Why I do not like web interfaces for data entry

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A web application is a piece of software with a user interface that works via an internet browser.

Data transfer over the web can of course not be avoided in these days, but web applications are often a very bad choice for data entry, and should in my view be avoided as much as possible. It is tolerable only if it involves very small amounts of data, and if these can be entered in a small amount of time. Unfortunately, most applications force people to use a web application for data entry and offer no alternatives.

Several of the problems I mention below also hold for apps on smart phones and notepads. They do not use a web browser and can therefore often offer a better interface than via a standard web application (which is required on small screens), but all other problems mentioned are equally valid for such apps.

Web applications are dependent on internet access, and the speed of the internet access. Even though this has improved significantly over the last years, there are still many occasions and locations where no internet access is available, where it is too slow, where it malfunctions due to a large number of users (e.g. at conferences), or where it is available only against costs. A good application offers the user the option to work off-line. Most web applications don't. Good web applications do but are rare.

Of course, commercial companies want you to be on-line as much as possible and preferably via their application so that they can gather information on you and present you the most suited ads, but we do not have to follow this trend for non-commercial purposes.

When one has internet access and uses a web application, one has to work fast or continuously or there will be time-outs. Many web applications do not offer the option to save intermediate results. Many web applications make you enter data in a number of fixed steps, from which you cannot deviate. Many even require valid input in one step before you can go to the next step. One often does not know what to expect and finds out too late that one should have prepared oneself, e.g. by looking up passport numbers, or other information. Due to time outs, logins have to be restored regularly. Again, the use of web applications is tolerable if it is short in duration and requires entry of very little data, but not when large amounts have to be entered or when much time is needed for entering the data.

Most web applications in general and certainly for data entry are from a user interface perspective very badly designed, and surely significantly worse than local desktop applications such as editors, word processors and spreadsheet programs. Buttons for saving or other actions usually scroll with the main screen and require scrolling before you can press them. Many web interfaces require a lot of clicks before you can enter anything. Text entry is in most cases primitive, with no spell checker, there are no or primitive methods for entering non-standard characters, there are limited lay-out options, or they require ad-hoc ways of structuring text. Web applications often scroll, and move their pages and the cursor in unpredictable (and when predictable usually very inconvenient) ways. Web applications generally only offer the option to edit 'horizontally' (i.e. all properties of one entry

at a time) and seldom offer the possibility to edit 'vertically', i.e. to fill a property for a range of entries, as one can do in spreadsheet applications.

Web-based interfaces are not necessarily bad, e.g. Google Docs and Google Sheets have web interfaces but these are very good interfaces, almost indistinguishable from local desktop interfaces for word processors or spreadsheet programs (and they also avoid most of the problems mentioned below). But this quality is really exceptional.

A further major problem with most web applications is that they do not define an import and export format (let alone a structured import and export format) and do not offer import or export functionality. For many projects people have to report to multiple stake holders, for example for a (big) project that I am involved in I have to report to the funding agency, to the Supervisory Board, to the project's International Advisory Panel, to CLARIN and to DARIAH. In addition each individual researcher involved in the project has to report to their university, to evaluation committees, etc. All of this is no problem if the reporting results can be re-used, so that there is no or only minimal duplication of (non-productive) reporting work. But without import or export functionality the data have to be entered manually, which is simply a waste of effort. And data that one has entered via a web application, cannot be obtained in a processable and structured format or even at all if there is no export functionality, so is essentially lost to the researcher.

In short, in order to work efficiently, one would like to prepare data off-line, and then import them rather than edit on-line via a web application. Even here web applications often function badly, because they destroy the lay-out of text produced, require special pasting procedures for e.g. Word files and often do not even allow pasting of the text from Word files into a text box.

I want to be able to work off-line as much as possible and therefore demand that every web application for data entry has structured import and export formats defined and provides import and export functionality. That is the only tolerable way of using web applications.