Student Record Management System

Final Project Presentation

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Introduction

For our final COMPSCI-2 project with Professor Oke, we developed a Student Record Management System using C++.

It demonstrates key C++ concepts including file handling, pointers, sorting, and modular design.

The Student Record Management System was chosen for its real-world utility and relevance to backend data handling.

Why We Chose This Project?

We picked this project because it gave us the opportunity to put our real-world programming skills to good use. By creating a Student Record Management System from the ground up using C++, we got to practice important concepts like linked lists, file I/O, and data organization. Every school needs a way to manage student data, so rather than just coding for an assignment, we developed something practical and relevant. This project allowed us to transform our classroom knowledge into something useful, making it both rewarding and thrilling.

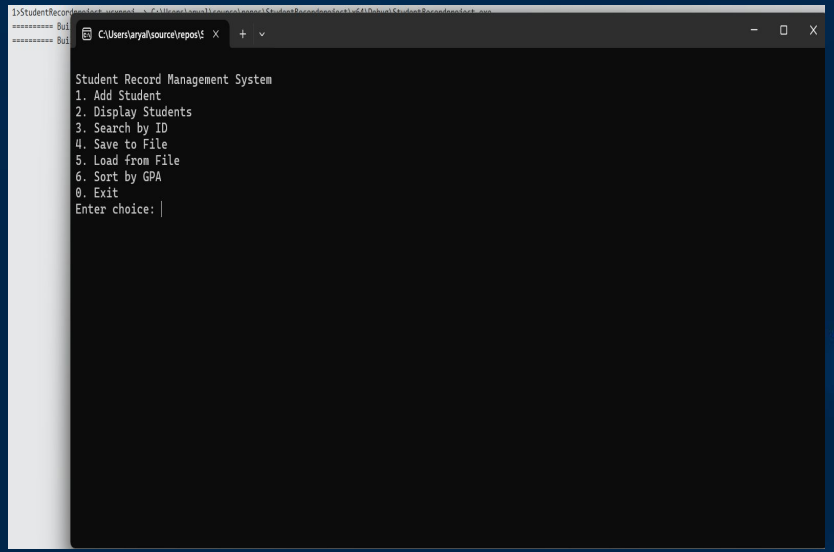
Project Implementation

- Add, display, search, and sort student records
- File I/O using text file for save/load
- Pointers and structures used in linked list
- Sorting by GPA implemented via bubble sort
- Code modularized across multiple .cpp and .h files

Demo

The demo shows:

- Adding student records
- Displaying them sorted by GPA
- Searching by ID
- Saving and loading data from students.txt
- Screenshots or video will demonstrate all menu operations.



Console menu at startup lets users add, display, sort, search, and manage student records.

Future Work and Conclusion

Possible enhancements:

Add GUI using Qt or another C++ library
Add update/delete functionality
Use classes instead of structs for better OOP structure

Conclusion:

This project was a fantastic opportunity for us to dive into real-world programming with C++. It really boosted our grasp of file handling, modular design, and algorithm implementation. Working together, we honed our problem-solving and coding abilities, and we're thrilled to showcase this project in our portfolio as a testament to our growth in software development.