ARTICLE IN PRESS

Microprocessors and Microsystems xxx (xxxx) xxx

Contents lists available at ScienceDirect

Microprocessors and Microsystems

journal homepage: www.elsevier.com/locate/micpro

Street architecture landscape design based on Wireless Internet of Things and GIS system

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ARTICLE INFO

Keywords:
Wireless internet of things and geographic information systems (GIS)
Landscape level
Street architecture landscape

ABSTRACT

An infrastructure that provides geospatial analysis, better understands simulations, great potential for visualizing natural and artificial landscapes, and the universal recognition of the use of the Wireless Internet of Things. Everyday devices, whose platform is the Internet of Things, will be smarter in their daily processing, richer in their daily communication, and smarter. The Wireless Internet of Things still wants its landscape design. Still, its impact is already looking at the scene where the Wireless Internet of Things and GIS (Geographic Information System) systems were connected to make incredible advances. It opens up architecture-specific research and the usual architectural landscape area. It can be used for soil mapping studies and can be used for remote sensing in other engineering areas to obtain a wide range of weather compensation. It encourages the use of geographic information systems for geotechnical applications in soil. Geographic information systems can manipulate georeferenced information to be displayed, store, assemble and create georeferenced data from existing data, and generate multiple missing spatial data based on the attributes attached to it. The system briefly introduces street architecture landscape applications and promotes a street landscape design environment for Wireless Internet of Things and GIS system architecture. The proposed system is described as a thing and GIS as network technology, especially in smart design, street architecture and landscape wireless network connectivity. This is an overview of smart network providers, first to help explore some essential landscapes, equipped with wireless internet and geographic information systems, and how it is used in street architecture.

1. Introduction

The Wireless Internet of Things helps the interface between people and systems to create internet-based solutions. Based on the Things Internet concept, various "smart" applications on the internet can be set up in different human life areas, such as agriculture and forestry. Many devices connected to the overall network can automatically monitor real-time management by remote control processor to perform routine tasks on "things". This concept allows sensor access and transparency to create an open environment in a secure environment, while cloud quality plays an essential role in acceptance. Many of these experts have increased and pointed out the amount of data collected and the tendency for mountains and condensation to better analyze remote clouds that do not reveal data sources as close as possible. As such, regular sensors inevitably make independent decisions in some cases. They process the collected data and processes it and sends only the "top" most important information. It can be replaced by a device that can be called the most complex and intelligent terminal.

The speed of development of the Wireless Internet of Things, new methods, applications, and use case scenarios have been proposed to continuously improve the Internet of Things' wireless network, with multiple geographic information systems and different applications and different everyday lives. It seems to be very fast, as it has been on the side. Smart devices have become the most important form of Internet of Things and wireless internet access, used in a wide range of scenarios and disciplines such as urban, industrial, commercial, agricultural, home and mobility. Configure. The 200 smart devices are moving in this direction, though they are too far, due to the prediction of significant progress.

Also, GIS (Geographic Information System) has grown to take advantage of increasingly intelligent networks. These networks are used for multiple purposes and provide an essential platform for data shared by GIS applications and provide important information about research, planning, and real-time decision-making and enable automatic information generation. The GIS phenomenon itself defines an intelligent network that contains information that can be shared between users.

With these and other considerations in mind, this article considers Wireless Internet of Things and (Geographic Information System) GIS

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https://doi.org/10.1016/j.micpro.2020.103362
Received 12 October 2020; Received in revised form 24 October 2020; Accepted 28 October 2020
Available online 1 November 2020

primarily to be in the context of intelligent network environments. This is the first help that describes some basic features of defining a GIS. The supplier is then checking it as a smart network itself using the geographic information system. But GIS is the place that can have the most far-reaching impact on everyday users, and it's the fastest-growing system by its features. To facilitate, this application has become location-aware devices, such as mobile phones and laptops, with the proliferation of increasingly widespread properties and enhanced smart network capabilities. Therefore, the latter part of this article will evaluate what is worse than the consumerization of Wireless Internet of Things and GIS technology. After discussing essential opportunities, essential qualifications are to be considered. Most of the various social issues that consumers present using GIS applications.

