**Topic Challenge – Module 6D – Understanding Database Options**

List of features that are important for the first phase of the project are:

* Easy setup
* Speed
* Performance
* Cross – Platform Accessibility
* Single user access
* Easy backup and portability
* Cost effective
* Compatibility with Python

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| Criteria  (Rank 1-5) | MSSQL  (Rate 0-5) | Oracle  (Rate 0-5) | SQLite  (Rate 0-5) | MySQL  (Rate 0-5) | PostgreSQL  (Rate 0-5) | Microsoft Access  (Rate 0-5) | LibreOffice Base  (Rate 0-5) |
| Easy Setup (3) | 2\*3 = 6 | 2\*3 = 6 | 5\*3 = 15 | 4\*3 = 12 | 4\*3 = 12 | 3\*3 = 9 | 3\*3 = 9 |
| Speed (4) | 3\*4 = 12 | 4\*4 = 16 | 5\*4 = 20 | 4\*4 = 16 | 4\*4 = 16 | 2\*4 = 8 | 3\*4 = 12 |
| Performance (2) | 1\*2 = 2 | 1\*2 = 2 | 5\*2 = 10 | 4\*2 = 8 | 5\*2 = 10 | 1\*2 = 2 | 3\*2 = 6 |
| Cross – Platform Accessibility (5) | 1\*5 = 5 | 2\*5 = 10 | 5\*5 = 25 | 5\*5 = 25 | 5\*5 = 25 | 4\*5 = 20 | 5\*5 = 25 |
| Single user  access (4) | 4\*4 = 16 | 5\*4 = 20 | 5\*4 = 20 | 4\*4 = 16 | 5\*4 = 20 | 3\*4 = 12 | 4\*4 = 16 |
| Easy backup and portability (4) | 1\*4 = 4 | 1\*4 = 4 | 5\*4 = 20 | 4\*4 = 16 | 4\*4 = 16 | 3\*4 = 12 | 5\*4 = 20 |
| Cost effective (5) | 2\*5 = 10 | 2\*5 = 10 | 5\*5 = 25 | 4\*5 = 20 | 4\*5 = 20 | 2\*5 = 10 | 4\*5 = 20 |
| Compatibility with Python (4) | 1\*4 = 4 | 1\*4 = 4 | 5\*4 = 20 | 4\*4 = 16 | 5\*4 = 20 | 3\*4 = 12 | 4\*4 = 16 |
| TOTAL | 69 | 72 | 155 | 129 | 139 | 85 | 124 |

After finding the total for all the features by multiplying them with their ranks (weights), out of all the options available, we will go with SQLite as it has the highest total of 155. SQLite comes out to be checking all of our requirements for the first phase of the project. SQLite is very lightweight and gives impressive performance, as the actual performance is excellent up to around 500K hits per day. Also, it is capable of single user non-concurrent access. It does not need any special kind of hardware and can be used on a normal local hard drive of a hard drive. It has cross-platform accessibility and for that, it does not need any kind of special network. It is enabled with built-in Python which is supposed to be used throughout the project so it is best open-source database option for our use-case.