# GUI backend communication

# Observers in GUI

|  |  |  |
| --- | --- | --- |
| **Name** | **Parameters** | **Description** |
| updateBoostrapSwarms | List<Swarm {id, filename}> | Called every X minute. The list contains all swarms so the GUI is responsible to merge with the existing list. |
| newSwarm | String id,  String filename,  int blockCount | Response from a call to **engageSwarm**. Only sent once per file. |
| updateSwarm | String id,  List<Peer {String ip, double progress}> peers,  List<int downloadedBlock> | Called every time there is progress in the download/upload |

# Backend

|  |  |  |
| --- | --- | --- |
| **Name** | **Parameters** | **Description** |
| engageSwarm | String id | Tells the backend to start downloading the file.  The backend will notify the GUI with **newSwarm** once, and start sending **updateSwarm** |
| disengageSwarm | String id | Tells the backend to stop downloading a file and remove it from its database |

# Swarm

* Filename
* Block Headers (array)
  + Sequence index
  + Block size
  + Checksum
* File metadata checksum
* Active peers (array)
  + IP address

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| F  i  l  e  m  e  t  a  d  a  t  a | S  w  a  r  m  m  e  t  a  d  a  t  a | S  w  a  r  m | Filename |  |
| Block Headers (array) | Sequence index |
| Block size |
| Checksum |
|  | File metadata checksum |  |
|  |  | Active peers (array) | IP address |

# Bootstrap

* REST API

# Client

* REST API
* Native GUI