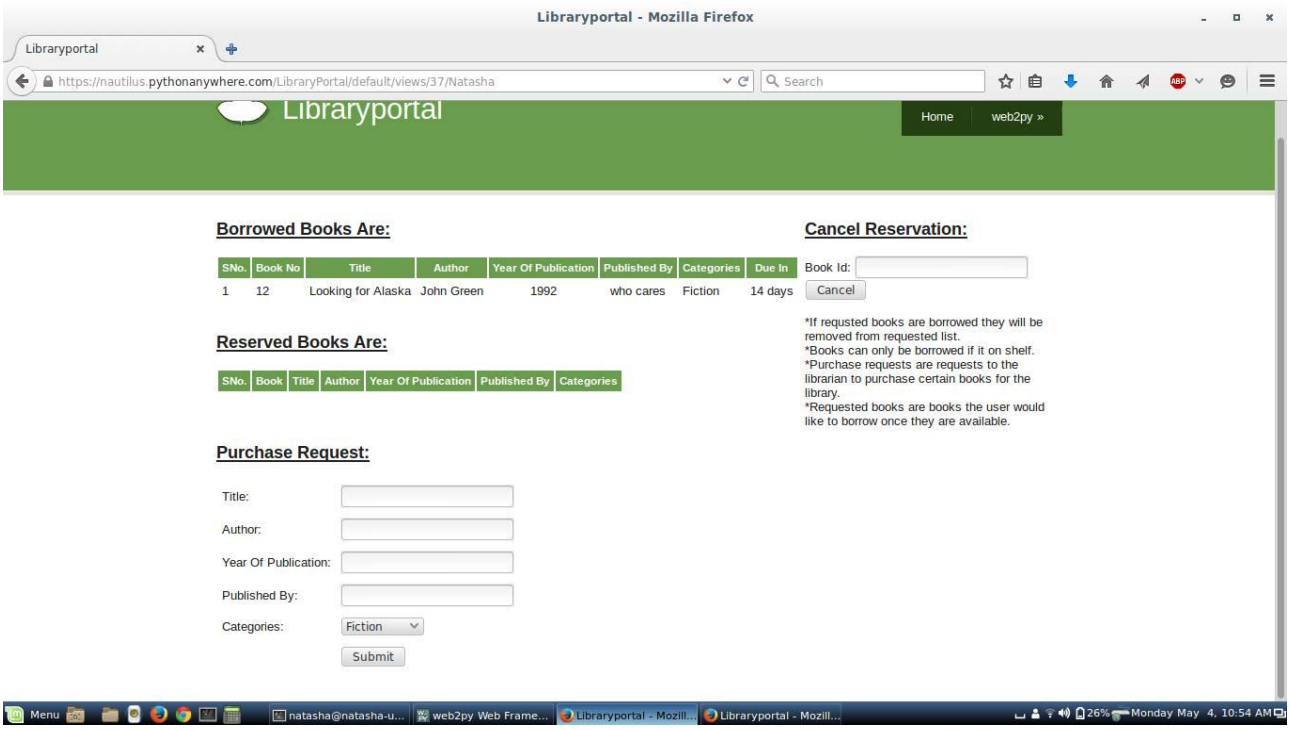
1) Brief Description of the Project

The aim of the purpose was to create a library portal which can be accessed through the user-students and faculty as well as librarian through different interfaces.

The main function for users is to search for books in the catalogue. Students and faculty can reserve books, request books for the library to purchase, as well as view their borrowed and requested books. The latter two functions are their most significant ones. Students have extra constraints like they cannot borrow or request for reference books.

Librarians have the most control as they can book and return books for users. They can add books to the library. If they approve a request the book gets added to the library automatically. They can also reject requests, view requests, borrowed books and requested books.



