

CS:4400 Testing Plan

Team #5

To make sure that our project is high quality software, we need to make sure that we test every possible case and component of the database. First, we will focus on testing the structure of the database. We will create all tables designed in the ER diagram with constraints and parameters. After we will try to test each field if its correctly filtering data and giving correct errors. We have to check:

- Validation of the length and naming convention of the database fields and columns
- Validation of the presence of any unused/unmapped database tables/columns
- Validation of the compatibility of the data type field lengths
- Whether the database fields allow the user to provide desired user inputs as required by the project.

After when we will have a fully connected and tested database design we will try to test some queries we will need in the project. We will put some simple data into our model and we will try to write queries that produce expected results.

- Check connectivity between primary and foreign keys.
- Check whether the references for foreign keys are valid.
- Check whether the data type of the primary key and the corresponding foreign keys are same in the two tables.
- Check whether the required naming conventions have been followed for all the keys and indexes.
- Write some queries and check if the output is what we want

We need to make sure that a transaction either fails or passes, that a database is consistent, that if there are multiple transactions and they are executed all at once, they go in an order. We plan to use White Box testing since Black Box can result in some errors to be undetected. In other words, coding errors can be detected in white-box testing, so internal bugs in the database can be eliminated. We know that White Box testing does not cover SQL statements. We will account for that.

For our front end we will code the website and connect it through Python. We will build the website using many various fields and we will test it as a final user. We will try to be mean and see if the website along with the database is handling wrong inputs correctly. We will display appropriate error to the user with detailed feedback what was wrong with his action or procedure.

Overall, our testing will involve checking stored procedures, views, schemas in database, tables, indexes, keys, triggers, data validations and data consistence checks. We will check all the functionality which is happening on every action performed in the application, such as create, read, update, or save options (CRUD). Then, we will connect and build the website accounting for error handling and displaying feedback to the user.