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Student Report Card Generating System

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ABSTRACT

Student Report Card Generating System is a mini project is being developed record student personal details and generate report for school student.The report card generated using this software can be retained permanently on the computer which can be referred permanently on the computer which can be referred. This project is done using turbo C++ compiler. This system will present a comprehensive picture of the student in overall development. It also provides glance on the strengths and weakness of the student across various academic subjects in which the student and thus enables the teacher to focus on the subject in which student has to improve his knowledge.

Keywords: *Comprehensive, Retained, Glance, Knowledge.*

1. INTRODUCTION

C++ is based on the C language, and it was developed in early 1980's by Bjarne Stroustrup. It is an object oriented programming language. It supports inline functions, exception handling and generic programming. It has pointer and references. It is a high level languages and uses cin>> and cout<< for standard input and output. Data is hidden and can't be accessed by external functions. C++ program file is saved with .CPP extension. In this data and functions are viewed as a single entity by implementation of 'class' feature.

In object oriented programming, the primary entity of the program is the object. It supports reusability. The principles of OOP's are:

- Classes
- Abstraction
- Inheritance
- Encapsulations
- Polymorphism
- Data Binding
- Message Passing

In this programming, bottom-up approach is used. It provides reliability to the program. The Object Oriented Programming language is user friendly. In this, dynamic memory allocation and deallocation is done by using new and delete operations. It provides support for built-in and user-defined data types. The complexity of object oriented programming language is less when compared to Procedure Oriented Programming language. In this, the emphasis will be based on data rather than procedure. Classes can be represented hierarchically.

Programs are divided into classes and objects rather than functions and procedures. In this the exceptions or errors can be caught at run-time. Maintenance cost is less when compared to other programming languages. Object Oriented Programming language is an enhanced technique of Procedure Oriented Programming language. It is introduced to overcome the problems of Procedure Oriented Programming language. It reduces the complexities of Procedure Oriented Programming language.

The Object Oriented Programming language technique develops a program with a set of objects along with the well-defined interfaces to that object. A brief definition of Object Oriented Programming language is the data which controls the access to code. This technique also discusses the way in which elements in a computer program must be organized and how these elements can interact with each other. In this the code can be extended and data security is provided. It can also be used to construct large reusable components. This has a rapid growth in commercial software industries.

Student report card system project in C++ is a simple console application built without the use of graphics. In this project, users can perform typical report card related functions like adding a new student record and displaying, modifying, editing and deleting it. File handling has been effectively used to perform all these. This

project will teach you how to use file handling in C++, add, read, display, search, modify and delete record from file.

In this project we can :

- Create student report card record.
- Read all students report card record.
- Read specific student's report card record.
- Display all student's grade report.
- Modify student's report card record.
- Delete student record.

File handling has been used for the effective implementation of all the typical features of this project. The key features of Student Report Card System are:

- **Create student report card record**: This feature creates a new student record containing his marks. For this the information to be provided are the name and roll number of the student, and the marks obtained by him/her in 5 subjects – Physics, Chemistry, Maths, English and Computer Science.
- **Read all students report card record**: The void display all( ), function in this student report card system project in C++ has been used for this feature. It basically shows the progress report of all the students added in file. This feature displays the roll number and name of all the students, the marks obtained by them in 5 subjects – Physics, Chemistry, Maths, English and Computer Science, along with the percentage and grade of each student.
- **Read specific student's report card record**: This feature is same as the one explained above, except it shows the progress report and relevant data related to a particular student.
- **Display all students' grade report**: This feature enlists all the student's record saved in file. The grade report is displayed in a tabular form with roll number and name of the students, marks achieved in the five subjects, and the grade and percentage obtained by them.
- **Modify student's report card record**: In student report card system project in C++, this feature is used to edit the report card record of a particular student. For this, the name and roll number of the student is sought. Upon successful modification, the program displays the message "Record Updated". If no record of student is found in file, it displays the message "Record not found".
- **Delete student record**: This feature deletes the report card record of a particular student. So that it first of all asks for the name and roll number of the student whose record is to be deleted. When deleting the record code takes a string name as input and removes it from the text file. However the next two lines in the file contains age and grade points/marks of a student.

