

IT313-Software Engineering

Lab 6

Activity and Class Diagram

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Exercise : Development activities of SE Virtual Labs

Draw an activity diagram to graphically represent the following workflow Let us consider the development activities of SE Virtual Labs. The process begins by checking out the code from Subversion repository. Necessary modifications are then made to the checked out code (local copy). Once the developer is done with his changes, the application has to be tested to verify whether the new functionality are working fine. This test has to be performed with two of the more popular web browsers: Firefox and Internet Explorer, to support cross-browser accessibility. If testing fails in at least one of the two browser, developer goes back to his code, and fixes it. Only when all the browsers pass the test, a patch is generated from the local copy, and applied to the production code. The local copy is then committed resulting in update of the SVN repository.

1 : How would you represent testing of the application with multiple browsers?

These both activity can be done in parallel, therefore we can represent those using fork and join.

2 : Can generation of the patch file and update the Subversion repository be done concurrently?

No, It cannot be done because of given note : Note that, if the local copy is committed before generating a patch file, then local changes would get registered, and one won't be further able to generate the patch file.

3 : Can patching the production code and updating the Subversion repository be done in parallel?

Yes, It can be done given that patch file is already generated from the local copy.

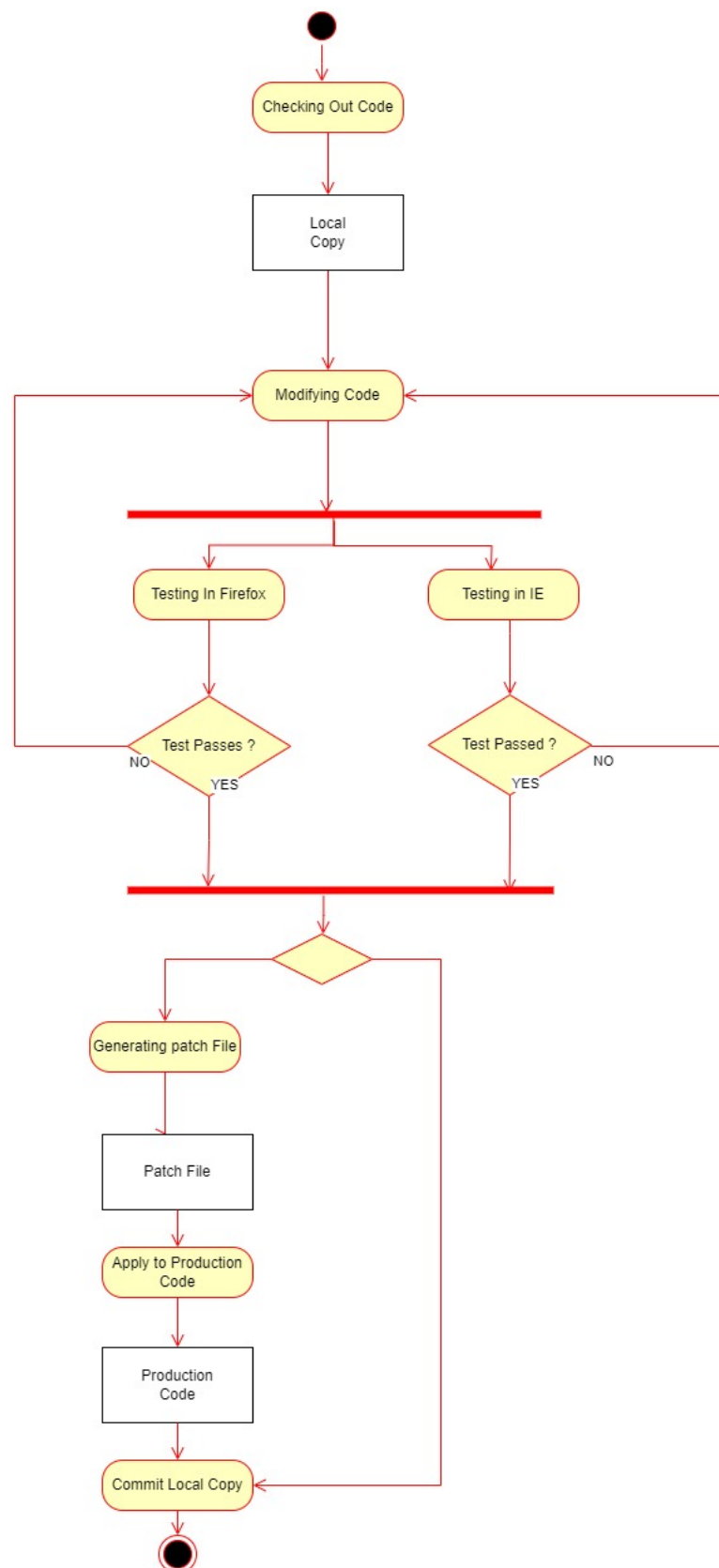


FIGURE 1: Activity Diagram of Development activities of SE Virtual Labs

Case Study: A Library Information System for SE Institute

As the size and capacity of the institute is increasing with the time, it has been proposed to develop a Library Information System (LIS) for the benefit of students and employees of the institute. LIS will enable the members to borrow a book (or return it) with ease while sitting at his desk/chamber. The system also enables a member to extend the date of his borrowing if no other booking for that particular book has been made. For the library staff, this system aids them to easily handle day-to-day book transactions. The librarian, who has administrative privileges and complete control over the system, can enter a new record into the system when a new book has been purchased, or remove a record in case any book is taken off the shelf. Any non-member is free to use this system to browse/search books online. However, issuing or returning books is restricted to valid users (members) of LIS only.

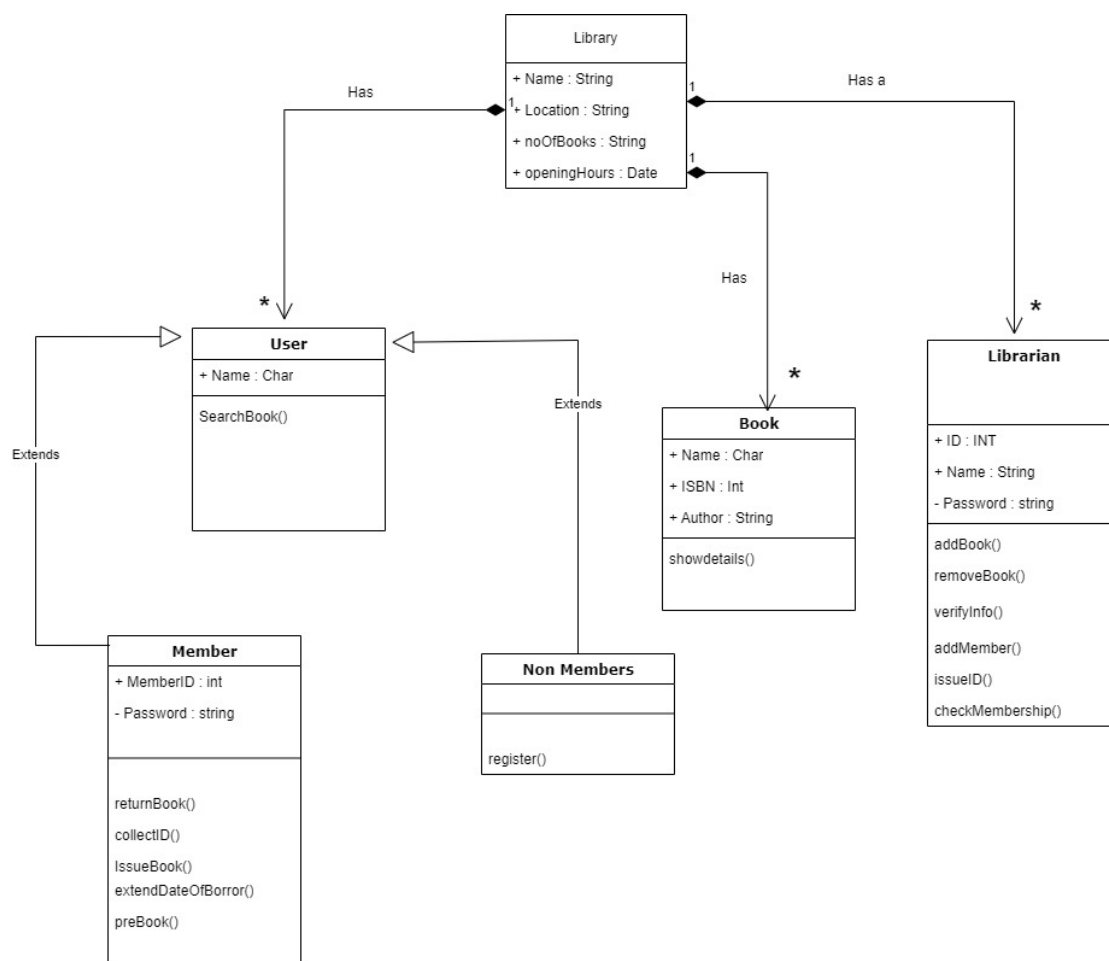


FIGURE 2: A Library Information System for SE Institute