<u>BLOSSOMS VIDEO LESSON TRANSCRIPT</u>

**Is there any connection between Computer Network Topologies and a Malaysian Wedding?**

This is how a typical malay wedding in Malaysia looks like.

As you can see, the environment looks chaotic, busy and noisy. Can u imagine what it would be like to serve food to that big group? Such event requires structuring in food delivery.

This means we need to assign a group of waiters and waitresses to properly deliver the food in order to have a structured event.

Hi, I'm Zaleha Abdullah, I'm a lecturer of Educational Technology at Malaysia University of Technology. Let me explain to you the connection between the malaysian wedding that you have seen earlier with computer networks. The situation at the wedding banquet looks a bit chaotic, for your information that is how chaotic a network within computer can be if there is no proper designs within computer network.

Proper network designs are important in order to avoid data clashing as how we tries to avoid waiters and waitresses  bumping into each other while delivering food at a wedding banquet. There are different computer network design that we can consider or evaluate.
We can visualize this in very different type of network or graph the type experienced by waiters and waitresses in a restaurant or even better a Malaysian wedding banquet.

We use this empty banquet as simulation to the real wedding event.

As you can see here the food delivery is not properly organized.
I need help with structuring the food delivery.
Can u please help me out?

Work with students in your class to come up with some suggestions to help me.

I see you have many interesting suggestion.
Let's see if we have same idea.

And let us see how the arrangement of tables relates to the topology of a computer network.

Topologies of computer network refers the way various components of a network like nodes and links are arranged.

Imagine that the nodes representing tables, links representing path for waiters and waitresses to travel from one table to another, while data representing food delivered by the waiter and waitresses who acted as tokens.
A token is a special series of bits that travels around the network.

There are four types of computer network topologies which are:
linear, ring, star and tree.

A linear bus topology is a network topology consisting of a main run of cable with a terminator at each end. All nodes which can be server, workstations, printer or any peripherals are connected to the cable.

A signal from the source travels in both directions to all nodes connected on the cable until it finds the intended recipient. Since the bus topology consists of only one wire, it is rather inexpensive to implement but, when cable breaks, the entire network will be down.

In the network waiter and waitress moves in speed but for your view
 this is how it looks like in slow motion.

- Teacher will assign a group (group 1) to perform.
- Group 1 have to design their linear bus topology and act it out.
- Teacher will post questions while group 1 act and the rest of the class will have to discuss the answers.

Method 2
Ring Topology


A ring network is a network topology in which each node is connected to exactly two other nodes, forming a single continuous pathway like ring.
It can be visualized as a circular configuration. Requires at least three nodes.
All messages travel through a ring in the same direction either "clockwise" or "counterclockwise". A failure in any cable or device breaks the loop and can take down the entire network.


In the network waiter and waitress moves in speedbut for your view this is how it looks like in slow motion.

- Teacher will assign a group (group 2) to perform.
- Group 1 have to design their linear bus topology and act it out.
- Teacher will post questions while group 1 act and the rest of the class will have to discuss the answers.

Method 3
Star Topology

In Star topology every nodes, which are computer workstation or any other peripheral is connected to central node called hub or switch.

It can be visualized as a hub connected to the spokes in a wheel. The switch or Hub is the server and the peripherals are the clients.

The network does not necessarily have to resemble a star to be classified as a star network, but all of the nodes on the network must be connected to one central device. All traffic that traverses the network passes through the central hub. However, any failure in the central hub will affected the entire network.

In the networkwaiter and waitress moves in speed but for your view this is how it looks like in slow motion.

- Teacher will assign a group (group 3) to perform.
- Group 3 have to design their star topology and act it out.
- Teacher will post questions while group 3 act and the rest of the class will have to discuss the answers.

Method 4
Tree Topology

This network topology is based on a hierarchy of nodes at least three levels. The central 'root' node Which is the top level of the hierarchy connects to other branching nodes that are one level lower in the hierarchy, which in turn connect to other branching nodes, forming a tree structure. Information from the root node may have to pass through other nodes to reach the end nodes.

If one segment is damaged, other segments are not affected. However, as more nodes and segments are added, the maintenance becomes difficult.

In the network, waiter and waitress moves in speed but for your view this is how it looks like in slow motion.

- Teacher will assign a group (group 4) to perform.
- Group 4 have to design their tree topology and act it out.
- Teacher will post questions while group 4 act and the rest of the class will have to discuss the answers.

What if something happen during the serving like

How to deal with this kind of situation effectively? It looks like I need your help again! Brainstorm with your teacher and fellow students on ideas for improving the situation here. You can also move the tables around and try to figure out a better positioning of the tables to facilitate efficient serving.

The graphic animation visualizes how tables' arrangement in the wedding banquet changes for every type of network.

Hi Zack
Nora
How are you?
I intent to appoint you as a event manager for my brother's wedding.
Can we discuss?
Sure, please have a sit
My brother's wedding will be held in a two-storey restaurant which involve 300 tables.
In your opinion, how would you arrange the tables?
Let me see,

Which type of topology would be suitable to represent this case of delivering food to 300 tables in a two-storey restaurant?

Based on the scenario given you will have to design a network for 300 computers. Based on the scenario given, you will have to design a network for 300 computers 300 tables represent 300 computers, while a 2 storey-restaurant represent 2 computer labs located at different floor of a 2 storey building. 150 computers are located in a computer lab at the first floor of the building while another 150 computers are placed in another computer lab at the second floor of the same building. Does it sound complex to you?
Not to worry, your teacher will provide notes related to hybrid topology.
You might want to consider using hybrid topology.

Now, you have learned about five different types of computer topologies consist of linear bus, ring, star tree and hybrid. Topologies remain an important part of network design theory you can probably build a home or small business. Computer network without understanding the difference between a bus design and a star design but becoming familiar with the standard topologies gives you a better understanding of important networking concepts like hub and routes also helps you to understand ways to avoid data crashing let's discuss this further on the importance of our lesson.

Networks or Graphs appear everywhere in everyday life. In traveling from home to school or office in computer networks, in social networks of friends and acquaintances. Can you think of others? The actual design of a wedding banquet is truly complex, it requires all of these network considerations not only what we have done in this video. In addition to waiters and waitresses bumping into each other and adjusting table configurations to minimize the risk there is the issue of travel time efficiency from kitchen to tables and back, and let's not forget seating arrangements at tables. This is huge and requires consideration of who knows who and how they'd like to be seated just like how social networks function. The problem includes the perceived social order of tables which are usually numbered. Table number 1 is given highest rank, table number 20 is far below. So, one has to be careful. Guests are very much aware of the social order associated with table numbers. If the wedding designer messes this up she will hear loud complaints. If you want to learn more about Networks, I'd like to suggest some other BLOSSOMS lessons for you.
Take a look at these suggestions.

The context of this video is in Malaysia however, you are welcome to make adjustment according to your own context custom and tradition.

Please note that this video is about helping students to understand the different types of computer networks and how they functions. In order to relate the lesson to a real-life situation, we use the concept of food delivery. The setting is not only limited to to a wedding event, it can take place for an example in a classroom. You could organize the students chair and table to depict similar concept. However, please make sure that the chair and table arrangement represents computer network examples bus, tree, ring and star.

We hope that you enjoy taking your students on a journey to understand the lesson of computer networks and thank you for viewing this video.