When first developed, Wireless Internet of Things and (Geographic Information System) GIS were described as software by combining digital data mapping and analytical techniques. But a straightforward definition of what GIS is today obscures its complexity. At one level, most geographic information systems are currently used for the remains of the original design of the same function and analytical task. As a system, in a broad sense, it allows users to capture, save, query, edit, and merge overlays and shared space references and digital data. However, there is no detailed overview of the current features of the technology that accounting can provide. Yet, it is giving a growing variety of personalized applications and hosts of different users.

But this is beyond the wireless internet of things and geographic information systems as everyday users are becoming multifold with proposed landscape applications that continue to develop as the fastest in many respects. The emerging popularity of landscape design in (Internet of Things) IoT and (Geographic Information System) GIS and intelligent network architecture, and the intersection with help, primarily determines the usage of the wireless internet of things and geographic information systems.

At the natural level, patch concentration is an essential indicator for nature conservation and fragmentation in the forest and can reflect forest landscape fragmentation and spatial homosexuality. Large forest patch concentration facilitates more massive forest landscape fragmentation. The average connection area is one of the ridges and areas, a measure of forest breaks. Larger average connection areas reduce debris. It was lower in the average connection area in 1999 than in 2006, and the overall natural fragmentation was gradually reduced. The average score index decreased from 1999 to 2006 by this means. The forest landscape was greatly affected by the population and the natural connection pattern was regular and straightforward. As the patch density decreases, many smaller patches are changed to larger patches. Large patches occupy a significant position in the forest landscape due to their simple appearance and low fractal index.

2. Related works

The Forest Landscape Index analyzes dynamic changes in forest landscapes. Pine and fir forests are still a significant part of the landscape pattern, although the total number of patches has declined significantly, and forest landscape fragmentation has gradually diminished. The natural connection pattern in the forest is regular and comfortable. The degree of connection between different natural species is very high [1]. Water land, communication land and three unused lands are increasingly being divided by human interventions above. 2) Dominant natural forests and cultivated land are prominent even if they lose their dominant land-use position. Diversity and uniformity; at the same time, natural homosexuality have become more and more apparent [2].

Wetland Natural Ecology Research is a growing field of wetland exploration based on the theory of natural ecology. Development of Wireless Internet of Things and (Geographic Information System) GIS technologies provide new avenues for wetland natural ecological research and technical assistance. This article describes GIS technology in additional landscape classification, landscape coding, landscape mapping, efficient information extraction and analysis, and landscape planning and management [3]. The changing international community maintains the tree's state in the form of a tree branch system harm assessment. The geodatabase system includes tree location, type, and Diameter Breast Height (DBH), condition and growth logs. It must then be incorporated into a system that can maintain the tree, depending on its existence. The Dangerous Trees Identity Complex [4,5] indicates that it has been aligned with the main entrance.

This can reflect the Qinghai Tibetan Plateau's landscape patterns, which can help with the unique properties of landscape ecological planning and protection. It can also coordinate agricultural structures that provide standards and help-optimized resource allocation and develop ecological agriculture [6]. Support (Geographic Information System) GIS Markov model prevents the impact on anthropogenic disturbances and other urbanized arable lands, as semi-wet evergreen evergreens will improve over the next 16 years. Part of the forest is declining, and the overall landscape tends to be fragmented. Circumstances and Human activities have a significant impact [7] in the field of research.

Excellent design leads to useful information. In landscape design, designers are more concerned about how the plans will affect the city than choose their plans. The organization also explores the basics of a Wireless Internet of Things and (Geographic Information System) GIS-based landscape design system [8]. Next, as an example, take an abandoned mining area in Beijing. The author divides the landscape regeneration area based on (Geographic Information System) GIS. Necessary landscape units and structures were discovered to verify and restore the proper functioning of each unit. [9]

A reasonable cold model is established for the development of urban squares. Green urban development and social and economic improvements have a significant impact on the whole. Impacts and factors limit the greening of squares in cold cities. This is a multifaceted development. Developing greening in various squares measuring objective differences provides a reliable basis for overall urban planning, and appropriate quantification methods need to be considered. Wireless Internet of Things and (Geographic Information System) GIS technology is scientifically and objectively analyzed for Lengthen Square's greening design [10].

