## Interface

This class will start the user interface in terminal. It waits for commands, sets modes, issues prompts and gets responses. It sends queries to the QueryEngine, displays the results, and opens the files a user wishes to view. [Owner: Owen]

IndexInterface (

- -QueryEngine Pro1;
- -int mode;
- -bool indexbuilt:
- -string modeString;
- -void getCMD();
- -void command(string);
- -void runAVL();
- -void runHASH();
- -void runStressTest();
- -void runMaintenance();
- -void search(string);
- -void setMode();
- -void help();
- -void addFile(string);
- -void clearIndex();
- -void quit();
- -void lowerCase(string&);
- +Interface();

## QueryEngine

This class will interact with the Interface class to communicate the user with the IndexHandler. It can accept and clean queries and returns the top 15 document ID's of the result ranked in terms of the TF/IDF value.

[Owner: Jason]

- -IndexHandler\* indexHandler;
- -ReferenceStringCleaner Cleaner;
- -string commands[3];
- +QueryEngine();
- +IndexHandler\* getIndexHandler();
- +void setIndexHandler(IndexHandler& iHandler);
- +vector<string> query(string str);
- +vector<string> rank(unordered map<string, int>);
- +void AVL();
- +void HashTable();
- +bool addFileToIndex(string filepath):
- +void ANDoperation(unordered map<string,int>&, unordered map<string,int>&);
- +void ORoperation(unordered\_map<string,int>&, unordered\_map<string,int>&);
- +void NOToperation(unordered\_map<string,int>&, unordered\_map<string,int>&);
- +bool isCommand(string);
- +void switchIndex(bool HT);
- +void writeOutIndex();
- +void clearIndex();

## IndexHandler

This class will interact with the QueryEngine, Index Interface, and the DocParser. It's functions are called by the QueryEngine and the DocParser to add and retrieve results from the index. [Owner: Jason]

- -IndexInterface\* index;
- -string xmlFileName;
- -ifstream fin:
- +IndexHandler();
- +IndexHandler(bool HT);
- +~IndexHandler();
- +IndexHandler\* getIndexHandler();
- +IndexInterface\* getIndex();
- +void setIndex(IndexInterface\* indx);
- +unordered\_map<string, int> searchForWord(string str);
- +void addWord(string word, string ID, int freq);
- +void writeIndexToFile();
- +void clearIndex();
- +void addFileToIndex(string filename);
- +void processFile();