Dublin Green Watch

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Urbanisation, as a global phenomenon, is likely to be a continuing trend over next few decades due to high proportion of world's population in cities. The rapid pace of urbanisation is having many adverse affects on the urban environmental sustainability and resilience. The various core global challenges and issues are emerging related to scarcity of resources and energy, negative effects of urban environment caused by different pollution, public transport and more. Therefore, "Smart City" as a popular topic, has been introduced and discussed in recent years and the purpose of it is to provide a smart and sustainable urban environment for citizens to dwell by taking advantage of digital technologies, especially information and communications technology (ICT).

Participatory sensing, as a subtype of people-centric sensing framework, enables the participators to collect and share data by using devices, especially mobile devices embedded with different sensors. According to the research, the existing works lack practice of security measurements and implementation of trust model which has ability to classify relevant sensing data as trusted or not and present specific user contribution to the system. Consequently, a sensing-based Android application is developed associated with several security considerations and REST is used as web service on server side to complete a participatory sensing system which intends to utilize citizen-power by participating and reporting relevant green-related information to discover the current status of urban environment and promote green initiatives so as to enhance public awareness of the urban environment in this dissertation. The evaluation based on real participants is to illustrate the availability of this urban-scale system and the feasibility and accuracy of trust model based on rating as well.