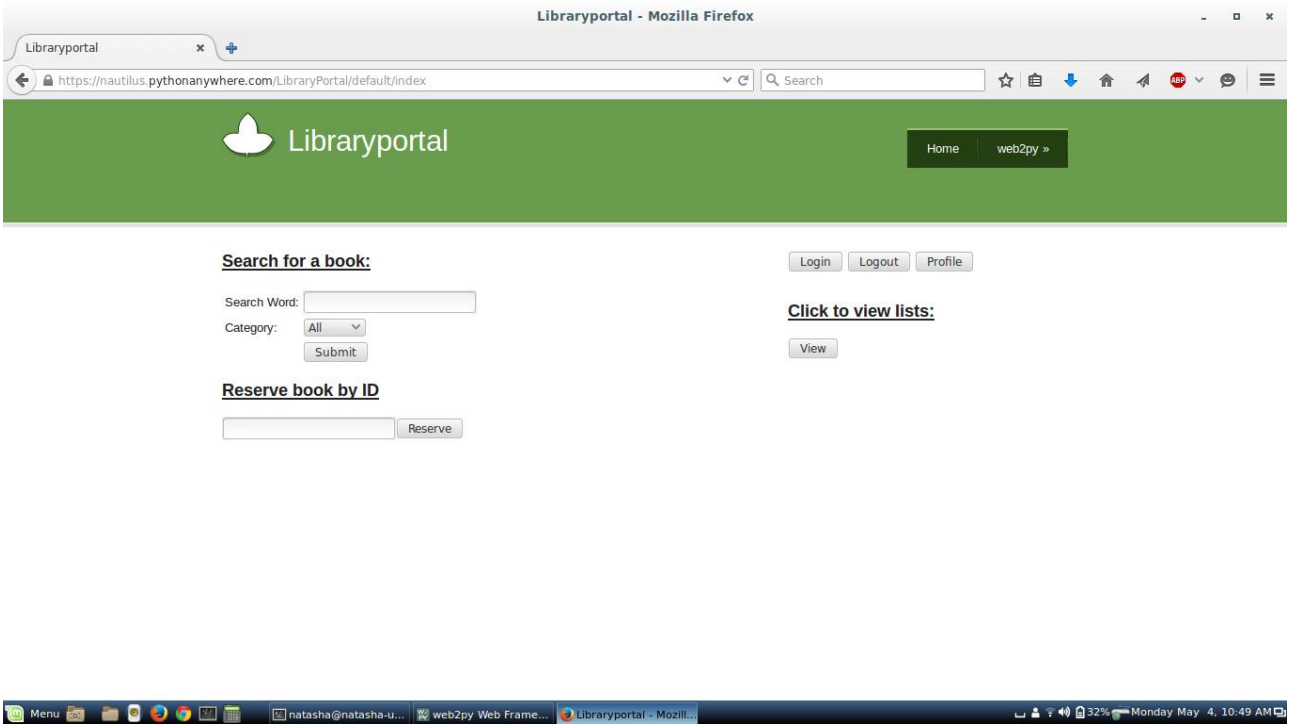
2) Features

a) Features Implemented:

i) General:

(1) Search catalogue:

Any user excluding the librarian can search for books in the database by typing in the key words and searching by categories All (for general purpose), Title, Author, Genre etc. and matched entries will be displayed in a table.



ii) Student and Faculty Side:

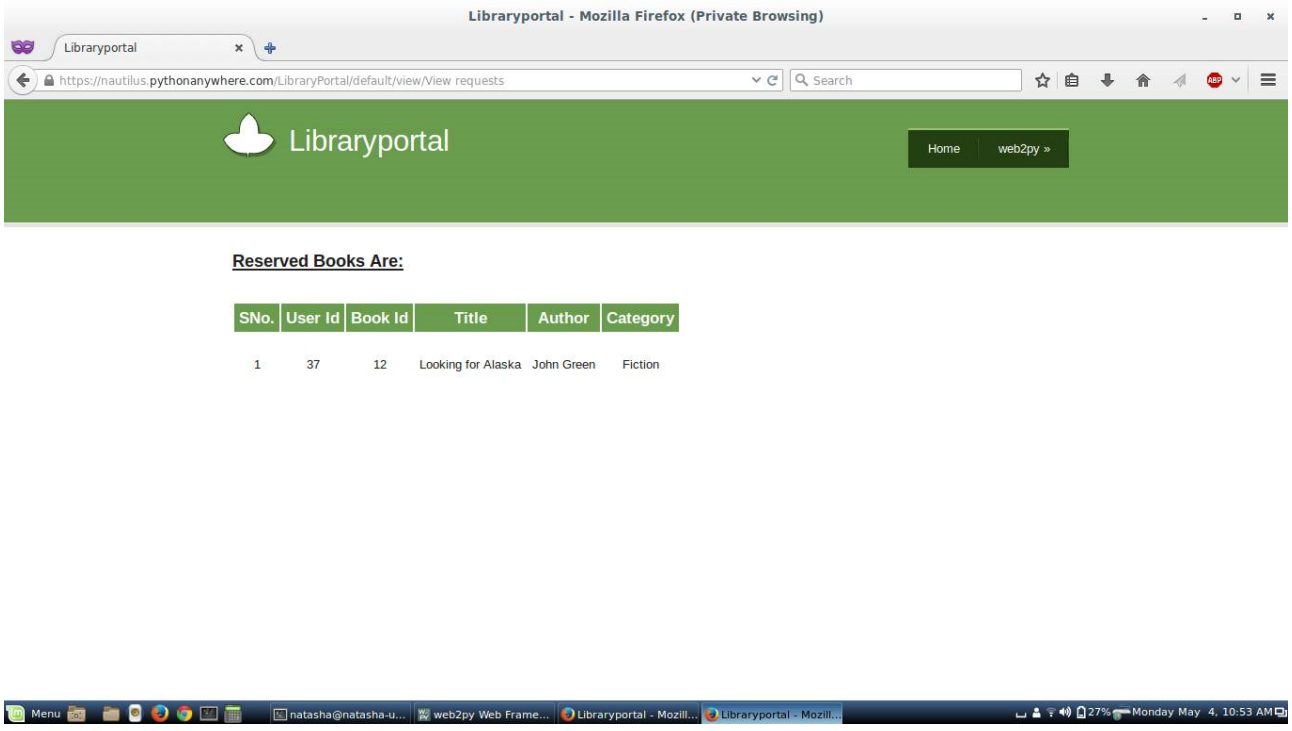
(1) Reserve:

