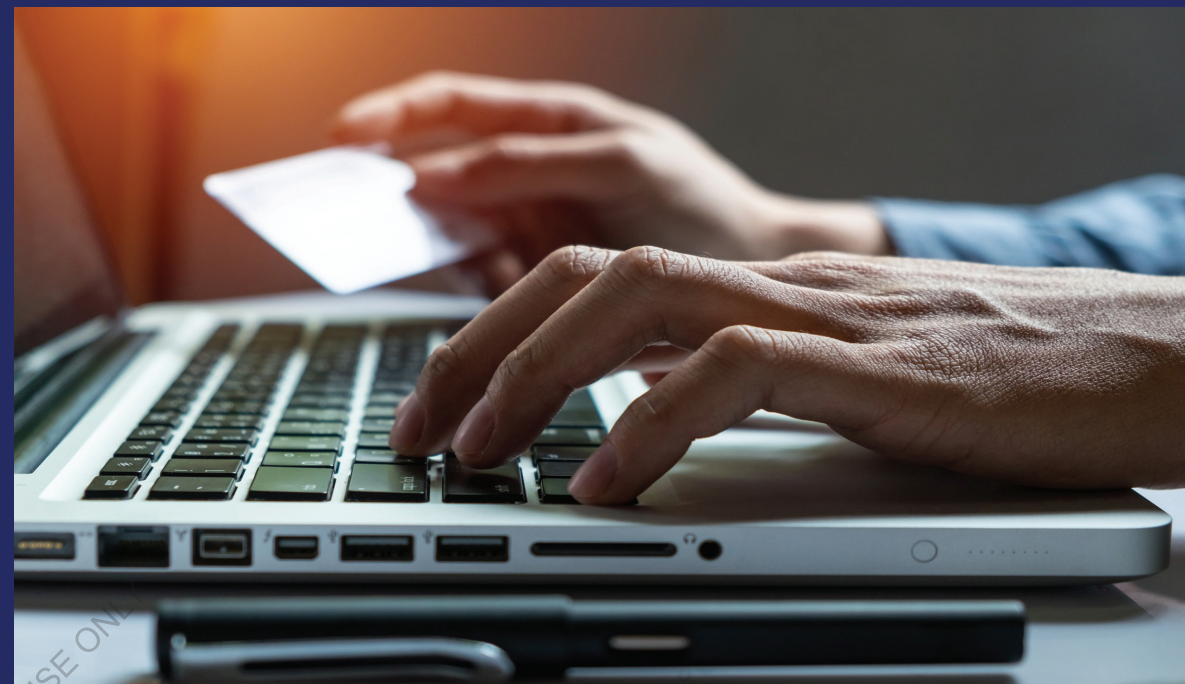


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Mehtab Alam

Online Banking

Banking over the Internet



PhD Scholar in Computer Science and Engineering, with Master of Technology in Information Security and Cyber Forensics and Bachelor of Technology in Information Technology. Residing in New Delhi, India.

My areas of interest are Internet of Things (IoT), Smart Cities, Edge Computing, Fog Computing and other similar technologies.



Mehtab Alam
Online Banking

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ABSTRACT

The project entitled "Online Banking" which keeps the day by day tally record as a complete banking system. It can keep the information of bank employee, transactions, loan solution, ATM information and account information. The exciting part of this project is, it displays the employee details, payment details, loan details and transaction details.

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The primary aim of this software is to provide an improved design methodology, which envisages the future expansion, and modification, which is necessary for a core sector like banking. This necessitates the design to be expandable and modifiable and so a modular approach is used in developing the software. Anybody who is an Account holder in this bank can become a member of online banking. He has to fill a form with his personal details and Account Number.

All transactions are carried out online by transferring from accounts in the same Bank. The software is meant to overcome the drawbacks of the manual system. The software has been developed using the most powerful and secure backend MS SQL Server 2012 and the most widely accepted web oriented as well as application oriented .Net Platform 2012 which is being deployed using MS Windows Seven.



