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1 Mobile Phone CrowdSensing –A resource for Contextualized urban smart citiesWe are 21st-century citizens, doing our very, very best to interact with19th century-designed institutions that are based on an Informationtechnology of the 15th century », PiaMancini, 2014.High rise of urban population and advancement in technologies demands the need for smart urban cities. Smart city uses information and communication technologies (ICT) to increase operational efficiency, sharing of the information with public and improving the quality of government services and citizen welfare. Smart cities use a combination of Internet of Things (IoT) devices, software solutions and user interfaces.How IoTis useful in making cities smarter?IoT deviceisa network of connected devices –such as vehicles, sensors or home appliances.The way interaction between Web Pages (WWW) is Internet of Content, interaction between people (Social Media)is Internet of People, interaction between devices(or things) is Internet of Things. Here thing can be anything like machines, home appliances, cars, sensors, trash cans etc.Smart city concept uses IoT technologies with aim of Making better use of public resources, reducingthe operational cost of public administrations, creating new opportunities and supporting better living.How Mobile phone sensors are helpful?In the last few years, Mobile phones,appliances, vehicles,and other types of devices have sensors in them. On the good side, world isgettinginterconnected every dayby these sensors.A mobile device is used on daily basis with a high frequency. There can be various types of sensors installed on a mobile device, from accelerometer to gesture recognition sensors.A US based studyreveals that share of adults who owned smart phones increased from 35%to 85% inurban areas, this huge increment in usage of smart phones powers up the concept of Mobile CrowdSensing.In this article, we briefly explain how itisuseful in context of urban smart cities:Theusers who use a smartphoneuse Mobile Crowd Sensing (MCS)as a new direction in the development of the Internet of Things. It takes the advantage of certain smartphone features such as Camera, temperature, GPS,and microphone to collectdata from the environment. We first take a look at Pollution sensing and social sensing.Inpollution monitoring usecase, sensors are installed at fixed place;they continuously sense the movement of vehicles and other polluting things around them. This is called Fixed Sensing. Sensors are in place, so they provide very accurate resultsbut with high cost. Coming to social sensing,Facebook, LinkedInand Google+and similar social networkshas ledto increment inawareness of the power of social elements into a variety of data-centric applications. Embedding sensors in these social networks to collect large amount of data for prediction and monitoring applications is a natural way to enhance the power of such social. Social sensing is qualitative but subjective.In Mobile Crowd sensing, there is huge numberof sensors, the location of sensors is not fixed. These sensors have relatively low accuracy ascompared topollution and social monitors. These sensors are used to acquire data about the user. The acquired data can be used in several applications such asdeterminingmental health, overall wellness monitoring, noise monitoring, and eating habits of community.Research Question: Is mobile phone sensing an effective solution to the aggregation of urban knowledge?In urban Scale crowd sensing:a large number of individuals use their mobile devices to collectively extract and share information related to a certain phenomenon of interest.An experiment was done in France where Ambiciti application was used for urban scale experiment, which notifies the collective exposure to urban pollution, air and noisesboth. It notifies the user of overall exposure to pollution.A user gets notified whenever he or she uses loud voice. It suggests the user of alternateroute options with comparatively lesspollution than more polluted ones.There are certain factors that affectefficient crowdsensing

solutionsin Ambicitisuch asBattery Usage is critical factor on smartphones; Mobile OS is to beoptimizedfor normalusage, but there aresome OS limitations such as background and sleep mode, access to sensors and networkinterfaces andaccuracy of locations.There are certain challenges that obstructthe mobile crowd sensing such as: Some users do not wish to share their information, someone can send fake data and redundancy in results.ConclusionMobile crowd sensing represents a very

promising approach for mobilization of citizens in order to improve and adapt their urban mobility.Crowd sourcing dynamic geographic information has potential to improve various aspects of urban life and urban mobility.Wefocuson probably the most prominent domains such as traffic, air quality and citizenactivities on the move that have the great impact on mobility and city dynamics.When Crowd Sensormeetstheinfrastructure IoT: Crowd Sensing has emergedas a powerful solution to address environmental monitoring, allowing us to control air pollution levels in crowded urban areas in a distributed, collaborative, inexpensive and accurate manner.Currently a lot of research is going on in this field and this would come out to be a game changing field in context of urban smart cities.

Sources	Similarity
Chapter 12: Worlds of the 15th Century - YouTubeCompare text a lecture summary from robert strayer's ways of the world. intended for use with my ap world history course. https://www.youtube.com/watch?v=xRyHbAHZpZY	10%
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