



## Editorial

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This first issue of our sixth volume of the Journal of Reliable Intelligent Environments finds us affected some way or another by the Covid19 pandemics. Never mind the additional work, the most terrible is we may have lost people we knew. As our world becomes increasingly connected, the multiplying factor of problems will be more evident and damaging. Our journal focuses on complex systems and in complex interactions with humans, and when we started this project we were convinced already, our world needs to be more cautious and put more effort on concepts such as prevention, quality, accountability, and resilience. This issue consists of four articles:

*Human movement effects on the performance of the RSSI-based trilateration method: adaptive filters for distance compensation* by Booranawong et al. focus on the improvement of an essential service which is user location. This article provides a technique based on RSSI which improves location accuracy compared to previous research. Although the method does not yet achieve near absolute effectiveness, nevertheless, this is an area which is progressing towards that higher goal. Services like these are fundamental to systems relying on location of users to better focus services and better understand users' context, for example, in Smart Homes, Smart offices, Smart Shopping, etc.

*A secure mutual authentication protocol for IoT environment* by Panda et al. addresses another fundamental aspect which is becoming more and more important to our daily lives as we are increasingly adopting different smart devices in our daily lives and these are designed with protocols of interaction which are susceptible to attacks by hacker with various dubious intentions. Therefore, this article provides a

new protocol for IoT device interaction which the authors rigorously analysed using formal methods to provide evidence of its soundness. Complementary performance analysis studies show that it is also a competitive option in terms of various efficiency parameters.

*Real-time human behaviour monitoring using hybrid ambient assisted living framework* by Patel et al. explains a method which allows current Ambient-Assisted Living to progressively append different activities which the system did not consider initially. This is an interesting example of human–system interaction and cooperation which will probably attract more attention in the future.

*A Smart Cooking Device for Assisting Cognitively Impaired Users* by Bouchard et al. explains an Ambient-Assisted Living system which supports users' independence through guidance at something so fundamental for the health and well-being of a person as it is cooking meals. The system has been designed with feedback from a number of relevant organizations to increase its acceptance and adoption.

We hope that these articles stimulate the community to further improvements in this area and perhaps to collaborations between the participating teams, so that complementary solutions can be used in a combined way to tackle more complex problems.

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