The brief of this project was to design and produce a web app, which implemented CRUD (Create, Read, Update and Delete) functionality. The app needed to utilise the Flask micro-framework and had to store information in an SQL database (MySQL) comprising of a minimum of two tables which share a relationship (in this case zero-to-many).

App Design:

For this project I have decided to design a library app which allows users (staff) to upload new books to the library (Create), users to view the library of books available (staff and customers) (Read), update books available to borrow (Update) and remove any books from the library that are no longer part of the library (Delete)(staff). The MVP of this database is a books table and a customers table with each customer associated to either no books or many.

Additional stuff

Future Improvements

CI Pipeline:

In addition to the minimum app design the project also requested implementation of many of the stages of a typical CI pipeline: Project Tracking, Version Control, Development Environment and build server.

For Project Tracking a Trello board was used. Items in the product backlog were assigned story points, acceptance criteria and MoSCoW priority and then moved to the sprint backlog where work could then begin on them and they could then move to review when completed as the project progressed.

For version control git was used, allowing for changes in the project to be made and committed and a history of these commits allows for restoration to earlier versions of the project should any changes end up breaking the project. In particular GitHub was used to host the repository allowing for the repository to be stored away from the development environment to ensure development on the project didn’t cause any unintended alterations to the project.

The development environment for the project was a python3 virtual environment (venv) set up on a virtual machine (EC2 Instance) running Ubuntu 20.something. Using a venv allows for pip installs and the application to be run without any conflicts between other pip install versions installed on the same machine.