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OVERVIEW OF THE PROJECT

INTRODUCTION

The project entitled “Online Banking” which keeps the day by day tally record as a complete banking system. It can keep the information of bank employee, transactions, loan solution, ATM information and account information. The exciting part of this project is, it displays the employee details, payment details, loan details and transaction details.

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PROBLEM DEFINITION

This system carries out account creation and transaction processing through internet that provides an entire range of banking services online. It contains mainly four modules namely:

- Account creation (User Module)
- Administrative Module (Transactions)
- Interest calculation
- Reports.

USER MODULE

This module is also a main module which performs all the main operations in the system. The major operations in the system are:

- User login
- Creating New Account/Loan Account/Fixed Deposit
- Searching Account Information /Transaction Information
- E-Solution ATM information saving
- Report generation
- Change password

ADMINISTRATIVE MODULE

This module is the main module which performs all the main operations in the system.

The major operations in the system are:

- Admin login
- Add/Delete/Update Employee
- Withdrawal/deposit/payment Transaction
- Creating new Account/Loan account/Fixed Deposit
- Searching account information/Transaction information
- E-Solution ATM information saving
- Report generation
- Settings
- Change Password

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INTERSET CALCULATIONS

The third module helps in:

- Calculating the interest due in the Term (Fixed) account
- Savings account and NRI account of the account-holder.
- This interest amount can be either retrieved every month or will be added to the account holder's current balance.
- Yearly calculations of interest for the users.

REPORTS

- The fourth module provides administrator to view all the details till date.
- It also contains money transaction details.
- User can ask for his/her day to day transactions in written forms.

SYSTEM STUDY AND ANALYSIS

INTRODUCTION

System analysis is a process of gathering and interpreting facts, diagnosing problems and the information to recommend improvements on the system. It is a problem solving activity that requires intensive communication between the system users and system developers. System analysis or study is an important phase of any system development process. The system is studied to the minutest detail and analyzed. The system analyst plays the role of the interrogator and dwells deep into the working of the present system. The system is viewed as a whole and the input to the system are identified. The outputs from the organizations are traced to the various processes. System analysis is concerned with becoming aware of the problem, identifying the relevant and decisional variables, analyzing and synthesizing the various factors and determining an optimal or at least a satisfactory solution or program of action.

A detailed study of the process must be made by various techniques like interviews, questionnaires etc. The data collected by these sources must be scrutinized to arrive to a conclusion. The conclusion is an understanding of how the system functions. This system is called the existing system. Now the existing system is subjected to close study and problem areas are identified. The designer now functions as a problem solver and tries to sort out the difficulties that the enterprise faces. The solutions are given as proposals. The proposal is then weighed with the existing system analytically and the best one is selected. The proposal is presented to the user for an endorsement by the user. The proposal is reviewed on user request and suitable changes are made. This is loop that ends as soon as the user is satisfied with proposal.

Preliminary study is the process of gathering and interpreting facts, using the information for further studies on the system. Preliminary study is problem solving activity that requires intensive communication between the system users and system developers. It does various feasibility studies. In these studies a rough figure of the system activities can be obtained, from which the decision about the strategies to be followed for effective system study and analysis can be taken.

Here in the project, Online Banking, a detailed study of existing system is carried along with all the steps in system analysis. An idea for creating a better project was carried and the next steps were followed.

FEASIBILITY STUDY

An important outcome of the preliminary investigation is the determination that the system requested is feasible. Feasibility study is carried out to select the best system that meets the performance requirements.

Feasibility study is both necessary and prudent to evaluate the feasibility of the project at the earliest possible time. It involves preliminary investigation of the project and examines whether the designed system will be useful to the organization. Months or years of effort, thousand for millions of money and untold professional embarrassment can be averted if an in-conceived system is recognized early in the definition phase.

