

Project Grading Guide

Database systems course

The following document describes the Database Systems course grading policy and enumerate over common problems detected in some previous years' works.

The final grade components:

Source – 33 points

DB design – 34 points

Application – 33 points

Bonus – up to 10 points

You will get, for each category, one of the following verbal feedbacks:

1. **Excellent**
2. **Almost Excellent**
3. **Good**
4. **OK**
5. **Not acceptable**

Source part

This part examines how the code is implemented: Whether you understood and incorporated what was taught in class, and whether the code is acceptable in general. Sub categories:

Structure and Modularization

- Organization in packages
- Separation of the DB connectivity and of the UI
- Abstraction and encapsulation: layers of the application should connect via clear interfaces
- A clear purpose (and name) for each class, field and method
- Readable code

DB connectivity code

As learned in class, including

- Connection pooling
- Efficient updates (using batches, prepared statements, etc.)
- Resource management (reusing where possible, freeing unneeded resources)
- Query construction functions

Fault tolerance

- Handle DB errors
- Handle program errors
- Validate user input and configuration
- Handle errors transparently where possible (e.g., try to reconnect if connection drops)
- Otherwise, give a user-friendly message about the problem and its origin

Documentation

- Software documentation file
- Code documentation (comments, javadocs)

Database part

This part checks the design and use of the Database in your application. Sub categories:

Structure

- Meaningful tables and table names
- Meaningful fields and field names
- Correct use of table types (InnoDB vs. MyISAM)
- Field types and lengths
- Avoiding data redundancy

Queries and Indexing

- Efficient queries
- Efficient updates
- Correct transaction usage
- Use of indexes where needed

Keys, FKs

- Use of primary keys for “logical” keys
- Use of foreign keys for “logical” connections between tables
- Use of unique keys, if needed

Application part

This part is about what guides you in the code writing and DB design – the application. While this is not the main focus of this course, it is impossible to understand the real-life problems of working with a DB without it. This is also the place where your creativity plays a role!

Usability

- The application is clear and easy to use
- Screen structure is intuitive
- Goal of the application makes sense

Features

- Manual editing power
- Full update (from the external data source/s)
- Use of the data in the application
- Complexity of the application
- Relevance and completeness of the features with respect to the application goal

Documentation

- The user manual
- If available, help within the application itself

Bonus

Bonus can account up to 10 points, but it needs to be something original (really innovative), and well implemented. Examples include unexpected use of the data, the implementation of clever algorithms, an exceptional UI, etc. Make sure to explain your original contributions in the documentation!