Development Of Smart Cities Using Artificial Intelligence

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Abstract

Development of smart cities using Artificial Intelligence and its advantages to monitor and control the day to day activities of cities.Artificial intelligence used in cities to monitor plant growth, automatic parking systems,smart meters, smart billing systems by the government This paper proposes ways to improve the quality of life of people living in cities and make there life easier.It proposes use of IOT devices that can be used to manage and control smart systems.Human Intelligence along with smart systems can improve quality living and life of people living in cities.

Keywords:-*Artificial Intelligence smart parking smart meters,smart systems.*

Introduction:- Use of Artificial intelligence in smart systems helps to build the life of people living in cities,smart IOT devices can be used to control various devices like automatic parking systems,plant growth monitoring Systems,cctv.Automatic sensors are used to monitor different smart devices in home automation like fan,lights.doorbells,smart locks etc.Smart devices like home meters used to monitor use of electricity,and automatic billing systems thus bills can be generated automatically,Health care systems like emergency alarms and fire sensing sensors helps in protection of human life effectively.This Consist of light intensity temperature and soil moisture[1]Transportation facilities can be made available using smart apps.Artificial systems can be also used for security purposes.

Some people have a habit of planting trees but are not able to maintain and water them properly.
So in order to do it manually in time some plant monitoring systems which are used to monitor growth,soil temperature,watering periods can be notified to humans through smart apps using IOT sensors.

In day to day life parking problems for vehicles having become a huge problem.Population is going on increasing day by day and finding parking requires lots of time and effort and also causes pollution in environment and congestion on roads .In order to solve this problem smart parking systems can be used which can guide the driver about availability of parkings in the relative area and can relieve the stress of drivers.But smart systems also have some limitations like in this case quality of parking available,internet problems etc.
The smart city as envisioned,has been stratified into four layers,namely-
  - The infrastructure
  - The energy
  - The transportation

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[1] "Smart Plant Life Monitoring System - IEEE Conference ...." 21 Nov. 2019,
https://ieeexplore.ieee.org/document/8907989.

● The lifestyle of people [2]

Role of AI in surveillance of   city
Artificial intelligence along with IOT can control and monitor activities in smart cities using different sensors like smart heat sensors,sensors used in CCTV,water sensors detecting level of water in rainy seasons,wind sensors determining quality of wind etc.Humanoid robots can also be used in surveillance of smart cities which are powered by artificial intelligence

AI in transport facilities
AI has an important role in transportation systems.It is found that people living in new york city spend 107 hours of year searching for a parking[3].AI help the user to understand real time traffic conditions.delays due to congestion in traffic.Many apps powered by AI can help customer to book private cars,help book tickets of trains,Bus,flights and other transport services.In many countries self driving cars are also used which a example of artificial intelligence so the chances of causing accident becomes very less.

Use of AI in health services
For treatment of various diseases artificial intelligence is already being used.AI machines are used in critical surgeries,accurate diagnosis of diseases and treatments.

Some applications of AI are as follows:-
1.Nowdays AI can be used in correct diagnosis of coronavirus patients and can also be used in creations of vaccines and treatments.
2.AI can be used in hospital management systems to monitor the number of patients,diseases and their historical data.
3.Can be used to track spread of infection in hospitals.

AI in management of electricity
          in smart cities
Due to rapid growth of urban population it is necessary to maintain quality life and infrastructure in order to fulfill needs of society[4] Distribution of electricity and its supply is an important part of a smart city.smart meters can be used to monitor the usage of electricity by users and generation of bills accordingly accordingly.Development of smart systems that could directly connect to authorized person in any mislead.Generation of smart systems which can detect voltage levels,heating conditions and phase information can be done using artificial intelligence.

AI in waste management

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[2] "Smart City- a gateway for artificial intelligence in India - IEEE ...."
https://ieeexplore.ieee.org/document/7509291..
[3] "Data-driven Parking Decisions: Proposal of ... - IEEE Xplore." 21 Nov. 2019,
https://ieeexplore.ieee.org/abstract/document/8908028/. Accessed 29 Mar. 2020.
[4] "Centralized Smart Governance Framework ... - IEEE Xplore." 21 Nov. 2019,
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Waste management in smart cities can be done using AI enabled machines.smart robots can be used for separation of different types of wastes.Recycling of wastes can be done.One of european company has developed a system which sorts construction waste and other debris efficiently using artificial intelligence that could take decisions on its own and predict correct decision to be taken based upon condition.AI systems can also be used to track humans spreading wastes into environment.
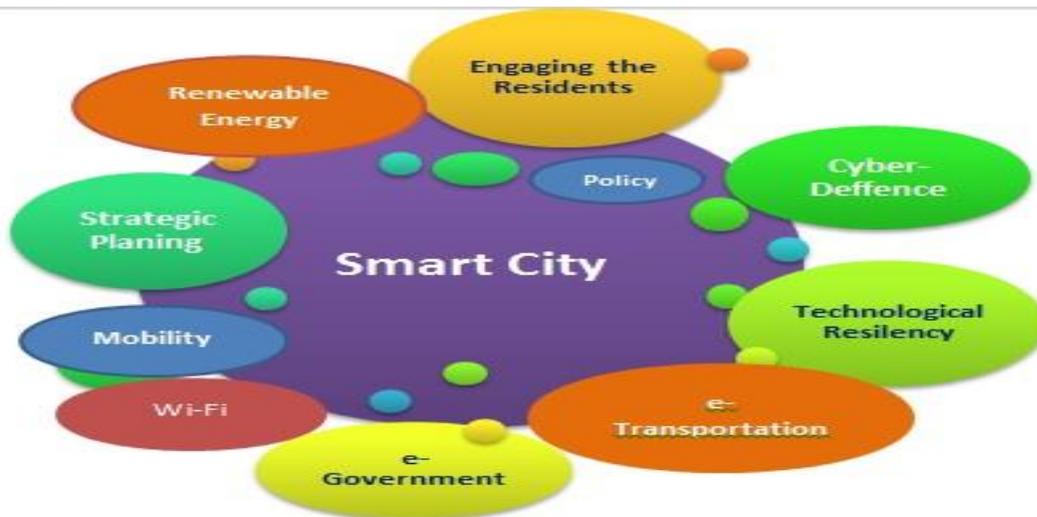
https://commons.wikimedia.org/wiki/File:Smart_City_Graph.jpg

Conclusion:-Thus Artificial intelligence along with humans systems can help transform a city to a smart city which can improve quality life of people and provide various advanced facilities in their day to day life and can also help in development of the country.

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