Users Collection:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID (unique) | lastName | firstName | textId | Last Update |
| U00000001 | … | … | A |  |
| U00000002 | … | … | B |  |

Groups Collection:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID (unique) | Owner ID | Member List | Root Hash | Group Rev # |
| G00000001 | U00000001 | U00000001 | F00000001 |  |
| G00000002 | U00000002 | U00000002 | F00000008 |  |
| G00000003 | U00000001 | U00000001,  U00000002 | F00000004 |  |

File Collection:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Hash | Owner | Group | Name | Path | Parent | Current Rev # |
| F00000001 | U00000001 | G0000001 | / | NULL | NULL | 1 |
| F00000002 | U00000001 | G0000001 | root | / | F00000001 | 1 |
| F00000003 | U00000001 | G0000001 | File.dat | /root | F00000002 | 3 |
| F00000004 | U00000001 | G0000003 | subdir | /root | F00000002 | 1 |
| F00000005 | U00000001 | G0000003 | sfile1.txt | /root/subdir | F00000004 | 2 |
| F00000006 | U00000001 | G0000003 | sfile2.txt | /root/subdir | F00000004 | 3 |
| F00000007 | U00000001 | G0000003 | sfile3.txt | /root/subdir | F00000004 | 5 |
| F00000008 | U00000002 | G0000002 | / | NULL | NULL | 1 |
| F00000009 | U00000002 | G0000002 | Documents | / | F00000008 | 1 |
| F00000010 | U00000002 | G0000002 | Img0001.gif | /Documents | F00000009 | 1 |
| F00000011 | U00000002 | G0000002 | Img0002.gif | /Documents | F00000009 | 3 |
| F00000011 | U00000002 | G0000002 | Img0003.gif | /Documents | F00000009 | 1 |

Revision Collection:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| File Hash | Change Type | Group Rev # | File Rev # | Change User |
| F00000001 | CREATE | 1 | 1 | A |
| F00000002 | CREATE | 2 | 1 | A |
| F00000003 | CREATE | 3 | 1 | A |
| F00000004 | CREATE | 4 | 1 | A |
| F00000005 | CREATE | 5 | 1 | A |
| F00000006 | CREATE | 6 | 1 | B |
| F00000002 | UPDATE | 7 | 2 | A |
| F00000004 | UPDATE | 8 | 2 | A |
| F00000002 | UPDATE | 9 | 3 | A |
| F00000005 | UPDATE | 10 | 2 | B |
| F00000005 | DELETE | 11 | 3 | B |
| F00000006 | UPDATE | 12 | 2 | A |
| F00000006 | UPDATE | 13 | 3 | B |
| F00000006 | UPDATE | 14 | 4 | A |
| F00000006 | DELETE | 15 | 5 | A |

User A:

Query on Files collection (db.files.find({ userId: “U00000001” })):

|  |  |  |  |
| --- | --- | --- | --- |
| Hash | Name | Path | Current Rev # |
| F00000002 | root | / | 1 |
| F00000003 | File.dat | /root | 3 |
| F00000004 | subdir | /root | 1 |
| F00000005 | sfile1.txt | /root/subdir | 2 |
| F00000006 | sfile2.txt | /root/subdir | 3 |
| F00000007 | sfile3.txt | /root/subdir | 5 |

Query on Revision collection (db.revisions.find({ owner: “userAid” })):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| File Hash | Change Type | Group Rev # | File Rev # | Change User |
| F00000001 | CREATE | 1 | 1 | A |
| F00000002 | CREATE | 2 | 1 | A |
| F00000003 | CREATE | 3 | 1 | A |
| F00000004 | CREATE | 4 | 1 | A |
| F00000005 | CREATE | 5 | 1 | A |
| F00000006 | CREATE | 6 | 1 | B |
| F00000002 | UPDATE | 7 | 2 | A |
| F00000004 | UPDATE | 8 | 2 | A |
| F00000002 | UPDATE | 9 | 3 | A |
| F00000005 | UPDATE | 10 | 2 | B |
| F00000005 | DELETE | 11 | 3 | B |
| F00000006 | UPDATE | 12 | 2 | A |
| F00000006 | UPDATE | 13 | 3 | B |
| F00000006 | UPDATE | 14 | 4 | A |
| F00000006 | DELETE | 15 | 5 | A |

Update lookup process:

Lookup user ID in Group Collection Member List column (returns [Group ID, Rev #] pairs)

* Use pairs to query the Revision Collection
* If result list contains entries for the same file, sort by revision number and use the most recent.