Feasibility studies aim to objectively and rationally uncover the strengths and weaknesses of the existing business or proposed venture, opportunities and threats as presented by the environment, the resources required to carry through, and ultimately the prospects for success. In its simplest terms, the two criteria to judge feasibility are cost required and value to be attained. As such, a well-designed feasibility study should provide a historical background of the business or project, description of the product or service, accounting statements, details of the operations and management, marketing research and policies, financial data, legal requirements and tax obligations.

Generally, feasibility studies precede technical development and project implementation.

The different types of feasibility are:

- i. Technical feasibility
- ii. Operational feasibility
- iii. Economical feasibility
- iv. Legal feasibility
- v. Schedule feasibility

1. Technical feasibility

Technical Feasibility deals with the hardware as well as software requirements. Technology is not a constraint to type system development. We have to find out whether the necessary technology, the proposed equipment's have the capacity to hold the data, which is used in the project, should be checked to carry out this technical feasibility.

The technical feasibility issues usually raised during the feasibility stage of investigation includes these.

This software is running in windows 7 Operating System, which can be easily installed.

The hardware required is Pentium based server.

The system can be expanded.

2. Behavioral Feasibility

This feasibility test asks if the system will work when it is developed and installed.

Operational feasibility in this project:

- The proposed system offers greater level of user-friendliness.
- The proposed system produces best results and gives high performance.
- It can be implemented easily.

So this project is operationally feasible.

3. Economical feasibility

Economical Feasibility deals about the economical impact faced by the organization to implement a new system. Financial benefits must equal or exceed the costs. The cost of conducting a full system, including software and hardware cost for the class of application being considered should be evaluated.

Economic Feasibility in this project:

- The cost to conduct a full system investigation is possible.
- There is no additional manpower requirement.
- There is no additional cost involved in maintaining the proposed system.

4. Legal feasibility

Determines whether the proposed system conflicts with legal requirements, e.g. a data processing system must comply with the local Data Protection Acts.

5. Schedule feasibility

A project will fail if it takes too long to be completed before it is useful. Typically this means estimating how long the system will take to develop, and if it can be completed in a given time period using some methods like payback period. Schedule feasibility is a measure of how reasonable the project timetable is. Given our technical expertise, are the project deadlines reasonable? Some projects are initiated with specific deadlines. You need to determine whether the deadlines are mandatory or desirable.

OTHER FEASIBILITY FACTORS

1. Market and real estate feasibility

Market feasibility studies typically involve testing geographic locations for a real estate development project, and usually involve parcels of real estate land. Developers often conduct market studies to determine the best location within a jurisdiction, and to test alternative land uses for given parcels. Jurisdictions often require developers to complete feasibility studies before they will approve a permit application for retail, commercial, industrial, manufacturing, housing, office or mixed-use project. Market Feasibility takes into account the importance of the business in the selected area.

2. Resource feasibility

This involves questions such as how much time is available to build the new system, when it can be built, whether it interferes with normal business operations, type and amount of resources required, dependencies,

3. Cultural feasibility

In this stage, the project's alternatives are evaluated for their impact on the local and general culture. For example, environmental factors need to be considered and these factors are to be well known. Further an enterprise's own culture can clash with the results of the project.

4. Financial feasibility

In case of a new project, financial viability can be judged on the following parameters:

Total estimated cost of the project

Financing of the project in terms of its capital structure, debt equity ratio and promoter's share of total cost

Existing investment by the promoter in any other business

Projected cash flow and profitability

OUTPUT

The feasibility study outputs the **feasibility study report**, a report detailing the evaluation criteria, the study findings, and the recommendations.

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HARDWARE AND SOFTWARE REQUIREMENT

HARDWARE REQUIREMENTS

Hardware requirement are the basic need of the system or the package, which is been developed and will be deployed upon the system, which should have these basic components or fulfill these basic hardware needs of these package.

The following hardware is recommended for the user.

