

# Self-Adaptation in Smartphone Applications: State-of-the-Art Techniques, Challenges, and Future Directions

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## Appendix A

### Appendix A. General Information about the Selected Studies

No.	Reference	Paper Title	Author Name/s	Year of Publication	Venues and Source of Publication
1.	[15]	“A cognitive-based ego network detection system for mobile social networking”	<ul style="list-style-type: none"><li>• Matteo Mordacchini</li><li>• Andrea Passarella</li><li>• Marco Conti</li></ul>	2015	IEEE Conference, 8 <sup>th</sup> IFIP Wireless and Mobile Networking Conference
2.	[17]	“A Proactive Approach for Context-Aware Self-Adaptive Mobile Applications to Ensure Quality of Service”	<ul style="list-style-type: none"><li>• Md. Shafiuzzaman</li><li>• Nadia Nahar</li><li>• Md. Rayhanur Rahman</li></ul>	2015	IEEE Conference, 18 <sup>th</sup> International Conference on Computer and Information Technology (ICCIT)
3.	[19]	“A Self-Adaptive Multi-Agent System Approach for Collaborative Mobile Learning”	<ul style="list-style-type: none"><li>• Didac Gil de la Iglesia</li><li>• Juan Felipe Calderon</li><li>• Danny Weyns</li><li>• Marcelo Milrad</li></ul>	2015	IEEE Journal, Transactions on Learning Technologies

			<ul style="list-style-type: none"> <li>• Miguel Nussbaum</li> </ul>		
4.	[21]	“Context-Driven Progressive Enhancement of Mobile Web Applications: A Multi criteria Decision-Making Approach”	<ul style="list-style-type: none"> <li>• Heiko Desruelle</li> <li>• Frank Gielen</li> </ul>	2015	IEEE Journal, Computer and Communications Networks and Systems The Computer Journal
5.	[5]	“Enhanced Accident Detection System Using Safety Application for Emergency in Mobile Environment: SafeMe”	<ul style="list-style-type: none"> <li>• Amit Hirawat</li> <li>• Deepshikha Bhargava</li> </ul>	2015	Springer India Conference, 4 <sup>th</sup> International Conference on Soft Computing for Problem Solving, Advances in Intelligent Systems and Computing
6.	[11]	“S-Aframe: Agent-based Multi-layer Framework with Context-aware Semantic Service for Vehicular Social Networks”	<ul style="list-style-type: none"> <li>• Xiping Hu,</li> <li>• Jidi Zhao,</li> <li>• Boon-Chong Seet,</li> <li>• Victor C. M. Leung,</li> <li>• Terry H. S. Chu,</li> <li>• Henry C. B. Chan</li> </ul>	2015	IEEE Journal, Transactions on Emerging Topics in Computing
7.	[24]	“Self-adaptation of mobile systems driven by the Common Variability Language”	<ul style="list-style-type: none"> <li>• Gustavo G. Pascual,</li> <li>• Mónica Pinto,</li> <li>• Lidia Fuentes</li> </ul>	2015	Elsevier Journal, Future Generation Computer Systems
8.	[4]	“Adaptive Deployment Infrastructure for Android Applications”	<ul style="list-style-type: none"> <li>• Junior Cupe Casquina</li> <li>• Jane D.A. Sandim Eleuterio</li> </ul>	2016	IEEE Conference, 12 <sup>th</sup> European Dependable Computing Conference

