Testing Report

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In our project we have written automatic tests for models, forms, and views. These can be found in the ‘tests’ folder within the project, divided into the sub-categories.

Our approach to testing has been that whenever a model, form, or view was created, the tests would be made immediately after, aiming to cover as many cases as we could think of with the tests generally looking at whether the field is allowed to be blank or null and the size of the field, testing for the exact size and the edge case. Where improvements to code have been made later, tests have been updated and the code coverage has been examined to see where any tests or specific test cases have been missed.

As the project is made with Django it uses the unit testing framework through the unittest module.

**Example of common test:**

e.g The Club Model

*test\_valid\_club*

*test\_name\_cannot\_be\_blank*

*test\_name\_can\_be\_64\_characters\_long*

*test\_name\_cannot\_be\_over\_64\_characters\_long*

*test\_name\_must\_be\_unique*

*test\_name\_may\_contain\_non\_alphanumericals*

*test\_name\_may\_contain\_numbers*

*test\_description\_may\_contain\_2048\_characters*

*test\_description\_must\_not\_contain\_more\_than\_2048\_characters*

*test\_description\_must\_not\_be\_blank*

*test\_theme\_must\_not\_be\_blank*

*test\_city\_must\_not\_be\_blank*

*test\_maximum\_members\_must\_not\_be\_less\_than\_2*

*test\_maximum\_members\_can\_be\_2\_members*

*test\_maximum\_members\_can\_be\_64\_members*

*test\_maximum\_members\_must\_not\_be\_more\_than\_64*

*test\_club\_must\_have\_leader*

*test\_leadership\_of\_club\_can\_be\_granted\_to\_another\_user*

*test\_member\_can\_be\_added\_and\_removed\_from\_club*

*test\_club\_returns\_string\_of\_its\_name*

We have been able to achieve 85% code coverage. A html code coverage report can be viewed in the ‘htmlcov’ folder where an index.html file can be found.

Text

Description automatically generated

**To run tests in terminal run:**

‘python3 manage.py runserver’

**To generate a code coverage report in terminal run:**

‘coverage run manage.py test’

‘coverage report’

**To generate a html code coverage report in terminal run:**

‘coverage run manage.py test’

‘coverage html’

‘firefox htmlcov/index.html’

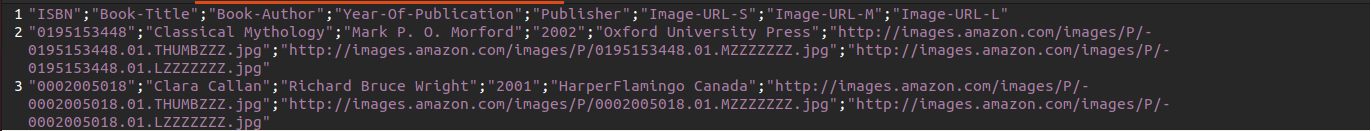
# Manual Tests

## Upload books Manual Test:

When viewing the book list as a superuser there is a button ‘upload books’ which will redirect you to a page with a file input box to submit a csv file to populate the book database. The following tests were conducted as a superuser with an otherwise empty database.

**Testing Valid files:**

1. Input: ‘book\_test\_set\_with\_category.csv’

A csv file containing data of the correct format including category, summary and language data:

1. Response:

Graphical user interface, text, application

Description automatically generatedThe data was inputted correctly into the database and displayed within the book list.

1. Input: ‘book\_test\_set\_without\_category.csv’

A csv file containing data of the correct format not including category, summary and language data:Text

Description automatically generated

1. Response:

The data was correctly inputted into the database with the category, summary and language fields left blank and books displayed in the book list.

Graphical user interface, application

Description automatically generated

**Testing Invalid files:**

1. Input: ‘empty\_file.csv’

An empty CSV file.

1. Response:

Graphical user interface, application

Description automatically generatedNo changes to the database were made and an error message was delivered to the user.

1. Input: ‘text\_file.txt’

A text file.

1. Response:

Graphical user interface, application, Teams

Description automatically generatedThis resulted in an error message instructing the user to upload a csv file and no changes to the database.

1. Input: ‘book\_test\_set\_wrong\_format.csv’

A csv file containing data in the wrong format (fewer columns than required)

1. Response:

No changes were made to the database, and a message was given to the user to inform them that the books were not added to the database

Text

Description automatically generated with low confidence