Processor	Intel Pentium IV 2.4 GHZ or above
Clock speed	500 MHZ
RAM	32MB or above
System bus	32 bits
Monitor	Color monitor
Hard disk	8 GB or above
CD Drive	Any CD ROM
Input device	Key board, Mouse

SOFTWARE SPECIFICATION

Operating System	MS WINDOWS XP SP2 of later
Front End	Visual Studio 2012, ASP.Net
Back End	SQL Server
Additional Software	DOTNet framework 3.5

EXISTING SYSTEM

The existing system involves the following activities:

- The present system consists of networking environment wherein regular activities are automated.
- However activities like Demand Draft issues, Pay Order issues are done manually and corresponding registers updated manually.
- Further the status of a pay order whether the same has been honored or not cannot be accessed, in case, if required.
- Above all in manual system, only the man responsible for DD/Pay issue is aware of the various records to be updated on each transaction.
- Readability of the records, which are maintained manually, is also constrained in the present system.
- Since record are kept on a paper registers, again is also a problem.
- Further retrieving information from such records for a period is tedious, as the storage place restricts, old records will be kept off the disk.
- Also report generation of the various areas is done manually using great amount of manpower and time.
- Erroneous records may lead to misleading information, which is more likely in manual system.
- The great limitation to the existing system is that the service to the customers is limited to the bank hours only. The online banking facility provides 24 hours service to the customer.

DRAWBACKS OF THE EXISTING SYSTEM

- Leads to tedious manual work.
- Enormous amount of time consumption for recording all transactions
- Error can occur during the manipulation of several records.
- Economic justification is not obvious.
- The technique adopted in this system is more complicated.
- Lack of technical background towards the system

PROPOSED SYSTEM

In order to overcome the drawbacks in the existing system database is created which is:

- Integrated
- Accessibility
- Reliable
- Consistent
- Flexible
- Secure

The present database

- Helps in speedy information retrieval
- Extract information from tables using menus
- Offers options of the online updating and in mean time up to date information.

The proposed system is

- Menu driven and user friendly
- It assists in quick deletion of errors by issuing appropriate error message.
- Validity of input data is automatically checked and error will be immediately signaled
- Efficient utilization of resources.

NEED FOR THE PROPOSED SYSTEM

The proposed systems have:

- Greater efficient and better data security
- Better information retrieval
- Consumption of time while generating report is less
- Reports can be viewed as and when needed

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SYSTEM DESIGN

INTRODUCTION

System Design is the most creative and challenging phase in the system life cycle. Design is the first step into the development phase for any engineered product or system. Design is a creative process. A good design is the key to effective system. System design is a solution *how to approach* the creation of a new system. System design transforms a logic representation of what is required to do into the physical specification. The specification is converted into physical reality during development.

LOGICAL DESIGN

The logical flow of a system and define the boundaries of a system. It includes the following steps:

- i. Reviews the current physical system – its data flows, file content, volumes, frequencies etc.
- ii. Prepares output specifications – that is, determines the format, content and frequency of reports.
- iii. Prepares input specifications – format, content and most of the input functions.
- iv. Prepares edit, security and control specifications.
- v. Specifies the implementation plan.
- vi. Prepares a logical design walk through of the information flow, output, input, controls and implementation plan.
- vii. Reviews benefits, costs, target dates and system constraints.

PHYSICAL DESIGN

Physical system produces the working systems by define the design specifications that tell the programmers exactly what the candidate system must do. It includes the following steps.

- i. Design the physical system.
- ii. Specify input and output media.
- iii. Design the database and specify backup procedures.
- iv. Design physical information flow through the system and a physical design Walk through.
- v. Plan system implementation.
- vi. Prepare a conversion schedule and target date.
- vii. Determine training procedures, courses and timetable.
- viii. Devise a test and implementation plan and specify any new hardware/software.
- ix. Update benefits, costs, conversion date and system constraints.

DESIGN/SPECIFICATIONS ACTIVITIES

- i. Concept formulation.
- ii. Problem understanding.
- iii. High level requirements proposals.
- iv. Feasibility study.
- v. Requirements engineering.
- vi. Architectural design.

