Lecture Notes in Computer Science 4913

Roberto Verdone (Ed.)

Wireless
Sensor Networks

5th European Conference, EWSN 2008
Bologna, Italy, January 30-February 1, 2008
Proceedings

Springer

Volume Editor

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Preface

This volume contains the proceedings of EWSN 2008, the fifth European Conference on Wireless Sensor Networks, held in Bologna, Italy, during January 30–31 and February 1, 2008.

Its scope was the creation of a forum where researchers with different experience and background could discuss cross-layer approaches, novel solutions for specific problems and envisage the future development of wireless sensor networks (WSNs).

Out of the 110 papers that were submitted, 23 were selected after a double-blind peer-review process, leading to an acceptance rate of 21%. Six among the accepted papers included authors from North America, three from Asia, all others from Europe with the exception of one from Australia, and one from Brazil: the conference brought together researchers from almost all corners of the world!

Demonstration and poster papers were also presented at the conference, of which separate proceedings were produced, under the supervision of the other TPC Co-chair, Zach Shelby from Sensinode ltd, who managed the reviews of these papers.

The range of topics covered by this conference, including communication protocols, information processing, middleware, operating systems, hardware and field tests, is very wide. This made the vision of a coherent final technical programme more difficult, as few papers cover each of the various topics. But what made such a process even more challenging, is the intrinsic nature of WSNs, which is cross-layer and requires the joint consideration of many aspects when measuring or predicting the performance of a given algorithm, protocol, or technical solution.

As a result, unlike many other conferences and workshops dealing with communication and information technologies, the papers needed to be grouped according to considerations which cross the protocol stack through the various layers; therefore, we put together under the same umbrella and in the same conference session, papers dealing with separate aspects of the same problem.

For this reason this volume, which is organized according to the sequence of sessions proposed in the conference technical programme, does not include chapters devoted to routing, multiple access control, transmission techniques, operating systems. Rather, the papers are grouped according either to the vertical functionality (e.g., localization), the technology investigated (e.g., network coding), or the air interface standard (e.g., Zigbee), etc.

The volume presents a separate block of papers, the best ones, to attract the reader towards works that were judged as the most significant papers submitted to EWSN 2008.

Reading the papers reported in this volume, one very interesting fact emerges. The performance of the technical solutions provided is sometimes predicted through analytical models, or assessed through simulation approaches, as usual for a scientific conference; however, many papers report real measurements performed over test beds where the technical solution, the protocol, and the software developed have been implemented. The possibility offered by existing platforms to customize them and programme the nodes according to the desire of engineers and researchers was fully exploited in this conference, and many papers show performance improvements measured on true prototypes, and platforms.

The editor of this volume, who led the review process for the full papers submitted to the conference, is very thankful to the entire Technical Programme Committee and the external reviewers, the TPC Operational Manager, Chiara Buratti, who was the engine of this process, the Publication Chair, Virginia Corvino, who led the final steps towards this volume, and the Authors of the 110 papers submitted. A special thanks to the Steering Committee, who assisted me in the year before EWSN 2008 took place, in all strategic decisions.

January 2008   Roberto Verdone

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EWSN 2008 was organized under the patronage of Alma Mater Studiorum - Università di Bologna, Italy.

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