			<ul style="list-style-type: none"> <li>• Cecilia M.F. Rubira</li> </ul>		
9.	[6]	“Fighting Weight Problems and Insulin Resistance with the Metabolic Health Monitor App for Patients in the Setting of Limited Access to Health Care in Rural America”	<ul style="list-style-type: none"> <li>• Zsolt Ori,</li> <li>• Ilona Ori</li> </ul>	2016	IEEE Conference, Global Humanitarian Technology Conference
10.	[26]	“Generic Context Adaptation for Mobile Cloud Computing Environments”	<ul style="list-style-type: none"> <li>• Gabriel Orsini,</li> <li>• Dirk Bade,</li> <li>• Winfried Lamersdorf</li> </ul>	2016	Elsevier Conference, The 13 <sup>th</sup> International Conference on Mobile Systems and Pervasive Computing
11.	[28]	“MASCOT: Self-adaptive Opportunistic Offloading for Cloud-Enabled Smart Mobile Applications with Probabilistic Graphical Models at Runtime”	<ul style="list-style-type: none"> <li>• Nayyab Zia Naqvi,</li> <li>• Jonas Devlieghere,</li> <li>• Davy Preuveneers,</li> <li>• Yolande Berbers</li> </ul>	2016	IEEE Conference, 49 <sup>th</sup> Hawaii International Conference on System Sciences
12.	[12]	“On the Importance of Spatial Perception for the Design of Adaptive User Interfaces”	<ul style="list-style-type: none"> <li>• Tilman Deuschel,</li> <li>• Ted Scully</li> </ul>	2016	IEEE Conference, IEEE 10 <sup>th</sup> International Conference on Self-Adaptive and Self-Organizing Systems
13.	[29]	“Recommending Features of Mobile Applications for Developer”	<ul style="list-style-type: none"> <li>• Hong Yu,</li> <li>• Yahong Lian,</li> <li>• Shuotao Yang,</li> <li>• Linlin Tian,</li> <li>• Xiaowei Zhao</li> </ul>	2016	Springer Conference, International Publishing AG 2016

14.	[31]	“Self-adaptive Step Counting on Smartphones under Unrestricted Stepping Modes”	<ul style="list-style-type: none"> <li>• Zihao Tang,</li> <li>• Yao Guo,</li> <li>• Xiangqun Chen</li> </ul>	2016	IEEE Conference, IEEE 40 <sup>th</sup> Annual Computer Software and Applications Conference
15.	[13]	“Improving the User Experience using an Intelligent Adaptive User Interface in Mobile Applications”	<ul style="list-style-type: none"> <li>• Saeed Raheel</li> </ul>	2016	IEEE Conference, International Multidisciplinary Conference on Engineering Technology (IMCET)
16.	[2]	“A Self-adaptive Framework for Enhancing Energy Efficiency in Mobile Applications”	<ul style="list-style-type: none"> <li>• Fahimeh Alizadeh Moghaddam,</li> <li>• Mario Simaremare</li> </ul>	2017	IEEE Conference, Sustainable Internet and ICT for Sustainability
17.	[16]	“Cloud Aware: Empowering context-aware self-adaptation for mobile applications”	<ul style="list-style-type: none"> <li>• Gabriel Orsini</li> <li>• Dirk Bade</li> <li>• Winfried Lamersdorf</li> </ul>	2017	Wiley Journal, Trans Emerging Tel Tech
18.	[18]	“Crowd-Based Programming for Reactive Systems”	<ul style="list-style-type: none"> <li>• David Harel,</li> <li>• Idan Heimlich,</li> <li>• Rami Marelly</li> <li>• Assaf Marron</li> </ul>	2017	IEEE/ACM 4 <sup>th</sup> International Workshop on Crowd Sourcing in Software Engineering (CSI-SE)
19.	[20]	“Dynamic Adaptation and Reconfiguration of Security in Mobile Devices”	<ul style="list-style-type: none"> <li>• Mohamed AMOUD,</li> <li>• Ounsa ROUDIES</li> </ul>	2017	IEEE Conference, International Conference on Cyber Incident Response, Coordination, Containment & Control