As urbanization progresses so rapidly in the country, many railroads, highways and buildings have been abandoned, leaving the city's original natural environment, radically changing its original ecosystems and surface structures. Green coverage is also increasing year by year, but urban spaces and other public spaces are experiencing rapid growth. They are setting up green spaces, which have not received enough attention in non-motor transport construction. The city planning system is not formally integrated. This equitable green space causes less connection, and the connection between green spaces is weak [11].

Landscape planning and design are technology-based and artistic, natural elements and collective human factors that create a space environment that meets the needs of the people's activities and has the characteristics of the region and method, the work process as well. It focuses primarily on the human-centered, rational use of natural resources protection and the natural environment. It develops improved conservation plans that address the different natures of landscape areas [12].

Connection size, shape patches, benefits, diversity and spatial patterns and many natural characters result from human activity that affects local contexts. In this study, two-phase Landsat-TM (Thematic Mapper) image essential data sources [13] are used. Ecological conditions can be clarified by subsidence areas and spatial changes that study dynamic changes in landscape patterns as coal mining subsidence areas, specific areas. See Resources [14,15] to provide an appropriate land allocation for landfill planning directions or subsidence recovery landscapes for subsidence assessment.

Public spaces such as urban green spaces enjoy rapid growth, and the construction of non-automobiles is not fully considered, so the coverage

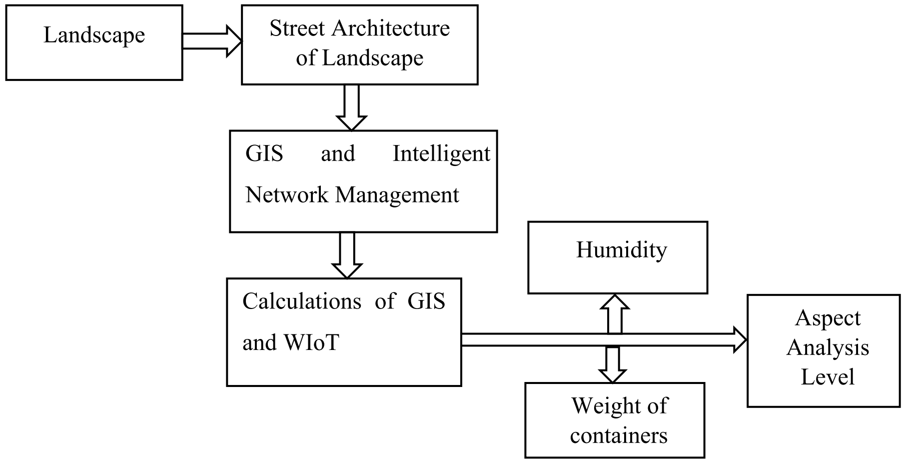

Fig. 1. Proposed system block diagram.

rate of green is increasing year by year at the same time. Still, the construction of green spaces is systematic. The green space, which was not explicitly incorporated into the city planning system and objectively contained lead, has access to the poor connections between various green spaces [16].

Urban landscapes have always been an essential part of the complex urban environment, and their importance undoubtedly increases the infiltration of most of the world into cities. It provides a new conceptual framework for understanding realistic works centered on studying the relationship between natural ecology, spatial patterns, and environmental activity [17].

Natural patterns have become one of the most critical areas of research in natural ecology. Many urban problems are caused by chaos and irrational natural patterns. Therefore, useful urban landscape forms of order play an essential role in sustainable urban development. However, in many cities, current urban landscape patterns have been destroyed. Therefore, research on urban landscape patterns, Dynamic rules and rational protection [18,19] is becoming more critical.

Landscape refers to the placement and size of landscape space patches of different shapes. Landscape pattern analysis is a time-consuming study of landscapes. It is imperative to preserve the structural changes and improve biodiversity spatial lineage and environmental quality. The natural pattern index can reflect the overall landscape, such as elements, the overall structure and spatial distribution [20] of the various aspects of the information, including quantitative indicators [21]. Wetlands are one of the most important natural and ecological sites, with excellent resource potential, ecological activities, and abundant biodiversity. It is considered the most critical place for aquatic bird species to survive the winters. As a very active and essential part of the wetland ecosystem, wetlands play a crucial role in maintaining water play energy flow and environmental stability [22,23].

