

# **KAKATIYA GOVERNMENT COLLEGE HANUMAKONDA**

## **STUDENTS' STUDY PROJECT**

**On**

**“BANKING SYSTEMS”**



**DEPARTMENT OF COMPUTER SCIENCE AND APPLICATIONS**

# KAKATIYA GOVERNMENT COLLEGE,

HANUMAKONDA, DIST. HANUMAKONDA.

(Affiliated to Kakatiya University)

## CERTIFICATE

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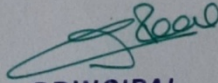
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# **BANKING SYSTEM**

## **INTRODUCTION**

This software will be provided as a tool to the HSBC BANK. The BANK has been working for Accounts information, Withdrawal (through Cash/Cheque). Deposit amount. In this Software you can keep record for daily Banking transactions. THE OBJECTIVE is to prepare a software or application, which could maintain data & provide a user friendly interface for retrieving customer related details just in few seconds, with 100% accuracy. Software is completely computerized, so it is not time consuming process. No paper work required & can be implemented further. The application should also facilitate the addition of new Customer A/c, deletion of A/c& modification of existing customer A/C. To Search for every individual accounts for a particular customer, show all transaction & any account should be opened with minimum Rest. 500 etc

## **OBJECTIVE & GOALS**

The objective & goals of the proposed system are:- To allow only authorized user to access various functions and processed available in the system. Locate any A/C wanted by the user. Reduced clerical work as most of the work done by computer. Provide greater speed & reduced time consumption. To increase the number of A/C and customer. This will reduced the manual workload and give information instantly. The software will maintain the list of A/C and customer record and balance status. The software will be user friendly so that even a beginner can operate the package and thus maintain the status of A/C and balance status easily. The Project Banking system has been made to automate the Banking system being followed by a banking company that deals in current account with or without check facility.

## **The User**

Administrator can check A/C's with a login & password & can work out with A/C holders of the bank can withdraw/deposit cash/cheque/DD to/from their accounts. To enable faster transactions like New account creation. Withdrawal of cash Deposits of cash or cheque Checking of Account balances by account holders by admin Transaction records in the form of reports. The project makes a sincere effort to provide all the above-mentioned features to meet the requirements of the bank. The Project category is Visual Basic with RDBMS (Access) & Management information System.

The Graphical interface (Front End) of the application is prepared by the usage of Visual Basic. Coding for the validation is provided through the use of Visual Basic 6.0. The back

end of the application is maintained in Microsoft Access. Information Source is Management Information System

## **HARDWARE REQUIREMENT**

Hardware is referred to as computing potential. In this project, three hardware categories have been considered during software planning: DEVELOPMENT SYSTEM, which is a computer and related peripherals that will be used during the software development phase. The development system has been used because it can accommodate multiple users, maintain large volumes of information and support a rich assortment of software tools. TARGET MACHINE on which the software will eventually be executed.

## **OTHER HARDWARE ELEMENTS OF THE NEW SYSTEM.**

SYSTEM SPECIFICATION Software Specification

OPERATING SYSTEM WINDOWS NT/2000/XP/2003/Vista/7 BACK END MS ACCESS  
XP FRONT END VISUAL BASIC 6.0

## **Benefits of Usability Features**

In order to meet competition, avoid obsolescence, and seize opportunities, a business must be able to: 1. Respond rapidly to new or changing information needs. 2. Maintaining the past data to ensure the satisfaction of customers.

## **Visual Design**

Advancing computer technology has placed enormous power on desktops. MS Access XP uses this power to let you work the way you think. With its features like: Object navigators Drag-and-drop Layout editors and pre-viewers

## **Wizards**

Create data blocks, layouts, reports, and charts by answering a few simple questions. You can see the results unchanged or customize them.

## **Database Connectivity**

Visual Basic 6.0 is the best set of tools for exploiting the full power of MS Access XP database management system.

## **Output Formats**

MS Access XP produces reports and charts in industry standard formats such as HTML, RTF to facilitate widespread distribution. Recipients do not need MS Access XP to read or reuse this output

**Forms** The forms component of Visual Basic is the part of the development environments in which you develop form modules. It also provides the development framework of developing menu and PL/SQL Library modules.

