GRADES MANAGEMENT SYSTEM

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1.0 INTRODUCTION

The Grades management system is usually used in schools/colleges for storing records of students. All student information can be stored and different operation can be performed on it through database.

In this software we can retrieve and send all record and related information from/to database using File Handling.

1.1 PROBLEM STATEMENT

- To create a **Grades management system** using 'C' Language involving the concepts of Sorting, Searching and its analysis.
- To create a **Grades management system** to store the Student's name, roll number, marks of different students and also to view the entire student list in ascending order according to their marks.

1.2 LITERATURE SURVEY

1.2.1 EXISTING SYSTEM /ALGORITHM

The **Grades management system** is the software that enables user to easily store and find record's information such as name, roll no and marks. There are record-centric databases (database.txt and record.txt) that provide a fully integrated approach to store information from user and communicate with the software.

1.2.2 DISADVANATGES OF EXISTING SYSTEM/ALGORITHM

- The main disadvantage of this software is that it is OS dependent since it is made in C programming language. It is not portable like other languages like JAVA whose software can run on any operating system.
- Also, it is console based software so we cannot use attractive features which are used in window, web or mobile application.
- The use of linear search in file handling might increase the time complexity.

1.2.3 PROPOSED APPROACH AND JUSTIFICATION

The Grades management system may be chosen because it provides the following advantages:

- This software is space and time efficient
- It is small and user friendly
- Document Management
- File Handling is effectively implemented.

1.2 SOFTWARE REQUIREMENT SPECIFICATION

1.2.1 USER REQUIREMENT

The Turbo C++/Dev C software should be successfully installed on user's system.

1.2.2 SOFTWARE REQUIREMENT

To successfully operate this software, one requires

- Windows XP/VISTA/7/8/8.1/10
- Memory Space: Minimum 250 Mb
- RAM: Minimum 256 Mb
- Processor: Pentium 1,Pentium 2,Celeron,Intel core 2 duos
- Compiler: Turbo C3