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INPUT DESIGN

Input Design deals with what data should be given as input, how the data should be arranged or code, the dialog to guide the operating personnel in providing input, methods for preparing input validations and steps to follow when error occur. Input Design is the process of converting a user-oriented description of the input into a computer-based system. This design is important to avoid errors in the data input process and show the correct direction to the management for getting correct information from the computerized system. It is achieved by creating user-friendly screens for the data entry to handle large volume of data. The goal of designing input is to make data entry easier and to be free from errors. The data entry screen is designed in such a way that all the data manipulates can be performed. It also provides record viewing facilities.

When the data is entered it will check for its validity. Data can be entered with the help of screens. Appropriate messages are provided as when needed so that the user will not be in maize of instant. Thus the objective of input design is to create an input layout that is easy to follow.

OUTPUT DESIGN

A quality output is one, which meets the requirements of the end user and presents the information clearly. The objective of output design is to convey information about past activities, current status or projections of the future, signal important events, opportunities, problems, or warnings, trigger an action, confirm an action etc. Efficient, intelligible output design should improve the system's relationship with the user and helps in decisions making. In output design the emphasis is on displaying the output on a CRT screen in a predefined format. The primary consideration in design of output is the information requirement and objectives of the end users. The major formation of the output is to convey the information and so its layout and design need a careful consideration.

DATA FLOW DIAGRAM

A data flow diagram (DFD) is a graphical representation of the "flow" of data through an information system, modeling its process aspects. Often they are a preliminary step used to create an overview of the system which can later be elaborated. DFDs can also be used for the visualization of data processing (structured design).

A DFD shows what kinds of data will be input to and output from the system, where the data will come from and go to, and where the data will be stored. It does not show information about the timing of processes, or information about whether processes will operate in sequence or in parallel (which is shown on a flowchart).

Data Flow Diagram serves two purposes:

- i. To provide annunciation of how data are transformed as they move through the system.
- ii. To depict the functions that transforms the data flow.

DFDs are an excellent mechanism for communicating with the customer during requirement analysis and are widely used for the representation of external and top-level internal design specification. In the latter situations, DFDs are quite valuable for subsystem, files and data links. The DFD methodology is quite effective, especially when the required design is unclear. In the process, many levels of DFDs are created depending upon the level of details needed

The Level 0 DFD is also called Context Level DFD. It depicts the overview of the entire system. The major external entities, a single process and the output stores constitute the level-0 DFD. Though this diagram does not depict the system in detail, it represents the overall inputs, process and output of the entire system at a very high level.

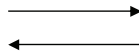
The Level 0 DFD is now expended into a level 1 model. It should be noted that information flow continuity is maintained between level 0 and level 1. The process represents at DFD level 1 further refined into lower levels. This further refinement is continued until an easily implement able program component is reached.