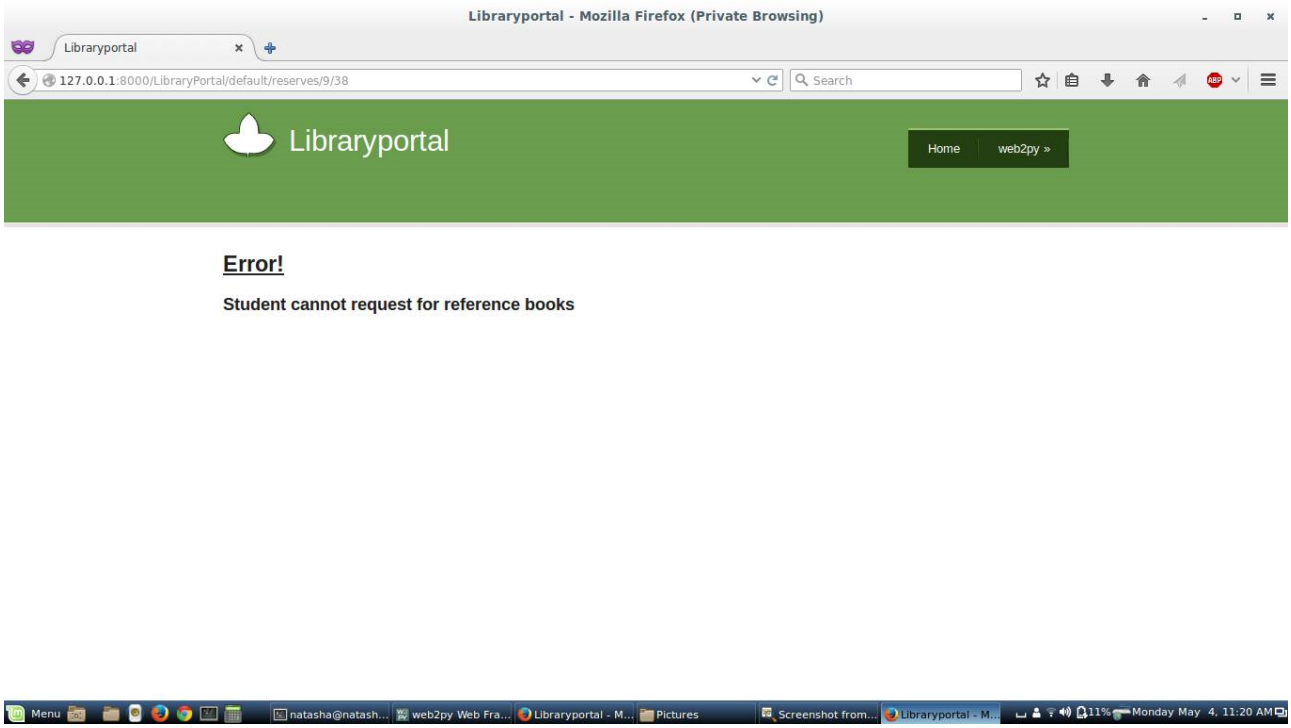
Books can be reserved if it cannot be borrowed at the moment. As soon as a book is borrowed it is removed of the user lists. Errors Handled include:

(a) Reservation only happens if the user is logged in and the book id exists in the database.

(b) Students cannot reserve reference books.

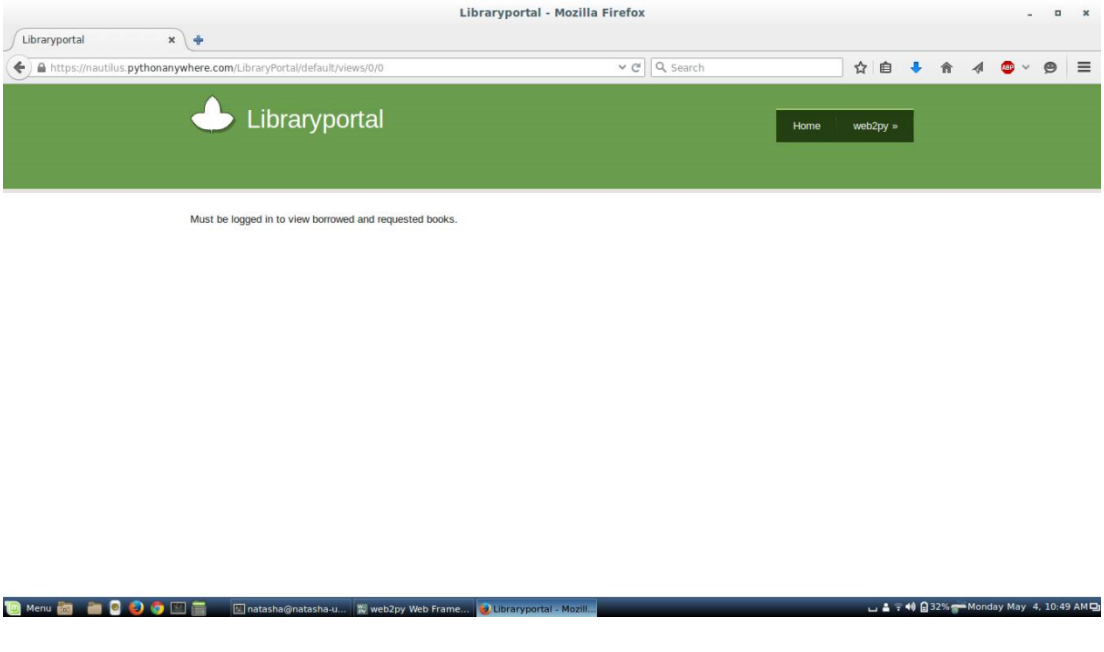
(c) Once a book is borrowed by a user it is automatically removed from that users reserved list.

