

**CSE 302**

**DATABASE SESSIONAL**

**GROUP-2  
 MEMBERS**

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**Old Home Database Management System**

In traditional agro-based societies, older people live with their near and dear one’s and in most of the cases dependent on them in meeting their needs. Socially it is the responsibility of the children to take care of their older parents when the elderly people are unable to meet up their demands with own efforts. But it is quite difficult task for our young generation to perform their traditional responsibility towards their parents in modern industrialized world due to their job and professional duty. In the advent of industrialization and urbanization a lot of changes have been taken place in the world. Modernization has affected our agro-based society and increased the migration from rural to urban and country to country affecting the pull factors and push factors. Older parents in Bangladesh are sending their children abroad for study job and even for settlement. Some young and adult children are leaving their older parents behind. That is how the idea of "Old Home" came.

“Old Home Database Management System" is designed to help any "Old Home" to store any kind of data so that we can access it easily. Thus our Old Home runs efficiently with the help of modern technology. It also helps Old Home’s to reach out donars, sponsors and people who wish to send their relatives there.

**Project Proposal & our visited project site:**

To make the old home database management system, we have visited an old home called “Apon Nibash” located in Abdullahpur, Gazipur, Dhaka to enhance our knowledge about old home. This old home is currently accommodating 40 people. There we have talked with their manager and used their information for our project.

Based on our theoretical and practical knowledge, we have made E-R diagram and Schema diagram of our “Old Home Database Management System”. E-R diagram of the database is included in the folder.

**Approach towards the project:**

To create an old home database management system and create a user interface we created a website. There are two parts in this project. They are:

* Back End
* Front End

For the back end of the project, Oracle Database has been used. And PL/SQL and PHP is used as the programming language.

For the front end of the project, HTML has been used.

**Features of the project:**

The following features has been covered in our database. They are:

* Table Creation
* Primary key and foreign key declaration
* Constraints declaration
* Update and delete operations
* Group Functions
* Multi-valued attributes
* Complex Queries
* View Creation
* Sub-queries
* Sequence as primary key
* Abstract data type
* Triggers
* Insertion in complex view
* Transaction
* Index
* Virtual column
* Role

**Reason behind picking these features:**

* **Group Functions**: It returns a single result based on many rows, as opposed to single-row functions. Functions we have used: SUM, MAX, MIN, AVG, COUNT
* **View Creation**: We have created view so that we easily access two or many tables at the same time.
* **Multi-valued Attributes**: It is used to show many same types of data of a single user. Like if a user have multiple phone number or email address, we can easily store this using this feature.
* **Sequence**: It is used to create an auto-number field. A sequence is an object in Oracle that is used to generate a number sequence. This can be useful when we need to create a unique number to act as a primary key like Old people relative.
* **Abstract Data Type**: Abstractdata types are data types that consist of one or more subtypes. For example, we can use this to divide address into sub-data types like house numbers, street number, city etc.
* **Triggers**: Triggers are stored programs, which are automatically executed or fired when some events occur. Triggers are, in fact, written to be executed in response to any of the following events: A database manipulation (DML) statement (DELETE, INSERT, or UPDATE). For example, we have used this feature to insert value to dead old people table when a person dies.
* **Insertion in Complex View**: Trigger is used to insert or update data in complex view. This feature helps to insert data in a complex view.
* **Transaction**: A transaction is a logical unit of work that contains one or more SQL statements. A transaction is an atomic unit. The effects of all the SQL statements in a transaction can be either all committed (applied to the database) or all rolled back (undone from the database). That’s why we have used this feature.
* **Index:** An index is used to speed up the performance of queries. It does this by reducing the number of database data pages that have to be visited/scanned. In SQL Server, a clustered index determines the physical order of data in a table. There can be only one clustered index per table.
* **Virtual Column**: It is not an actual column and it doesn’t store data. It uses the value of existing column and calculates the desired output. For example, age calculation.
* **Role**: Role defines permission for each user differently so that all the privileges are distributed evenly.

**Thoughts to increase the efficiency of the features:**

* To increase the efficiency of the database, we have to implement these features in most of the tables.
* Make best use of the features where they are needed.

**Project’s contribution in the society:**

* Database makes data storage process very easy. We can keep track of data and easily view them.
* It is a modernized version of keeping notebook full of data. But the difference is this modern version is much better.
* In the era of modern technology where almost everyone has internet access, we can easily promote information about Old Home’s.
* It helps donars and sponsors to contact the Old Home.
* Also, people who want to send their parents/grand-parents to a safe old home, they can acquire their information easily.

**Limitations of the project:**

* It was difficult to insert as many tables as we want because oracle 11g doesn’t allocate large memory for user.
* It was possible to design the front end more attractive.

**How can we improve the project in the future:**

* Using trigger, there will be no redundancy of data
* By using transaction in all the tables, we can create a save-point. And it there occurs any error, the program will roll-back to the previous created save-point.
* By using index in main tables, searching can become very easy.
* By creating a more eye-catching front end.

**Difficulties we have faced to develop the project:**

* At one point of our insertion in database, the database became over-loaded. And our account was locked 2 times.
* It was tiring to insert all the values in all the tables.
* As we have created the project step by step, sometimes we had to undo our previous work and do that work again to implement some features.

**Conclusion:**

Old Home Database Management system is very useful for those who want to know about old home, interested to donate and to computerize the management system. The increasing growth of data usage all over the globe calls for efficient use of data. Thus our effort to design efficient database should go on so serve this purpose.