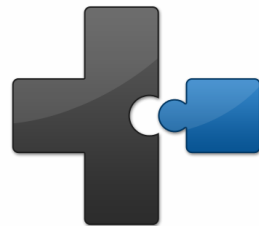


Advancement of a wearable Health Data Hub- prototype for context based telemonitoring using standardized data transfer methods

Gerbovics F, Haller M, Bittermann M, Urbauer P, Frohner M, Pohn B, Sauermann S, Mense A

> So spannend kann Technik sein.



Healthy Interoperability



- Healthy Interoperability-Team
- Health Data Hub-Subteam
- Förderung
 - Forschungsförderungsgesellschaft (FFG)
 - Stadt Wien – MA 27



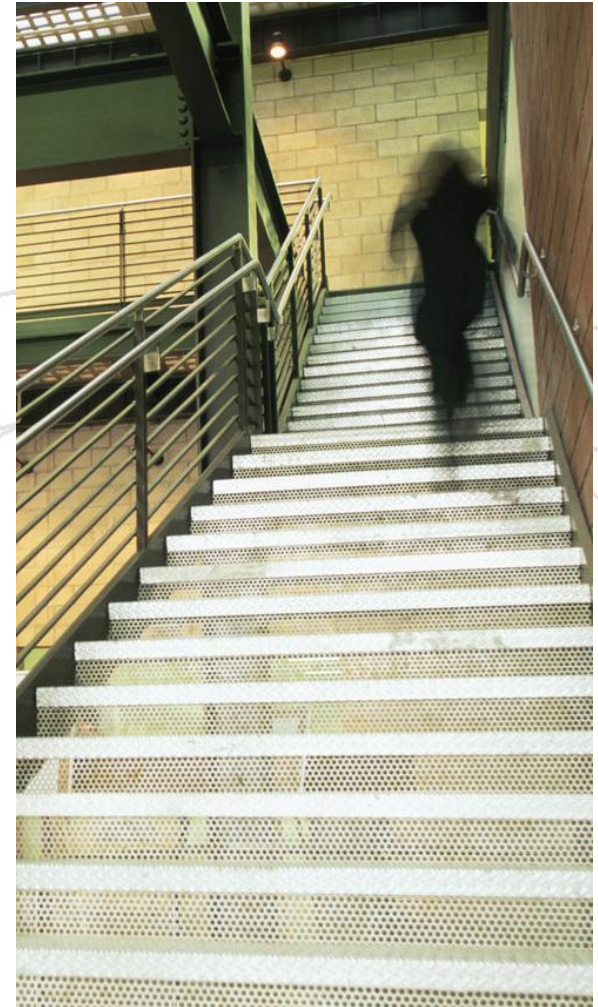


- Telemonitoring
 - ältere Personen
 - chronisch erkrankte Personen
- Informationen
 - direkte Umgebung
 - Verhalten der Person
 - Vitalwerte





