

# The usage of Oracle database for creation School management system

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*The purpose of the research was to elaborate the problems which can happen during the design of School Management System Application in Visual studio by using Database designed in Oracle 10g Express Edition and to elaborate the solution for those problems.*

## INTRODUCTION

Advanced technology available today can play a crucial role in streamlining education-related processes. Schools have to manage many different sets of data: Pupil information, Staff information, Timetable, Pupil attainment, Administration data, Exam entries, etc. Educational softwares are there to make a revolution in school administration and it is going to improve day by day.

So main goal of the work is to create the School Management System (SMS) which will help school manage various operations including student data and administrative operations. To elaborate the SMS it is needed to decide next tasks:

- learning the school information;
- making the database of school information;
- elaboration of the interface of SMS;
- connection of the SMS to database.

The practical use of the SMS created is to manage day to day activities of the school at large example Students and Teachers information, School Timetable and Students Reports.

## DATABASE OF SCHOOL INFORMATION

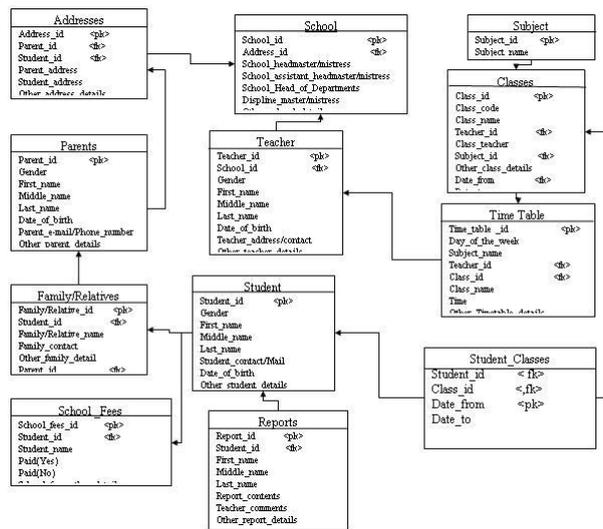
Schools have to manage many different sets of data which have large volumes. So it is needed the powerful tool.

Oracle has many advantages and features that makes it popular and thereby makes it as the world's largest enterprise software company. One important aspect is Oracle databases tend to be backwards compatible. Also when Oracle releases a new version, their documentation contains a list of all the features new to that version thus makes it user friendly for one to learn the new features.

The main goal of the project is to design SMS. This School management system will make the information flow quicker and more accessible. Will provide teachers with useful tools to decrease the daily routine of simple tasks which could be automated. This system will involve children and parent more in the process of their child's education. Parents will get more involved as they can get up-to-date information about the school events, grades, children school attendance, home works etc. Teachers get automated reports and average grades in the end of a semester. This School management system will saves a lot of time for the people involved in analyzing of the school performance as all statistics are presented automatically.

Analysis of the data that are normally handled in the schools, allowed to define the database structure, which should underpin the management system. First of all, the database must be designed for the school administration and teachers. Second, the data stored in the SMS should provide parents with information about the students success, homeworks and school attendance.

The database must to contain information of various types that make the data management more complicated. The Database structure (Scheme 1) is designed to comply with the needs of the user such that it should be easy to access, simple to use and convenient.



Scheme 1 – Database structure

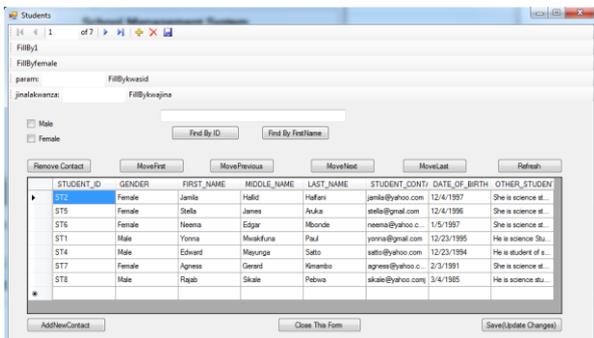
### APPLICATION INTERFACE

The application consists of 11 forms which can be opened by double clicking the Name in the List box (Picture 1).



Picture 1 – Main form

Each table has its own form in application. This form allow to edit, insert, delete .On drawing 3 is example how one among our form looks. The contain of the data table shown on form. To execute adding, editing, deleting and saving data in database we used buttons and navigation panel. The parameters of queries user can insert in special textboxes available to the form. Checkboxes for specific type of data are provided to help the user to access the data needed in various aspects.



Picture 2– Student form

## PROBLEMS OF APPLICATION AND DATABASE CONNETION

The application for manage the SMS was created in Visual studio 2008 mainly in Visual basic. At the first the design ODAC 11.1.0.6.21 with Oracle Developer Tools for Visual Studio was used as a connector between Database Oracle 10g Express Edition and Visual Studio.

After installing the connector and making changes to tnsnames.ora by specifying the used HOST and SERVER NAME and locate that file to the parent directory the designed application could not save new data or make changes to the Dataset. To decide this problem and the designed application will be able to make changes to the Dataset we added the line of reference (SOFTWARE\ORACLE\KEY\_Ora Client11g\_home1) to tnsnames.ora file to the parent directory.

## CONCLUTIONS

With the help of the connector between Oracle and Visual Studio complex Database for various information systems can be created and applications can be designed without any obstacle.

## REFERENCES

- [1] SMS available online on [www.ialda.com](http://www.ialda.com)  
 Oracle 10g available on [www.oracle.com/index.html](http://www.oracle.com/index.html)  
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