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A REVIEW ON SMART CITY DEVELOPMENT & IMPLEMENTATION USING WIRELESS GSM MODEM

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ABSTRACT :- As cities continue to grow, numerous initiatives for Smart Cities are being conducted. The concept of Smart City includes a few ideas being administration, economy, the board, foundation, innovation and individuals. This implies that a Smart City can have different correspondence needs. Remote advancements like WiFi, ZigBee, Bluetooth, WiMax, 4 Gor LTE (Long Term Evolution) have introduced themselves as need might arise of Smart City drives. Notwithstanding, as the greater part of them employ unlicensed groups, obstruction and concurrence issues are expanding. In this paper, the remote advancements accessible these days for IoT (Internet of Things) in Smart Cities are presented. Our commitment is a review of wireless technologies, their comparison and the problems that difficult coexistence among them. In order to do so, the characteristics and adequacy of wireless technologies to each domain are considered. The problems derived of over-crowded unlicensed spectrum and coexistence difficulties among each technology are discussed as well. Finally, power consumption concerns are addressed.

Term Index - *wi*-fi, ZigBee, Bluetooth, WiMax

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I. INTRODUCTION

In the last several years there has been explosive growth of information and communication technologies (ICTs) due to advancement of hard ware and software designs. Smart city is the largest abstraction among the labels used as it encompasses other labels used for cities. The smart city is a concept and there is still not a clear and consistent definition of the concept among academia and practitioners.
In a simplistic explanation, a smart city is a place where traditional networks and services are made more flexible, efficient, and sustainable with the use of information, digital and telecommunication technologies, to improve its operations for the benefit of its inhabitants. In other words, in a smart city, the digital advancements make an interpretation of in to better open administrations for occupants, and for better utilization of assets while affecting the environmentless. One of the proper meanings of the shrewd city is the accompanying the business framework to use the aggregate knowledge of the city‖. Another formal and far reaching definition is the accompanying: ―A savvy supportable city is an inventive city that utilizes data and correspondence innovations (ICTs) and different means to improve personal satisfaction, productivity of metropolitan activities and administrations, and seriousness, while ensuring that it addresses the issues of present and people in the future as for financial, social and natural aspects‖. A wide outline of different parts required in a smart city is depicted in Fig. 1. Any combination of various smart components can make cities smart. A city need not have all the components to be labeled as smart. The number of smart components depends on the cost and available technology. Employing the aforementioned reasons as motivation, in this paper, we determine the main aspects that are part of a smart city. Furthermore, the evolution of wireless technologies and their characteristics is detailed. Then, the overcrowded 2.4 GHz ISM band and the coexistence problems among wireless technologies are discussed. Finally, the differences in power consumption are reviewed.
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II. BLOCK DIAGRAM OF SMART CITY DEVELOPMENT & IMPLEMETATION USING WIRELESS MODEM

