

UMA-BCI Speller is protected by the same GPL license. This means that anyone can use *UMA-BCI Speller*, that the source code is publicly available, and that anyone can develop and distribute derived software products under any terms, provided that the full source code of the derived product is made publicly available for download under the terms of the GPL.

The installation files of *UMA-BCI Speller*, the full source code and a detailed User Manual with all the information regarding the installation, configuration and use can be accessed in the following URL: https://proyectos.diana.uma.es/umabci_speller.

CONCLUSION

We have presented in this paper a BCI tool focused on a speller application: the *UMA-BCI Speller*. The aim of this tool is to provide end users with an easy to use open source P300 speller. It is based on the widely used platform BCI2000, so it takes advantage of the reliability that such a platform offers. The *UMA-BCI Speller* wraps BCI2000 in such a way that its configuration and use is more visual and easier, a fact that can enhance the use of BCI systems at end users' homes. The *UMA-BCI Speller* allows new features to be added in order to test different variations of the speller layout, a capability that BCI researchers can exploit. The *UMA-BCI Speller* supports two P300 stimulations: RCP and RSVP. Users can configure their speller more appropriately using characters, images or sound cues, and they can navigate through different layouts, thus opening the door to complex speller configurations.

The *UMA-BCI Speller* uses the current release of BCI2000 (v3.0.5); however recent beta versions (e.g. BCI2000 v3.6) include new features that enable a "quasi-asynchronous" control and let the system dynamically change the number of stimulus repetitions through the use of the parameters `MinimumEvidence` and `AccumulateEvidence` [10]. Upcoming versions of *UMA-BCI Speller* will be updated to include the new features of BCI2000 beta releases.

Other features to be included could be the support of variations of the RCP (e.g. the Checkerboard paradigm [11]) and RSVP (e.g. Triple RSVP [12]). Other current trends on BCI could help to reduce the calibration time, like the use of generic models or adaptative calibration techniques. It would be interesting also to adapt the interface in order to extend its functionality beyond spelling, for example, use it to browse the internet or to activate external actuators.

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