## **Graphics**

The graphic component of Visual Basic 6.0 is the part of environment in which you develop display modules. A display module may one or more charts you derive from database data, or may contain any combination of graphic elements with or without reference to the database. You can display modules strictly for business graphics display of data, or you can use it as a graphics-drawing tool, or both.

## **SCOPE OF THE PROJECT**

The first software project management activity is the determination of software scope. Scope is defined by answering the following question:

### **INFORMATION OBJECTIVES:**

What customer visible data objects are produced as output from the software? What data objects are required for input? The main information that needed in developing AFM module is the amount to be charged from each person or company and to determine the quantity and amount per object. **FUNCTION AND PERFORMANCE:** What functions does the software perform to transform input data to output? In this project (Banking System), the Visual Basic 6.0 (VB 6.0) is used as front end and Microsoft Access is used as back end. The details of all the clients would be written in Microsoft Access. But whenever the project is run in VB, data entered in MS Access appears in VB due to connectivity, which has been implemented between VB and Access. Software scope must be ambiguous and understandable at both the management and technical level.

### **PROBLEM DEFINITION**

Recognition of problem A new opportunity that the present system cannot handle pressures Managers, non- managers or environment elements usually recognize problems very rarely by information specialists. Managers find out where the problem exists & what the cause might be. The definition of our problem lies in manual system and a fully automated system.

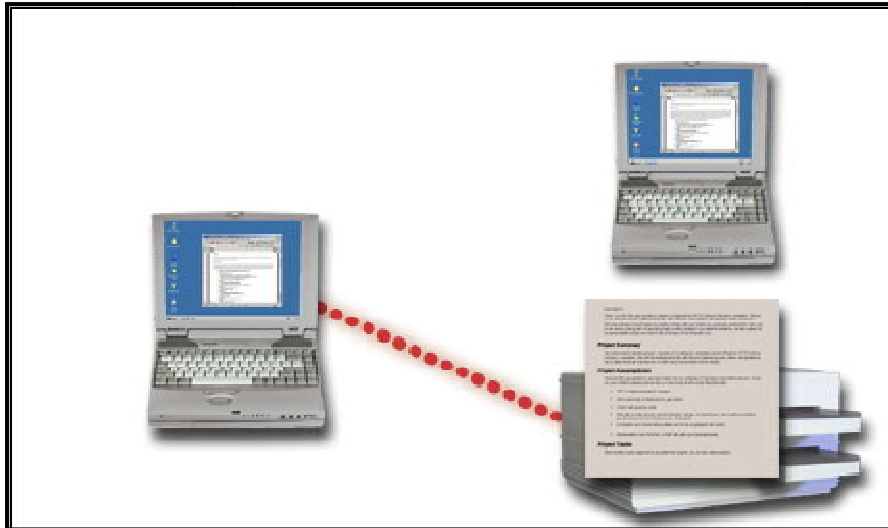
#### **Manual system:**

The system is very time consuming and lazy. This system is more prone to errors and sometimes the approach to various problems is unstructured.

#### **Technical system:**

With the advent of latest technology if we do not update our system then our business result in losses gradually with time. The technical systems contains the tools of latest trend i.e. computers printers, fax, Internet etc. The systems with this technology are very fast, accurate, user-friendly and reliable





### **In defining the problem:**

Find what makes the situation problematic by: Observing the process Interviewing the participants Examining reports and documentation Define the human activity system (ROOT DEFINITION) Owners of the system Customer of the system Environmental constraints

### **System Development Life cycle**

The structured sequence of operation required imaging developing and Making operational a new information system it's a cycle because the System will need replacement and Development, cycle will begin.

