Application of Network Multimedia Extension Topology Algorithm in Wisdom Cloud Sharing of English Teachers' Scientific Research Platform

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Abstract:Application of the network multimedia extension topology algorithm in wisdom sharing of the English teachers' scientific research platform is studied in the paper. In order to correctly read the original data of the STL model, better use the OpenGL technology to display the three-dimensional graphics, and realize its operation, we must understand its structure on the basis of fully understanding the STL file. This optimization also serve as the basis of the platform design. Specifically, the implementation process of the algorithm itself cannot increase the network traffic too much, and at the same time, it should also try to minimize the time required for discovery, otherwise it will then affect the performance and efficiency of the network as a whole. Then, we use the network multimedia extension topology algorithm to handle this challenge. Furthermore, the English teachers' scientific research platform is designed and tested based on this model.

Keywords: Network multimedia; extension topology algorithm; cloud sharing algorithm; scientific research; smart platform

1. INTRODUCTION

There are many kinds of algorithms for realizing topology discovery, but in terms of its performance and efficiency, there are only two index parameters to judge its pros and cons: network load and discovery delay [1, 2, 3].

Specifically, the implementation process of the algorithm itself cannot increase the network traffic too much, and at the same time, it should also try to minimize the time required for discovery, otherwise it will then affect the performance and efficiency of the network as a whole [4, 5, 6]. For simple models, such as cubes, cylinders or spheres, they can often be modeled according to their analytical expressions, and a slightly more complex combined model can be constructed with the help of Boolean operations, but this method is not suitable for the processing arbitrary structural models, because any Surfaces cannot resolve expressions as listed aspects [7-11].

(1)Each time an intersection is found, two nodes of the intersection type are established and inserted into the linked list of the region and the polyline respectively. Then, the pointers of these two nodes are stored in the intersection list on the edge of the core region in turn. Secondly, find the intersection between the polyline and the polyline. In the same way, each time an intersection is found, two nodes of the intersection type are established and inserted into the linked list of the two polylines respectively [12, 13]. Then "judg whether the intersection is in the area. If the intersection is an intersection inside the area, store the pointers of the two nodes created by it in the intersection list inside the area in turn, otherwise store it in the intersection list on the edge of the area.

(2)From the established area on the edge of the sequential took out a nodes in the node list, if the node is in the area on the list of on list as the starting point of the nodes along the area according to clockwise traversal, as every meet next convergence by the best route to select the best path , then

jump to this path to proceed clockwise traversal, until back to the starting point for that completed a child area and stores it. In the figure 1, the extraction topology is defined [14-19].
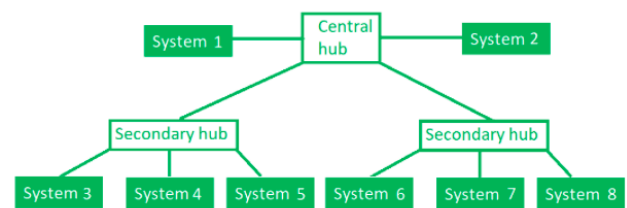

Figure. 1 The Network Multimedia Extension Topology Framework

Based on this model, the designed multimedia framework will be considered. At present, there are many methods of video image acquisition, mainly including two categories: (1) Automatic image acquisition: using a core dedicated image acquisition chip, automatically completes image acquisition, frame memory address generation and image data refresh; in addition to setting the acquisition mode In addition, the main processor does not participate in the acquisition process; the characteristics of this method are that the acquisition does not occupy the time of the CPU, the real-time performance is good, and it is suitable for the acquisition of moving images; (2) processor-based image acquisition: using general video the A/D converter realizes the acquisition of the image, but the automatic acquisition of the image cannot be completed. The entire acquisition process is completed under the control of the CPU. The CPU starts the A/D conversion, that reads the A/D conversion data, and stores the data in the frame memory.

With these general theoretical basis, the novel network multimedia extension topology algorithm in wisdom sharing of the English teachers' scientific research platform is studied in the paper. The rest of the paper is organized as follows. The section 2 reviews the related work; the section 3 discusses the

proposed model; the section 4 gives the simulation and the section 5 provides the conclusion.