- Treppensteigen
- Höhe
- Körperliche Betätigung
- Spezifität Alarm





- ermöglicht

Erfassung von Vitalwerten

Kontextspezifische Analyse

Kommunikation

effektivere Notfallreaktion



- benötigt

Sensoren, PHDs

Algorithmen, Daten

Schnittstellen

Infrastruktur



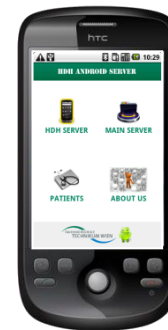
Anwendungsfälle



HDH



HDH Server

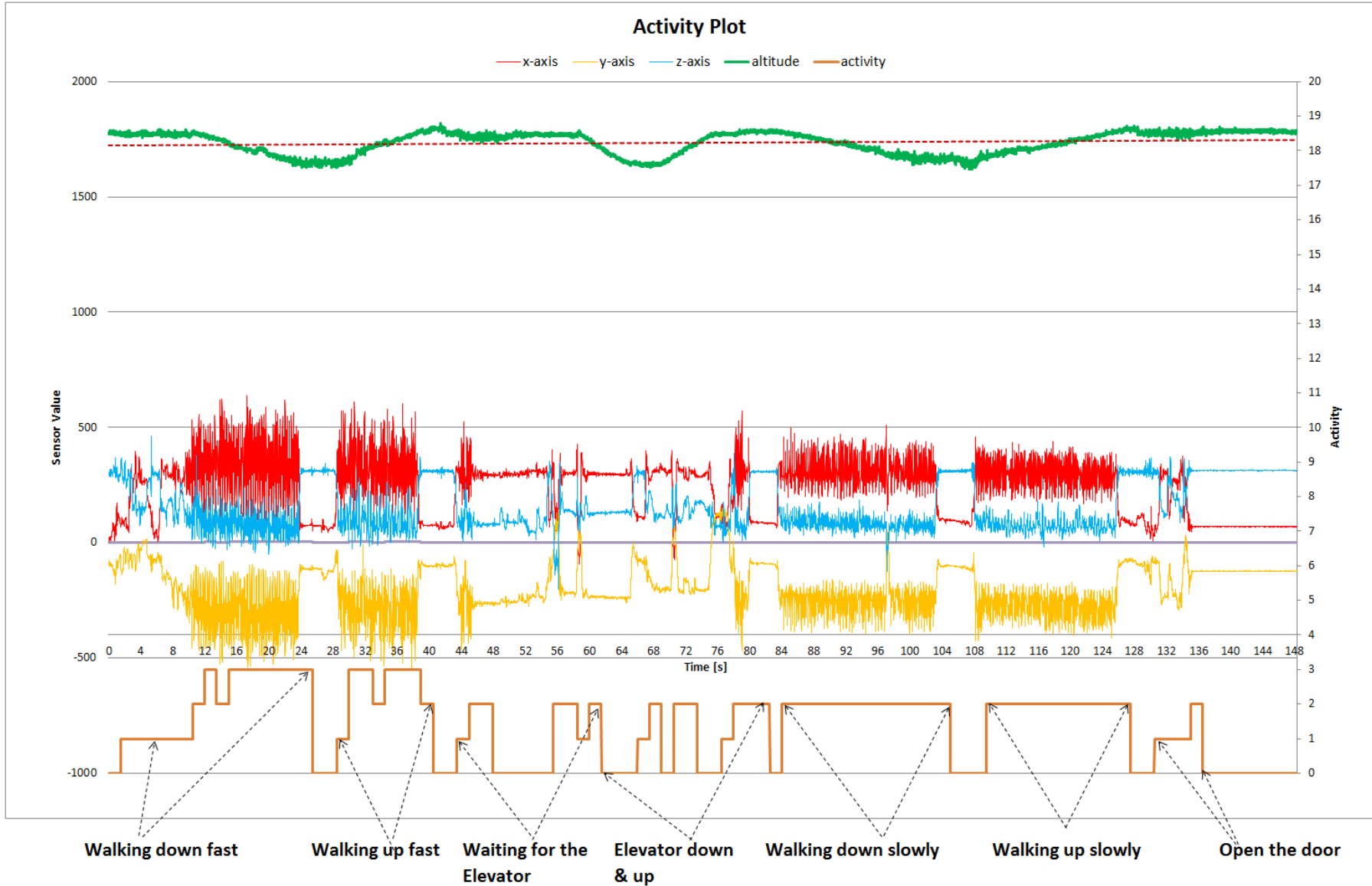


HDH Android Server



Health Data Hub





- Monitoring von Gesundheitszustand
- Datenaustausch mit PHDs
 - Standards ISO/IEEE 11073, HL7
 - ANT+, Bluetooth

