

Document details

< Back to results | 1 of 1

Export Download Print E-mail Save to PDF Add to List More...

Full Text View at Publisher

I4CT 2015 - 2015 2nd International Conference on Computer, Communications, and Control Technology, Art Proceeding
24 August 2015, Article number 7219563, Pages 186-191
2nd International Conference on Computer, Communications, and Control Technology, I4CT 2015; Imperial HotelKuching, Sarawak; Malaysia; 21 April 2015 through 23 April 2015; Category numberCFP1552X-ART; Code 114412

Design and development of eye movement data acquisition kit (Conference Paper)

Ahmad, S.^a, Mohd Noor, N.M.^b, Zainuddin, H.^a, Jamain, U.M.^a

^aDepartment of Mechatronics, Kulliyyah of Engineering, IIUM, Kuala Lumpur, Malaysia

^bFac. of Mechanical Eng., University Technology, MARA (UiTM), Selangor, Malaysia

Abstract

View references (14)

There are several researches that have been done to improve the life among tetraplegia. It has become an attractive research field in the rehabilitation engineering because the eye movement have abilities as a communication tool for disabled people. However, the previous research has not much provided an appropriate design for the user among tetraplegia. Motivated from that, a new design of eye movement data acquisition kit has been developed. This paper aims to describe the design of eye movement data acquisition kit for the user among tetraplegia based on the proper electrode positions, the prototype as well as the signal conditioning circuits. Then, this EOG kit was used to acquire the eye signals for eye movement in the left and right direction. The eye movement data was obtained from the kit, which can be used as a significant communication tool among tetraplegia. The results show that the kit equipped with a proper signal conditioning is able to acquire the eye movement signal. © 2015 IEEE.

Author keywords

data acquisition Electroocolugram EOG EOG kits Eye movement

Indexed keywords

Engineering controlled terms: Data acquisition Design Signal conditioning circuits Strain measurement

- Appropriate designs
- Communication tools
- Design and Development
- Electroocolugram
- EOG EOG kits
- Eye movement datum
- Rehabilitation engineering

Engineering main heading: Eye movements

Metrics

0 Citations in Scopus

0 Field-Weighted Citation Impact



PlumX Metrics

Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

Cited by 0 documents

Inform me when this document is cited in Scopus:

Set citation alert >

Set citation feed >

Related documents

Performance analysis of an electrooculography-based on intelligent wheelchair motion control

Noor, N.M.M. , Ahmad, S. (2015) 2015 10th Asian Control Conference: Emerging Control Techniques for a Sustainable World, ASCC 2015

Implementation of wheelchair motion control based on electrooculography using simulation and experimental performance testing

Mohd Noor, N.M. , Ahmad, S. , Sidek, S.N. (2014) Applied Mechanics and Materials

Online classification algorithm for eye-movement-based communication systems using two temporal EEG sensors

Belkacem, A.N. , Shin, D. , Kambara, H.

ISBN: 978-147997952-3
Source Type: Conference Proceeding
Original language: English

DOI: 10.1109/I4CT.2015.7219563
Document Type: Conference Paper
Sponsors:
Publisher: Institute of Electrical and Electronics Engineers Inc.

View all related documents based on references

Find more related documents in Scopus based on:

Authors > Keywords >

References (14)

View in search results format >

All Export Print E-mail Save to PDF Create bibliography

- 1 Hashimoto, M., Takahashi, K., Shimada, M.

Wheelchair control using an EOG- and EMG-based gesture interface

(2009) *IEEE/ASME International Conference on Advanced Intelligent Mechatronics, AIM*, art. no. 5229752, pp. 1212-1217. Cited 32 times.
 ISBN: 978-142442853-3
 doi: 10.1109/AIM.2009.5229752

[View at Publisher](#)

- 2 *Spinal Injury Tetraplegia*

Retrieved, 13 July 2012

<http://www.sci-infopages.comon>

- 3 Kirbiš, M., Kramberger, I.

Mobile device for electronic eye gesture recognition

(2009) *IEEE Transactions on Consumer Electronics*, 55 (4), art. no. 5373778, pp. 2127-2133. Cited 10 times.
 doi: 10.1109/TCE.2009.5373778

[View at Publisher](#)

- 4 Barea, R., Boquete, L., Mazo, M., López, E.