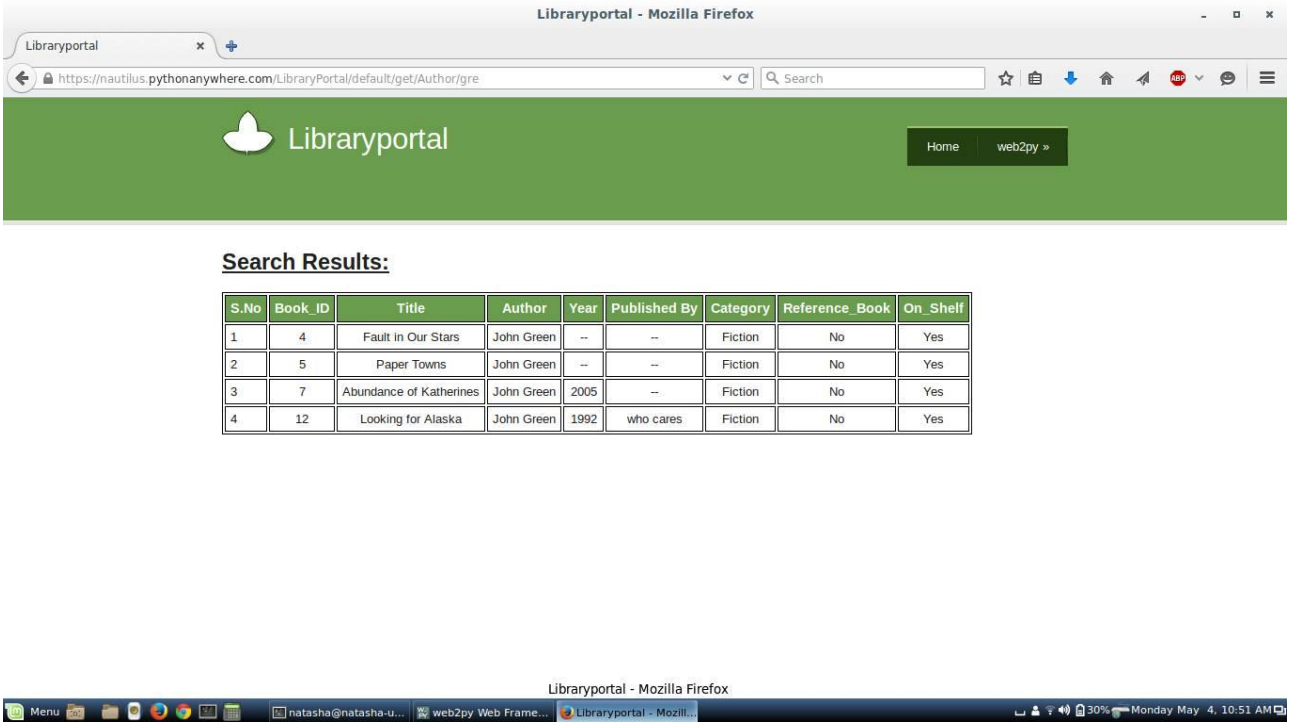




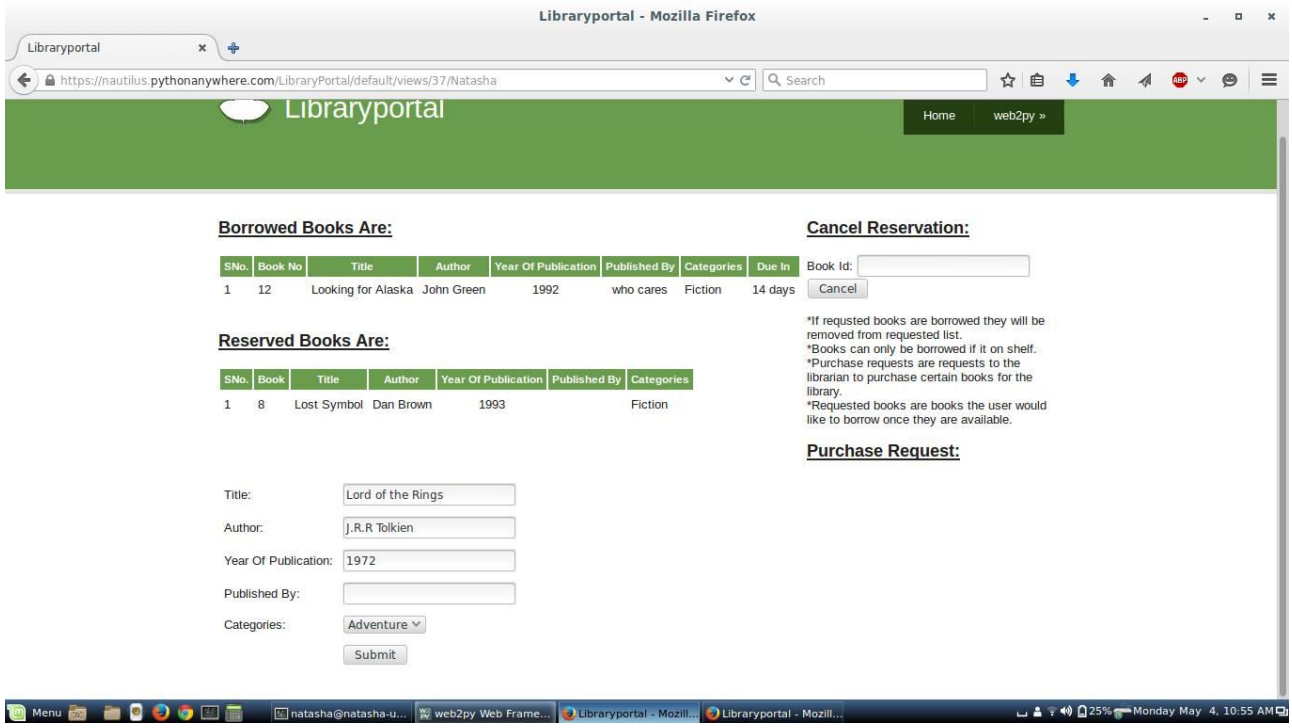
(2) Due date: Users can borrow the book for two weeks. While viewing borrowed books the last column tells the user the number of days the particular book is due. Errors handled include:
   (a) The number of days in which the particular book is due is never negative. If the user has had that book for over two weeks it displays overdue.

