Project Title

Mini Project Report -Database Lab (DSE 2260)

Department of Data Science & Computer Applications



B. Tech Data Science

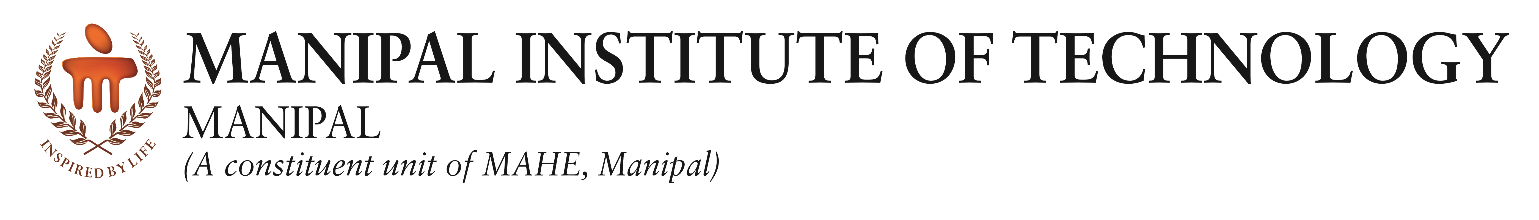
4th Semester – Batch: A1/A2/B1/B2

Submitted By

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Date:

**CERTIFICATE**

This is to certify that the <Name-1(Regno), Name-2(RegNo), Name-3(RegNo), Name-4(Regno)>, have successfully executed a mini project titled “…….” rightly brining fore the competencies and skill sets they have gained during the course- Database Lab (DSE 2262 & DSE), thereby resulting in the culmination of this project.

|  |  |
| --- | --- |
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| **DSCA, MIT** | **DSCA, MIT** |

**ABSTRACT**

The abstract is brief synopsis of the project work and should be written in 3/4 paragraphs. The first paragraph should introduce the area of the topic and give importance of the work / topic in the present-day scenario, hence leading to the objective of the project work. The second paragraph should briefly discuss the methodology that was adopted in addition to the tools used. The third paragraph should discuss briefly the important results that were obtained and its significance. The fourth paragraph should discuss the important conclusion(s) of the project work. If you have used some software tools packages or hardware/systems, indicate them in the last line. (The abstract should fit in one page only).

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Chapter 1

Introduction

An introduction to the area of work, explaining all the important aspects. At-least one or two pages of introduction to the domain should be given. This section can have three to four Paragraphs of text. Explanation about the existing system need for change can also be included in this section.

Example: Bank cheque processing is a challenging task for the scientific community in the field of document analysis and character recognition. The challenge is because of the nature of the cheques. Bank cheques ......................and identification of bank agency, the cheque number and ........................... size text style colour and so on. Usually the some of the information mentioned above are encoded as a number and are pre-printed using ............he most important user-entered information fields are the courtesy (digit) amount, the legal (worded) amount and the ............................... ...... Machineprinted numeral recognition module. In a MICR cheque the numerals are printed using magnetic ink CMC-7 code. The major MICR fonts used around the world are E-13B and CMC-7. The code is printed in a well-defined zone. Courtesy amount recognition module. It is used for extracting numerals written by the user in the Courtesy amount field. The output of this module will be used by the amount validation module. ..................... .............List the advantages of the work......This would reduce the manual work.... increase efficiency......... Cost involved ............implementation time of automation is minimal.............

Chapter 2

Synopsis

**2.1 Proposed System**

This section should give an abstract of the project work being carried out. In this section you can mention the exact problem statement. Ex: Numeral Recognition and Validation in Check Images is a process of .......... The extracted bank identification number, identification of bank agency, cheque number and account number from the image are validated against .................. These modules along with the other modules such as .................... (amount written in words) and amount validation module are used to set up a fully functional automatic bank

cheque processing system.

**2.2 Objectives**

Main objectives can be listed with bulleted points.

Example: The Main Objective of the work are ,,,,,,,,,,,,,

* To recognize the graphics components in an image by extract

..............

* To find the defective images.........................................
* To Enhance........................
* Compare and analyse ..................................
* To generate transactions report based on the timeline...
* To Generate popup reminders, automatic mail notification…

**Chapter 3**

**Data Requirements**

[ for your understanding only

Ensures that data produced and consumed satisfies business objectives, is understood by all relevant stakeholders, and meets the needs of the business processes that create and use the data.]

**3.1** **Purpose, scope and overview**

The Data Requirement Document (DRD) is a central document of the project, in which all information relating to data is gathered for agreement by the key stakeholders and then for guidance and information for those involved in the project. The data requirements are listed in the following sections and describe the essential data requirements for the *Banking* application.

