

# **Behavior driven development analysis/ Radiomics application**

## **User Requirements:**

1. Dataset file needs to be sorted out
2. Be able to read radiomics structure
3. Be able to see the data that are marked to be processed

## **Software Requirements:**

1. Read the csv file that has to be processed further by project manager
2. command “Rad Process” can be triggered to write “results.json” or display an error when occurs as “ Error-report.log”
3. Generally specify the supported operating systems,required software dependencies must be installed,libraries,frameworks or runtime environments (python and bash scripts)

## **Test Requirements:**

1. Should test the structure of radiomics if it fits the requirement
2. Radiomics structure should not be empty
3. Csv file should not be empty
4. Check the column “Toprocess” must either be “True”, “False” or “Empty”
5. While you trigger command “ RadProcess scans-to-process.json” if successful then tool will write “results.json” otherwise display an error in “error\_report.log”

## **Implementation Requirements:**

1. Check if tests cover a significant portion of code base using code coverage tool
2. Ensure that all tests are appropriate for the specific functionality,each test should have a clear purpose and should not overlap with other tests
3. Tests must have valid and invalid input values to thoroughly test different scenarios and error handling
4. Check if tests have any dependencies on external systems,databases or services
5. Finally check performance and scalability of application and review the documentation of tests to ensure clarity and completeness

## **Deployment Requirements:**

1. Conduct code review to identify any potential bugs and make sure server can be accessible internally through a virtual private network(VPN) or other security (verify application configuration as well)
2. Establish a back up strategy to ensure data integrity and availability
3. Would prefer involve project managers in user acceptance testing to validate that the application meets the requirements and expectations before the final deployment
4. Deploy the application to Git and use pull request to give a read access to the project managers and create pipeline where we define test and create images using docker and make sure that changes we make also go through the pipeline while we perform tests