IT314: Software Engineering
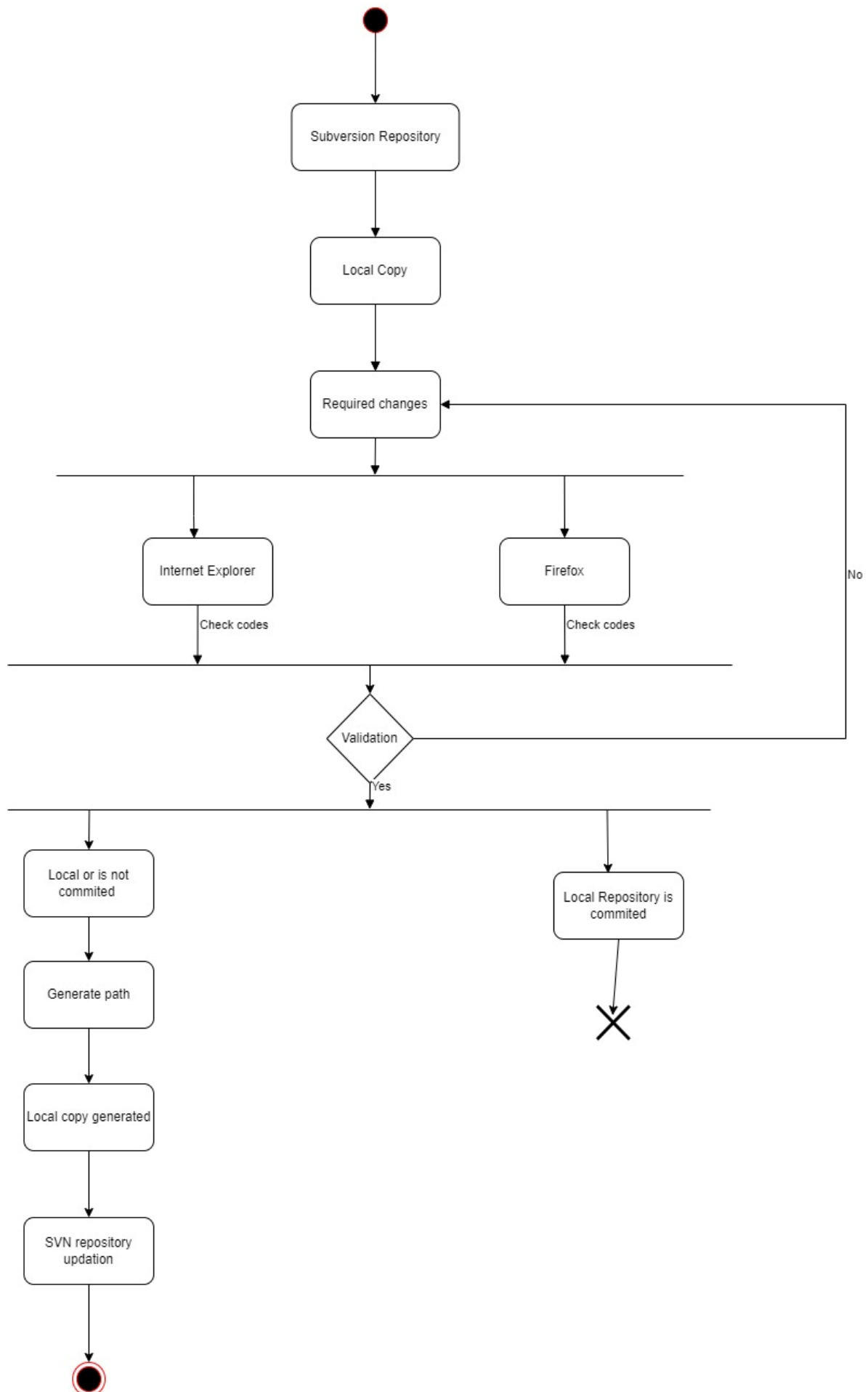
Name: Patel Smit Mukeshkumar