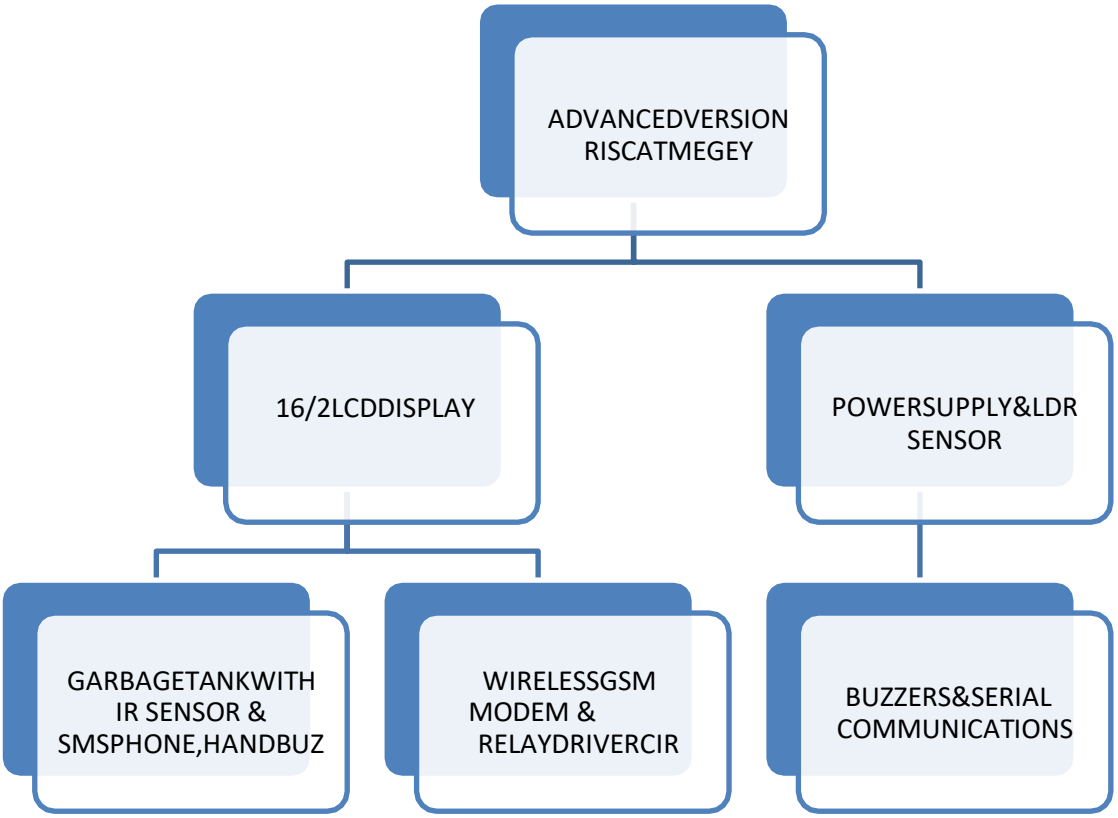

Fig.1. Block diagram

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2.1 Methodology

The aim of the Smart ability approach is to estimate, with qualitative and quantitative in formation, to what extent smart cities are sustainable thanks to the deployment of smart technologies.

In this frame work we had the opportunity to test, at least for Europe, the methodology on the ‑Expo Milano 2015‖smart digital city. The universal exposition site ‑Expo Milano 2015‖ wanted to be an example of future city districts Thanks to an adhoc agreement with Expo 2015 SpA ,thee xposition district, which represents a particularly advanced model of smart city suitable to develop and validate the methodology, has been chosen first case study. Starting from the Expo Milano 2015 case-study theme tho do logyistested and developed to be extended and repeated in other and more complex contexts ,like a city district or a whole city. There are several available analyse and evaluate smart city‘s performance and its sustainability, but knowledge, most of these instruments only allows to describe the existing.

Smart in ability has been developed in order to support decision makers to understand and quantify possible benefit deriving from deploying innovative technologies enabling smart services for the cities.

2.2 Smart city development infrastructure

Fig. 2. smart city development infrastructure

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2.3 Characteristics

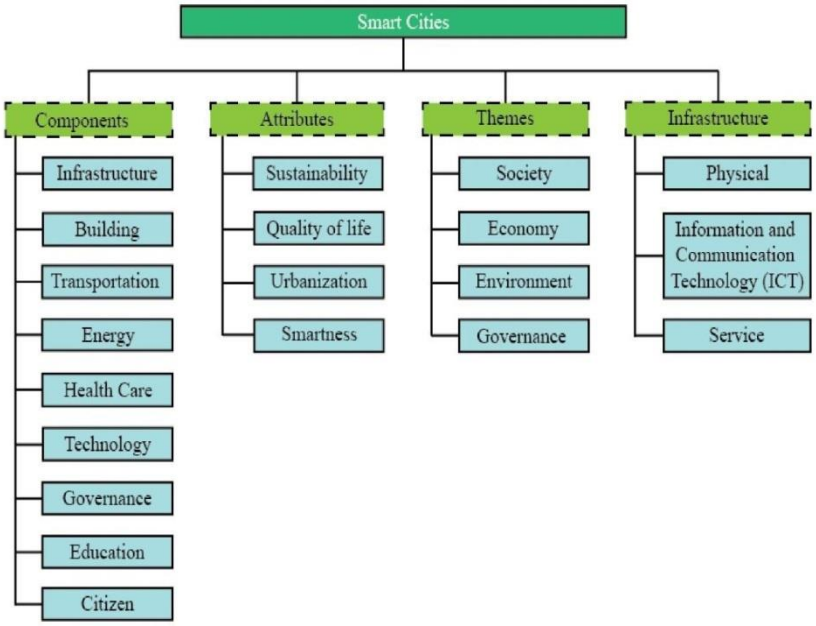

Fig.3. Characteristics

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III. CONCLUSION

In a big picture, a city is a system of systems with a unique history and set in a specific social and environmental context. For a city to prosper, all the key city systems need to work together, by utilizing all of their resources to overcome the challenges the city faces. The‐smartness‖ of a city describe to bring together all its resources, to effectively operate with maximum possible efficiency to fulfil the purposes it has set itself. The smart city is a concept and a variety of definitions exist among academia and practitioners.

A smart city can have one or more smart components, including smart transportation, smart grid, smarthealth care, and smart governance. The Internet of Things (IoT), cyber physical systems (CPS), and Big Data are key technologies in the context of information and communication technology (ICT) critical for the implementation of smart cities. Smart cities with minimal implementation and operation cost are the keys for long-term sustainability. There are several smart cities with some form of smart components operating at present at various parts of the globe. The need for smart cities is increasing day by day with the increase of population as earthly resources are limited.

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[6] Dept Business (2013), p. 7 "As consumers of private goods and services we have been empowered by the Web and, as citizens, we expect the same quality from our public services. In turn, public

authorities are seeking to reduce costs and raise performance by adopting similar approaches in the delivery of public services.

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