Research Article

WAN enabled super system for Nano-biomaterials packages for bio-products and bio-materials Scientists

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Abstract

Recently, in India, many technologies are emerging, one among them is bio-products fabricated using T-CAD simulation software package and also using Virtual carbon nano tube (V-CNT) technology. The properties of biomaterials depend on the materials used in the process, their composition, pH, temperature, concentration etc. Based on the raw materials and the conditions applied, the physico-chemical properties of the biomaterials are varied. This research paper discussed about the super system based wide area network [SSBWAN] technology for biomaterial researchers and users using information technology. It provides basic information and advanced technologies for users. This software can be multilingual so as to benefit scientists, technicians, researchers, students and clients and the web can be accessed easily using internet. This is developed using advanced software tools such as T-CAD, Virtual CNT, MySQL, PHP and Multimedia. This software provides all information regarding the processing of bio materials and it is very essential tool for biomaterial scientists and research scholars.

Keywords: Biomaterials, Virtual Carbon-nanotube, Wide area Network, Multimedia, Physico-Chemicals.

1. Introduction

India is one of the leading national at international level in the field of biomaterial science and technological development. Biomaterials are widely used in many areas including biomedical applications, fabrication of biosensors, bioinformatics and etc.1,2. Some of the biomaterials are processed using different techniques and technologies employing plant and animal wastes. This research article focuses on animal based waste biomaterials, recycling bio wastes, proteins etc.3. At international level the most urgent requirement is to develop, expand and share knowledge on bio materials. New facilities are also available such as video conferencing, one to one and face to face discussion of any topics, like wise we have introduced a novel method in information technology based on super system wide area network(SSBWAN) is used for sharing knowledge, methods, cost, utility, application, availability, development and easy access. This provides reducing pollution, novelty and special features among researchers and scientists.

2. Materials and Method

The proposed super system based wide area network (SSBWAN) have all relevant information to discuss and share by scholars and scientists of biomaterials technology such as methods used, ingredients, instruments, strengths, specific application, availability and cost.4,5. The necessary information is made available based on biomaterials for various biomedical applications. The main objective of this research work is at sharing knowledge, cost, availability and it breaks the barriers among the scientists and researchers. This knowledge base connects through special software developed using
special tools like MySQL, PHP and multimedia for better understanding through SSBWAN. All the scholars, scientists, students, clients have access from their departments, universities, research institutes and laboratories. Figure 1 shows the block diagram of the proposed method.

The information transmitted can be received, processed, stored and retrieved by the users, using the satellite communication system as shown in the figure 2.

2.1 Functions of the satellite communication system, parts wise and its uses briefly explained below:

2.1.1 Satellite: The artificial satellites provide communication links between various points on Earth. Satellite communications play a vital role in the global telecommunications system. Satellites orbiting Earth relay analog and digital signals carrying voice, video and data to and from one or many locations worldwide. Satellite communication has two main components: the ground segment, which consists of fixed or mobile transmission, reception, and ancillary equipment, and the space segment, which primarily is the satellite itself. A typical satellite link involves the transmission or unlinking of a signal from an Earth station to a satellite. The satellite then receives and amplifies the signal and retransmits it back to Earth, where it is received and reamplified by Earth stations and terminals. Satellite receivers on the ground include direct-to-home (DTH) satellite equipment, mobile reception equipment in aircraft, satellite telephones, and handheld devices.

2.1.2 Modulator: A device that performs modulation is known as a modulator and a device that performs the inverse operation of modulation is known as a demodulator. Modulation is the process of conveying a message signal also modulation is the process of varying one or more properties of a periodic waveform, called the carrier signal, with a modulating signal which typically contains information to be transmitted. A device that performs modulation is known as a modulator and a device that performs the inverse operation of modulation is known as a demodulator.

2.1.3 HSSI: The High-Speed Serial Interface (HSSI) is a differential ECL serial interface standard primarily for use in WAN router connections. It is capable of speeds up to 52 Mbit/s with cables up to 50 feet in length. While HSSI uses 50-pin
connector physically similar to that used by SCSI-2, it requires a cable with an impedance of 110Ω.

2.1.4 LH 1000: The Functional Devices wireless transceiver units all operate on a point-to-multipoint architecture, allowing for one Server transceiver unit to communicate to multiple Client transceiver units. The robust transceivers offer great performance, with a range up to several miles. Functional Devices can supply a Server package to Client package configuration that provides a digital input to relay output control without the need of a building network (stand alone operation).

2.1.5 LAN: Local area network (LAN) is a computer network that interconnects computers in a limited area such as a home, school, computer laboratory, or office building using network media.

2.1.6 EIA 530: EIA-530, or RS-530, is a balanced serial interface standard that generally uses a 25-pin connector, originally created by the Telecommunications Industry Association.

2.1.7 Demodulator: A demodulator is an electronic circuit (or computer program in a software-defined radio) that is used to recover the information content from the modulated carrier wave. Demodulation is the act of extracting the original information-bearing signal from a modulated carrier wave.

3. Result

The super system is useful for particular scientists, researchers, students and clients, which can be accessed by WAN on the spot of applications including remote areas having internet facilities. Multi lingual users can also use the language of their choice for which a multi language translation software can be incorporated so that the users can easily use the multiple languages with an account is prepared and can be accessed using the internet. The researchers, scientists, scholars can upload the sample data or model used in their production methodology, research with the features specially added for information. Various materials incorporated in percentage, weights, concentration, strengths etc. can be seen or uploaded after findings or can be downloaded and saved for data retrieval and reference. The flow chart of the proposed software to be developed is shown in the fig1. The software will generate automatically based on the database library, input, output, biomaterial composition used or needed can be evaluated for particular application will also be provided by all data based on the separate ID cards provided by scientists, researchers called Researcher Information Card (RIC). The university or research institutes will provide all the information based on the RIC provided by the researcher. A separate ID number or password is provided for individuals which will not be given to any other person. The RIC is shown in the fig 2. The latest information is available in the RIC that can be shared or used for particular application. The university or the research institute will provide a password number to the users and clients for the user IDs which is unique and relate to their research. Reports can be generated by the universities and the research laboratories based on the application and requirements subject to composition and ingredients. The software will have different level access as per the user application and the clients with all data security and protection. This software can be authorized to suitable authority in order to control, implement, and training for practical applications using WAN.

5. Conclusion

The super system can be used by scientists, students, researchers and clients. This may be linked to universities, Govt organizations, and research institutions and can be accessed through internet centres for planning and forecasting Technology.
Research no of account:
Researcher’s Name:
Biomaterial type:
Biomaterial contents:

Scientist / Research Office

Information regarding Scientists Field

1. a. Name of the research:
   b. Research field no:
   c. Area of field
2. Biomaterial model
3. Thin film / Sheet
4. Contents
5. Compatibility of materials
6. Application / usage / area / field
7. Recommended for the application
8. Based on material analysis
   a. Date of sampling
   b. pH
   c. Total soluble chemicals / acids / binders / thinners
   d. Percentage of Nano particles / materials / Availability
9. Quality / strength / Test made
10. Appropriate application
11. Information of Nano biomaterial
   a. Recommended by authority
   b. Cost of the material
   Rate / sq. cms, / sq metres.
12. Information of disease for which biomaterial is used
   a. Name of the disease
   b. Control of the disease
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