Notice

Date: 18/02/2021

All the students are informed that department of computers is offering a platform to carryout study projects in science & technology. The interested students should inform the undersigned on or before   22/02/2021

This project should be completed by a group of students not more than five.

Principal
Govt. Degree College
PEDDAPALLI-505 172

GOVERNMENT DEGREE COLLEGE PEDDAPALLI
DEPARTMENT OF COMPUTERS
STUDENT STUDY PROJECT
ON BLUETOOTH TECHNOLOGY

CERTIFICATE

Certified that the following students have taken up a study projects on Bluetooth Technology under the guidance of R.sunitha (Lecturer in Computers, Government Degree College Peddapalli)

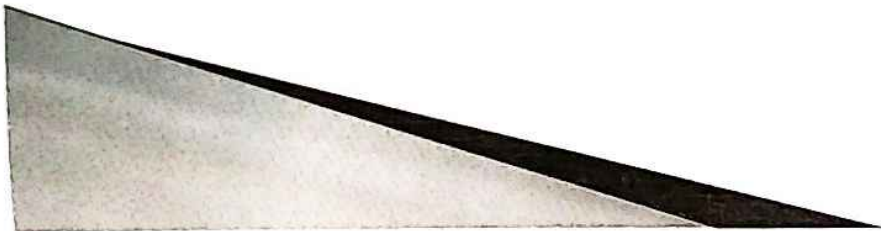| Student Name	Sign
G.LAVANYA(B.COM CA II ND YEAR)	G.Lavanya.
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Guided by

R.sunitha

Lecturer in Computers

Government Degree College Peddapalli

The Project is related to Bluetooth Technology
It Includes

- ❖ What is Bluetooth?
- ❖ Overview of Bluetooth technology
- ❖ How Bluetooth technology works?
- ❖ Bluetooth Applications
- ❖ Advantages of Bluetooth.
- ❖ Disadvantages of Bluetooth.
- ❖ Future of Bluetooth.
- ❖ Summary.

WHAT IS BLUETOOTH?

- 1.Bluetooth technology eliminates the need for numerous and inconvenient cable attachments. 2.This technology enable users to automatically and easily connect a wide range of computing and telecommunication devices.

- 3. Bluetooth makes wireless communication and networking between devices in a small localized area.

- 4. In Bluetooth all the connections between devices are occurring immediately and invisible.

- 5. Bluetooth is actually a standard for wireless communications between devices within a range of 10metres.
- 6. Bluetooth was officially introduced in 1998 and its intended basic purpose was to be a wire replacement technology in order to rapidly transfer voice and data.
- 7. Bluetooth "Special Interest Group" is a group of companies from the telecommunications, computing and networking industries that promotes the development and deployment of Bluetooth technology.

OVERVIEW OF BLUETOOTH HISTORY

❑ What is Bluetooth?
- ‣ Bluetooth is a short-range wireless communications technology.

❑ Why this name?
- ➢ It was taken from the 10th century Danish King Harald Blatand who unified Denmark and Norway.

❑ When does it appear?
- ‣ 1994 – Ericsson study on a wireless technology to link mobile phones & accessories.
- ‣ 5 companies joined to form the Bluetooth Special Interest Group (SIG) in 1998.
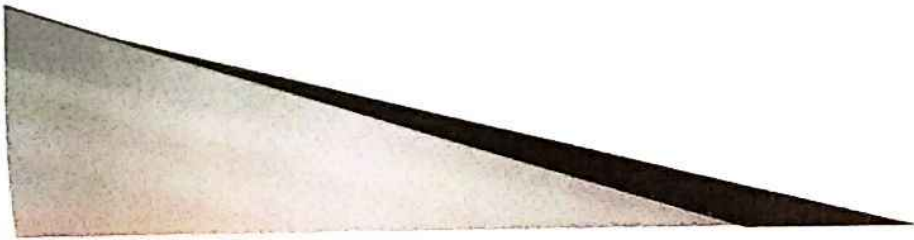- ‣ First specification released in July 1999.

HOW BLUETOOTH TECHNOLOGY WORKS?

- 1.Bluetooth is a high-speed, low-power microwave wireless link technology, designed to connect phones, laptops, PDAs and other portable equipments together with little or no work by the user.

- 2. Unlike infra-red, Bluetooth does not require any line-of-sight positioning of connected devices like Infra-red.

- 3. Two Bluetooth products can exchange their addresses and capabilities just after coming within the range of about 10metres.

