**Different types of Database Users**

Database users are categorized based up on their interaction with the database. These are seven types of database users in DBMS.

1. **Database Administrator (DBA):** Database Administrator (DBA) is a person/team who defines the schema and also controls the 3 levels of database. The DBA will then create a new account id and password for the user if he/she needs to access the database. DBA is also responsible for providing security to the database and he allows only the authorized users to access/modify the data base. DBA is responsible for the problems such as security breaches and poor system response time.
   * DBA also monitors the recovery and backup and provide technical support.
   * The DBA has a DBA account in the DBMS which called a system or superuser account.
   * DBA repairs damage caused due to hardware and/or software failures.
   * DBA is the one having privileges to perform DCL (Data Control Language) operations such as GRANT and REVOKE, to allow/restrict a particular user from accessing the database.
2. **Naive Users:** Naive Users are the unsophisticated who don’t have any DBMS knowledge but they frequently use the database applications in their daily life to get the desired results. For examples, Railway’s ticket booking users are naive users. Clerks in any bank are a naive user because they don’t have any DBMS knowledge but they still use the database and perform their given task.
3. **Application Programmers:** Application Programmers also referred as System Analysts or simply Software Engineers, are the back-end programmers who writes the code for the application programs. They are the computer professionals. These programs could be written in Programming languages such as Visual Basic, Developer, C, FORTRAN, COBOL etc. Application programmers design, debug, test, and maintain set of programs called “canned transactions” for the Naive (parametric) users in order to interact with database.
4. **Sophisticated Users:** Sophisticated users are the type of database users in DBMS who know DBMS (DDL & DML commands) and are familiar with the database. Sophisticated users can be engineers, scientists, business analyst, who are familiar with the database. They can develop their own database applications according to their requirement. They don’t write the program code but they interact the database by writing SQL queries directly through the query processor.
5. **Specialized users:**Specialized users are sophisticated users who write   
   specialized database application that does not fit into the traditional data-  
   processing framework. Among these applications are computer aided-design systems, knowledge-base and expert systems etc.