



Chapter

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New IT Tools and Methods Improving Lifestyle of Young People

- Alexandru Serban
- , Mihaela Crisan-Vida
- , Maria-Corina Serban
- , Lacramioara Stoicu-Tivadar

Abstract

Internet addictions, stress, different types of dependencies and poor diets have generated detrimental effects on the educational, relationship and work-related characteristics of young generation. The aim of this study was to develop a multidimensional **cloud-based application** which combines different aspects of lifestyle. This tool is used by students from two universities from Romania, University of Medicine and Pharmacy Victor Babes Timisoara and University Politehnica Timisoara. The student answer to questions regarding age, gender, ethnicity, location, height, weight, dependency of Internet, level of stress, consumption of alcohol, cigarettes, coffee and energy drinks, sleep schedule, daily diet, and mealtimes. The answers of students will be saved in a cloud database and the application will calculate useful lifestyle parameters. The data is anonymized and secured and the HL7 standard ensures high connectivity to other medical applications. Using **emotion-oriented computing** and **lifestyle questions**, the application can monitor and limit different addiction habits, improving lifestyle.

Keywords

User-computer interface Cloud-computing lifestyle internet addiction

emotion computing

References

1. Weinhold, I., Gastaldi, L.: From Shared Decision Making to Patient Engagement in Health Care Processes: The Role of Digital Technologies. In: Challenges and Opportunities in Health Care Management, pp. 185–196. Springer (2015)
2. Mell, P., Grance, T.: The NIST definition of cloud computing (2011)
3. Abolfazli, S., Sanaei, Z., Sanaei, M., Shojafar, M., Gani, A.: Mobile cloud computing: The-state-of-the-art, challenges, and future research (2015)
4. Raines, G.: Cloud Computing and SOA. Systems Engineering at MITRE, p. 20 (2009)
5. Hashem, I.A.T., Yaqoob, I., Anuar, N.B., Mokhtar, S., Gani, A., Khan, S.U.: The rise of “big data” on cloud computing: Review and open research issues. *Information Systems* 47, 98–115 (2015)
CrossRef (<http://dx.doi.org/10.1016/j.is.2014.07.006>)
6. Calder, B., Wang, J., Ogus, A., Nilakantan, N., Skjolsvold, A., McKelvie, S., Xu, Y., Srivastav, S., Wu, J., Simitci, H.: Windows Azure Storage: A highly available cloud storage service with strong consistency. In: Proceedings of the Twenty-Third ACM Symposium on Operating Systems Principles, pp. 143–157. ACM (Year)
7. Pucillo, F., Cascini, G.: A framework for user experience, needs and affordances. *Design Studies* 35, 160–179 (2014)
CrossRef (<http://dx.doi.org/10.1016/j.destud.2013.10.001>)
8. Steffen, M.W., Murad, M.H., Hays, J.T., Newcomb, R.D., Molella, R.G., Cha, S.S., Hagen, P.T.: Self-report of tobacco use status: Comparison of paper-based questionnaire, online questionnaire, and direct face-to-face interview—implications for meaningful use. *Population Health Management* 17, 185–189 (2014)
CrossRef (<http://dx.doi.org/10.1089/pop.2013.0051>)
9. Dinzeo, T.J., Thayasivam, U., Sledjeski, E.M.: The development of the lifestyle and habits questionnaire-brief version: Relationship to quality of life and stress in college students. *Prevention Science* 15, 103–114 (2014)
CrossRef (<http://dx.doi.org/10.1007/s11121-013-0370-1>)
10. Chen, M.-Y., Wang, E.K., Jeng, Y.-J.: Adequate sleep among adolescents is positively associated with health status and health-related behaviors. *BMC Public Health* 6, 59 (2006)
CrossRef (<http://dx.doi.org/10.1186/1471-2458-6-59>)
11. Patel, S.R., Hu, F.B.: Short sleep duration and weight gain: A systematic review. *Obesity* 16, 643–653 (2008)
CrossRef (<http://dx.doi.org/10.1038/oby.2007.118>)
12. Weinstein, A., Dorani, D., Elhadif, R., Bukovza, Y., Yarmulnik, A., Dannon, P.: Internet addiction is associated with social anxiety in young adults. *Annals of Clinical Psychiatry* 27, 3 (2015)
13. Lepp, A., Li, J., Barkley, J.E., Salehi-Esfahani, S.: Exploring the relationships between college students’ cell phone use, personality and leisure. *Computers in Human Behavior* 43, 210–219 (2015)
CrossRef (<http://dx.doi.org/10.1016/j.chb.2014.11.006>)
14. Allison, K.C., Lundgren, J.D., O’Reardon, J.P., Geliebter, A., Gluck, M.E., Vinai, P., Mitchell, J.E., Schenck, C.H., Howell, M.J., Crow, S.J.: Proposed diagnostic criteria for night eating syndrome. *International Journal of Eating Disorders* 43, 241–247 (2010)
15. Kawamoto, K., Honey, A., Rubin, K.: The HL7-OMG healthcare services specification project: Motivation, methodology, and deliverables for enabling a semantically interoperable service-oriented architecture for healthcare. *Journal of the*

American Medical Informatics Association 16, 874–881 (2009)

CrossRef (<http://dx.doi.org/10.1197/jamia.M3123>)

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Editors

- Francisco Ortuño  ⁽¹⁸⁾
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Authors

- Alexandru Serban ⁽²⁰⁾
- Mihaela Crisan-Vida ⁽²⁰⁾
- Maria-Corina Serban ⁽²¹⁾
- Lacramioara Stoicu-Tivadar ⁽²⁰⁾

Author Affiliations

- 20. Department Automation and Applied Informatics, University Politehnica Timisoara, Romania, Timisoara, Romania
- 21. Department of Functional Sciences, University of Medicine and Pharmacy “Victor Babes “Timisoara, Romania, Timisoara, Romania