20.	[22]	“Using Emotions to Empower the Self-adaptation Capability of Software Services”	<ul style="list-style-type: none"> <li>• Nelly Condori-Fernandez,</li> <li>• Franci Suni Lopez</li> </ul>	2017	IEEE/ACM 2 <sup>nd</sup> International Workshop on Emotion Awareness in Software Engineering
21.	[1]	“An adaptive smartphone anomaly detection model based on data mining”	<ul style="list-style-type: none"> <li>• Xue Li Hu,</li> <li>• Lian Cheng Zhang</li> <li>• Zhen Xing Wang</li> </ul>	2018	Springer Journal, EURASIP Journal on Wireless Communications and Networking
22.	[23]	“Autonomic Adaptation of Multimedia Content Adhering to Application Mobility”	<ul style="list-style-type: none"> <li>• Francisco Javier Velazquez-Garcia,</li> <li>• Pal Halvorsen,</li> <li>• Hakon Kvale Stensland,</li> <li>• Frank Eliassen</li> </ul>	2018	Springer Conference, IFIP International Federation for Information Processing 2018
23.	[14]	“ProMETheus: An Intelligent Mobile Voice Meeting Minutes System”	<ul style="list-style-type: none"> <li>• Hui Liu,</li> <li>• Xin Wang,</li> <li>• Yuheng Wei,</li> <li>• Wei Shao,</li> <li>• Jonathan Liono,</li> <li>• Flora D. Salim,</li> <li>• Bo Deng,</li> <li>• Junzhao Du</li> </ul>	2018	ACM, Proceedings of the 15 <sup>th</sup> EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services
24.	[7]	“Real-time Smartphone application for improving spatial awareness of Hearing Assistive Devices”	<ul style="list-style-type: none"> <li>• Anshuman Ganguly,</li> <li>• Abdullah Küçük,</li> <li>• Issa Panahi</li> </ul>	2018	IEEE Conference, 40 <sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)
25.	[25]	“A Reference Architecture to support the development of mobile applications	<ul style="list-style-type: none"> <li>• Frank Jose Affonso,</li> <li>• William Filisbino Passini,</li> </ul>	2019	Elsevier Journal, Pervasive and Mobile Computing

		based on self-adaptive services”	<ul style="list-style-type: none"> <li>• Elisa Yumi</li> </ul>		
26.	[27]	“CAMEL: A Self-Adaptive Framework for Enriching Context-Aware Middlewares with Machine Learning Capabilities”	<ul style="list-style-type: none"> <li>• Nicola Bicocchi,</li> <li>• Damiano Fontana,</li> <li>• Franco Zambonelli</li> </ul>	2019	Hindawi Journal, Mobile Information Systems
27.	[8]	“Energy Efficient Adaptation Engines for Android Applications”	<ul style="list-style-type: none"> <li>• Angel Canete,</li> <li>• Jose-Miguel Horcas,</li> <li>• Inmaculada Ayala,</li> <li>• Lidia Fuentes</li> </ul>	2019	Elsevier Journal, Energy Efficient Adaptation Engines for Android Applications
28.	[9]	“Malware Detection in Android System Based on Change Perception”	<ul style="list-style-type: none"> <li>• Hua-li Zhang,</li> <li>• Hua-yong Yang,</li> <li>• Fan Yang,</li> <li>• Wei Jiang</li> </ul>	2019	Springer Conference, International Conference on Intelligent Computing
29.	[30]	“Mobile User Environment Detection using Deep Learning based Multi-Output Classification”	<ul style="list-style-type: none"> <li>• Illyne Saffar,</li> <li>• Marie Line Alberi Morel,</li> <li>• Mohanned Amara,</li> <li>• Kamal Deep Singh,</li> <li>• Cesar Viho</li> </ul>	2019	IEEE Conference, 12 <sup>th</sup> IFIP Wireless and Mobile Networking Conference (WMNC)
30.	[3]	“Self-Adaptation in Mobile Apps: a Systematic Literature Study”	<ul style="list-style-type: none"> <li>• Eoin Martino Grua,</li> <li>• Ivano Malavolta,</li> <li>• Patricia Lago</li> </ul>	2019	IEEE Conference, IEEE/ACM 14 <sup>th</sup> International Symposium on Software Engineering for Adaptive and Self-Managing Systems

31.	[32]	“Dynamic adaptation of service-based applications: a design for adaptation approach”	<ul style="list-style-type: none"> <li>• Martina De Sanctis,</li> <li>• Antonio Bucchiarone</li> <li>• Annapaola Marconi</li> </ul>	2020	Springer Journal, Journal of Internet Services and Applications
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