3. Materials and methods

The drip irrigation system's business plan for landscape crops depends on the determination of irrigation technology based on soil, physiology, weather conditions, and irrigation specifications. In modern drip irrigation systems, the irrigation systems' parameters are calculated in the same way as traditional methods do. Still, they take part in the site that the account needs to be watered down.

$$m = 100\gamma hSm(\beta\text{HB} - \beta\text{min}) \quad (1)$$

where – γdensity of the subordinate soil layer (g/cm3); h – the depth of the calculated dynamic soil layer (m); βHB and βmin – soil moisture, correspondingly, with the minimum moisture capacity (HB) and lower limit of permissible soil drying, % to the mass of absolutely dry soil; S – the ratio of the dampened area to the moistened area, represented in a fraction of a unit.

Fig. 1 describes the soil, crop type and its development as a percentage of βHB to mechanical parts to determine the soil moisture content βmin. The calculated depth of soil layer H varies depending on the phase difference of plant development over different plant periods. Therefore, the quantity and quality information required to determine the irrigation rate described in formula (1) requires additional information.

3.1. *Use of Wireless Internet of Things and GIS in street architecture of landscape*

Wireless Internet of Things and (Geographic Information System) GIS database management, mapping, and spatial analysis functions were beneficial in urban planning areas. The main weakness of the city planning geographic information system is its combination with the city planning model. Wireless Internet of Things and GIS, connectivity planning models have different strategies. They are quickly joined, and fully integrated structures are integrated. Easy architecture-based integration involves importing and loading data between Wireless Internet of Things and GIS and scheduling models. Data was transferred from (Geographic Information System) GIS to an external program for export and execution. The simulation results can be sent back for further analysis. Close integration architecture integration avoids direct data transfer between software packages and requires programming in a Wireless Internet of Things and GIS environment. Today, loosely coupled architectures integrate Wireless Internet of Things with geographic information systems with the most common planning models.

3.2. *GIS and intelligent network management*

From a rigorous telecommunications network perspective (Geographic Information System), GIS has a series of technology, management, business, and strategic applications, which is only discussed in detail here. Only these applications are listed below, using geographic information systems and other cases in terms of telecommunications network management and a range of talking tools and available features. Many characteristic users of the internet are already familiar with at least some and can be useful for telecom network providers. For example, users of MapQuest and similar sites are undoubtedly well-known for their drive-related "network analysis" capabilities based on algorithms designed to determine the shortest path between two locations. This analysis's minimum cost path type is similar to applications in communications network planning and routing capabilities as first

