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LAB: DOMAIN MODELING

IT313 SOFTWARE ENGINEERING

DEV PATEL: 202101092
DAIICT

Exercise

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 must be tested to verify whether the new functionality is working fine. This test must 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 browsers, 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. 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.

Note: For further clarification, at any point of time there exists three versions of the source code: Production copy, local copy, and copy in SVN repository.

1. Draw an activity diagram to graphically represent the following workflow.

Think over the following questions:

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

We will utilize a fork to ensure that both actions are carried out and output is produced in parallel to represent testing the application across many browsers.

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

Generation of the Patch File and Updating the Subversion Repository cannot be done concurrently. The patch file must be generated before being applied to production code, and the repository should be updated only after the patch has been applied.

• Can Patching the Production Code and updating the Subversion Repository be done in parallel?

As they are not interdependent in this procedure, patching the production code and upgrading the Subversion repository can be done simultaneously. But before you apply the fix to the live code, you must first create the patch file.

Learning Objectives:

• Identify the basic units of work, and visualize the workflow

If every browser passes the test, the procedure will run if the local copy is committed; if not, it will create a patch file, commit the local copy of the code, and then update the SVN repository. First, a copy of the repository is built, changes are made to the local code, and then it is performed concurrently in Firefox and Internet Explorer.

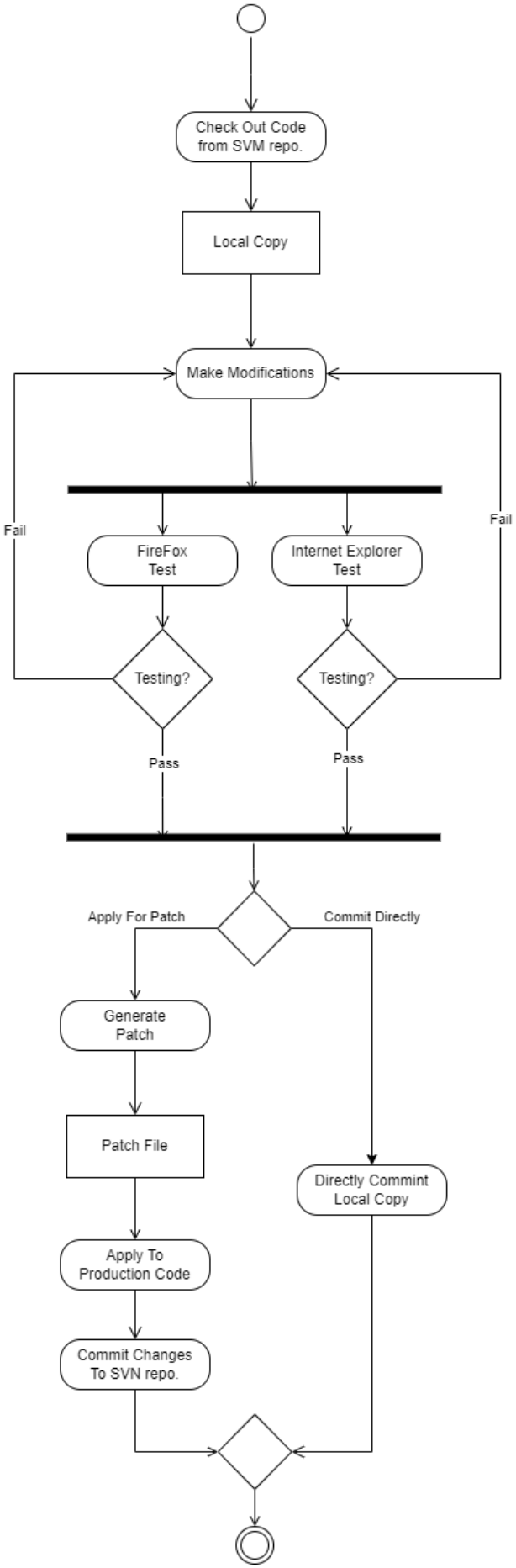
• Identify activities that could be done in parallel

Testing of codes in both browsers (Firefox and Internet Explorer) can be done parallelly.

• Identify stages from where progress could be made only after a list of criteria is satisfied

Patch File can only be generated only when all browsers pass the test, or else, code needs to be modified. If the local copy is committed before generation of patch file, in which case patch file won't be created.

Activity Diagram



2. Draw class diagram for any one of the sprints by identifying objects, classes, and their relationships.