REFERENCES

[1]. Carrie MacGillivray, "Opportunities for Location-Based Services in Consumer and Enterprise Markets, *White paper*, IDC, October 2007

[2]. "Enhanced 911- Wireless Services", http://www.fcc.gov/911/enhance (accessed on 20.01.2008)

[3]. "FCC Adopts Rules to Implement Enhanced 911 for Wireless Services," *FCC News*, CC docket no. 94-102, June 12, 1996

[4]. "E-112 Issues and answers", Recommendations and Insight for the Optimal Planning and Implementation of E-112, Emergency Wireless Location for the European Union, 2004.

[5]. "Vendors of GSM Mobile Location Positioning", http://www.cellular.co.za/technologies/location/mobile_location_vendors.html (accessed on 08.08.2007)

[6]. "Location Based Services", http://www.SnapTrack.com (accessed on 08.08.2007)

[7]. "Mobile Positioning System", http://www.ericsson.com/mobilityworld/sub-/open/technologies/mobile_positioning/index.html (accessed on 08.08.2007)

[8]. www.btcellnet.co.uk (accessed on 08.08.2007)

[9]. Graham Wilde, "Performance Implications of Wireless Location Technologies – The Effect on Location-based Service Revenue Growth", Business briefing: Wireless Technology -2003.

[10]. Teemu Roos, Petri Myllymäki, Henry Tirri, A Statistical Modeling Approach to Location Estimation, *IEEE Transactions on Mobile Computing*, Vol1, No1, pp.59-69, January-March 2002

[11]. Richard Walter Klukas , "A Super resolution Based Cellular Positioning System Using GPS Time Synchronization", Department of Geomatics Engineering ,The University of Calgary, Alberta, December 1997

[12]. Heikki Laitinen, Jaakko Lähteenmäki, Tero Nordström, Database Correlation Method for GSM location, *IEEE 51st VTC*, Rhodes, Greece, 6-9 May. 2001

[13]. R. Yamamoto, H. Matsutani, H. Matsuki, T. Oono, H. Ohtsuka. "Position Location Technologies using Signal Strength in Cellular System", Radio

Network Development Department, NTT DoCoMo, Inc. 3-5 Hikarinooka, Yokosuka-shi, Kanagawa 239-8536, Japan

[14]. Guolin Sun, Jie Chen, Wei Guo, K.J. Ray Liu, "Signal Processing Techniques in Network-Aided Positioning: A survey of state-of-the-art positioning designs", *IEE Signal Processing Magazines*, July 2005

[15]. Cheng Peng, "Location Discovery Technique Survey of GPS, Cellular based Systems and Indoor Location Systems", Computer Science, SITE, University of Ottawa.

[16]. Zoran Salcic and Edwin Chan, "Mobile Station Positioning Using GSM Cellular Phone and Artificial Neural Networks", *Wireless Personal Communications 14*, 235–254, 2000

[17]. Josef Bajada, "Mobile Positioning for Location Dependent Services in GSM Networks", Department of Computer Science and AI, University of Malta.

[18]. C. Drane, M. Macnaughtan, C. Scott, "Positioning GSM Telephones", *IEEE Communications Magazine*, vol. 36, April 1998

[19]. Trond Nypan, Oddvar Hallingstad, "A cellular positioning system based on database comparison - The hidden Markov model based estimator versus the Kalman filter", University Graduate Center, Norway

[20]. Triki, Dirk T.M. Slock, Vincent Rigal, Pierrick Franc, "Mobile Terminal Positioning via Power Delay, Profile Fingerprinting: Reproducible Validation Simulations", *IEEE 64th Vehicular Technology Conference*, 2006-Fall

[21]. M. Brunato C. Kiss Kall´o, "Transparent Location Fingerprinting for Wireless Services" , Dipartimento di Informatica e Telecomunicazioni, via Sommarive 14, I-38050 Pant`e di Povo (TN)— ITALY,

[22]. Zhao Ping, Li Ling-yan, Shi Hao-shan, "A Hybrid Location Algorithm Based on BP Neural Networks for Mobile Position Estimation", *IJCSNS International Journal of Computer Science and Network Security*, vol.6 No.7A, July 2006

[23]. D. Zimmermann, J. Baumann, M. Layh, F. Landstorfer, R. Hoppe, G. Wölfle, "Database Correlation for Positioning of Mobile Terminals in Cellular Networks using Wave Propagation Models", *IEEE 60th Vehicular Technology Conference*, vol 7, 2004-Fall

[24]. K.R.Anne, K.Kyamakya, F.Erbas, C.Takenga, J.C.Chedjou, "GSM RSSI-based positioning using Extended Kalman Filter for training Artificial Neural Networks", *IEEE 60th Vehicular Technology Conference*, vol 6, 2004-Fall

[25]. C. Takenga, C. Xi, K. Kyamakya, "Fusion of Neural Network positioning and Database Correlation in localizing a Mobile Terminal", presented at International Conference on Wireless Networks (ICWN), Las Vegas, USA, 2006.