2. LITERATURE REVIEW

The reviewed in focused on the extension topology algorithm details. The distributed database stores the topology information of the managed network and other important information of the network [20, 21]. The network topology information is the cornerstone of the whole system, which provides the user with a description means to describe the operation object [22, 23]. At the same time, the important network information it stores can be used to realize the distributed management platform of the WAN. When traversing along an area or polyline, we should choose the best path when we encounter an intersection [24, 25].

This path should ensure that the core traversal direction is clockwise, and the sub-areas obtained by traversal do not contain other sub-areas. This method of direct division of complex models is mainly divided into cell scanning method based on AutoCAD and VBA macro language, solid division method, etc. and the various division methods based on ray intersection. The cells are scanned row by row and column by column, and the volume of the intersecting part with the solid model is compared; the solid model first cuts the solid model, and then compares the size with the cell grid; although the VBA-based subdivision method is relatively simple, popular It is easy to understand, but it can only be realized by software such as AutoCAD, so the scope of application is limited. The division method based on the principle of ray intersection is another kind of commonly used methods, such as vector operation, winding number algorithm.

The odd or even number of intersection points can be used to determine whether the ray intersects with the triangular surface element, which can achieve the better segmentation effect. Among them, the winding number algorithm is judged by the sum of the included angles of the connection line between the vertex of the triangular surface element and the test point. The general algorithm is designed considering the requirement that all MIB nodes can be detected, but this also brings the expansion of the search range, which affects the efficiency of the algorithm.

In order to improve the convergence of the algorithm, we can set the search depth or manually specify the jump number to limit the search.

3. THE PROPOSED METHODOLOGY

3.1 The Network Multimedia Extension Topology Algorithm

The STL file format is a file format that expresses solid surface data with triangular patches. It is a collection of several small triangular patches in space, each triangular patch is represented by three vertices of the triangle and a normal vector pointing to the outside of the model. Due to the defects of the STL file format itself and the errors in the data conversion process, there are also many defects in the STL model, such as general loopholes, cracks or overlaps, vertex misalignment and normal vector errors. These will bring a lot of the trouble to the subsequent processing. Therefore, it is necessary to check it for data errors and make corresponding fixes [26-28]. A common method is to use a special error correction program for one or several specific defects of the STL file. We can consider that in the three-dimensional model formed by STL file, if a triangular patch with normal vector error is found, it will be deleted. After deleting all triangular patches with normal vector error, the shape of the holes left is

the boundary formed by the triangular patch with normal phasor error. Obviously, these holes cannot be closed or intersected with one or more edges. In other words, they either do not intersect or intersect at a limited number of points.

The topology repair function is only performed when a link down occurs. When a link is disconnected, if the disconnected link belongs to the link in the ring, the set division will not be then affected, and the network layer communication between nodes will not be affected. If the link is disconnected so that 1 set is separated into 2 sets, it is necessary to perform set merging. From the perspective of network management functions, all functions of the network management must be established on the premise of realizing the network topology diagram. From a technical point of view, the network topology based on mobile agent includes all the basic operations of the network management based on mobile agent, such as mobile agent derivation, migration, replication, destruction, etc.

According to the characteristics of the mobile agent, the network topology algorithm is divided into three parts. One part is the discovery of the core network topology, and the discovery agent is designed to realize the rapid discovery of network nodes by discovering the flooding of the managed network by the discovery agent. The topology information is sent to the network management station, and the application server at the network management station uses the topology information to generate a network topology map. For this function, a report agent is designed. Using random clock signals to introduce non-deterministic mechanisms on smart cards is an effective way to prevent side-channel attacks. Of course, this countermeasure also needs to incorporate random timing signals to introduce random switching states of idle periods to prevent reconfiguration of the clock signal. In the figure 3, the topology pattern is defined.