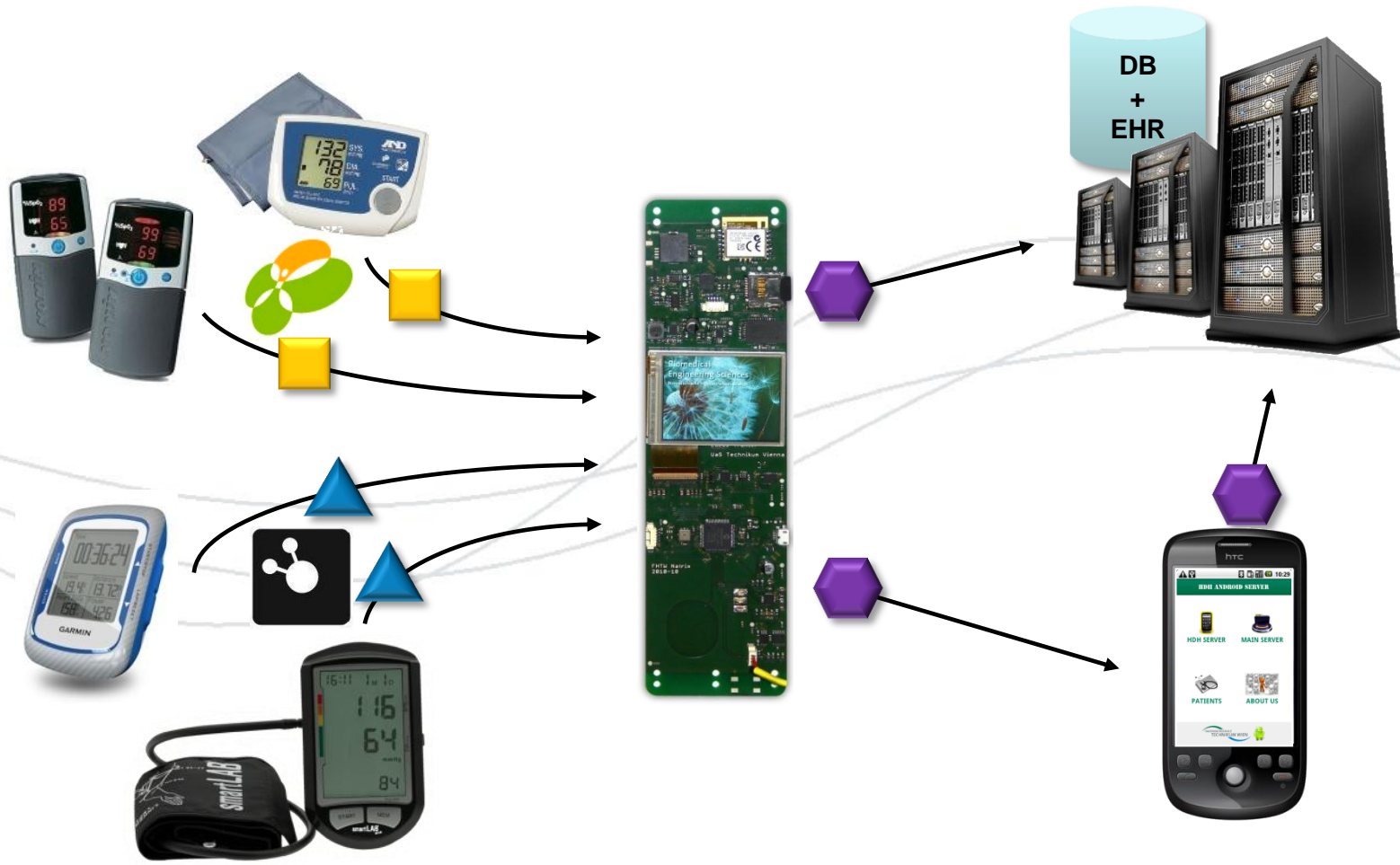


- Informationen in Kontext stellen durch
 - Kombination von Sensordaten
 - Dynamische Algorithmen
- Mehrwert für Anwender
 - Spezifischere Reaktion möglich

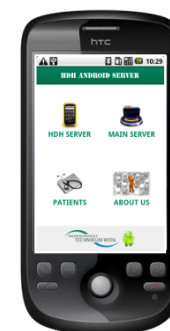
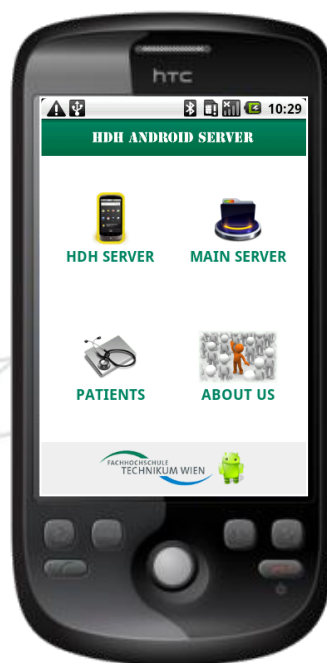