[26]. D. Fox, J. Hightower, L. Liao, D. Schulz, G. Borriello, "Bayesian Filters for Location Estimation", *IEEE Pervasive Computing*, v2 i3, 24-33 September 2003

[27]. M. Khalaf-Allah, K. Kyamakya, "Database Correlation using Bayes Filter for Mobile Terminal Localization in GSM Suburban Environments", *IEEE 63rd Vehicular Technology Conference*, vol 2, 2006-Spring

[28]. H. Zamiri-Jafarian, M. M. Mirsalehi, Ahadi-Akhlaghi, H. Keshavarz, "A Neural Network-based Mobile Positioning with Hierarchical Structure", *IEEE 57th Vehicular Technology Conference*, vol 3, April 2003

[29]. K.U.M. De Silva, B.D.S. Lakmali, K.G. Liyanagama, W.H.M.P.Wijesinghe, "Improved Cellular Positioning Techniques", Final year project report, Department of Electronics & Telecommunications Engineering, university of Moratuwa, October 2006

[30]. K.U.M. De Silva, B.D.S. Lakmali, K.G. Liyanagama, W.H.M.P.Wijesinghe, S.A.D. Dias, "Design, Implementation & Testing of Positioning Techniques in Mobile Networks", *Third International Conference on Information and Automation for Sustainability*, December-2007.

[31]. Heikki Laitinen (editor), Suvi Ahonen, Sofoklis Kyriazakos, JaakkoLähteenmäki, Raffaele Menolascino, Seppo Parkkila "Cellular Network Optimization Based on Mobile Location", CELLO Consortium, 2001

[32]. "Implementing Mobile Station Location in GSM", http://www.willassen.no/msl/node7.html (Accessed on 15.08.2007)

[33]. Teemu Tonteri, "A Statistical Modeling Approach to Location Estimation", *Master's Thesis*, Department of Computer Science, University of Helsinki, 25th May 2001

[34]. K. Chu, K. Leung, J. Ng, C. Hung, "Locating Mobile Stations with Statistical Direction Propagation Model", *Proceeding of 18th international conference on Advance Information Networking and Application (AINA '04)*, 2004

[35]. J.Zhou, J. Ng, "Analysis of Statistical Estimation for Mobile Location Estimation", *Technical Report COMP-04-009*, Department of Computer science, Hong Kong Baptist University, Hong Kong

[36]. Paul Kemppi, "Database Correlation Method for Multi-system Location", *Master's Thesis*, Department of Electrical and Communications Engineering, Helsinki University of Technology. August 2005

[37]. C.M.Takenga, K.Kyamakya, "Location Fingerprinting in GSM networks and Impact of Data Pre-processing", Presented at. WMC06, Munich, 2006.

[38]. "Radio propagation model", http://en.wikipedia.org/wiki-/Radio_propagation_model (accessed on 01.08.2007)

[39]. .B. Anderson, T.S. Rappaport, S.Yoshida, "Propagation Measurements and Models for Wireless Communication Channels", *IEEE Communications Magazine*, January 1995

[40]. A.Neskovic, N.Neskovic, G.Paunovic, "Modern Approach in Modeling of Mobile Radio Systems Propagation Environment", *IEEE communications Survey*, Third quarter 2000

[41]. Dieter J. Cichon, Thomas Kürner, "Propagation Prediction Models", E-Plus Mobilfunk GmbH, Germany, http://www.lx.it.pt/cost231/docs/PDFfiles/Chap4_pdf.ZIP

[42]. "COST 231 Walfisch Ikegami Model", http://www.ee.bilkent.edu.tr-/~microwave/programs/wireless/prop/costWI.htm (accessed on 01.08.2007)

[43]. Thomas Kurner, Alexander Meier, "Prediction of Outdoor and Outdoor-to-Indoor Coverage in Urban Areas at 1.8 GHz", *IEEE Journal on selected areas in communications*, Vol.20 N0.3, April 2002

[44]. Planet General Model – Technical Notes , Marconi wireless

[45]. "Back-Propagation Neural Network Tutorial", http://ieee.uow.edu.au-/~daniel/software/libneural/BPN_tutorial/BPN_English/BPN_English (accessed on 11.11.2007)

[46]. "Neural Networks", http://cse.stanford.edu/class/sophomore-college/projects-00/neural-networks/Neuron/index.html (accessed on 11.11.2007)

[47]. *Mark Beale, Howard Demuth,* "Neural Network Toolbox for Use with Matlab", User's Guide, version-4

[48]. C.M.Takenga, K.Kyamakya, "Robust Positioning System based on Fingerprint Approach", *MobiWas'07*, October 2007

[49]. F. Despagne, D.L.Massart, "Neural Networks in multivariate calibration", *Analyst*, 123, 157R-178R, 1998

[50]. "Geomatics Systems", http://www.geomaticssystems.com-/Products/GTPPlanetEV.htm (accessed on 07.06.2007)

[51]. "GDAL-Geospatial Data Abstraction Library", http://www.gdal.org/index.html (accessed on 07.06.2007)

[52]. C.Zhang, H.Shao, Yu Li, "Particle Swarm Optimization for Evolving Artificial Neural Networks", *Proc. of IEEE Int. Conf. on System, Man, and Cybernetics*, vol. 4 (2000), 2487–2490

[53]. S.Shao-zhong, Z.Li-biao, Shu-hua, "Application of Particle Swarm Optimization algorithm in training Forward Neural Networks", *Eighth ACIS International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing*, 2007

[54]. J.Kennedy, R.C. Eberhart, "Particle Swarm Optimization', *in proc. IEEE International Conference on Neural Networks*, IEEE service center, Piscataway, NJ, pp.39-43, 1995.

[55]. Brian Birge, "PSOt – a Particle Swarm Optimization Toolbox for use in Matlab", *Swarm Intelligence Symposium*, 2003

[56]. "Particle Swarm Optimization Toolbox", http://www.mathworks.com-/matlabcentral/fileexchange/ (accessed on 12.12.2007)

[57]. "Curve Fitting Toolbox for use with Matlab", User's Guide, Version 1