**Design 01 Data Store – Plain Text (TXT) / Comma Separated Values (CSV)**

These file types store data in a very rudimentary form. Any type of text can be stored in these files without limitation (complete character set). These types can be opened using any text editor including Notepad, which is present on all Windows PCs, and TextEdit, present on all Macintosh computers, making it highly accessible to anybody. The main disadvantage is that these types do not support formatting in any way and cannot store graphics. These formats do not support in-built encryption, so an encrypt/decrypt routine will need to be added to the software. Plain text files can be opened and viewed by the client instantly without the use of additional software, speeding up tasks that would normally require loading a reader/writer program, though this reduces their security. Due to these factors, these file types provide a high degree of ease of use for end users and is very preferable for storing small sets of data but is very unpreferable as the final output to the user.

The latter file type is used by Microsoft Excel and stores spreadsheet data in plain text form. When opened with a spreadsheet editor (such as Microsoft Excel or Apple Numbers), it can be viewed as a spreadsheet containing cells but with no formatting. The main advantage is that it is a way of storing cellular data in a file that can be opened and edited by any text editor (in the same way the plain text files can be edited). The cells within the sheet are separated by commas, making the data hard to read in plain text form. The main disadvantage is that it cannot contain formatting, making it visually unattractive. This file type is easier for the user to edit as it presents the data within cells, making it preferable over plain text files as a store for larger data sets. This also makes it preferable over plain text files as a final output format.

**Design 02 Data Store – Open XML Spreadsheet (XLSX)**

This file type is used by Microsoft Excel and stores spreadsheet data in XML structured file. In addition to plain data, it allows the user to store formatting, macros, calculations, graphs, images, and much more. This file type supports native encryption, meaning no additional routines must be programmed to handle encryption/decryption, and that the file cannot be accessed by opening it outside of the program (or related programs) it was encrypted with. Because it is an open format, it can be read and written to by many programs (as is the case with plain text and comma separated values). The main disadvantage of this format is that it is not legible when opened with a plain text editor and should always be modified using a spreadsheet editor or other program. The relevant advantages are that it supports formatting, making it extremely preferable over plain text and comma separated values as a final output format for the end user, and can organise data in a more effective way, making better for large data sets.