- 4. The radio operates on the globally- available unlicensed radio band, 2.45 GHz and supports data speeds of up to 721 Kbps.

- 5. The Bluetooth modules can be either built into electronic devices or used as an adaptor. For instance in a PC they can be built in as a PC card or externally attached via the USB port.

- 6. Connections can be point-to-point or multipoint. The maximum range is 10 meters but can be extended to 100 meters by increasing the power. Bluetooth devices are protected from radio interference by changing their frequencies arbitrarily up to a maximum of 1600 times a second, a technique known as frequency hopping.

- 7. The Bluetooth specification targets power consumption of the device from a "hold" mode consuming 30 micro amps to the active transmitting range of 8- 30milliamps which is less than 3% of the power used by a standard mobile phone. The chips also have excellent power- saving features.

- 8. Automatic communication between various devices within a small area makes it possible to provide unique and innovative services to a professional worker.

- 9. Piconet is the important factor in Bluetooth connectivity. It is simply a collection of devices

BLUETOOTH APPLICATIONS

- 1.By installing a Bluetooth network in office you can do away with the complex task of networking between the computing devices. Each Bluetooth device could be connected to 200 other devices. It supports both point to point and point to multipoint connections.

- 2. The Bluetooth technology connects all your peripherals wirelessly. Connect your pc or to printers , scanners and other devices without the trouble of cable attachments. You can increase your connections by connecting your keyboard wirelessly to your computer.

- 3. If your digital camera is Bluetooth enabled, you can send videos, images from any location to any location without the problem of connecting your cameras to the mobile phone.

- 4. Connect your wireless headset to your pc to your mobile phone or mobile computer to keep your hands free for more important tasks when you are at the office or in your car.

ADVANTAGES OF BLUETOOTH

- 1. Bluetooth Devices are Wireless In addition to improving safety as a result of eliminating the clutter of wires and associated hazardous connections, Bluetooth wireless technology also offers you many convenient advantages.

- 2. Bluetooth Technology is Inexpensive Bluetooth technology is cheap for companies to implement, which results in lower over- all manufacturing Costs. These savings are then passed on to you, the consumer. The end result: Bluetooth devices are relatively inexpensive.

- 3.Bluetooth is Automatic. When two or more Bluetooth devices enter a range (Up to 30 feet) of one another, they automatically begin to communicate without you having to do anything. The best part is: The devices take care of the entire setup process, and you can go about your business.
- 4. Low Energy Consumption Bluetooth uses low power signals. As a result, the technology requires little energy and will therefore use less battery or electrical power

- 5. Share Voice and Data The Bluetooth standard allows compatible devices to share both voice and data communications. For example, it is probably no surprise that a Bluetooth enabled cell phone is capable of sharing voice communications with a compatible Bluetooth headset , however, the same cell phone may also be capable of establishing a GPRS connection to the Internet. Then, using Bluetooth, the phone can connect to a laptop.

- 6.ACCESSIBLE FROM ANYWHERE Though Bluetooth has a specific range but we can access it up to very wide range and can also use it from an unanticipated range of application from mobiles to automobiles. The low power consumption , small size and low cost enables this technology to be used in the tiniest of devices.

DISADVANTAGES OF BLUETOOTH

- ▸ 1. Bluetooth devices can not be connected with more than one devices at a time, as it finds problem in discovering the intended recipient device.

- ▸ 2. Bluetooth has a low data rate(i.e.1 MBps) in comparison to infra-red(i.e.4 MBps).

FUTURE OF BLUETOOTH

▸ 1.Many of us think that Bluetooth is going to be here to stay , but it is wrong.

▸ 2. Bluetooth will be able to complete all other wireless technologies, such as Wi-Fi networking , infra-red data association , etc.

SUMMARY

- A new global standard for data and voice
- Eliminate Cables
- Low Power, Low range, Low Cost network devices
- Future Improvements
- Master-Slave relationship can be adjusted dynamically for optimal resource allocation and utilization.
- Adaptive, closed loop transmit power control can be implemented to further reduce unnecessary power usage.

Report

- The participants have gathered sufficient information to understand the Bluetooth technology it's working and application.
- This project is presented in the class room and the audience could understand advantages and disadvantages of the Bluetooth.
- The students have highlighted the limitations of Bluetooth technology and have apprehended. Its dominance over other wireless technologies.
- It was a meaningful presentation in all and the audience appreciated the work of the students who completed the project in the given stipulated time.