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DESIGN AND DEVELOPMENT OF CAR PARKING AND AUTOMATION BILLING SYSTEM

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ABSTRACT

The client uses MS Excel, and also maintains their records, however it is difficult to share the data to number of system in multi user environment, there is lot of duplication of data and chances of mistakes. When the records are changed then it is necessary to update each excel file. There is no security therefore any unauthorized person can access any report and sensitive data. This Design & Development of Car Parking and Automation Billing is used to overcome the entire problem and provide appropriate security.

INTRODUCTION

For nearly one hundred years, planners, politicians, engineers and environmental lists have wrestled with the challenge presented by the increasing prevalence of the automobile where to put cars. Ranging from the earliest parking garages .In order to overcome existing system problems new system is developed using this system any system can be easily searched with better security features. Car Parking is a response to this situation and is the deployment of strategic plans and strategies to plan the car parking system efficiently. There are several benefits endowed by automated billing system. The benefits lies in the parking of more cars in save time due to proper planning and reduce traffic, economical aspect as it is cost-efficient, ensured safety of vehicle and the convenience of car parking. Theentire process of vehicle parking becomes hassle-free and affordable with automated billing system giving the vehicle owner a respite from the constanttension of car parking. More features are provided in the project document.It enables freeway to parking lot, toll plaza, and bridge, tunnel, and turnpike operators to save on staffing costs while reducing delay for travelers and improve overall traffic performance and parking system. Moreover, monitoring the vehicle traffic and the management of parking areas are the most labor-intensive job.

MATERIALS AND METHODS

The project title is of "Design & Development of Car Parking and Automation Billing",category "RDBMS". Before discussing project details it is necessary to understand basic concept. As a programmer,we are expected developed any program that works correctly and efficiently.These project is base on database management system to store the record, In RDBMS we can act various attributes with the database like editing the records,Modifications Deletions of the records, View the records in various formats, listing the database etc. Project can be categorized by their functioning and relation with their database and other tools can categorize project. Since this project has been developed based on the Relational Data Base Management System So this system is based on under RDBMS (Relational Database Management System) category.

System Design Considerations

When designer starts working on system design, he will face different type of problems. Many of these will be due to constraints imposed by the user or limitations of the hardware and software available in the market. Sometimes, it is difficult to enumerate the complexity of the problems and solutions there of since the variety of likely problems is so great and no solutions are exactly similar. However, following considerations should be kept in mind during the system designing phase:

Design Objectives

The primary objective of the design of course, is to deliver the requirements as specified in the feasibility reports. In general the following design objectives should be kept in mind.

Efficiency

This involves accuracy, timeliness and comprehensiveness to the system output.

Cost

It is desirable to aim for a system with a minimum cost subject to the condition that it must satisfy all the requirements.

Flexibility

The system should be modifiable depending on the changing needs of the user. Such modifications should not entail extensive reconstructing or recreation of software. It should also be portable to different computer systems.

Security

System design involves first logical design and then physical construction of the system. The logical design describes the structure and characteristics of features, like the outputs, inputs, files, database and procedures. The physical construction, which follows the logical design, produces actual program software, files and a working system.

Database design

This activity deals with the design of the physical database. A key is to determine how the access paths art to be implemented.Program design: In conjunction with database design is a decision on the programming language to be used and the flowcharting, coding, and debugging procedure prior to conversion. The operating system limits the programming languages that will run of the system.System and program test preparation. Each aspect of the system has a separate test requirement. System testing is done after all programming and testing completed the test on system and program test requirements become a part of design specifications a prerequisite to implementation. In contrast to the system testing is acceptance testing, which puts the system through a procedure design to convince the user that the proposed system will meet the stated requirements. Acceptance testing is technically similar to system testing but politically it is different.

Design Process

The computer system design process is an exercise of specifying how, the system will work. It is an iterative process, which is based on what the system will be do as shown in the feasibility report.Mainly, following five parts have been included in the system design process

File Design

Once the input data is captured in the system, these may to be preserved either for a short or long period. These data will generally be stored in files in a logical manner. The designer will have to devise the techniques of storing and retrieving data from these files.

