Management and monitoring is done through a web page that enables the monitoring and management tasks. The form allows data to be entered from the Smart Server, lighting, light or movement sensors, and other parameters such as location. This information is used to display the facilities. The system uses the presence and movement sensors to detect pedestrians and the flow of movement, and then uses the information to create calendars. To do so, the system incorporates ANOVA based clustering to detect similar days and EM to create lighting groups within each day. The lighting is distributed according to time segments to provide better services to the users and maintain costs.

The system makes it possible to manage the distribution of brightness according to various sensors, such as presence sensors, allowing the system to automatically adjust the illumination according to use, thus distinguishing between leisure, residential or business zones. In addition, the system can monitor and manage street lighting remotely thereby facilitating maintenance.

Acknowledgments. This work has been supported by the European Commission(Seventh Framework Programme for Research and Technological Development. FP7-PEOPLE-2012-IRSES project EKRUCAmI: Europe-Korea Research on Ubiquitous Computing and Ambient Intelligence. Ref. 318878.

4 References

1. Paolo Neirotti, Alberto De Marco, Anna Corinna Cagliano, Giulio Mangano, Current trends in Smart City initiatives: Some stylised facts. Cities. 38, 2014, 25–36.
2. http://setis.ec.europa.eu/set-plan-implementation/technology-roadmaps/european-initiative-smart-cities
3. http://www.smartsantander.eu/
4. Velaga, N.R., Kumar, A., Techno-economic, Evaluation of the Feasibility of a Smart Street Light System: A case study of Rural India. Procedia - Social and Behavioral Sciences. 62(24) , 2012, 1220–1224.
5. Chun, S.Y., Lee, S.S., Applications of Human Motion Tracking: Smart Lighting Control. Computer Vision and Pattern Recognition Workshops (CVPRW) 2013 IEEE Conference on. 2013, 387 – 392.
6. Ciabattoni, L., Freddi, A., Ippoliti, G., Marcantonio, M., Marchei, D., Monteriu, A., Pirro, M., A smart lighting system for industrial and domestic use. Mechatronics (ICM), 2013 IEEE International Conference on. 2013, 126 – 131.
7. Kumar, N., Smart and intelligent energy efficient public illumination system with ubiquitous communication for smart city. Smart Structures and Systems (ICSSS), 2013 IEEE International Conference on. 2013, 152 – 157
8. Domingo-Perez, F., Gil-de-Castro, A., Flores-Arias, J.M., Bellido-Outeirino, F.J., Moreno-Munoz, A., Lighting control system based on DALI and wireless sensor networks, Innovative Smart Grid Technologies (ISGT). 2012 IEEE PES, 1 – 6