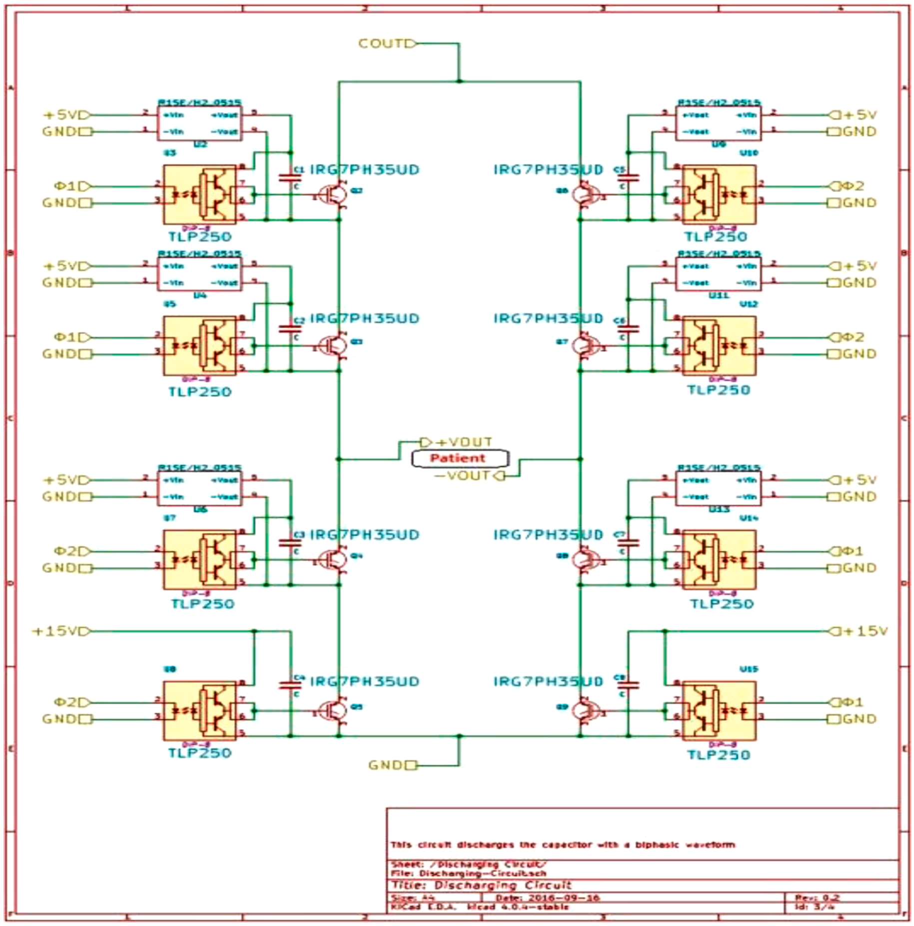

Fig. 2. Landscape design based on GIS circuit diagram.

responder planning.

They are digital network information. Wireless Internet of Things and (Geographic Information System) GIS can be used as a comprehensive database for improved physical asset management provided by carriers, store network location, and attribute data from a network management perspective. As part of the previous section, through "digitization", users can transfer information from paper to GIS processes as a basis for their antenna or satellite imagery mapping infrastructure. Or use a (Global Positioning System) GPS device to approximate network assets' location to collect information. Many carriers are in the process of digitizing their networks with either digitization or GIS.

3.2.1. Calculations

To develop an automated irrigation system in the agricultural and forestry sectors, it is essential to consider that the decision-making system is considered an example of accounting parameters for soil moisture and other parameters.

At a constant temperature defined by the formula below, the amount of water in the soil is correlated with the percentage of sales of the dry matter in the soil and the hole's moisture content.

$$W = m6 - m7/m7 - m8 * 100 \tag{2}$$

Among these, M6-soil moistens the container's weight in grams, M7, the constant weight of dry soil, and the mass of the gram dry container; M8, the weight of the empty container.

Constant mass — a weight of 0.02 g differs from the two controls for soil sample quality. Before drying the sample, weigh 5 hours first in sandy loam or other loamy soil, and then in another loam, 1 hour in fresh pre-sanded loam for one h. Humidity is called weighed moisture, and humidity is determined by the thermos gravimetric method.

Given the deployment of that network, which must start at the mapped location, the key granted by the Wireless Internet of Things and (Geographic Information System) GIS is to deploy the information of the proposed or digitized network asset means in the processing of location-based information notifications, its information can be immediately specified as part of a list of supplier networks. When information is digitized, Geographic Information Systems is a platform that can provide a reliable location and up-to-date inventory of network assets. It provides an opportunity to view and evaluate networks of different scales and all specific assets. The attribute information contained in the GIS can include information about network configuration, usage, life, maintenance history, and maintenance requirements.

3.3. Aspect analysis of Wireless Internet of Things and GIS application in landscape planning

In landscape planning, slopes are not just about the building but also about the impact on the mountains' ecological environment. Broad slopes, poor geological stability of mountains and potential soil erosion led to collapse, soil erosion, and increased runoff. Slope aspect conditions are a significant factor in determining the layout of a landscape plan. To do this, it is necessary to analyze the slope within the planned area. For analysis of Wireless Internet of Things and (Geographic Information System) GIS terrain, flat maps can be constructed based on the planned area's data. It depends on the floor plan and digital elevation model. By observing the terrain, the composition and plans are made for different terrain. A digital elevation model is a model in which data is combined in a digital format with a specific structure. The data represents the spatial distribution of the actual terrain. This is a description of shape, size, and terrain undulations. Analyzing height information in a

Table 1
Professional experience of the respondents.

Percentage of respondents	Professional experience (in Years)
62%	0 to 5 Years
45%	5 to 10 Years
39%	10 to 15 Years
25%	15 to 20 Years
19%	Above 20 Years

field of study has a significant impact on layout and planning. Topographical conditions directly affect the layout of the area, including planned layouts, roads, pipelines and buildings, outlines, shapes, and disaster prevention. Therefore, advanced analysis is an essential factor in construction site selection and planning.