The application requires data describing the Customers, branches, accounts and data managing different operations such as deposit, withdrawal operations. Following are main entities about which data requirement is to be documented.

1. Customers
2. Bank Branches
3. Accounts of each customer
4. Data relevant to the transactions done by customers
5. ….
6. ….
7. …..

**3.2 Requirements**

**3.2.1 Customers**

|  |  |  |
| --- | --- | --- |
| Following Data related to bank customer need to be captured. | | |
| **Data Name** | **Description** | **Example** |
| Customer Id | An unique alphanumeric value to identify each customer. | SIB12345 |
| Customer Name | Name of the Customer |  |
|  |  |  |
| Password | An alphanumeric value of minimum 8 characters containing at least one capital, number, special character | Abc$ef29 |

**3.2.2 Accounts**

|  |  |  |
| --- | --- | --- |
| Following Data is related to different accounts owned by the customer. Each Customer can have one or more different accounts such as SB, RD, DEPOSIT etc. Also need to record Branch in which account is opened and date of opening. | | |
| **Data Name** | **Description** | **Example** |
| Account Number | A unique 10-digit numeric value to identify each Account. Every account must be related to a customer. | 127839989234 |
| Account Type | Such as- SB, RD, DEPOSIT, LOAN | SB |
| Balance | Numeric data represents balance of account. Minimum balance for SB account is 1000/- |  |
| Account open date |  |  |

**3.2.3 Branches**

|  |  |  |
| --- | --- | --- |
| Following Data is used to capture Branches of the Bank. | | |
| **Data Name** | **Description** | **Example** |
| Branch Number | A unique 5-digit numeric value to identify each branch owned by the bank. | 00212 |
| Branch Name | Relevant to locality with in city | SIB-locality |
| City | Any valid city name in India |  |
| Pincode | Relevant to locality in the city |  |
| Total Assets | Valuation of assets owned by the branch |  |
| Total Liabilities | Valuation of total liabilities such as interest to be paid on deposits. |  |

[Similarly, add relevant tables which give information about what data you need to capture. Note it is not same as schema, relationship etc is recorded as text not as foreign key /primary key.]

**Chapter 4**

**Functional Requirements**

[ for your understanding only

What is a Functional Requirement?

A Functional Requirement (FR) is a description of the service that the software must offer. It describes a software system or its component. A function is nothing but inputs to the software system, its behaviour, and outputs. It can be a calculation, data manipulation, business process, user interaction, or any other specific functionality which defines what function a system is likely to perform. ]

Briefly write overview of functionalities provided by the application in terms of different modules.

**4.1 User Registering/Login module**

Two lines about module briefly and it supports functionalities- New user registration, Login, Forgot password

**4.1.1 New User Registration**

The user must be able to create user id and password by supplying appropriate details.

|  |  |
| --- | --- |
| INPUT | New username, Password, phone |
| Processing | The system must check availability of entered user name.  Password must follow criteria- minimum 9 char, at least one capital, one number and one special character.  Check for validity of phone number by prompting to enter OTP |
| OUTPUT | User created Successfully message / highlight the information entered which is wrong and allow to renter. |

**4.1.2 Login**

The existing user must be able to login upon entering proper user name and password.

|  |  |
| --- | --- |
| INPUT | username, Password |
| Processing | Check the user name and password against information stored in data storage |
| OUTPUT | If user entered correct user name & Password  Login successful and open main application menu  Else  Display Login not successful, retry logging in |

**4.1.3 Forgot password**

If existing user name is not bale to login, forgot password can be used to reset password.

|  |  |
| --- | --- |
| INPUT | Prompt user to enter username, Phone |
| Processing | If username and corresponding phone exist in the data storage  Send OTP to Phone.  Prompt the user to enter OTP  If OTP matching  Prompt user to change password according to criteria.  Else  OTP not matching.  Else  User name and corresponding Phone not existing in the storage |
| OUTPUT | Password successfully changed / User name, phone not matching |

**4.1.3 Money Withdrawal**

After validating user, user selects for withdrawal operations by inputting amount.

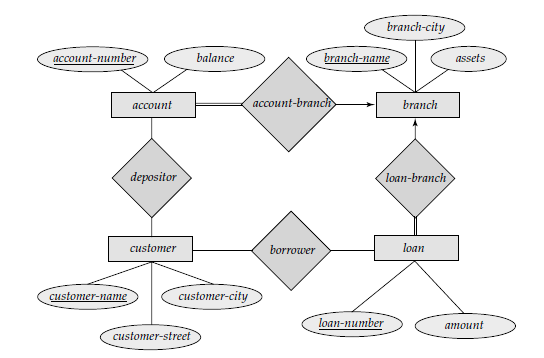
|  |  |
| --- | --- |
| INPUT | Prompt user to enter Amount |
| Processing | If Balance amount after withdrawing amount > minimum balance then  Allow withdrawal and update Balance  else  Cancel withdrawal & Show message “No Enough Fund” |
| OUTPUT | Balance updated / No Enough Fund |