### **Phases of SDLC**

System Analysis System Design Coding System Testing  
System Implementation System Maintenance

### **System Development Life Cycle**

System development life cycle is a process of developing software on the basis of the requirement of the end user to develop efficient and good quality software. It is necessary to follow a particular procedure. The sequence of phases that must be followed to develop good quality software is known as SDLC {system development life cycle}. The software is said to have a life cycle composed of several phases. Each of these phases results in the development of either a part of the system or something associated with the system, such as a test plan or a user manual. In the life cycle model, called the "spiral model," each phase has well-defined starting and ending points, with clearly identifiable deliverables to the next phase. In practice, it is rarely so simple. As with most undertakings, planning is an important factor in determining the success or failure of any software project. Essentially, good project planning will eliminate many of the mistakes that would otherwise be made, and reduce the overall

time required to complete the project. As a rule of thumb, the more complex the problem is, and the more thorough the planning process must be. Most professional software developers plan a software project using a series of steps generally referred to as the software development life cycle

A number of models exist that differ in the number of stages defined, and in the specific activities that take place within each stage. The following example is a generic model that should give you some idea of the steps involved in a typical software project.

A generic software development life cycle Analysis of user requirements

During this stage, the problem is defined so that a clear understanding can be gained of what the system should do, i.e. what the inputs to the system are, what the output should be, and the operational parameters within which the system is expected to work. If the new system is to replace an existing system, the problem may be defined in terms of the additional or enhanced functionality that is required.

### **Program design**

In this stage, a solution to the problem is designed by defining a logical sequence of steps that will achieve each of the stated system objectives. Such a sequence of steps is often referred to as an algorithm.

Some of the methods used to define program algorithms are described later in this section, and include flowcharts and pseudo code. These tools allow the program designer to break a given problem down into a series of small tasks which the computer can perform to solve the problem. The user interface will also be designed during this stage, and will determine how input is obtained, how output is displayed, and what controls are available to the user.

### **Program coding**

This stage, sometimes known as the implementation stage, is where the algorithms are translated into a programming language, and tends to be the longest phase of the development life-cycle. In this case, we are using Visual Basic to write the program.

### **Documentation and testing**

The documentation of the program fulfils two main objectives. The first is to provide a technical reference to facilitate ongoing maintenance and development of the software itself. The second is to provide user documentation, i.e. a set of instructions that inform the user about the features of the software and how to use them. The aim of software testing is to find any errors ("bugs") in the program, to eliminate those errors (a process known as "debugging"), and as far as is reasonably practicable should be sufficiently rigorous to ensure that the software will function as expected under all foreseeable circumstances.



### **Operating and maintaining the system**

Once the software has been "rolled out" and any necessary user training has been completed, it will be necessary to monitor the performance of the system over time to ensure that it is behaving as expected. The system will need to be maintained, and parts of it will need to be upgraded from time to time to handle evolving user needs or to cope with new problems. Eventually, as the system ages, it may no longer be able to adequately cope with the demands of a growing number of users, take advantage of advances in hardware technology, or adapt to a constantly changing environment. When this time comes, the system will need to be decommissioned and replaced by a new system. Hence, the software development life cycle will begin again.

### **FEATURES PROPOSED IN THE CURRENT SYSTEM**

Any information can be easily searched. All records of A/c's and customer are stored in separate files. Which are maintained constantly update by system.

Particular A/c information can be modified A particular customer record can be modified for one or more field's customer name, address by providing A/c number. A customer record can be easily deleted by providing A/c number. The proposed system provides faster data access, data entry and retrieval. The proposed system is more efficient, fast, reliable, user friendly. Over and above the proposed system does not have any possibility of data loss during processing.

### **Feasibility Consideration**

Three key consideration involved in this feasibility analysis each consideration has reviewed to depict how it relates to the system effort. They are as follows:-

- i. Economic feasibility
- ii. Technical feasibility
- iii. Operational feasibility

### **ECONOMIC FEASIBILITY**

Economic analysis is the most frequently used technique for evaluating the effectiveness of a proposed system. More commonly known as cost/benefit. Analysis in this procedure we determine the benefits and saving that are Expected in this procedure we determine the benefits and saving that are expected from the proposed system and compare the cost; we take a decision and implement the new proposed system. The manual efforts involved in maintaining the A/c and customer information, the withdrawal, the deposit and balance calculation, is tremendous. This is so because the volume of information to be handled is tremendous. Maintaining the records of these many customers is not easy and the manpower involved is great. With the help of computers it is very easy to maintain the detail of book and library and to keep track of available books. In case of computerization, the cost

involvement is not very high. As it is used to be about 5-7 years back. All banking management needs initially is a desktop computer, a printer and a UPS to maintain continuous supply of electricity. A single operator can handle many queries. On an average, it should not take more 10-15 minutes to enter the information of a customer. As part of the feasibility study, an estimate is made whether the identified user needs may be satisfied using the current software and hardware. This study decides that whether or not the proposed system will be cost effective from a business point of view.

