

Test Plan

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1 Overall Testing Strategy

Integration test: test backend connections among backend components and backend-frontend connections.

Functional system test: test the app against the functionalities in the requirements

Regression-testing: every time that we change our system and we need to make sure that the changes behave as intended and that the unchanged code is not negatively affected by the modification, by these changes.

2 Test Cases

#	test cases description	purpose	steps	expected result	actual result	pass/fail
1	upload & predicting a jpeg image without pneumonia	test the functionality of image uploading & prediction	Step 1. launch the app. Step 2. click "browse" button, and then choose a jpeg file that indicates healthy chest; Step 3. click "submit" button.	Step 1. loads the expected info of selected patient; fields in observations (height, weight, etc.) and medication requests can be empty. Step 2. the app shows the expected preview of the selected image. Step 3. shows "Normal" under "Prediction Results".	As expected	pass
2	upload & predicting a jpeg image with pneumonia	test the functionality of image uploading & prediction	Step 1. launch the app. Step 2. click "browse" button, and then choose a jpeg file that is known to indicate pneumonia; Step 3. click "submit" button.	Step 1. loads the expected info of selected patient; fields in observations (height, weight, etc.) and medication requests can be empty. Step 2. the app shows the expected preview of the selected image. Step 3. shows "Pneumonia" under "Prediction Results".	As expected	pass

#	test cases description	purpose	steps	expected result	actual result	pass/fail
3	upload a file with wrong format	test the functionality of throwing an error when a wrong image format is uploaded	Step 1. launch the app. Step 2. click "browse" button, and then choose a .txt file.	Step 1. loads the expected info of selected patient; fields in observations (height, weight, etc.) and medication requests can be empty. Step 2. An alert shows up: "Please click on Remove Image button and upload a jpeg or png image!"	As expected	pass
4	take an annotation	test the functionality of "Add an annotation for the image/prediction"	Step 1. launch the app. Step 2. type "test note" in the box and press "Add".	Step 1. loads the expected info of selected patient; fields in observations (height, weight, etc.) and medication requests can be empty. Step 2. under "Latest annotation", the app displays "Test Author" + time when the note was made + "test note".	As expected	pass

#	test cases description	purpose	steps	expected result	actual result	pass/fail
5	test multiple requests without refreshing	test the ability of the app to handle multiple requests	<p>Step 1. launch the app. Step 2. click "browse" and choose a jpeg image that indicates healthy chest. Step 3. click "submit". Step 4. click "Remove Image". Step 5. click "browse" and choose a jpeg image that indicates pneumonia. Step 6. click "submit".</p>	<p>Step 1. loads the expected info of selected patient. Step 2. the app shows the expected preview of the selected image. Step 3. shows "Normal" under "Prediction Results". Step 4. image preview clears. Step 5. the app shows the expected preview of the selected image. Step 6. shows "Pneumonia" under "Prediction Results".</p>	<p>Step 6. a new screen shows up with an S3 error message.</p>	fail

#	test cases description	purpose	steps	expected result	actual result	pass/fail
6	test multiple requests with refreshing	test the ability of the app to handle multiple requests using refreshing in between	<p>Step 1. launch the app. Step 2. click "browse" and choose a jpeg image that indicates healthy chest. Step 3. click "submit". Step 4. click "Remove Image". Step 5. click to reload the app page. Step 6. click "browse" and choose a jpeg image that indicates pneumonia. Step 7. click "submit".</p>	<p>Step 1. loads the expected info of selected patient. Step 2. the app shows the expected preview of the selected image. Step 3. shows "Normal" under "Prediction Results". Step 4. image preview clears. Step 6. the app shows the expected preview of the selected image. Step 7. shows "Pneumonia" under "Prediction Results".</p>	as expected	pass