

# CPSC 304 Project Cover Page

Milestone #: 1

Date: 9/28/2024

Group Number: 27

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By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your e-mail address, and then let us assign you to a TA for your project supervisor.)

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia.

## **(2) Application Domain**

The domain of our application is astronomy, especially aiming for the teaching of basic astronomical knowledge about stars and galaxies. We want to make it a useful tool for beginners to learn this area of knowledge.

Our database models the basic structure of the universe from moon to halo and contains fundamental information about each celestial body. It is demonstrated in a clear and simple way so that it can be easily understood by beginners.

## **(3) Database Specifications**

The database will offer the following core functionalities:

1. Search Capabilities

Users will be able to search for various celestial objects, including stars, planets, galaxies, etc. using their unique primary keys. This search function will allow efficient retrieval of data based on key identifiers.

2. Detailed Information Display

Upon searching for a specific object, the database will provide comprehensive details about the object. For example, for stars, information such as temperature, luminosity, mass, and spectral type will be available.

3. Relationship Mapping

The database will also highlight relationships between objects. For instance, when searching for a star, the system will display its associated star cluster. This relational mapping will enable users to explore how objects are interconnected.

4. Add New Entries

Users will be able to input new celestial objects into the database. For instance, when a newly discovered star or planet is observed, the system will allow the addition of detailed information regarding the new object. This will ensure that the database is continually updated with the latest astronomical findings.

5. Delete Existing Entries

The system will allow users to delete entries from the database. For example, if a star undergoes a supernova and ceases to exist, the corresponding data can be removed to maintain database accuracy.

6. Update Existing Entries

In addition to adding and deleting data, the system should allow users to update existing entries. This would be useful if new information about an object becomes available.

#### (4) Application Platform

Our database will use the department provided Oracle database. As for programming languages and libraries, we will use JavaScript as our primary language, having a node.js server as the back-end as well as HTML and bCSS for building the front-end UI (and if needed, web UI libraries such as React).

#### (5) ER Diagram