In this case, user has one head clerk who does all the work. So the one clerk has maintain records regarding new A/c and deletion of A/c addition and deletion of customer, balance amount etc. Since the volume of information to be handled by a single person is tremendous. An analysis of the various alternatives suggested by the software development team follows in subsequent pages.

### **Technical Feasibility**

This is concerned with specifying equipment and software that will successfully satisfy the user requirement. The technical needs of the system may vary considerably, but might include:

The facility to produce outputs in a given time - Response time under certain conditions. - Ability to process a certain volume of transaction at a particular speed. - Facility to communicate data to distant location. After examining technical feasibility, we give more importance to the configuration of the system than the actual make of hardware.

Water fall life cycle model

**Definition:** It is systematic, disciplined and sequential approach to software development that begins at system level and process through, analysis, design, code, and test. Diagram of waterfall life cycle model: Waterfall life cycle mode Design: It is multistep process it will focus on 4 fields Data structure Architecture Interface Algorithm

## **WATER FALL MODEL SYSTEM FEASIBILITY VALIDATION**

### **PROJECT PLANNING**

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The stages of testing process are:

### **Unit Testing**

Individual components are tested to ensure that they operate correctly. Each component is tested independently, without other system component.

### **Module testing**

A module is a collection of dependant components such as on object class, an abstract data type or some looser collection of procedures and function. A module encapsulates related components so can be tested without other system modules.

### **Sub-module testing**

This phase involves testing collections of modules, which have been integrated into sub-systems. Sub-systems may be independently designed and implemented. The most common problems that arise in the large software systems are sub-system interface mismatches. The subsystem test process should therefore concentrate on the detection of interface errors by rigorously exercising these interfaces.

### **Acceptance testing**

This is the final stage in the testing process before the system is accepted for operational use. The system is tested with data supplied by the system procurer rather than simulated test data. Acceptance testing may reveal errors and omission in the system requirement definition because the real data exercises the system in different ways from the test data. Acceptance testing may also reveal the requirement problems where the system's facilities do not really meet the user's needs or the system performance is acceptable.

## **TESTING METHODOLOGIES**

### **Recovery Testing**

In this test the system is tested by forcing it to fail in a Varsity of ways and verifies that the recovery is properly performed. The re-initialization, data recovery, and restart are each evaluated for correctness.

### **Stress Testing**

In this test the application is tested in a manner that the application is demanding resources in an abnormal manner. The application is tested for maximum memory usage. The boundary conditions are also tested for arrays and other data structures used in the system.

### **Performance testing**

Performance testing for the application is performed for finding the actual run-time performance. Time taken for search and locate the required data is tested. The data conversion accuracy and speed for the converter tool is also tested. Connectivity and data transfer performance for live update facility of the application is tested by using test data sets provided by the system testing specialists of the company.

### **User Acceptance Testing**

User acceptance testing is the moment at which we prove that we have really done what we promised to do. This testing is not the same as the testing conducted in the various stages of the life cycle, since, here; it involves the customer and intends to check that the tests dispose no errors at all. All the possible testing conditions and data that the software organization has never seen will fall within the specified operational conditions and behavior of the software. The proposed system is very efficient and perfect than the existing one. The modules available are very user friendly and also completely devoid of all the possible input errors. The user proves it by using sample data.

### **TESTING STRATEGY:**

Testing strategy integrates software test case design methods into a well planned series of steps that results in the successful construction of software.

### **UNIT TESTING:**

Unit testing is concerned with knowledge about testing a program unit, to determine that it is free of data, logic or standard errors. At this level white box testing are used. This unit includes knowledge of dynamic analysis. In this unit testing individual components or models are tested. It relatively focuses in the small segments of the code and the aims to exercise a high percentage of internal paths.