SYMBOLS USED IN DFD

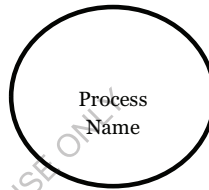
An external
entity



Dataflow



Processes



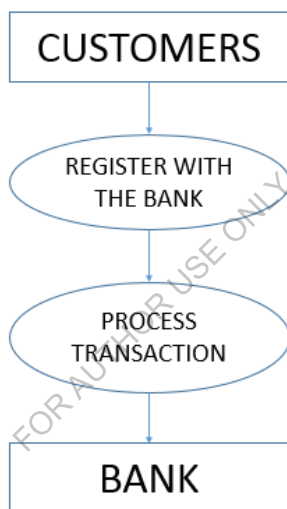
Data Store



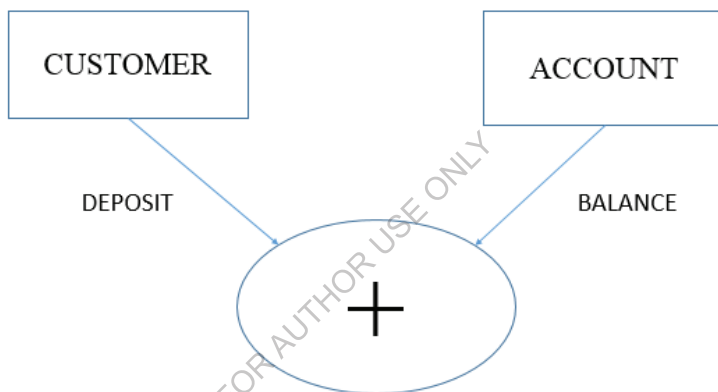
CONTEXT LEVEL DIAGRAM

This level shows the overall context of the system and its operating environment and shows the whole system as just one process. It does not usually show data stores, it only shows that the data is stored and access from the database.

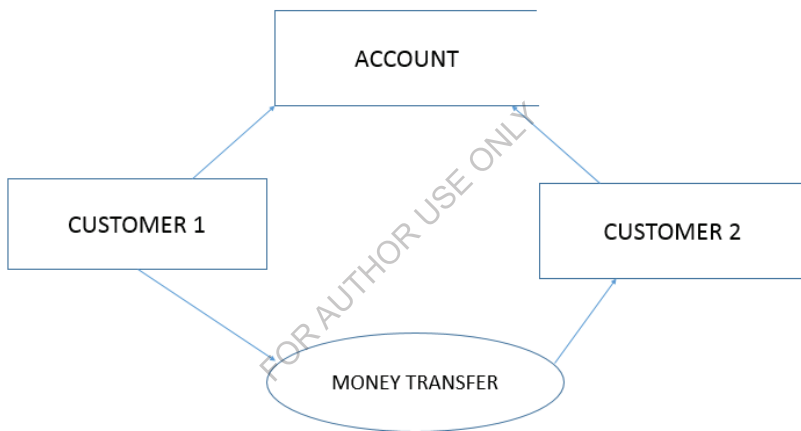
CONTEXT LEVEL DFD



DEPOSIT



MONEY TRANSFER (WITHDRAWAL)



DATABASE DESIGN

A database is an organized mechanism that has the capability of storing information through which a user can retrieve stored information in an effective and efficient manner. The data is the purpose of any database and must be protected.

The database design is a two level process. In the first step

- i. User requirements are gathered together and a database is designed which will meet these requirements as clearly as possible. This step is called Information Level Design and it is taken independent of any individual Database Management System (DBMS).
- ii. In the second step, this Information level design is transferred into a design for the specific DBMS that will be used to implement the system in question. This step is called Physical Level Design, concerned with the characteristics of the specific DBMS that will be used.

A database design runs parallel with the system design. The organization of the data in the database is aimed to achieve the following two major objectives.

- i. Data Integrity
- ii. Data independence

DATABASE TABLE DESIGN

LOGIN

Field	Data Type	Constraints	Description
Username	char(15)	Primary key	
Password	number(9)		
Rights	char(10)		

EMPLOY

Field	Data Type	Constraints	Description
Emp no	number(9)	Primary key	
Employee name	char(30)		
Address	char(30)		
City	char(30)		
State	char(30)		
Country	char(30)		
pincode	Number		
Phone1	Number		
Phone2	Number		
Fax	char(30)		

ADMIN TABLE

Field name	Primary key	Data type
admin Jd	Yes	Varchar
admin_name		Varchar
admin_password		Varchar

OFFICER DETAILS

Field-name	. Primary key	Data type
officerId-	Yes	Varchar
officer_name		Varchar
officer_password		Varchar

ADMIN SAVINGS UPDATE

Field Name	Primary Key	Data type	References
ac no	Yes	Varchar	personal details
Amount		Double Precision	
Interest		Double Precision	

ADMIN TERM UPDATE

Field Name	Primary Key	Data type	References
ac no	Yes	Varchar	personal details
Amount		Double Precision	
interest .		Double Precision	