System for assisted mobility using eye movements based on electrooculography

(2002) *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 10 (4), pp. 209-218. Cited 238 times.
 doi: 10.1109/TNSRE.2002.806829

[View at Publisher](#)

- 5 Wei, L., Hu, H., Yuan, K.

Use of forehead bio-signals for controlling an intelligent wheelchair

(2008) *2008 IEEE International Conference on Robotics and Biomimetics, ROBIO 2008*, art. no. 4912988, pp. 108-113. Cited 28 times.
 ISBN: 978-142442679-9
 doi: 10.1109/ROBIO.2009.4912988

[View at Publisher](#)

- 6 Itsuki, N., Tabesh, R., Yamada M., Kubokayo, S.M., Shiota, H., Ohgi, Y.

Analysis of the Characteristics of Electrooculogram: Applied a Battery Model to the Eyeball

(2006) *Biomedical and Pharmaceutical Engineering, 2006. ICBPE 2006. International Conference on*, 6 (1), pp. 23-28.
 Research Publishing Services

-
- 7 Neto, A.F., Celeste, W.C., Martins, V.R., Filho, T.F.B., Filho, M.S.
Human-Machine Interface based on electro-biological signals for mobile vehicles

(2006) *IEEE International Symposium on Industrial Electronics*, 4, art. no. 4078862, pp. 2954-2959. Cited 17 times.
ISBN: 1424404975; 978-142440497-1
doi: 10.1109/ISIE.2006.296086

[View at Publisher](#)
-
- 8 Chung-Hsien, K., Yi-Chang, C., Hung-Chyun, C., Jia-Wun, S.
Eyeglasses based electrooculography human-wheelchair interface Systems, Man and Cybernetics
(2009) *2009. SMC 2009. IEEE International Conference on*, pp. 4746-4751.
San Antonio, TX, USA, 11-14 Oct.
-
- 9 Brooker, G.M.
(2012) *Introduction to Biomechanics*. Cited 4 times.
SciTech Publishing, United State, US
-
- 10 Barea, R., Boquete, L., Mazo, M., López, E., Bergasa, L.M.
E.O.G. guidance of a wheelchair using neural networks

(2000) *Proceedings - International Conference on Pattern Recognition*, 15 (4), pp. 668-671. Cited 47 times.

[View at Publisher](#)
-
- 11 Yathunathan, S., Chandrasena, L.U.R., Umakanthan, A., Vasuki, V., Munasinghe, S.R.
Controlling a wheelchair by use of EOG signal

(2008) *Proceedings of the 2008 4th International Conference on Information and Automation for Sustainability, ICIAFS 2008*, art. no. 4783987, pp. 283-288. Cited 27 times.
ISBN: 978-142442900-4
doi: 10.1109/ICIAFS.2008.4783987

[View at Publisher](#)
-
- 12 Webster, J.G.
Reducing Motion Artifacts and Interference in Biopotential Recording

(1984) *IEEE Transactions on Biomedical Engineering*, BME-31 (12), pp. 823-826. Cited 67 times.
doi: 10.1109/TBME.1984.325244

[View at Publisher](#)
-
- 13 Greene, B.R., Meredith, S., Reilly, R.B., Donohoe, G.
A novel, portable eye tracking system for use in Schizophrenia Research
(2004) *ISSC*, 2004.
Belfast, June 30-July 2
-
- 14 Cedric, K.H., Martin, Y.Y., Xu, Y., Tso, S.K.
A cap as interface for wheelchair control
(2002) *IEEE Conference, P. 1. Proceedings of the 2002 IEEE/RSJ Intl. Conference on Intelligent Robots and Systems EPFL*
Lausanne, Switzerland October
-

About Scopus

- [What is Scopus](#)
- [Content coverage](#)
- [Scopus blog](#)
- [Scopus API](#)
- [Privacy matters](#)

Language

- [日本語に切り替える](#)
- [切换到简体中文](#)
- [切换到繁體中文](#)
- [Русский язык](#)

Customer Service

- [Help](#)
- [Contact us](#)

ELSEVIER

[Terms and conditions](#) [Privacy policy](#)

Copyright © 2017 Elsevier B.V. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.

Cookies are set by this site. To decline them or learn more, visit our [Cookies page](#).

 RELX Gr