Procedure Design

This step involves specifications of how processing will be performed. In this, there are two aspects:

- **Computer Procedure**
  The computer procedure will specify what functions will be carried out on computer, what will be different programs and in what sequence the programs will be run.
- **Non-computer procedure**
  The non-computer procedure will specify the manual procedures for feeding input data, receiving outputs etc.

Control Design

The control design indicates necessary procedures which will ensure correctness of processing, accuracy of data, timely output etc. this will ensure that the system is functioning as per plan.

INPUT DESIGN(Introduction)

Once the analysis and design of the system has been done, it would be necessary to identify the data that are required to be processed to produce the outputs. Input is one of the most expensive phases of the operation of a computerized system and creates sometimes a major problem. Different type of problem with a system can usually be traced back to faulty input design method needless to say, therefore, that the input data are the lifeblood of a system and have to be analyzed and designed with utmost care and consideration. Input design features can ensure the reliability of the system and generate correct reports form the accurate data. The input design also determines whether the user can interact efficiently with the system.

Elements of Input Data
Inaccurate input data are the most common cause of errors in data processing. Errors entered by data entry operators can be controlled by input design. Input data are collected and organized into groups of similar data. Once identified, appropriate input media are selected for processing.

Input Data
The goal of designing input data is to make data entry as easy, logical and error free from errors as possible. In entering data, operators need to know the following:

- The allocated space for each field.
- Field sequence, which much match that in the source document.
- The format in which data fields are entered for example, filling out the date field is required through the edited format mm/dd/yy.
- When we approach input data design, we design the source document. Let us elaborate on each step.

Source Documents
Source data are captured initially on original paper or a source document. For example, a cheque written against an account is a source document. When it reaches the bank, it is encoded with special magnetic ink character recognition so that a reader that is part of the information system of the bank can process it. Therefore, source documents initiate a processing cycle as soon as they are entered into the system. Source documents may be entered into the system from punch cards, from diskettes, or even directly through the keyboard. A source document should be logical and easy to understand. Each area in the form should be clearly identified and should specify for the user what to write and where to write it.A source document may or may not be retained in the proposed system. Thus, each source document may be evaluated in terms of.Its continued use in the proposed system,The extent of modification for the proposed system & Replacement by an alternative source document.

Input Design Guidelines
The design of input play very significant role in getting the correct output. It covers al phases of input from creation of initial data (original recording) to actual entering the data to the system for processing. The input design is the link that ties the information system into the world of its users. Some features of design may vary depending on whether the system is batch-oriented or on-line. Here, we will discuss the various objectives of input design. They focus on:

- Controlling amount of input
- Avoiding delay
- Avoiding errors in data
- Avoiding extra steps
- Keeping the process simple

Each of the five objectives of input design is briefly discussed below:
Controlling Amount of Data
An effective design controls the quantity of data for input for the following reasons:Firstly, data preparation and data entry operations depend on people. Since labor costs are high, the cost or preparing and entering data is also high. It is quite evident, then that reducing data requirements mean lowering costs through reduced labor expense.Secondly, the input phase of computing can be slow process and take many times longer than that needed by computers to carry out their tasks. In fact, the computer itself may sit idle until data is prepared and input for processing. By reducing input requirements, the analyst will speed the entire process from data capture to processing to provide result to users.

Avoiding Delay
When processing is delayed owing to data preparation or data entry, the cause is called a bottleneck. Avoid bottlenecks when designing input should always be one of the objectives of the analyst.

Avoiding Errors in Data
The third objective deals with errors. In one sense, the rate at which errors occur is dependent on the quantity of data. Since the lower the amount of data is inputted, there are fewer opportunities for the error to occur. Firstly, the analyst can reduce this number by reducing the volume of data dust must be entered for each transaction. Secondly, the analyst can also affect error rates of an operation through design. The manner in which data must be entered can reduce the chance of errors.Still, a third aspect of error control is the need to detect errors when they do occur. Checks and balances in the data entry programs, called input validation techniques, also detect errors input.