(3) View Tables:
   (a) Borrowed-Users can view information about the books they have borrowed.
   (b) Reserved-Users can view information about the books they have reserved for.
   (c) Cancel reservation-Users can also cancel their reservations if they don't require the book.
   (d) Purchase request-Users can send the librarian purchase requests if they would like the library to purchase a book they require.





Libraryportal - Mozilla Firefox



iii) Librarian Side:

(1) View Tables:

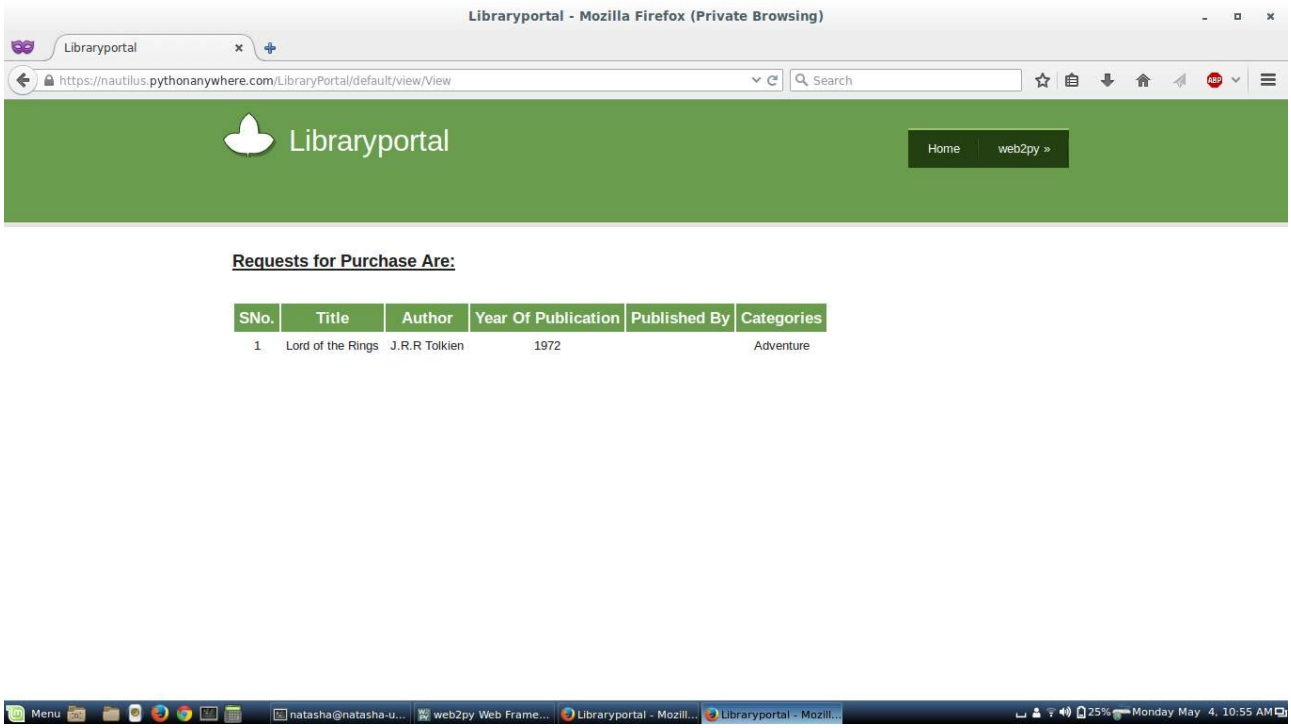
(a) Borrowed: Librarian can view the records of the all the books users have borrowed.

(b) Reservations: Librarian can view the records of all the books users have reserved.

(c) Purchase Requests: Librarian can view all the books users have requested to purchase.