MIN BALANCE

Field Name	Primary Key	Data type
Actype	YES	Varchar
interest		Double Precision
min_balance		Double Precision
validity		
online_min_balance		Double Precision

PERSONAL DETAILS

Field name	Primary key	Data type	Auto Increment
sl_no		Int	Yes-
ac_no	Yes	Varchar	
name of applicant		Varchar	
name2		Varchar	
name3		Varchar	
address		Varchar	
phone_no		Varchar	
dob_app1		Date	

ACCOUNT DETAILS

Field Name	Foreign Key	Data type	References
ac_no	Yes	Varchar	personal_details
valid upto		Numeric	
mode		Varchar	
creation date		Date	
amount		Double Precision	
interest		Double Precision	

TRANSACTION DETAILS

Field Name	Primary Key	Data type	References
tranjd	Yes	Int	
ac_no		Varchar	personal details
tran_date		Date	
deposit		Double Precision	
withdraw		Double Precision	
balance		Double Precision	
type_of_ac		Varchar	

ONLINE USER DETAILS

Field Name	Primary Key	Data type	References
userid	Yes	Varchar	
ac_no		Varchar	personal details
password		Varchar	
emailjd		Varchar	
creation_date		Date	

ALERT STATUS

Field Name	Primary Key	Data type	References
Account No	Yes	Varchar	personal details
Alert id		Varchar	
Estatus		Varchar	
Mstatus		Varchar	

SOFTWARE DESCRIPTION

OVERVIEW OF ASP.Net AND SQL SERVER

i. The Control Properties

Before writing an event procedure for the control to response to a user's input, you have to set certain properties for the control to determine its appearance and how it will work with the event procedure. You can set the properties of the controls in the properties window or at runtime.

ii. The Text Box

The text box is the standard control for accepting input from the user as well as to display the output. It can handle string (text) and numeric data but not images or pictures. String in a text box can be converted to a numeric data by using the function Val(text).

iii. The Label

The label is a very useful control for Visual Basic, as it is not only used to provide instructions and guides to the users, it can also be used to display outputs. One of its most important properties is Caption. Using the syntax label. Caption, it can display text and numeric data. You can change its caption in the properties window and also at runtime.

iv. The Command Button

The command button is one of the most important controls as it is used to execute commands. It displays an illusion that the button is pressed when the user click on it. The most common event associated with the command button is the Click event.

v. The Picture Box

The Picture Box is one of the controls that is used to handle graphics. You can load a picture at design phase by clicking on the picture item in the properties window and select the picture from the selected folder. You can also load the picture at runtime using the LoadPicture method.

vi. **The Image Box**

The Image Box is another control that handles images and pictures. It functions almost identically to the picture box. However, there is one major difference, the image in an Image Box is stretchable, which means it can be resized. This feature is not available in the Picture Box. Similar to the Picture Box, it can also use the LoadPicture method to load the picture.

vii. **The List Box**

The function of the List Box is to present a list of items where the user can click and select the items from the list. In order to add items to the list, we can use the AddItem method.

viii. **The Check Box**

The Check Box control lets the user selects or unselects an option. When the Check Box is checked, its value is set to 1 and when it is unchecked, the value is set to 0. You can include the statements Check1.Value=1 to mark the Check Box and Check1.Value=0 to unmark the Check Box, as well as use them to initiate certain actions.

ix. **The Option Box**

The Option Box control also lets the user selects one of the choices. However, two or more Option Boxes must work together because as one of the Option Boxes is selected, the other Option Boxes will be unselected. In fact, only one Option Box can be selected at one time. When an option box is selected, its value is set to "True" and when it is unselected; its value is set to "False". In the following example, the shape control is placed in the form together with six Option Boxes. When the user clicks on different option boxes, different shapes will appear. The values of the shape control are 0, 1, and 2,3,4,5 which will make it appear as a rectangle, a square, an oval shape, a rounded rectangle and a rounded square respectively.

x. **The Directory List Box**

The Directory List Box is for displaying the list of directories or folders in a selected drive. When you place this control into the form and run the program, you will be able to select different directories from a selected drive in your computer.