Health Data Hub Infrastruktur

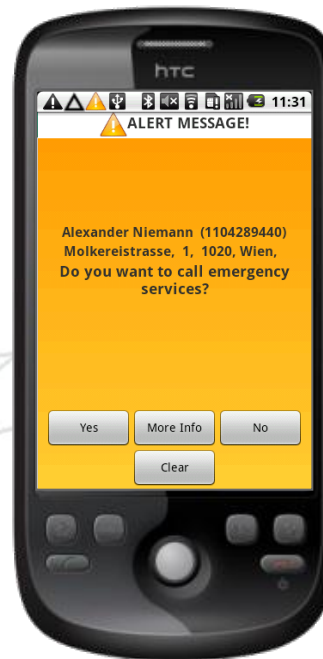


HDH Android Server





HDH Android Server



Automatische
Alarmmeldungen



HDH Android Server

Patienten Information

Automatische
Alarmmeldungen

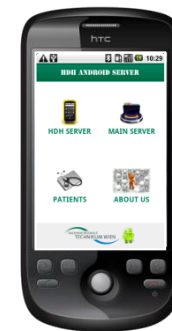
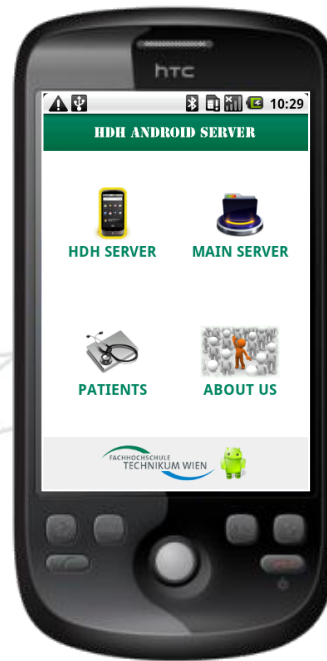
Geoservices



