Unit Test: Login Page and Tree

Login/Welcome page:

Functional Testing:

Login/welcome page loads:
Navigated to the main Rootify page (default is http://localhost:8888). The welcome page successfully loaded, as expected.

'About' button
Clicked the 'About' button on the top right of the page and successfully loaded the 'About' page for Rootify, as expected.

'Help' button
Clicked the 'Help' button on the top right of the page and successfully loaded the 'Help' page for Rootify, as expected.

Log in button
Clicked on the "LOG IN WITH SPOTIFY" button. Entered my Spotify account credentials (username and password) and clicked "OKAY" to allow Rootify to access certain information from my account. The Rootify visualization (of the tree with my top 5 short-term tracks and artists) successfully loaded, as expected.

Logging in to an an account with no top track and artist data:
Clicked on the "LOG IN WITH SPOTIFY" button. Entered my Spotify account credentials (username and password) and clicked "OKAY" to allow Rootify to access certain information from my account. The Rootify visualization (of the tree with my top 5 short-term tracks and artists) didn't load and was redirected to an error page saying that my Spotify account has no data to display, as expected.

Tree

Functional Testing:

Finding related tracks:
Clicked on the downward triangle of the track "Too Much To Ask" by Niall Horan. Track nodes were added below this track and connected (by a line) to this track within 3 seconds, as expected. The resulting tracks were "Fire Away" by Niall Horan, "I Almost Do" by Taylor Swift, and "Wait" by JP Cooper. From personal experience, these songs fall into the range of being expected related tracks (all are pop-oriented, etc.).

Finding related artists:
Clicked on the downward triangle of the artist Taylor Swift. Artist nodes were added below this artist and were connected within 3 seconds, as expected. The resulting artists were Selena Gomez, Miley Cyrus, and Meghan Trainor. From personal experience, these results fall into the acceptable category as all are relatively popular pop artists (like Taylor Swift herself).

Minimizing tracks:
Clicked on the upward triangle for "Too Much To Ask" by Niall Horan. This node's children were minimized and no longer appeared in the tree, as expected. This track's down triangle was clicked again and the same tracks reappeared, as expected.

Minimizing artists:
Clicked on the upward triangle for Taylor Swift. This node's children were minimized and no longer appeared in the tree, as expected. This artist's down triangle was clicked again and the same artists reappeared, as expected.

'LONG-TERM' button:
Clicked on the 'LONG-TERM' button at the top page. All of the nodes in the tree minimized, as expected. The tree loaded my top 5 long-term tracks and artists. The results are believable.

'SHORT-TERM' button:
Clicked on the 'SHORT-TERM' button at the top of the page. All of the nodes in the tree minimized, as expected. The tree loaded my top 5 short-term tracks and artists. The results are believable. My previous tree (before switching to long-term) was resorted.

'RESET TREE' button:
Clicked on the 'RESET TREE' button at the top of the page. All of the nodes in the tree minimized. Clicked on the downward triangle for artist Taylor Swift and new related artists appeared, indicating the tree was reset (i.e. the root's children's children was killed). All of the root's children were expanded and confirmed that the root's children children were cleared.

'SHORT-TERM,' 'LONG-TERM,' and 'RESET TREE'
Spammed the short-term, long-term, and reset buttons. Validated that transitions can't occur when the tree is moving.

'LOGOUT' button

Clicked on the 'LOGOUT' button located at the top of the page. Successfully logged me out of my Spotify account (and therefore Rootify) and redirected me to a Spotify login page, as expected. Went to the main/welcome page for Rootify and validated that I was logged out.

Zooming and dragging:
Scrolled in over the tree and the tree indeed becomes larger. Scrolled out over the tree and the tree becomes smaller. Both cases were as expected. Held mouse primary click on the tree (both either over a node or not) and moved mouse. Tree moves in all directions (up, down, left, and right) where the mouse goes, as expected.

Details Tab of Sidebar:

Functional Testing:

Selecting a track from the tree:
Made sure the 'Details' tab is selected. Clicked on the track "Fifteen" by Taylor Swift (represented by a rectangle) on the tree. The track became outlined with orange, as expected. The sidebar loaded the Spotify player widget of the track with a play button and the album art, as expected. Below the track player were colorful bars that represented popularity (61%), danceability (54%), energy (64%), happiness (21%), and tonic key G major. From personal experience, these results are believable. The track player loads and opens Spotify and plays the track when the play button is pressed, as expected.

Selecting an artist from the tree:
Made sure the 'Details' tab is selected. Clicked on the artist Taylor Swift (represented by a circle) on the tree. The artist became outlined with orange, as expected. The sidebar loaded the artist's image with the text "Taylor Swift" over it, as expected. Three Spotify players showed up under the artist image, as expected. The popularity bar (95%) showed up underneath. Her associated genres showed up as well, and, from personal experience, are believable. All of the track players work when their play buttons are pressed.