CHAPTER 1

INTRODUCTION

1.1 Introduction to DBMS

A Database is a collection of related data organized in a way that data can be easily accessed, managed and updated. Any piece of information can be a data, for example name of your school. Database is actually a place where related piece of information is stored and various operations can be performed on it.

A database management system (DBMS)is a collection of programs that enables users to create and maintain a database. The DBMS is a general-purpose software system that facilitates the processes of defining, constructing, manipulating, and sharing databases among various users and applications.

The database system can be divided into four components.

- **Users:** Users may be of various types such as DB administrator, System developer and End users.

- **Database application :** Database application may be Personal, Departmental, Enterprise and Internal

- **DBMS:** Software that allow users to define, create and manages database access, Ex: MySql, Oracle etc.

- **Database:** Collection of logical data

1.2 Introduction to SQL

SQL, which is an abbreviation for Structured Query Language, is a language to request data from a database, to add, update, or remove data within a database, or to manipulate the metadata of the database.

Commonly used statements are grouped into the following categories:

- **Data Query Language (DQL)**
  SELECT - Used to retrieve certain records from one or more tables.

- **Data Manipulation Language (DML)**

  INSERT - Used to create a record.
  UPDATE - Used to change certain records.
  DELETE - Used to delete certain records.

- **Data Definition Language (DDL)**

  CREATE - Used to create a new table, a view of a table, or other object   in database.
  ALTER - Used to modify an existing database object, such as a   table.
  DROP - Used to delete an entire table, a view of a table or other object in the database.

- **Data Control Language (DCL)**

  GRANT - Used to give a privilege to someone.
  REVOKE - Used to take back privileges granted to someone.

1.3   Overview of the project

- ➢ There is a login page where user login's the application.
- ➢ Once the user login's , the tables are automatically created with the user's name.
- ➢ This software is used for WORD PREDICTION.
- ➢ This software does prediction of the CURRENT and the NEXT word.
- ➢ **Current word prediction:** When any word is being typed (incomplete word) the word is being searched in the data base if too many words are found the top five will be selected on basis of count (no of times word used) which is the attribute to the NEW_WORDS table. If no word is found the current word prediction is not shown.

- ➢ **Next word prediction:** There are three parameters which will lead to the prediction of next word those are Previous word, Current word and Next word .The Previous word will help in predicting the Current word and the Current word will help in predicting the Next word. When the word is typed and the space is entered the word prediction will start this is to avoid insertion of garbage words into the database. When the space is typed the word is being checked into the database. If the word is not found then the word is being inserted with the count as 1(as it is used once). If word is found the count is incremented and the next word is suggested using the Next Word attribute in database table.

➤ There are 2 types of predictions given by the application;
　　1. Normal words prediction
　　2. Java words prediction
➤ Also the delete button is provided to clear the database and erase the values.

## 1.4　Aim of the Project

➤ This project will help users to use this application as;
　　▪ **It will reduce the effort,**
　　▪ **It will reduce the time,**
　　For typing the sentences which are often typed by the user.
➤ This application also gives the user experience of **personal text editor.**

1.5　Software Requirements

- Operating System　　　　:　Windows 7 or Higher
- Programming Language　　:　JAVA
- Tools / software　　　　　:　NetBeans IDE and Wampserver

CHAPTER 2

ENTITY RELATIONSHIP DIAGRAM
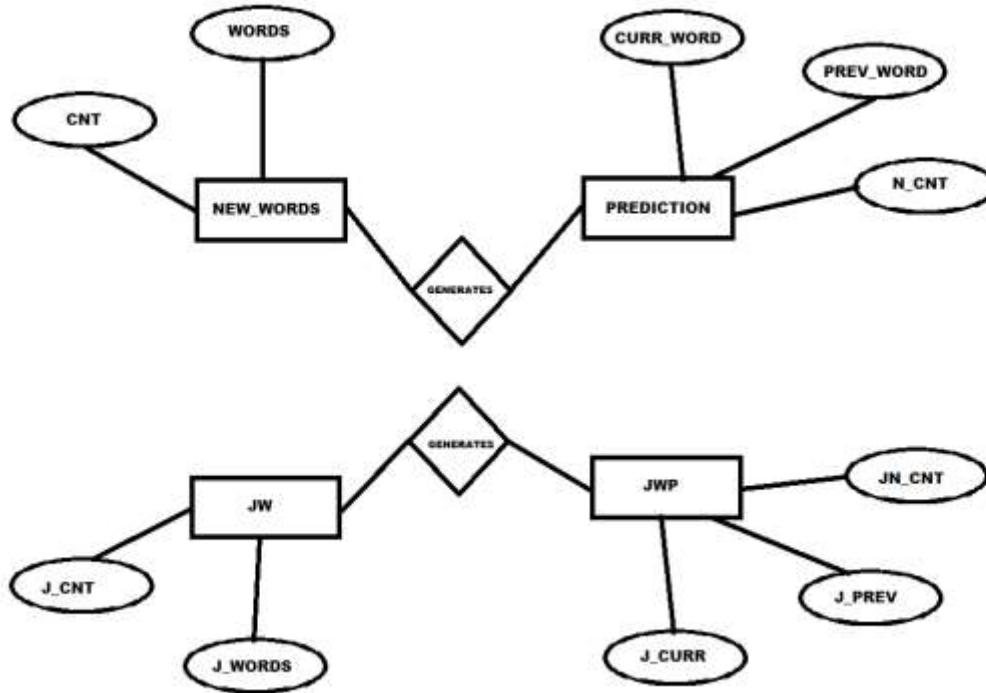
CHAPTER 3

ER TO RELATIONAL MAPPING

1. **NEW_WORDS ATTRIBUTES:**
   - **WORDS:** This are the words user enters and are used for prediction.
   - **CNT:** This represents the number of times the word is used.