1.2.3 HARDWARE REQUIREMENT

- High resolution screen
- Keyboard and mouse

1.4 DESIGN

1.4.1 UML DIAGRAM

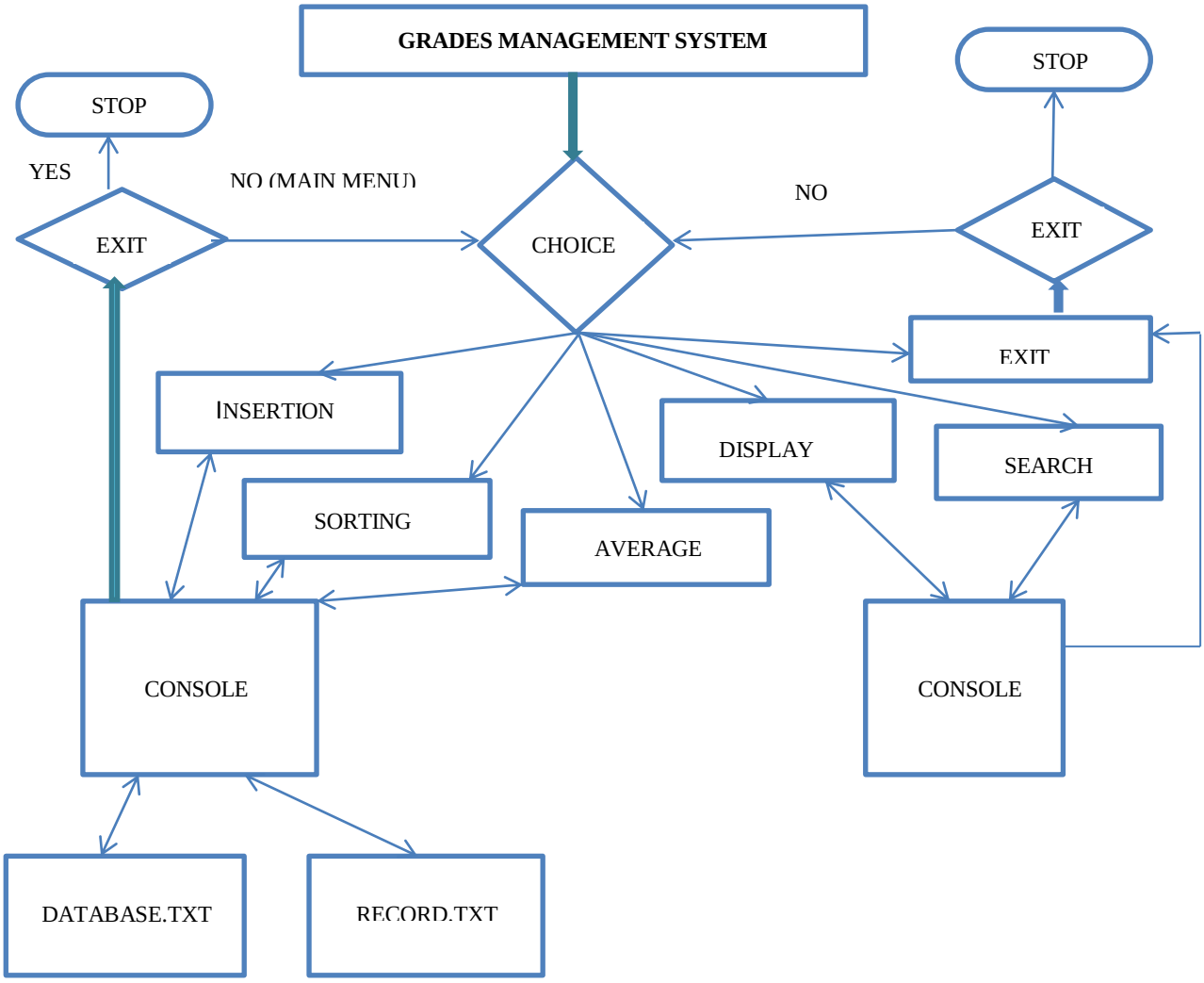

Fig.1 UML diagram for grades management system

1.5 TEST PLAN

SI No	Test objective
1.	To check if the program insert the students record without any errors.
2.	To check if the program displays all the students record .
3.	To check if the program searches the required student record
4.	To check if the program calculates the average marks of the students
5.	To check if the program sorts the students list according to the marks basis.
6.	To check if the program sorts the students list according to the roll number

1.6 TEST CASES

Test cases	Steps	Description	Expected output
Insertion	1	To check if the program insert the student record in the corresponding file.	Store the student's information in the database.
	2	To check if the student roll number is already present or not.	Store the student record if the roll no is not present or else display as "Student record is already present".
	3	To check if the student marks is greater than threshold marks.	Store the marks of the student if it is less than the threshold marks or else display as" Total marks should not be greater than

			600".
	4	To check if the program opens the different file to insert student record .	Display as " File doesn't not exist".
	5	To check if the user gives the negative marks	Display as "Invalid input".
Display	6	To check if the program display all the student records in the corresponding file.	Display the entire list of student database.
	7	To check if the program opens the different file to display the student record.	Display as "File doesn't exist".
Sorting by marks	8	To check if the program sort the student list with respect to the marks basis in the corresponding file.	Display the sorted students list in according to the marks basis.
	9	To check if the program opens in different file.	Show an Error msg.
Sorting by roll number	10	To check if the program sort the student list with respect to the roll number in the corresponding file.	Display the sorted students list in according to the roll number.
	11	To check if the program opens in different file.	Show an Error msg.
Search	12	To check if the program search the desired student information in	Display the desired student details.

		corresponding file .	
	13	To check if the user gives the wrong student roll number.	Show an Error msg.
Average marks	14	To check if the program can calculate the average marks of students.	Display the average marks of the students.
	15	To check if the user gives the negative marks.	Display as “Invalid input”.
Wrong choice	16	To check if the user gives the invalid input in the switch case.	Display as “Invalid choice”.

1.7 EXPECTED RESULTS

- The Grades management system to store the Name, Roll no and marks of different student using a linear data structure using C programing.
- In the software one can very easily add student's record, sort student's record, search student's record, compute and view all student's records.

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