodel(monument)) ⇨Plan(monument)
9. ¬co-operation(local people) ^ money oriented(Local people)	9.facilitator(monument(datamodel))=T
10. (∄(Road maintenance) ^ ∄policies(accident ^emergency)) ^ ∄(Reliable procedures(Govt)	10.(Comments(visitor)=monument(datamodel))update
11. ¬Sufficient(waste management)	11. Suggestion(waste management) ⇨ update(datamodel(monument))
12. ¬regulations(Environmental maintenance)	12. Suggestion(Environmental maintenance) ⇨ update(datamodel(monument))

3.1 The Suggested DataModel:

DATA FLOW DIAGRAM FOR THE SUGGESTED CLOUD COMPUTING MODEL TO THE DEPT. OF ARCHAEOLOGY



3.2 List of Tables:



3.3 Purpose of fields

Accession #: The accession number referred to the collection as a whole, as a result of unique monument alone by statewide.

Catalog #: The accession number referred to the collection as a whole, as a result of unique monument alone by countrywide.

Field site#: This information is used to locate & access the access database and in the Excel workbook.

State site#: This number will be the same as the field site number which also available in the statewide database.

Site Name: The assigned name can be provided. If no name is given, just insert the field site number.

FS Number: Field site logs can be entered from reviews and feedbacks of the visitors.

Count Item: The count of individual specimens available in the site.

Count Weight: The exact or approximate weight or size of the specimen or monument

Location: The physical storage location of the specimen or monument. In this case, since the specimens will be returned to the Dept. of Archaeology for storage in the immediate future, we will enter "HRC" (Heritage Resource Center) into the location column.

Official Value: The value of the specimen or monument.

Height: The height of the artifact can be entered.

Floor: The depth of excavation

The combined TU: This factor is used to provide the level of height from the sea level.

Object: It is important to use the standardized terms about the specimen or monument. Ex knife, building,etc..

Material: The type of material has to be entered in the standardized form. Ex. Leather, Lithium, Iron, Aluminum or quartz. For historic items standardized terms of nomenclature in the Museum handbook can be verified.

Material Age: The approximate or exact age obtained through relative dating or absolute dating methods.

Construction started **and End:** This can be entered with the help of the findings in history.

Type of Usage: This can be entered with the type of usage such as warehouse, soldier's residence, etc.,

Hist/Cult: This can be entered with the values where the excavation held like, Sindhu, Mezabadomia, Babylone, Harapa, archaic, Paleo Indian etc.

Architect: The style of building can be entered such as Mogal, Parceas, etc.,

Periods to See: This can support the visitor for bulk booking as mass tourism.

STATUS in danger or protected: The status of monument in the present can be entered as in danger or protected.

Comments: Remarks about the state can be entered.

Description: The description of the artifact can be entered. The description should provide enough information to be able to identify artifacts from one another. The unauthorized abbreviations or codes should not be used.

Hotel Locater: This provides the hotels near by the monument or the places. Hotel reviews also can be provided.

Environment Factors: These factors can be used to provide more knowledge of the surrounding area of the monument with the types of informations.

Facilitator Database: The list of facilitators in the nearby areas can be provided.

Distance Of Various Mode **Of Travels:** The distance from the present location to the monument can be provided with various mode of travels.

Goto Home Locator: The list of monuments via the home location or to the Airport can be provided.

Feedback and Reviews by the Visitor: The list of Reviews and feedbacks given by the previous visitors about the hotels, monument, basic facilities can be provided to the user to find his/her choice.

Cost based suggestor: The mode of travel, list of hotels and amenities van be provided as per the budget required by the user.

Latit.(D:M:S)/(D:M:S): The map co-ordinates of the location searching by the user.

Revenue deviation: This can be provided to list the revenue collected at the monument by State Govt./Central Govt/ Dept. of Archaeology.

Maintenance by: This is used to provide the maintenance process of the monument carried out by State Govt./Central Govt/ Dept. of Archaeology.

Peak hour traffic time: This can be used to provide the peak hour traffic along the route chosen by the user to plan him/herself to reach the monument in the correct time.

Facilities: The list of facilities around the monument such as Hotels, restaurant, transports with previous visitor feedback and reviews.

Pollution Factor: The value of the pollution factor at the monument can be available. This is used to prepare the user him/herself.

Pollution Prevention Equipments**:** This is used to guide the user to prepare him/herself according to the pollution factor with the necessary equipments.

Emergency Policies: This used to provide the emergency procedures such as 108, 1066, 1098, 198, 131, 1033.

II. LIMITATIONS OF CLOUD COMPUTING IN THE DATA MODEL

The limitations of Cloud Computing are in under development and research. For this data model the decisions to adapt Cloud Computing will be provided by more technical and cost consideration. Information Flow like ready reckoner and the related decisions on how to manage information can have for reaching political, social, economic effect on the public sector. The other limitations like Security, Interoperability, Control, Performance, Integrity, Reliability must be converted from the traditional outsourcing arrangement.

III. ADVANTAGES OF CLOUD COMPUTING

According to Michael Miller Cloud Computing can able to provide the computer facilities in lower cost to its users with improved performance and increased computing power. The cost of IT infrastructure can also be reduced by sharing the software costs, periodical software updates with fewer maintenance issues. It can also provide unlimited storage capacity, data security, improved compatibility between OS, improved document format compatibility. It is very easiest way to collaborate within the group of people who are extending their access universally. It has the safest methodology in granting and removal of the tethering of specific devices.

According to Mansooreh Moghadam, from Cameron University (www.cameron.edu) the following advantages are suitable to this data model. By comparing with internet, Cloud Computing has the security which can be obtainedd by Server security, Client security, password security, in-build virus protection and auditing. As it is not locally managed, the disaster recovery is also available in it. Its infra-structure is not in the website. It has a limited on-site encryption itself. It is based on CIA Security model with digital certificate. It is used with terminal based and in-build anti-virus technology. Firewalls also can be used in cloud computing with lowest downtime risk. The cost of data recovery is very low with and the service recovery time is low to moderate. Auditing facility is also available in Cloud Computing.

IV. LIMITATIONS IN CLOUD COMPUTING

A).Cloud Computing is not originate in the College Environment except few Universities

B). Cloud Computing is multi-disciplined, so the system admin need to understand about networks, virtualization routing, data movement, data usage, managing the process and security.

C). Educators are limited to teach about Cloud Computing. Still this discipline is in cutting edge manner.

D). Government considerations and recommendations are required to implement Cloud Computing.

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V. CONCLUSION

Cloud Computing is in the vast development. It need of models with significant advantages. Cloud Computing is seemed to be worth in all kind of disciplines. It can be coined to the Government sector to give information about the environment facts. These facts may be analyzed by various departments and group of people from various places. In internet also these may be available in various websites. If all the information are available in a cloud as under a single roof that will provide the user to have the details in a single attempt.

Like a coin which has two sides the Cloud Computing has its own unique, strong and weak properties. We can say that the Scalable, Portable, Payment per use Model and the management policies of risks and Security, Efficiency, any time accessibility and several other aspects represent positive factors in taking the decision of using Cloud Computing. This will be and innovation while the Government is utilizing the information to the people who are in need.

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