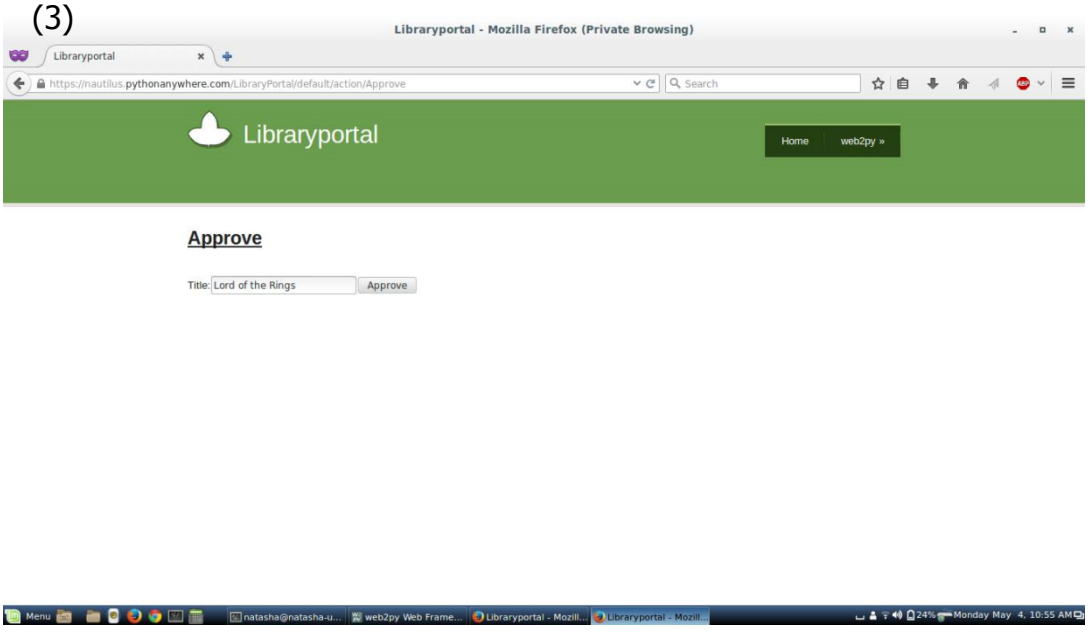
(2) Purchase Requests: Records of purchase requests are deleted from the

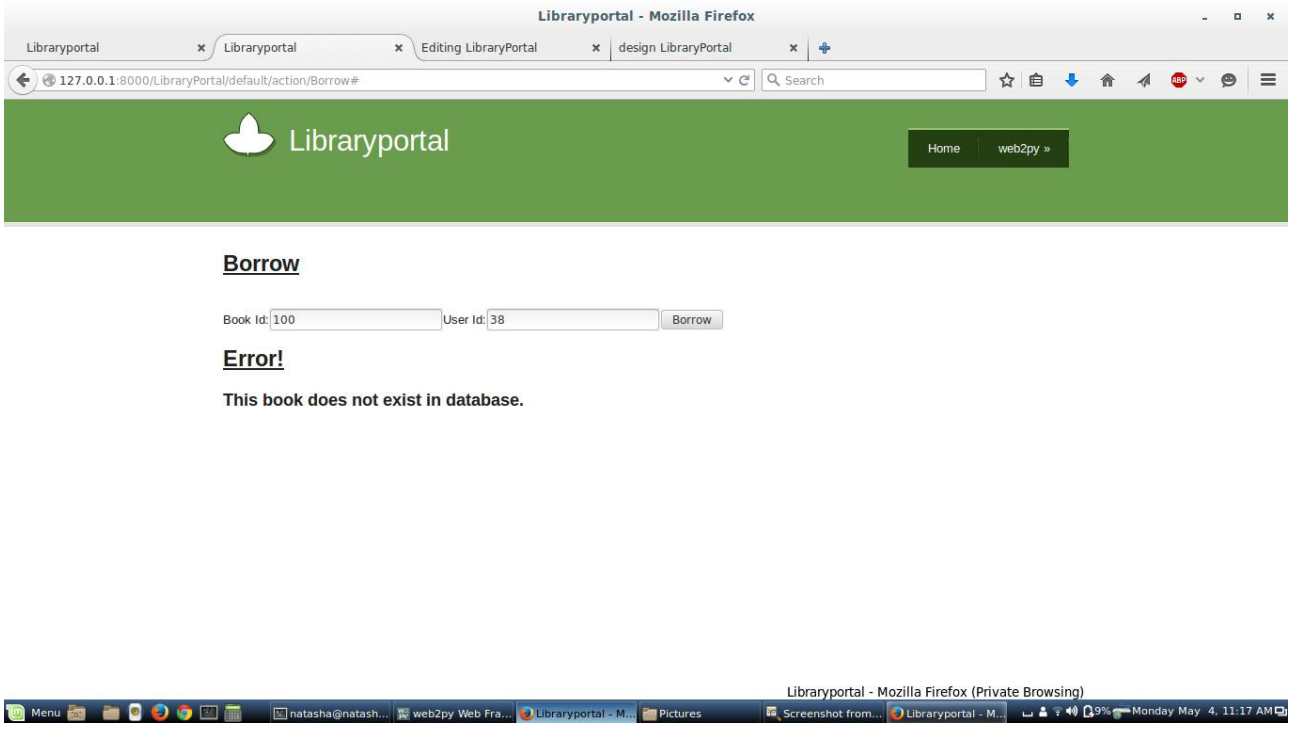
Purchase Requests table regardless of whether they are accepted or rejected.



(a) Reject: If a purchase request is rejected it is only deleted from the list.
(b) Accept: If a purchase request is accepted it is deleted from the Purchase Requests list and the same record information is added to the Catalogue as a new record. This purchases the book and it is available for borrowing.
(c) Add book: Librarians can manually add books
(d) Borrow: Librarians can manually borrow books for users. Errors handled include:
    (i) Students cannot borrow reference books.
    (ii) The books can be borrowed if its id is present in the catalogue.
    (iii)A book can only be issued if it is on the shelf.