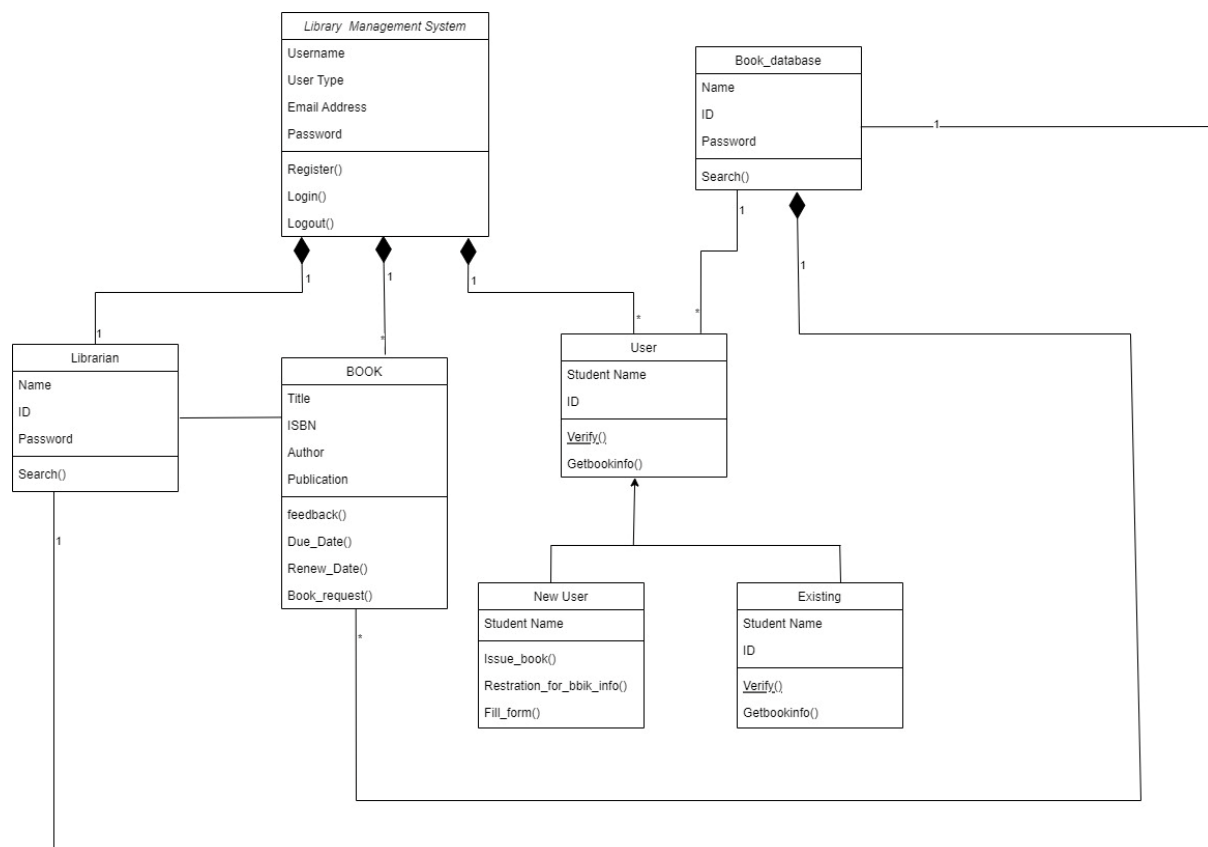**ID: 202101153**

Group: 2

Lab 6: Activity & Class Diagram

Activity Diagram:

```
                              ●
                              │
                              ▼
                   ┌────────────────────┐
                   │ Subversion Repository │
                   └────────────────────┘
                              │
                              ▼
                      ┌──────────────┐
                      │  Local Copy  │
                      └──────────────┘
                              │
                              ▼
                      ┌──────────────┐
                      │ Required changes │◄────────────────────────┐
                      └──────────────┘                             │
                              │                                    │
         ─────────────────────────────────────────────            │
              │                              │                     │
              ▼                              ▼                     │
     ┌─────────────────┐            ┌─────────────────┐            │
     │ Internet Explorer │          │     Firefox     │            │
     └─────────────────┘            └─────────────────┘           No
              │ Check codes                 │ Check codes          │
              ▼                              ▼                     │
         ──────────────────────────────────────────               │
                              │                                    │
                              ▼                                    │
                          ◇ Validation ◇─────────────────────────┘
                              │ Yes
         ─────────────────────────────────────────────
              │                                      │
              ▼                                      ▼
     ┌─────────────────┐                   ┌─────────────────┐
     │ Local or is not │                   │ Local Repository is │
     │    commited     │                   │    commited     │
     └─────────────────┘                   └─────────────────┘
              │                                      │
              ▼                                      ▼
     ┌─────────────────┐                           ✕
     │  Generate path  │
     └─────────────────┘
              │
              ▼
     ┌─────────────────┐
     │ Local copy generated │
     └─────────────────┘
              │
              ▼
     ┌─────────────────┐
     │ SVN repository  │
     │    updation     │
     └─────────────────┘
              │
              ▼
              ◉
```

Class Diagram

Questions:

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

● We must utilise fork to ensure that both operations are completed and output is produced simultaneously in order to reflect testing of the program across many browsers.

2) Can generation of the patch file and update the Subversion repository be done Concurrently?

●No initial patch file will be created, followed by its application to the production code and updating of the Subversion repository.

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

- Applying Patch to Production Code: After the patch has been generated successfully, you can move on to this step. The workflow is finished by applying the patch to the production code.

- Committing Changes to SVN Repository: This step can only be completed after the production code has been patched. The SVN repository is updated after the modifications are committed.

• Identify the basic units of work, and visualise the workflow
  - In order to execute the local code modifications in parallel in Firefox and Internet Explorer, a clone of the repository must first be generated. 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
  - Both Firefox and Internet Explorer will have their code checked concurrently.

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

    1.The code must be changed if at least one of the two tested browsers (Internet Explorer and Firefox) fails during the checking step.

    2.If a patch file isn't able to be generated because the local copy was committed before it was,