This project includes facilities of registration, search, display, modification, deletion of student information about the marks, grade, name and roll numbers. This software searches the student information on the basis of roll number which is stored in the record. The project contains different header files, built-in functions, user-defined functions, structures, switch statements, if-else-if and loops. Member functions in this class are used for accept / display the details of the student's and a function to calculate grade based on the marks obtained by student. Student records are stored in binary file.

Student report card system is a very simple project that runs with just five header files. The conio.h header file is required to compile the source code in Turbo C++; it is not required in Code::Blocks. Also, in order to make the project simple and easy to understand and analyze, graphics has not been used in this project. Here, are the header files required for this project:

- #include<fstream>
- #include<iostream>
- #include<cstdio>
- #include<iomanip>
- #include<stdio.h>

Preparing report cards for number of students involves same task needed to be performed every time. As this work involves doing calculation on same rules to make final results for each results and writing it manually on report card using pen and paper. So to eliminate such type of work, it is better to achieve this work using computer system. System will relieve teachers for writing manually on report card and providing print facility by which, it will enable them to display the marks of each students on the paper by just one click.

In this the hardware components required are :

- Main memory
- Hard disk

In this the software components required are :

- Programming language
- Operating system
- Computer

As the system has been provided with all the maximum possibility to make their task easier, so that the number of features has been made available to continue the task without any intervention. It will not only prepare the report card, but also able to store the data of each student, so that it can be accessed any time and if required can make modifications as per requirement.

Organization of thesis

The rest of the thesis is organized as follows:

- Chapter-2 illustrate the relevant work on sorting and student report card using C++.
- Chapter-3 depicts the proposed methodology.
- Chapter-4 discusses the procedure and implementation.
- Chapter-5 concludes the thesis followed by the referenc

2. LITERATURE SURVEY

- System will relieve teachers for writing manually on report card and providing print facility by which, it will enable them to display the marks of each student on paper by just one click. As the system has been provided with all maximum possibility to make their task easier, so number of features has been made available to continue the task without any intervention. It will not only prepare the report card, but also able to store data of each students, so that it can be accessed any time and if required can make modification as per requirement.
- We used structures with functions as their members which was an easier way to access records and store and calculate the percentages and grades. We need loops and filing to add the data. Previously we have seen a program in which there were some characteristics of writing, reading and deleting records. But that was not enough as we needed some functions to calculate our percentages and grades.
- Then we began with the design phase of the system. The system design is a solution, that "HOW TO" approach to the creation of the new system. It translates system requirements into ways by which they can be made operational. It is a translational from a user oriented document to a document oriented programmers. For that, it provides the understanding and procedural details necessary for the implementation. The system should be reliable, durable and all should have least possible maintenance costs. It should overcome all drawbacks of the old existing system and the most important of all meet the user requirements.
- A similar system is used for informal, low-stakes grading in the schools, particularly in the humanities, and especially for short writing samples, such as reaction papers or in-class writing. This serves as an alternative to a numerical or letter grade. Here a check means "acceptable" or " at the expected level", check plus means "better than expected", "good" or outstanding", and check minus means "below expectations", "unacceptable" and "bad". The system may also be supplemented by a 0 (zero) for not done or not applicable. The system is informal, and has variations – the work may not count for the final grade or may count for a small amount. If so, the plus/check/minus may or may not be different in value.
- Students taking separate sciences result will get a grade from 9 to 1 for each subject, with 9 being the highest grade. Students studying combined science will receive an award worth two GPA, consisting of two equal or adjacent grades from 9 to 1.If the numbers are different, the highest number will always be reported on the left. Students do at least 8 practical activities (16 for combined science) covering specific apparatus and techniques.
- In some elementary schools, students typically receive three to four report cards. The academic year is separated into three terms and at the end of each term the student will get a report card. It is often followed by a break of some sort. For example; First term Christmas Holidays, second term March break and third term Summer Holidays. Some school districts may administer report cards on a quarterly basis, usually after each nine week term.
- In some secondary schools, students receive two report cards, one at the end of each grading period. They also get mid-term report cards midway through the grading period. For example; a semester goes from Sept-Jan and Jan-June. This would not count for summer school. Some school districts may administer the report card on a trimester or quarterly schedule as well. The features that are supported

is to increase computer literacy, the effective way to use in schools and colleges, this also helps in regular evaluating student performance for the parents and the faculty members.