### **INTEGRATION TESTING:**

Integration testing is concern with knowledge about validating that software component, which have been unit tested separately, interact correctly when they are put together to perform higher order function. In this application bottom up integration testing is done.

## **BOTTOM-UP TESTING:**

Bottom-up integration testing begins construction and testing with atomic models are integrated from bottom up, processing require for models are

## **A SAMPLE TESTING CYCLE**

**Requirement Analysis:** Testing should begin in the requirement phase of the software life cycle (SDLC). **Design Analysis:** During the design phase, testers work with developers in determining what aspects of a design are testable and under what parameter those testers work. **Test planning:** Test Strategy, Test plan(s), Test bed creation. **Test development:** Test procedures, Test Scenarios, Test Cases, Test scripts to use in testing software. **Test Extension:** Testers execute the software based on the plans and tests and report any errors found to the development team.

## **SAMPLE TESTING CYCLE**

### **Requirement Analysis:**

Testing should begin in the requirement phase of the software life cycle (SDLC).

**Design Analysis:** During the design phase, testers work with developers in determining what aspects of a design are testable and under what parameter those testers work.

### **Test planning:**

Test Strategy, Test plan(s), Test bed creation. **Test development:** Test procedures, Test Scenarios, Test Cases, Test scripts to use in testing software.

### **Test Extension:**

Testers execute the software based on the plans and tests and report any errors found to the development team.

**Test Reporting:** Once testing is completed, testers generate matrices and make final reports on their test effort and whether or not the software tested is ready for release. Retesting the defects.

## **Operation Documentation**

Operation systems are quickly taken for granted. Every system requires periodic evaluation after implementation. Unlike system testing which determines where the system fails, the operation documentation review determines how well the system continues to meet performance specification. It also provides information as to determine whether major redesign is necessary. The operation documentation review provides the evaluation of a system in terms of the extent to which the system accomplishes stated objectives and actual project costs exceed initial estimates. The initiating study begins with the review team, which gathers and reviews request for evaluation. It also files discrepancies notices after the system

has been accepted. Unexpected changes in the system that affects the user or system performance is a primary factor that prompts system review. Once a request is filed, the user is asked how well the system is functioning to specification. Suggestion is sought and this marks the beginning of the operation documentation review. The review team prepares formal review plan around

## **VALIDATION**

Validation is the process of validating the software according to the user requirement. Successful validation should establish confidence that at the application is fits for purpose. The validation is done in all modules and is to ensure that proper results are only obtained. Few validations done are as follows,

### **Recovery testing:**

It was checked whether the software can able to recover from faults and resume processing within the predefined time.

### **Security testing:**

Security testing attempt to verify that production mechanism built into a system will in fact product it from improper penetration.

### **Stress testing:**

The validation of the stress testing is sensitivity testing.

## **SYSTEM IMPLEMENTATION**

### **IMPLEMENTATION**

A crucial phase in the system life cycle is the successful implementation of the new system design. Implementation simply means converting a new system design into operation. This involves creating computer compatible files, training the operating staff and installing hardware terminals, and telecommunication network before the system is up and running. In system implementation, user training is crucial for minimizing resistance to change and giving the new system a chance to prove its worth. Training aids such as user-friendly manuals, a data dictionary and job performance aids that communicate information about the new system and help screens. Provide the user with a good start on the new system.

### **LIMITATIONS**

In this world everything has its own limitations. And limitation in a project is quite obvious. Even famous software's and operating systems have its own limitations. For example win 3x does not support USB port. So it's a limitation of win3x that it does not support USB port. Due to shortage of time this project has some limitation. Some of them are as follows: In this project a book code cannot be more than 500. So it's a limitation of this project that this



system cannot maintain more than 500books. Same with member, a member number cannot be more than 500 No checks have been made in relation to the entry of duplicate records in book section. This limitation is also present in the function when we create new members. And there are some other limitations, which will be faced by USER when he/she will use this project.

## **CONCLUSION**

This banking system project will serve as a useful approach to data base dialog box to deposit and withdraw the money for the person. It serves as a helpful approach for the users. It provides easy way of the deposit and withdraws the money. It reduces the time taken by the user to save the money. Thus the project is the user friendly approach.

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Search Engine

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