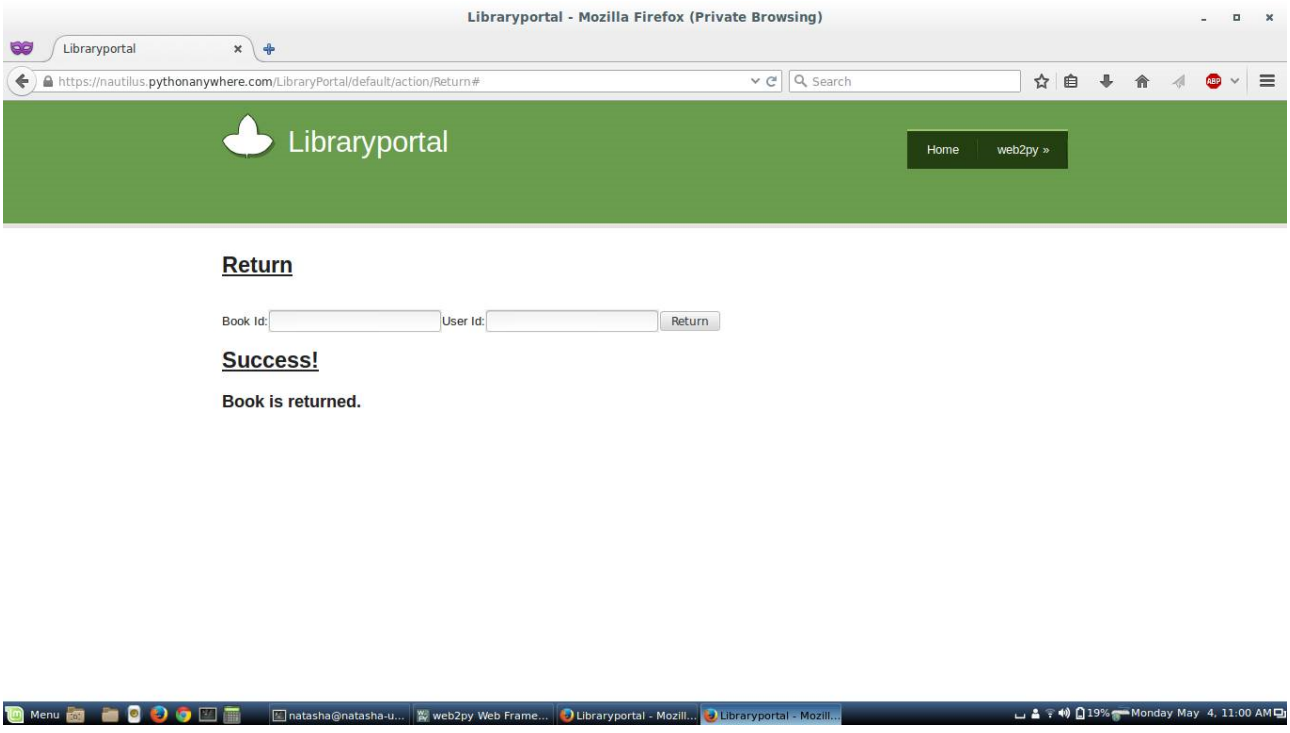
(3)