- For the details of the marking scale used on the report card, possible marks includes A+ is for Parent Comments and Signatures and also for Students to plan goals for the future. 'A' marks mean the student is exceeding the provincial standard, 'B' marks mean that they are meeting the provincial standard, 'C' marks mean that the student is approaching the provincial standard and D marks mean that the student falls below the provincial standard.

- The grade 7 and 8 template has a few differences from the 1-6 report card. This report card displays the median for the subject/strand/course. Social Studies is also divided into History and Geography. The 7 and 8 report card offers percentage marks instead of letter grades. These marks are still viewed as equivalent letters as detailed in the above grade 1-6 information. Although the dimensions, weight, and pliability of report cards change depending on their education systems, many institutions and districts now print grades reports/report cards on the standard.

- The report cards were the cards which misbehaving students were required to carry with them to each class, at the end of which the teacher would enter a failing or passing grade in conduct for that class. Usually the student was required to carry the card for a week and finish the week with no failing grades in order to be relieved of having to present the card for the following week. In the United States, these were called "conduct cards" in many schools.

- Due to their status as significant documents in many formal education systems, many early grade reports were printed on cardboard, card-stock paper, or other heavy paper-based materials that were heavier, more durable, and less bendable than standard-weight paper. Many formal education systems also standardize the dimensions of their grades reports to be as long and wide as large index cards. Because of these card-like qualities, the creators and receivers of such print-based grade reports have historically called them "report cards."

- In a school or college if we give papers and get different marks from different subjects and for that purpose we need some files to store our record and also some functions to calculate our percentages and grades. All these things are collectively called a student report card. The purpose of storing and maintaining our record for better use and for efficient work we use the student report card. This software is

- Efficient in maintaining student's details and can easily perform operations on student's records. This software also reduces the work load of the teachers in school as all the details are stored in computer system and whenever the detail marks of student needed it can be searched and displayed on the screen.
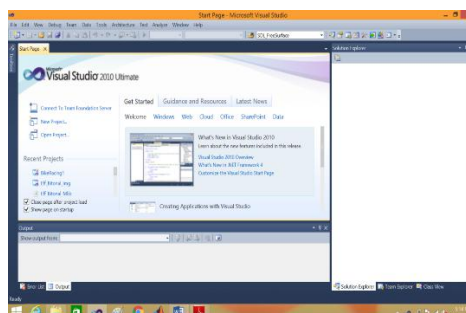
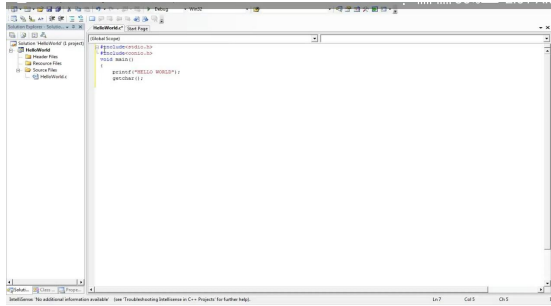## 3. PROPOSED METHODOLOGY

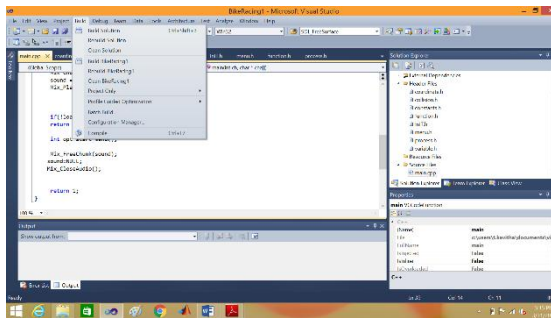*Fig 1: Microsoft visual studio start page*