4. Result and discussion

To understand this study, the street landscape design foundations are to be presented. The purpose is to predict the landscape characteristics of street architecture in unknown places. Wireless Internet of Things and Geographic Information System (GIS) development is always based primarily on improving computers and remote sensing technologies. Developing today's technologies and geographic information system tools are continuously getting upgraded to specifications for each field and its usefulness. Nonetheless, ingestion using Wireless Internet of Things and GIS is significantly slower in garden architectures, and utilization is often limited to the essential tasks of mapping and data access. This static nature appears to be a lot of confusion about how to use the tool.

Fig. 2 shows the switch of the classic H-Bridge configuration is implemented with two IGBTs (Insulated-Gate Bipolar Transistor) and their respective driving circuits. The H-Bridge circuit controls

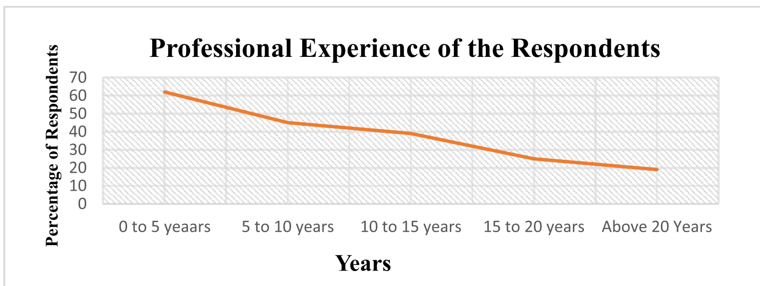

Fig. 3. Professional experience of the respondents.

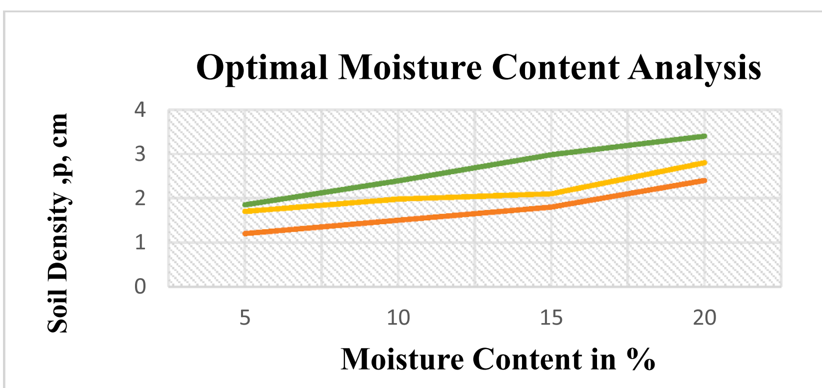

Fig. 4. Optimal moisture content analysis.

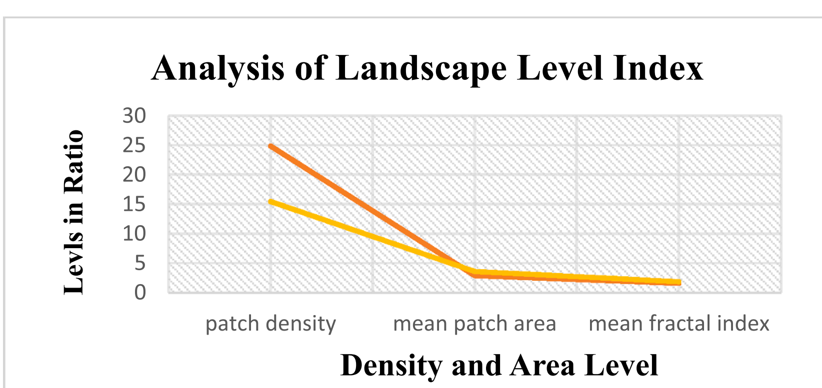

Fig. 5. Analysis of landscape level index.

defibrillation discharges' polarity, allowing to release of poly-phasic defibrillations, which ensures higher resuscitation chances even at lower energies.

Table 1 shows the Professional Experience level analysis based upon the years wise.