OUTPUT DESIGN (Introduction)
Presenting the data processed by a computer-based information system in an attractive and usable form has become very essential these days' success and acceptance of a system to some extent depends on good presentation. Therefore, system analyst must know fully how to design output report in an attractive way. Many new output devices are being introduced in the market because of recent development in computer technology. System analyst must be aware of these new technologies and try to use these new output devices if possible. Currently, excellent graphic displays are widely available. Speech output systems are also fast emerging.
There are three main reasons why outputs from the computer are required. They are as follows:
- For communication to the persons concerned.
- For re-input to the computer for being connected with other data and further processing.
- For permanent storage.

Figure:
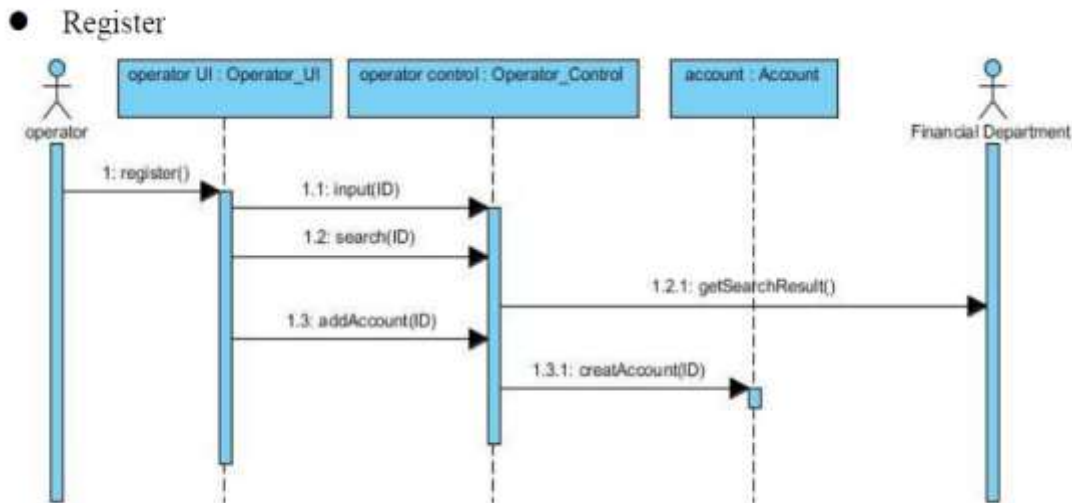
RESULTS AND DISCUSSION
    o **Enhancement:**
The main objective of Design & Development of Car Parking and Automation Billing is to enhance and upgrade the existing system by increasing its efficiency and effectiveness. The software improves the working methods by replacing the existing manual system with the computer-based system.
    o **Automation:**
The Design & Development of Car Parking and Automation Billing automates each and every activity of the manual system and increases its throughput. Thus the response time of the system is very less and it works very fast.
    o **Accuracy:**
The Design & Development of Car Parking and Automation Billing provides the uses a quick responsewith very accurate information regarding the users etc. Any details or system in an accurate manner, as and when required.
    o **User-Friendly:**
The software Design & Development of Car Parking and Automation Billing has a very user-friendly interface. Thus the users will feel very easy to work on it. The software provides accuracy along with a pleasant interface.Make the present manual system more interactive, speedy and user friendly.
    o **Maintance Cost:**
Reduce the cost of maintenance.

CONCLUSION

It may help collecting perfect management in details. In a very short time, the collection will be obvious, simple and sensible. It will help a person to know the management of passed year perfectly and vividly. It also helps in current all works relative to College. It will be also reduced the cost of collecting the management & collection procedure will go on smoothly. The present project has been developed to meet the aspirations indicated in the modern age. An attempt has been made through this project to do all work ease & fast. It provide current add, Update, MoveNext, MovePrevious, MoveLast, Find & Delete all facilities to accomplish the desired objectives. The facility Include in this project and the suggested activities have been organized to impart knowledge & develop skill & attitude in the College official works

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REFERENCES

http://www.ukessays.co.uk/essays/information-technology/automated-car-parking-system.php
http://www.scribd.com/doc/173057794/Automatic-Car-Parking-System-final-full-year-thesis-report#scribd
http://theconstructor.org/building/multi-storey-car-parking-system-project-report/7258
http://www.delopt.co.in/parking-management-system.html
http://www.skidata.com/en/business-areas-installations/parking-operators.html