Certainly! Here’s a project report tailored for your `Student` management system in Java, which you can use to enhance your resume for an internship application:

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### Project Report: Student Management System

\*\*Project Title:\*\* Student Management System

\*\*Technologies Used:\*\* Java, CSV File Handling

\*\*Duration:\*\* [Specify Duration]

\*\*Role:\*\* Developer

\*\*Project Description:\*\*

The Student Management System is a Java application designed to process and analyze student data from a CSV file. The system performs various operations such as calculating average GPA, identifying students with low GPAs, and determining the number of advisors for each major. This project emphasizes data parsing, object-oriented programming, and basic data analysis.

\*\*Key Features:\*\*

1. \*\*CSV File Parsing:\*\* Reads and parses student data from a CSV file, extracting relevant fields such as first name, last name, major, degree, GPA, credit hours, advisor, and TA.

2. \*\*Data Aggregation:\*\* Calculates and displays various statistics, including the total number of advisors, average GPA for students in specific majors, and average number of credit hours.

3. \*\*Low GPA Identification:\*\* Identifies and lists students with a GPA below a certain threshold.

4. \*\*Major and Advisor Analysis:\*\* Analyzes and reports the number of unique advisors per major and the average GPA for students in the Computer Science major.

\*\*Design and Implementation:\*\*

- \*\*Student Class (`Student.java`):\*\*

- Represents a student with attributes such as first name, last name, major, degree, GPA, credit hours, advisor, and TA.

- Provides getters and setters for accessing and modifying student attributes.

- Overrides the `toString` method for formatted output of student information.

- \*\*Main Class (`main.java`):\*\*

- Handles the reading of student data from a CSV file using `BufferedReader`.

- Creates and populates `Student` objects based on the data read from the file.

- Aggregates and processes the data to calculate statistics and identify specific criteria.

- Outputs results for various problems, such as the total number of advisors, students with low GPAs, average credit hours, and average GPA for students in Computer Science.

\*\*Code Overview:\*\*

1. \*\*`Student.java`:\*\* Defines the `Student` class with necessary attributes and methods. It includes a constructor for initializing a student object from a CSV data array and a `toString` method for displaying student information.

2. \*\*`main.java`:\*\* Contains the main method which drives the application. It reads student data from a file, creates `Student` objects, performs data analysis, and prints results for different queries.

\*\*Usage:\*\*

- Place the `students\_dataset.csv` file in the project directory.

- Compile and run the Java application.

- Review the output to see results for various queries, including the list of advisors, students with GPAs below 2.75, average credit hours, and GPA statistics for the Computer Science major.

\*\*Challenges and Solutions:\*\*

- \*\*Data Parsing:\*\* Ensured correct parsing of CSV data and handling of potential formatting issues.

- \*\*Data Analysis:\*\* Implemented efficient algorithms to aggregate and process data, including handling cases with no data or empty fields.

- \*\*Error Handling:\*\* Incorporated exception handling for file I/O operations to ensure robustness.

\*\*Future Improvements:\*\*

- \*\*Enhanced Data Validation:\*\* Implement more rigorous checks for data validity and completeness.

- \*\*User Interface:\*\* Develop a graphical user interface (GUI) for more intuitive interaction with the system.

- \*\*Extended Features:\*\* Add capabilities for updating and deleting student records and support for additional file formats.

\*\*Link to Source Code:\*\* [Provide link if available]

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Feel free to modify the duration, role, and any other specific details to better fit your experience and the requirements of the internship you're targeting.