Database File

This is the main file that encompasses the entire database and that is saved to the hard-drive or floppy disk.

Example: StudentDatabase.mdb

- i. Table: A table is a collection of data about a specific topic. There can be multiple tables in a database.
- ii. Field: Fields are the different categories within a Table. Tables usually contain multiple fields.
- iii. Datatypes: Datatypes are the properties of each field. A field only has 1 datatype.

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SYSTEM TESTING AND IMPLEMENT- TATIONS

TESTING

Testing is a process of executing a program with the interest of finding an error. A good test is one that has high probability of finding the yet undiscovered error. Testing should systematically uncover different classes of errors in a minimum amount of time with a minimum amount of efforts. Two classes of inputs are provided to test the process:

- i. A software configuration that includes a software requirement specification, a design specification and source code.
- ii. A software configuration that includes a test plan and procedure, any testing tool and test cases and their expected results.

TYPES OF TESTING

Testing is divided into several distinct operations:

- i. Unit Testing

Unit test comprises of a set tests performed by an individual program prior to the integration of the unit into large system. A program unit is usually the smallest free functioning part of the whole system. Module unit testing should be as exhaustive as possible to ensure that each representation handled by each module has been tested. All the units that makeup the system must be tested independently to ensure that they work as required.

- ii. Integration Testing

Integration testing is a system technique for constructing the program structure while at the same time conducting tests to uncover errors associated with interfacing. The objective is to take unit tested modules and build a program structure that has been dictated by design. Bottom-up integration is the traditional strategy used to integrate the components of a software system into functioning whole. Bottom-up integration consists of unit test followed by testing of the entire system. A sub-system consists of several modules that communicated with other defined interface.

iii. Validation Testing

After validation testing, software is completely assembled as a package, interfacing errors that have been uncovered and corrected and the final series of software test; the validation test begins. Steps taken during software design and testing can greatly improve the probability of successful integration in the larger system. System testing is actually a series of different tests whose primary purpose is to fully exercise the compute –based system.

iv. Recovery Testing

It is a system that forces the software to fail in a variety of ways and verifies that the recovery is properly performed.

v. Security Testing

It attempts to verify that protection mechanisms built into a system will in fact protect it from improper penetration. The system's security must of course be tested from in vulnerability form frontal attack.

vi. Stress Testing

Stress tools are designed to confront programs with abnormal situations. Stress testing executes a system in a manner that demands resources in abnormal quantity and volume.

vii. Black Box Testing

Black box testing is done to find out the following information as shown in below:

- Incorrect or missing functions.
- Interface errors.
- Errors or database access.
- Performance error.
- Termination error.

The mentioned testing is carried out successfully for this application according to the user's requirement specification.

viii. Test Data Output

After preparing test data, the system under study is tested using the test data. While testing the system using test data, errors are again uncovered and corrected by using above testing and corrections are also noted for future use.

CONCLUSION & FUTURE ENHANCEMENT

The project Online Banking is completed, satisfying the required design specifications. The system provides a user-friendly interface. The software is developed with modular approach. All modules in the system have been tested with valid data and invalid data and everything work successfully. Thus the system has fulfilled all the objectives identified and is able to replace the existing system. The constraints are met and overcome successfully. The system is designed as like it was decided in the design phase. This software has a user-friendly interface that enables the user to use it without any inconvenience. The customer or user just needs to input the login ID and password provided by the Bank to login and carry on the required transactions. Online balance check is also provided which would use the users registered mobile number, on which the balance would be SMSed when requested by the user. Besides, it would provide data on concessions given to various sections. Another additional feature is that the data theft and data loss due to miss placing of registers would no more be a concern.

The application has been tested with live data and has provided a successful result. Hence the software has proved to work efficiently.

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