3.2 The Multimedia Extension Topology Qlgorithm in Wisdom Cloud Sharing System

Promote the construction of the unified public area video surveillance. In order to alleviate the problems of difficult interconnection, less sharing, and repeated construction of the video resources in the public areas, a guideline for video construction in public areas is formulated to open up the link between the e-government extranet and the public security video network. The GBCP model takes P as the inner point and G, B and C as the outer points to form a harmonious triangle, which reflects the complex dynamic harmony of the urban life. Based on P, that is, the public space and also environment constructed by the urban ecological environment and the built environment space, and around the provision of urban public facilities and various urban services, construct the government governance system G, social production space and its social community B, community living space and Community Community C, build a core complete dynamic circulation system covering all aspects of urban governance, fully activate the vitality of the government, the market, and the society to achieve urban mass creation and co-governance.

Smart city governance is to explore innovation 2.0 through digital modeling based on the scientific research on urban complex systems, urban digital transformation based on the GBCP model, and smart living laboratories in the new data environment. The service content mainly includes GIS service, MIS service, the OA service and other public services. GIS services include electronic map services, image services, GIS function services, OGC standard service

engines, etc.; MIS services include file management services, general financial management services, the engineering management services, human resource management services, business management services, and multimedia management services, etc.; the OA Services include workflow services, OA office collaboration services, document circulation services, etc.; public services include security authentication services, unified authorization services, etc.

The file where we save the topology information of the triangle element actually uses the vertex number in the vertex file to replace the representation of the vertex coordinates of the triangle element in the original STL file, the order remains unchanged, and of course, the out-of-unit normal vector is removed. Accordingly, we consider the listed aspects.

(1)ARM refers to a 32-bit single-chip microcomputer. Due to its structure and calculation speed, it is currently suitable for transaction processing or low-end applications, from mid-to-high-level industrial control to general simple voice/picture processing.

FPGA as the new FPGA can construct a soft core with internal multipliers/registers/memory blocks. For example, if an ARM is constructed, the functions of the ARM can be implemented; if it is constructed as a DSP, the functions of the DSP can be implemented.

3.3 The English Teachers' Scientific Research Platform

In the new era, the network big data technology and the internationalization of higher education have endowed my country's higher education ecology with new characteristics, reinterpreting the meaning and connotation of college English teachers' professional development. How to improve the effect of the college English teaching, make greater contributions to improving the competitiveness of Chinese college talents, how to improve English teaching ability in the era of information technology and big data, rationally reflect on the confusion in teaching, and the theorize teaching experience, all of which require college English teachers have the ability to integrate teaching and research.

System Linguistic Functionalism understands language as a potential system of meaning composed of three pure functions, including conceptual function, interpersonal function, and discourse function. Among them, conceptual function belongs to the function of language to actually describe things; interpersonal function belongs to the function of language in communicating and building interpersonal relationships between people; discourse function belongs to connecting sentences in a discourse by means of language. The function of writing a text, the function of discourse combines conceptual function and interpersonal function with a specific situational context and integrates it into a whole in the text. Scientific research condenses and summarizes the theoretical and regular cognition, and raises it to the principle of regularity to better guide the development of practice. Research and teaching are closely related. Teaching is the foundation of scientific research, and also teaching practice provides rich materials for scientific research.

The teaching insights obtained by teachers in teaching practice are scientifically refined and processed to form research results with universal guiding significance. This is the process of the scientific research. If teachers establish this objectively existing cognitive relationship in their ideology, through the research and practice of the foreign language education theories and methods, they can open up a way to

effectively improve teachers' professional level and professional level. This is the only way for college English teachers to enhance their scientific research ability and with the help of the mentioned plartform, the performacne will be then validated.

4. CONCLUSIONS

Application of the network multimedia extension topology algorithm in wisdom sharing of the English teachers' scientific research platform is studied in the paper. A router is often configured with multiple IP addresses. We also call this kind of node with multiple IP addresses a "multi-homed host". In the previous topology algorithm, a processing queue was specially set for this kind of router, and then set for each router and a unique identifier to identify. Hence, with this theoretical backgroudn, the novel model of the network multimedia extension topology algorithm in wisdom sharing of the English teachers' scientific research platform is designed. In the next stage of the study, we will consider some different applications.

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