[Similarly, add relevant functionalities which you want users to do. ]

**Chapter 5**

**Detailed Design**

**5.1 ER Diagram**

****

**5.2 Schema Diagram**

**Account (**account-number, balance, branch-name)

branch-name References Branch

**Branch (**branch-name, branch-city, assets)

**Loan (**loan-number, amount, branch-name)

branch-name References Branch

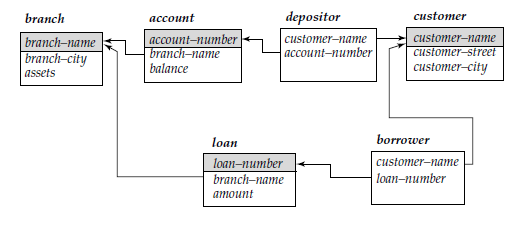
**Customer (**customer-name, customer-city, customer-street)

**Borrower (**customer-name, loan-number)

customer-nacome References Customer & loan-number References Loan.

**Depositor (**account-number, customer-name) account-number References

Account, customer-name References Customer

****

**5.3 Data Dictionary**

**BRANCH**

|  |  |  |  |
| --- | --- | --- | --- |
| Column | Data type (size) | Constraint | Constraint Name |
| Branch\_Name | Varchar2(10) | Primary Key | Branch\_Name\_PKey |
|  |  |  |  |
| Assets | Number(7) | >0 | Assets\_Morethan\_0 |

**ACCOUNT**

|  |  |  |  |
| --- | --- | --- | --- |
| Column | Data type (size) | Constraint | Constraint Name |
| Account\_Number | Varchar2(3) | Primary Key | AccountNo\_PKey |
| Branch\_Name | Varchar2(10) | Foreign Key referencing Branch | Branch\_Name\_FKey |
|  |  |  |  |
| Balance | Number (5) | >1000 | Min\_Bal\_1K |

….

**5.4 Relational Model Implementation**

**CREATE TABLE BRANCH** (BRANCH-NAME VARCHAR2(15) PRIMARY KEY, BRANCH-CITY VARCHAR2(20), ASSETS NUMBER (10,2));

**CREATE ACCOUNT** (ACCOUNT-NUMBER VARCHAR2 (3) PRIMARY KEY, BALANCE NUMBER (8,2) CHECK (BALANCE >1000), BRANCH-NAME VARCHAR2(15) NOT NULL REFERENCES BRANCH)

**CREATE TABLE LOAN** (LOAN-NUMBER VARCHAR2(3) PRIMARY KEY, AMOUNT NUMBER (5,1), BRANCH-NAME VARCHAR2(15) REFERENCES BRANCH)

**CREATE TABLE CUSTOMER** (CUSTOMER-NAME VARCHAR2(10) PRIMARY KEY, CUSTOMER-CITY VARCHAR2(110), CUSTOMER-STREET VARCHAR2(120))

**CREATE TABLE BORROWER** (CUSTOMER-NAME VARCHAR2(10) REFERENCES CUSTOMER, LOAN-NUMBER VARCHAR2(3) REFERENCES LOAN, PRIMARY KEY (CUSTOMER-NAME, LOAN-NUMBER));

**CREATE TABLE DEPOSITOR** (ACCOUNT-NUMBER VARCHAR2 (3) REFERENCES ACCOUNT, CUSTOMER-NAME VARCHAR2(10) REFERENCES CUSTOMER), PRIMARY KEY (CUSTOMER-NAME, ACCOUNT-NUMBER));

**5.5 Queries**

List of queries used to retrieve data

**4.5.1** Searching employee details and department name in which they are working Empno entered by the user.

[Assume that you have a user interface for searching Employee information]

*SELECT ENAME, DEPNAME from Emp,Dept where emp.deptno=dept.deptno and empno=100;*

…..

**5.6 Triggers**

**[ if applicable/ if implemented then show the code for Triggers]**

**….**

**5.7 Stored Procedures**

**[ if applicable/ if implemented then show the code for Triggers]**

**…**

**5.8 Stored Functions**

**[ if applicable/ if implemented then show the code for Triggers]**

**…..**

**6. Functional Requirement Implementation**

[ code related to different function implementation may be added here]

**~~6. Testing~~**

**~~[ set of testcases passed/failed]~~**

[No need to write these]

**7. Result**

[screenshots of applications with 1-2-line explanation]

**8.** **Conclusion and Future Work**

**8.1 Conclusion**

….

**8.2 Scope for future work**

**….**

**~~References~~**