Fig. 3 shows that young professionals with 0-10 years of field experience are more aware of Wireless Internet of Things and (Geographic Information System) GIS applications than field professionals. Responses are analyzed to see if the results differ from similar or different results from previous literature studies.

Fig. 4 shows the dependency of dry soil is ensured for moisture concentration: bounded soil and unlimited soil. The allowable moisture content is the acceptable moisture content, which compresses the soil to the number of points specified by the required compression factor. This is shared as the optimal amount of water.

Fig. 5 explains the street landscape structure is relatively simple, and the forest landscape structure should be adjusted to increase the diversity of the forest landscape, especially in the future, compared to the architecture landscape design farm.

5. Conclusion

Landscape design is integrated with feature-detecting, driving, near-communication-driven Wireless Internet of Things and (Geographic Information System) GIS and seamless backgrounds and new features depicted on the internet, enabled by access to new, vision-rich sources. The evolution of street architecture and landscape design relies on user creativity when designing new applications. The Wireless Internet of Things is a superior new technology for influencing new data delivery areas based on the computing resources needed to create evolutionary landscapes and revolutions. Unlike traditional methods, the model considers the physiological parameters of soil, climate and consortium plants to calculate the irrigation schedule in the drip irrigation system, making it possible and influencing factors. It is possible by considering the comprehensive accounting of these parameters that enables landscape irrigation norms to make timing and scientific decisions on drip irrigation systems' operation. This solves the problem of using phytosanitary equipment and monitoring equipment and weather station drip irrigation systems to carry out irrigation programs that will reduce the need for special training and lead to the development of an expert system.

Declaration of Competing Interest

The authors declared that they have no conflicts of interest to this work. We declare that we do not have any commercial or associative interest that represents a conflict of interest in connection with the work submitted.

Acknowledgment

Achievements of school level scientific research project of HangZhou College of Commerce, ZheJiang GongShang University (xj16-28).

References

[1] Q. Huang, X. Wang, C. Lu, Dynamic of forest landscape pattern based on RS and GIS in Meicheng forest-farm, in: 2011 19th International Conference on Geoinformatics, 2011, https://doi.org/10.1109/geoinformatics.2011.5980989.

[2] L. Jin-Hua, Z. Xin-Qi, Research on dynamic change of landscape pattern and characteristics based on GIS and RS in Jinan City, in: 2013 Third International Conference on Intelligent System Design and Engineering Applications, 2013, https://doi.org/10.1109/isdea.2012.274.

[3] M. Bai, The wetland landscape ecological research is based on RS and GIS technology, in: 2014 IEEE Workshop on Advanced Research and Technology in Industry Applications (WARTIA), 2014, https://doi.org/10.1109/wartia.2014.6976375.

[4] Y. Xu, L. Chang, Study on the landscape spatial pattern evolution in Zhengzhou City based on GIS and RS, in: 2011 International Conference on Remote Sensing, Environment and Transportation Engineering, 2011, https://doi.org/10.1109/rsete.2011.5965252.

[5] M.M. Isa, N. Othman, R. Ghazali, GIS in management of landscape trees: determining, monitoring and implementing safety measures on potentially hazardous trees, in: 2012 IEEE 8th International Colloquium on Signal Processing and Its Applications, 2012, https://doi.org/10.1109/cspa.2012.6194762.

[6] R. Zhao, J. Liu, X. Qian, Study on the landscape pattern characteristics of the Qinghai-Tibet Plateau based on GIS, in: 2012 First International Conference on Agro- Geoinformatics (Agro-Geoinformatics), 2012, https://doi.org/10.1109/agro-geoinformatics.2012.6311666.

[7] H. Li, P. Su, S. Wang, W. Yao, X. Yang, F. Meng, N. Yi, Prediction of landscape dynamic changes in Shangri-La county based on the Markov process model, in: 2012 IEEE Symposium on Robotics and Applications (ISRA), 2012, https://doi.org/10.1109/isra.2012.6219187.

[8] Yong, L., Congfu, X., Weidong, C. & Yunhe, P. (n.d.). A GIS-based implemental framework for landscape design. SMC'03 Conference Proceedings. 2003 IEEE International Conference on Systems, Man and Cybernetics. Conference Theme - System Security and Assurance (Cat. No.03CH37483). doi:10.1109/icsmc.2003.1244478.

