Resource Summary Report

Generated by dkNET on Apr 27, 2025

EEGbase

RRID:SCR_001452
Type: Tool

Proper Citation

EEGbase (RRID:SCR_001452)

Resource Information

URL: http://neuroinformatics.kiv.zcu.cz/articles/read/eegerp-portal-eegbase-_2014-12-19

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Description: EEG base is a system for storage and management of EEG/ERP resources - data, metadata, tools and materials related to EEG/ERP experiments. EEG base advances electrophysiology research by enabling access to public data, tools and results of research groups. The system essentially offers the following set of features (the set of accessible features depends on a specific user role): * User authentication * Storage, update, and download of EEG/ERP data and metadata * Storage, update and download of EEG/ERP experimental design (experimental scenarios) * Storage, update and download of data related to testing subjects * Fulltext search * Sharing of knowledge and working in groups The system is based on tree layer architecture (MVC pattern) consisting of persistent layer (relational database), application layer (object oriented code, object relational mapping from persistence layer) and presentation layer (JSP). The persistence layer uses Hibernate framework; Oracle 11g database server is used to ensure the processing of large data files. Application and presentation layers are designed and implemented using Spring technology. This framework supports MVC architecture, Dependency injection and Aspect Oriented Programming. There were no significant difficulties with integration of both frameworks, Hibernate and Spring MVC. Spring Security framework is used to ensure management of authentication and user roles. Since the system is thought to be finally open to the whole EEG/ERP community it is necessary to protect EEG/ERP data and metadata, and especially personal data of testing subjects stored in the database from an unauthorized access. Then a restricted user policy is applied and user roles are introduced. The complete overview of the system features and user roles (use case diagram) is available in (Pergler 2009). Concerning the architectural layers there is a question which layer is more feasible for mapping of its structure into ontology. Currently we have studied two possibilities: * Mapping from the persistence layer (relational database) * Mapping from the application layer (object oriented code) The mapping from the application layer to an ontology includes the precedent

object relational mapping provided by Hibernate framework.

Resource Type: service resource, storage service resource, data or information resource, data repository, database

Keywords: eeg, erp, experiments, data storage and management, EEG/ERP data, EEG/ERP experiments,

Funding: Ministry of Education Czech Science Foundation

Resource Name: EEGbase

Resource ID: SCR_001452

Alternate IDs: nif-0000-08190

Old URLs: http://eegdatabase.kiv.zcu.cz/

Record Creation Time: 20220129T080207+0000

Record Last Update: 20250426T055443+0000

Ratings and Alerts

No rating or validation information has been found for EEGbase.

No alerts have been found for EEGbase.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 7 mentions in open access literature.

Listed below are recent publications. The full list is available at dkNET.

Sprenger J, et al. (2019) odMLtables: A User-Friendly Approach for Managing Metadata of Neurophysiological Experiments. Frontiers in neuroinformatics, 13, 62.

Papež V, et al. (2017) Applying an Archetype-Based Approach to Electroencephalography/Event-Related Potential Experiments in the EEGBase Resource. Frontiers in neuroinformatics, 11, 24.

Va?eka L, et al. (2017) Stacked Autoencoders for the P300 Component Detection. Frontiers in neuroscience, 11, 302.

Bigdely-Shamlo N, et al. (2016) Preparing Laboratory and Real-World EEG Data for Large-Scale Analysis: A Containerized Approach. Frontiers in neuroinformatics, 10, 7.

Vareka L, et al. (2014) Event-related potential datasets based on a three-stimulus paradigm. GigaScience, 3(1), 35.

Mou?ek R, et al. (2014) Software and hardware infrastructure for research in electrophysiology. Frontiers in neuroinformatics, 8, 20.

Olbrich S, et al. (2009) EEG-vigilance and BOLD effect during simultaneous EEG/fMRI measurement. NeuroImage, 45(2), 319.