IT314-Software Engineering

Lab VI: Activity & Class Diagram

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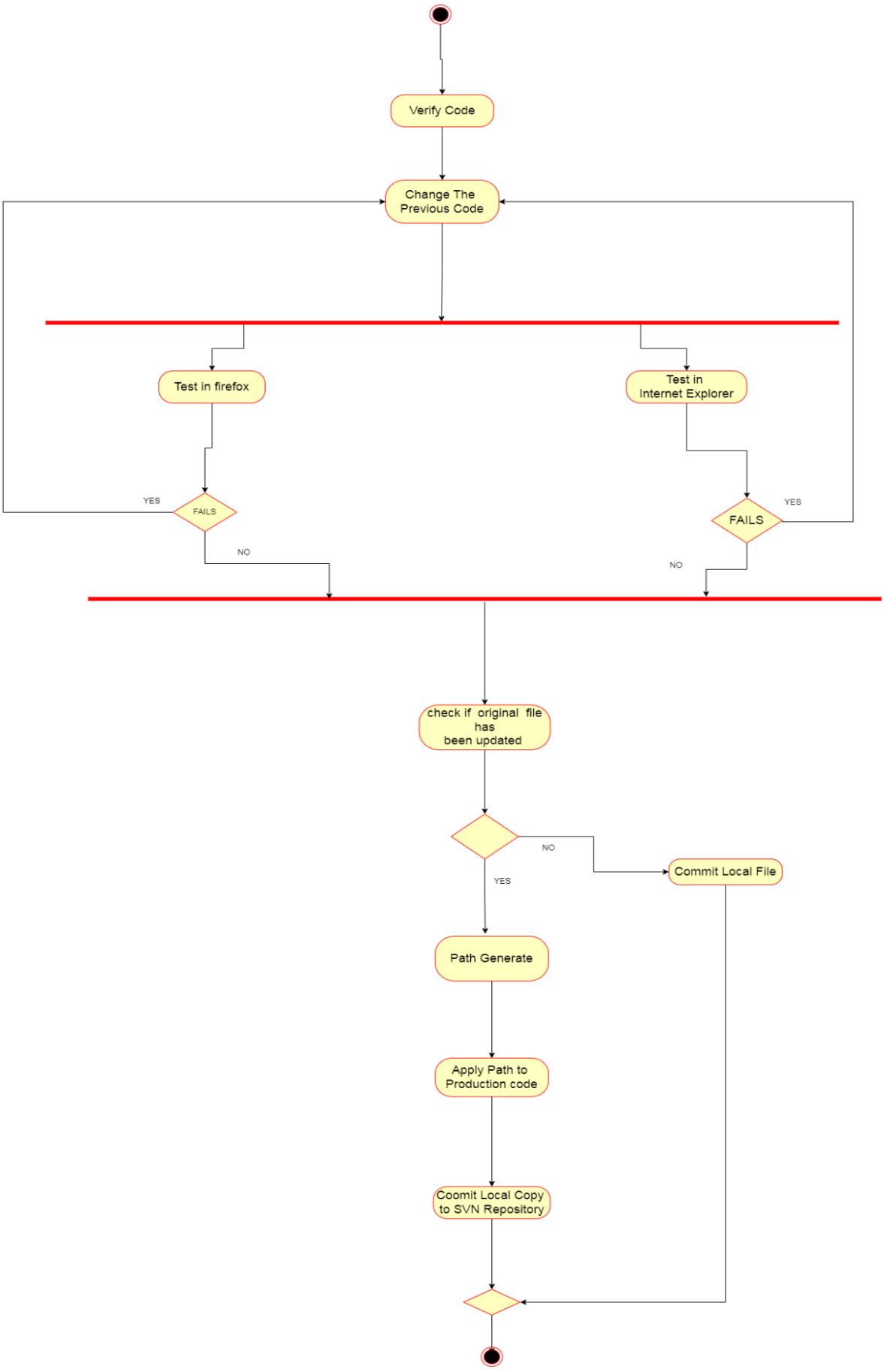
Exercise:

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. 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.

ACTIVITY DIAGRAM:


Verify Code
Change The Previous Code
Test in firefox
Test in Internet Explorer
YES
FAILS
NO
YES
FAILS
NO
check if original file has been updated
NO
YES
Commit Local File
Path Generate
Apply Path to Production code
Coomit Local Copy to SVN Repository

Think over the following questions:

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

Answer:- We need to utilize a fork to ensure that both jobs are done simultaneously and that output is produced in order to test the program across a variety of browsers.

2. Can generation Of the patch file and update the Subversion repository be done Concurrently?

Answer :- No, the production code will be patched first, followed by the creation of the patch file, and then the Subversion repository will be updated.

3. Can patching the production code and updating the Subversion repository be done in Parallel?

Answer:- Applying the Patch to Production Code: After the Patch has been correctly developed, this step may be completed. The procedure is finished by implementing the change in the production code. This step can only be completed after the production code has been patched. SVN repository change submission. The SVN repository is updated after the changes are committed.

Learning Objectives:

1. **Identify the basic units of work, and visualize the work flow**
   The process involves creating a copy of the repository, making adjustments to the local code,and then running Firefox and Internet Explorer simultaneously. The process will execute if the local copy of the code is committed and every browser passes the test; otherwise, it will produce a patch file, commit the local copy of the code, and then update the SVN repository.

2. **Identify activities that could be done in parallel**

   The checking of code in both browsers (Firefox and Internet Explorer) will be done parallelly.

3. **Identify stages from where progress could be made only after a list of criteria is Satisfied**
   The code must be changed if at least one of the two browsers (Internet Explorer and Firefox) fails the testing at the checking step. If the local copy is committed before creating a patch file, in which case the patch file cannot be created.

Class Diagram for Issue Functionality