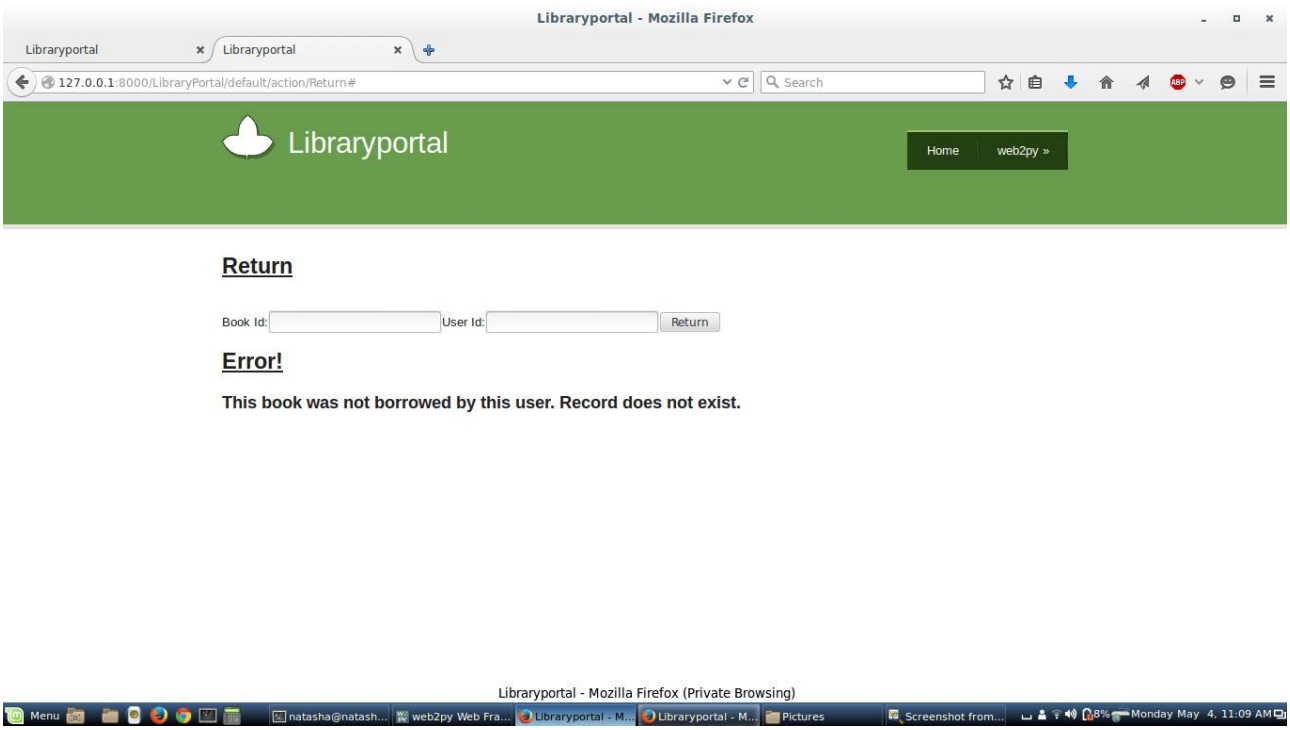




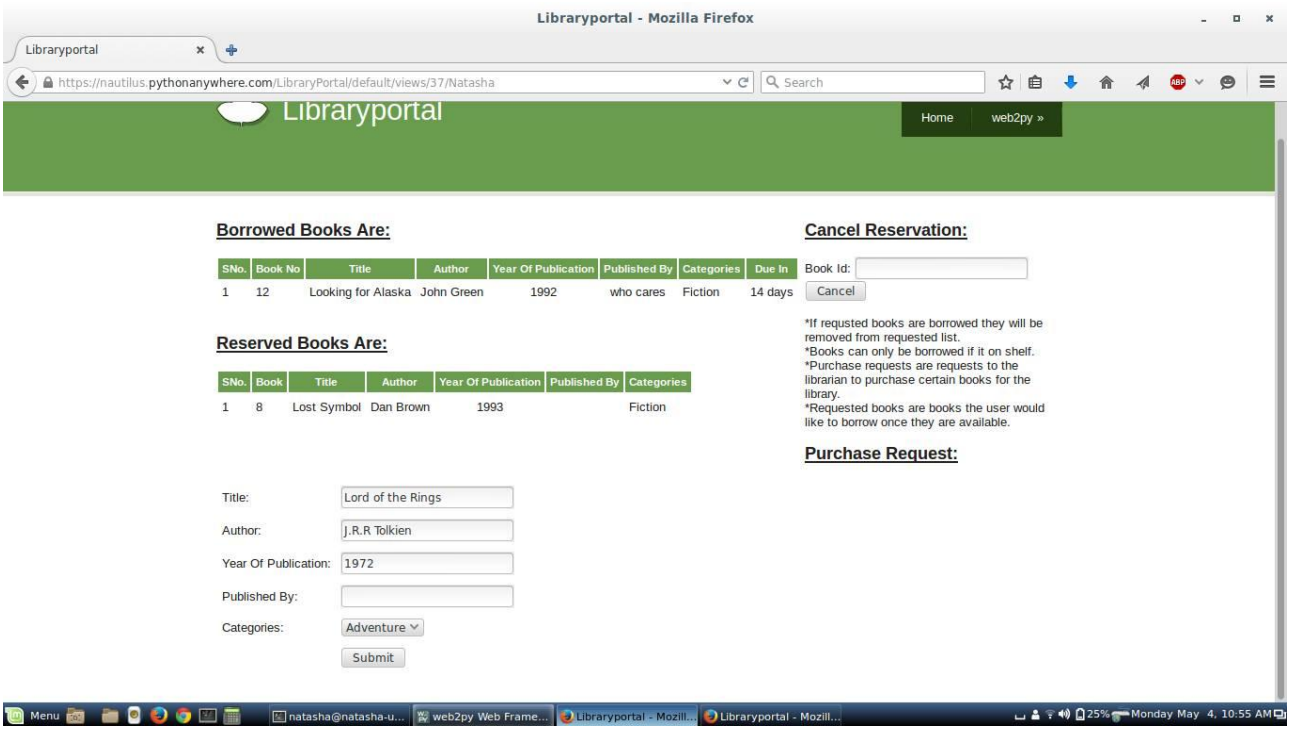
(3)Return: Librarians can manually return books for users. Errors handled include:

(a) A book can only be returned if it is a book that exists in the database which was borrowed by a user who also exists in the database.





Libraryportal - Mozilla Firefox (Private Browsing)



b) Features Not Implemented:

i) Overdue: Users can be given a fine if a book they borrowed is overdue. For example, one rupee per day.
ii) Borrow/Request Limit: There can be a limit on the number of books a person can borrow or request.
iii) Email if overdue: Users can be sent notices via email if they have borrowed a book for over two weeks.
iv) Email if a borrowed book is requested: Users who have borrowed a book which another user has requested for can be sent emails to bring to their notice that another user would like to borrow that book as well.
v) Email if purchase request accepted: If a user has requested for a book and it is purchased by the library they can be sent an email informing them so that they can borrow the requested book.

3) Future Scope

The features not implemented can be implemented. The coding can be done in a more sophisticated and error handling codes can be compressed further. We can create a better user interface by adding more pictures, java scripts and using bootstrap. CSS used in the project can be implemented in a better manner. This would make it more interactive. Information regarding the library can be posted. Last but not least, a user's profile can be made more customisable.