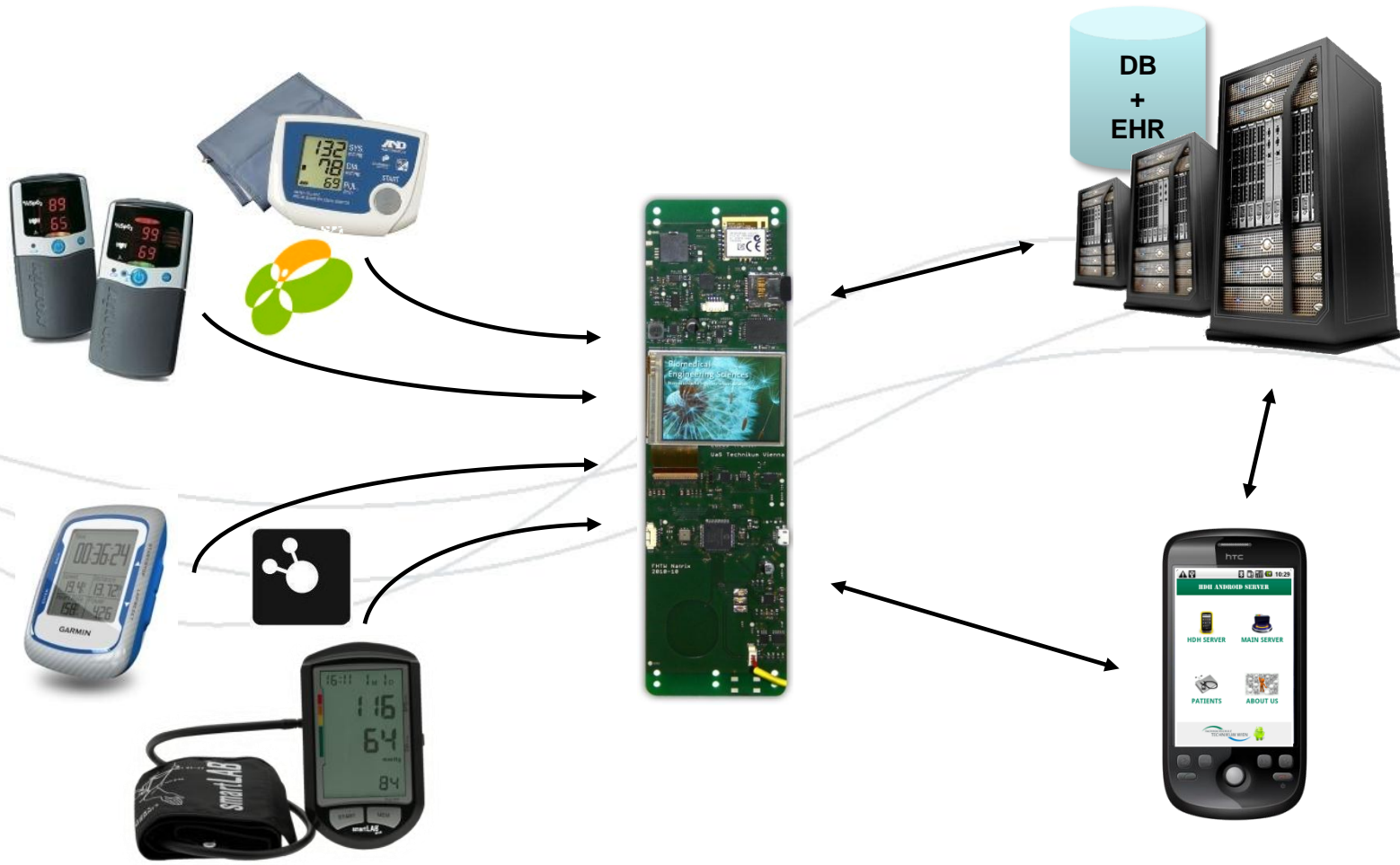
Patienten Daten

Daten Visualisierung

Server Administration



HDH Infrastruktur



HDH Server





HDH Server

Datenspeicherung

Export

Visualisierung

Patientenportal





Conclusio

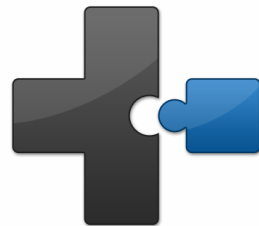
- Genauere Daten
- Verbesserte Alarmreaktionen
- Mehr Kommunikation und bessere Information

Danke für Ihre Aufmerksamkeit!

<http://www.healthy-interopability.at/>

ferenc.gerbovics@technikum-wien.at

> So spannend kann Technik sein.



Healthy Interoperability





- [1] CONTINUA HEALTH ALLIANCE, Continua Health Alliance-Design Guidelines, <http://www.continuaalliance.org/products/design-guidelines.html>. Online: January 14, 2011.
- [2] FRANCO, C, DEMONGEOT, J, VILLEMAZET, C, VUILLERME, N, Behavioral Telemonitoring of the Elderly at Home: Detection of Nycthemeral Rhythms Drifts from Location Data, in 2010 IEEE 24th International Conference on Advanced Information Networking and Applications Workshops, 2010, pp. 759-766
- [3] GRUTESER, M, SCHELLE, G, JAIN, A, HAN, R, GRUNWALD, D, Privacy-aware location sensor networks, in Proceedings of the 9th Conference on Hot Topics in Operating Systems, Vol. 9, 2003, p. 28.
- [4] KIM Y.-U., et al., Emergency recognition system based on multimodal information, Engineering in Medicine and Biology Society, 2008. EMBS 2008. 30th Annual International Conference of the IEEE, 2008 pp. 4342-4345
- [5] MORFEO PROJECT, Openhealth Information, <http://openhealth.morfeo-project.org>. Online: January 14, 2011.
- [6] PETERSON, W.D., SKRAMSTED, D.A., GLUMAC, D.E., Phoenix Ambulatory Blood Pressure Monitor Project Sub-project: Piezo Film Pulse Sensor, http://www.phoenix.tc-ieee.org/004_Piezo_Film_Blood_Flow_Sensor/Phoenix_PiezoPulse.htm
Online: January 14, 2011.
- [7] SHAH N.B., et al., Prevention of hospitalizations for heart failure with an interactive home monitoring program, American Heart Journal, vol.135, no. 3, pp. 373-378, Mar. 1998.
- [8] SUMMARIES OF EU LEGISLATION: The future of health care and care for the elderly: guaranteeing accessibility, quality and financial viability, http://europa.eu/legislation_summaries/employment_and_social_policy/disability_and_old_age/c11310_en.htm
Online: January 14, 2011.