Fig 2: Open project

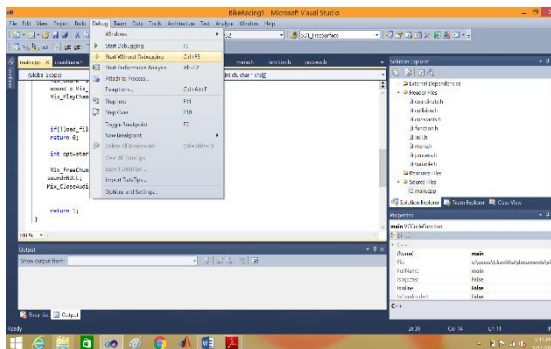

Fig 3: Build project

Fig 4: Debugging

4. RESULT & DICUSSION

In fig 4.1 it displays the main menu which consists of three different options like result menu, entry/edit menu, exit. When we select any one option from one which is mentioned in it then it perform its own operation and displays the output of that particular operation which we mentioned in options.
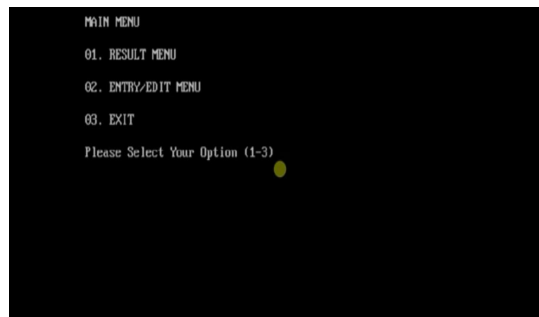

Fig 4.1: output screen

In fig 4.2 it displays the operation which we selected in above figure. The option 2 is selected and the operation is performed i.e., to create an entry menu. When we select the create menu it creates the menu with different kinds of options like Create Student Record, Display All Students Records, Search Student Record, Modify Student Record, Delete Student Record, Back to Main Menu.
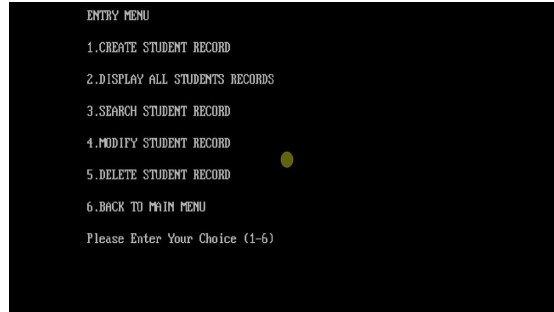

Fig 4.2: Display the option

In fig 4.3 Student Report Card is Created with his/her name and roll no and five different subjects as displayed below. The maximum for subjects is 100 and the marks scored by student is recorded below.
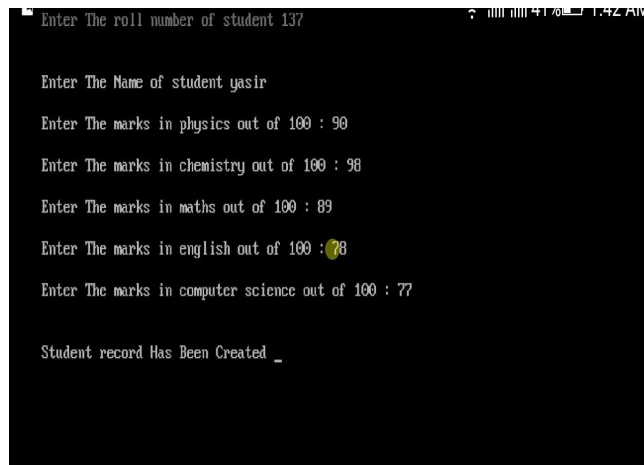

Fig 4.3: Student report card is create

In the fig 4.4 student report card is created with different types of results of different students as displayed. The percentage and grade is also calculated for all the students .

Fig 4.4: Result of all students

In fig 4.5 it shows the result of particular student result when we enter the roll no it displays the marks , percentage and grade of a particular person.

Fig 4.5: Search for a particular student report

5. CONCLUSION

This software has its advantages and disadvantages but it can surely help with the record storage system .We don't have to worry about the misplacing of the record which is a great clash while storing the record on separate files. It is efficient in maintaining student's details and can easily perform operations on student's records. This software also reduces the work load of the teachers in the school as all the details are stored in computer system and whenever the detail marks of student needed it can be searched and displayed on the screen. In future, this system can launch on a web portal for easy online entry of students details, marks and their parents can login and check the marks and download the reports of their children.

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