2. **PREDICTION ATTRIBUTES:**
   - **PREV_WORDS:** This represents the previous word user has entered.
   - **CURR_WORDS:** This represents the current word user can enter.
   - **N_CNT:** This represents the number of times the combination is used

3. **JW ATTRIBUTES:**
   - **J_WORDS:** This are the java words user enters and are used for prediction.
   - **J_CNT:** This represents the number of times the word is used.

4. **JWP ATTRIBUTES:**
   - **J_PREV:** This represents the previous java word user has entered.
   - **J_CURR:** This represents the current java word user can enter.
   - **JN_CNT:** This represents the number of times the java combination is use

CHAPTER 4

IMPLEMENTATION

4.1 Table Creation

1. LOGIN (UID VARCHAR(20) NOT NULL , PASSWORD VARCHAR(20) NOT NULL , PRIMARY KEY(UID)) ;

2. PREDICTION (PREV_WORD VARCHAR(25) REFERENCES NEW_WORDS(WORDS) , CURR_WORD   VARCHAR(25) REFERENCES NEW_WORDS(WORDS) , N_CNT INT , PRIMARY KEY(PREV_WORD,CURR_WORD)) ;

3. JW (J_WORDS VARCHAR(25) PRIMARY KEY , J_CNT INT) ;

4. JWP (J_PREV VARCHAR(25) REFERENCES JW(J_WORDS) , J_CURR VARCHAR(25) REFERENCES   JW(J_WORDS) , JN_CNT INT , PRIMARY KEY(J_PREV,J_CURR)) ;

5. NEW_WORDS (WORDS VARCHAR(25) PRIMARY KEY , CNT INT) ;

4.2 Table values

Fig(1) New words table

```
mysql> select * from predictionadi;
+--------------+-------------+--------+
| PREV_WORD    | CURR_WORD   | N_CNT  |
+--------------+-------------+--------+
| a            | databasew   | 1      |
| a            | database    | 1      |
| database     | is          | 1      |
| is           | a           | 1      |
| a            | collection  | 1      |
| collection   | of          | 1      |
| of           | related     | 1      |
| related      | data        | 1      |
| data         | organised   | 1      |
| organised    | in          | 1      |
| in           | a           | 1      |
| a            | way         | 1      |
| way          | that        | 1      |
| that         | data        | 1      |
| data         | can         | 1      |
| can          | be          | 4      |
| be           | easily      | 1      |
| easily       | accesssed   | 1      |
```

Fig(2) Normal words prediction table

```
mysql> select * from jw;
+--------------------+--------+
| J_WORDS            | J_CNT  |
+--------------------+--------+
| import             | 10     |
| java.util.*;       | 1      |
| java.io.*;         | 5      |
| System.out.print   | 1      |
| System.out.println | 1      |
| public             | 1      |
| static             | 1      |
| void               | 1      |
| main()             | 1      |
| main(String args[])| 1      |
```

Fig(3) Java words table

```
mysql> select * from jwp;
+--------------------+---------------------+--------+
| J_PREV             | J_CURR              | JN_CNT |
+--------------------+---------------------+--------+
| import             | java.util.*;        | 1      |
| import             | java.io.*;          | 1      |
| public             | static              | 1      |
| static             | void                | 1      |
| void               | main()              | 1      |
| void               | main(String args[]) | 1      |
| main()             | {                   | 1      |
| main(String args[])| {                   | 1      |
```

Fig(4) Java word prediction table

4.3 Triggers

CREATE TRIGGER 'trigger_bkup'

AFTER INSERT ON 'login'

FOR EACH ROW INSERT INTO login_backup VALUES (new.uid , new.password) ;

4.4 Stored procedure

CREATE DEFINER='root'@'localhost'

PROCEDURE 'loginproc' (IN 'uid1' VARCHAR(20)) READS SQL DATA

SELECT PASSWORD FROM login WHERE uid=uid1

CHAPTER 5

RESULT

Fig (a) Login page

Fig (b) Predicting current word

Fig (c) Predicting next word

Fig (e) Predicting current java word

Fig (f) Predicting next java word

CHAPTER 6

REFERENCES

- Database systems Models, Languages, Design and Application Programming, RamezElmasri and Shamkant B. Navathe, 7thEdition, 2017, Pearson.

- Database management systems, Ramakrishnan, and Gehrke, 3rdEdition, 2014, McGraw Hill

- AnimationClass.jar file and frontend design : Reference from www.youtube.com