[9] L. Wang, Landscape restoration regionalization for resource-exhausted coal mine areas based on GIS, in: 2009 International Conference on Environmental Science and Information Application Technology, 2009, https://doi.org/10.1109/esiat.2009.186.

[10] L. Rujing, The research on greening design of urban landscape square in cold city based on GIS technology, in: 2016 International Conference on Smart City and Systems Engineering (ICSCSE), 2016, https://doi.org/10.1109/icscse.2016.0054.

[11] C. Wenwu, M. Xiaoyan, A. Yonggang, Z. Jing, The greenway planning study of Beijing Pinggu District was based on GIS, in: 2014 7th International Conference on Intelligent Computation Technology and Automation, 2014, https://doi.org/10.1109/icicta.2014.192.

[12] N. Satheesh, M.V. Rathnamma, G. Rajeshkumar, P. Vidya Sagar, P. Dadheech, S. R. Dogiwal, P. Velayutham, S. Sengan, Flow-based anomaly intrusion detection using machine learning model with software defined networking for open flow network, Microprocess. Microsyst. (2020) 103–285.

[13] N.N. Anandakumar, M.S. Hashmi, S.K. Sanadhya, Efficient and lightweight FPGA-based hybrid PUFs with improved performance, Microprocess. Microsyst. 77 (2020) 103–180.

[14] G. Aihong, L. Xingli, Analysis of dynamical change of landscape pattern in the Tangshan mining subsidence area based on RS and GIS, in: 2010 Second IITA International Conference on Geoscience and Remote Sensing 5, 2010, pp. 555–558.

[15] P. Su, Z. Guo, M. Xie, S. Ye, D. Wang, Analyzing the changes of landscape patterns in the coastal zone based on GIS and RS: a case study of Nantong, China, in: 2011 International Conference on Remote Sensing, Environment and Transportation Engineering, 2011, https://doi.org/10.1109/rsete.2011.5964928.

[16] C. Wenwu, M. Xiaoyan, A. Yonggang, Z. Jing, The Greenway planning study of Beijing Pinggu District was based on GIS, in: 2014 7th International Conference on Intelligent Computation Technology and Automation, 2014, https://doi.org/10.1109/icicta.2014.192.

[17] C. Meng, Y. Yang, H. Hu, A GIS-based urban landscape study of Lanzhou city, China, in: 2011 19th International Conference on Geoinformatics, 2011, https://doi.org/10.1109/geoinformatics.2011.5981091.

[18] M. Zhang, Landscape pattern dynamics and environmental impacts based on RS image, in: 2009 Second International Conference on Environmental and Computer Science, 2009, https://doi.org/10.1109/icecs.2009.28.

[19] M. Lingjun, Z. Limei, F. Zhongke, L. Fang, G. Jinying, Study on the landscape pattern evolution of Geyucheng Natural Reserves, in: 2015 4th International Conference on Computer Science and Network Technology (ICCSNT) 1, IEEE, 2015, pp. 1571–1573.

[20] X. Lang, C. Xiaoxiang, L. Xiaolan, H. Zhijian, Changes in landscape pattern of wetlands in the Pearl Rivers Estuary in the past two decades, in: 2009 17th International Conference on Geoinformatics, IEEE, 2009, pp. 1–5, https://doi.org/10.1109/geoinformatics.2009.5293394.

[21] J. Kuna, Ł. Kowalski, Exploring a non-existent city via historical GIS system by the example of the Jewish district "Podzamcze" in Lublin (Poland), J. Cult. Herit. (2020), https://doi.org/10.1016/j.culher.2020.07.010.

[22] P. Ravi, Z. Najm, S. Bhasin, M. Khairallah, S.S. Gupta, A. Chattopadhyay, Security is an architectural design constraint, Microprocess. Microsyst. 68 (2019) 17–27. ISSN 0141-9331.

[23] G.S. Tewolde, D.M. Hanna, R.E. Haskell, A modular and efficient hardware architecture for particle swarm optimization algorithm, Microprocess. Microsyst. 36 (4) (2012) 289–302. ISSN 0141-9331.

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