CS 550: Advanced Operating Systems

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Gnutella P2P File Sharing System: Verification Document

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Contents

Test case 1 See the list of local files

For this test case, you will need to set up **one peer** and **one super-peer**. Please refer to the manual.

1. Make sure that the `share` folder contains at least one file.
2. Start the peer.
3. Type `1` to see the list of local files.
4. Verify that the list of files corresponds to the files present in the `share` folder.

Test case 2 Change files and check that the Super-Peer is updated

For this test case, you will need to set up **one peer** and **one super-peer**. Please refer to the manual.

1. Start the peer and super-peer.
2. Type `1` to see the list of local files.
3. Verify that the list of files corresponds to the files present in the `share` folder.
4. Add or delete a file in the `share` folder.
5. Verify that a registry request corresponding to this change was made by looking in the super-peer logs.

Test case 3 Download a file from a peer in the same sub-network

For this test case, you will need to set up **one super-peer** with **two leaf-nodes**. Please refer to the manual.

1. Make sure that the `share` folder of the peers contain different files.
2. Start the super-peer.
3. Start the two peers.
4. On the second peer, type `2` to download a file.
5. On the second peer, type the name of a file only present on the first peer.
6. Verify that the super-peer returns the right peer information for this file.
7. Type `1` to download this file.
8. Verify that the download was successful and that the downloaded file is now present in the `share` folder.

Test case 4 Download a file from a peer in a different sub-network

For this test case, you will need to set up **two super-peers** with **one leaf-node each**. Please refer to the manual.

1. Make sure that the `share` folder of the peers contain different files.
2. Start the two super-peers.
3. Start the two peers.
4. On the second peer, type `2` to download a file.
5. On the second peer, type the name of a file only present on the first peer.
6. Verify that the super-peer returns the right peer information for this file.
7. Type `1` to download this file.
8. Verify that the download was successful and that the downloaded file is now present in the `share` folder.

Test case 5 Search for a non-existent file

For this test case, you will need to set up **multiple peers** and **one super-peer**. Please refer to the manual.

1. Make sure that the `share` folder of the peers contain different files.
2. Start the super-peer.
3. Start all the peers.
4. On one of the peers, type `2` to download a file.
5. Type the name of a file that doesn't exist on any peer.
6. Verify that the super-peer doesn't return any peer information for this file.

Test case 6 Download a file present on multiple peers of the same sub-network

For this test case, you will need to set up **three peers** and **one super-peer**. Please refer to the manual.

1. Make sure that the `share` folder of the peers contain different files and that two of the peers have one file in common but not the third peer.
2. Start the super-peer.

3. Start all the peers.
4. On the third peer, type `2` to download a file.
5. On the third peer, type the name of a file present on the two other peers.
6. Verify that the super-peer returns one file with two peers. The peers must be presented in random order.
7. Type `1` to download this file.
8. Verify that the download was successful and that the downloaded file is now present in the `share` folder.

Test case 7 Download a file present on multiple peers of different sub-networks

For this test case, you will need to set up **three super-peers** with **one leaf-node each**. Please refer to the manual.

1. Make sure that the `share` folder of the peers contain different files and that two of the peers have one file in common but not the third peer.
2. Start all the super-peers.
3. Start all the peers.
4. On the third peer, type `2` to download a file.
5. On the third peer, type the name of a file present on the two other peers.
6. Verify that the super-peers return one file with two peers. The peers must be presented in random order.
7. Type `1` to download this file.
8. Verify that the download was successful and that the downloaded file is now present in the `share` folder.