IT-314 Software Engineering

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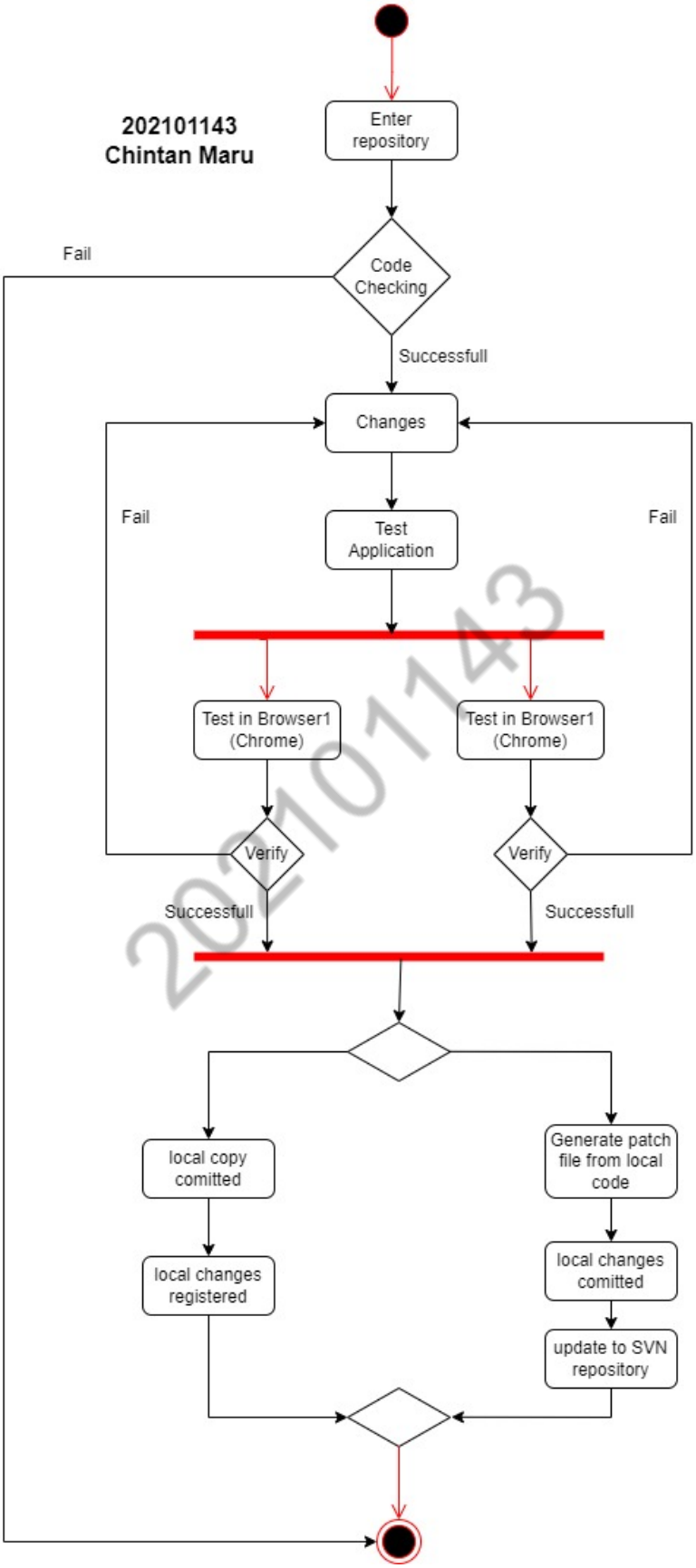
Lab : 06

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.

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.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Chintan Maru
Enter repository
Code Checking
Fail
Successfull
Changes
Fail
Test Application
Fail
Test in Browser1 (Chrome)
Test in Browser1 (Chrome)
Verify
Verify
Successfull
Successfull
local copy comitted
local changes registered
Generate patch file from local code
local changes comitted
update to SVN repository
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Think over the following questions:

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

Testing of the application with multiple browsers will be done using fork so that both actions get executed and output will be generated at the same time.

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

No , patch file generation will be done before update the subversion repository.

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

Patching the production code will be done after the generating of the patch file and updating the subversion repository can be done after the generation of the patch file, so we can say that both can be done parallel after generating the patch file.

Learning Objectives:

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

First, a copy of the repository is built, changes are made to the local code, and then it is performed concurrently in Firefox and Chrome. 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.

• Identify activities that could be done in parallel

The checking of code in both browsers (Firefox and crome) will be done parallel.

• 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 (chrome 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.

Limitations:

The objective of this system is to provide knowledge on the fundamental aspects of activity diagrams. As such, it lacks certain features as listed below, which a dedicated UML Diagram editor should have.

• This system lets you represent at most five parallel activities

• Nested decisions could not be taken here, which might be quite essential in complex workflows

• A decision could not be taken immediately after a merge point

• Nested activity diagrams have not been implemented

I. Class diagram

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