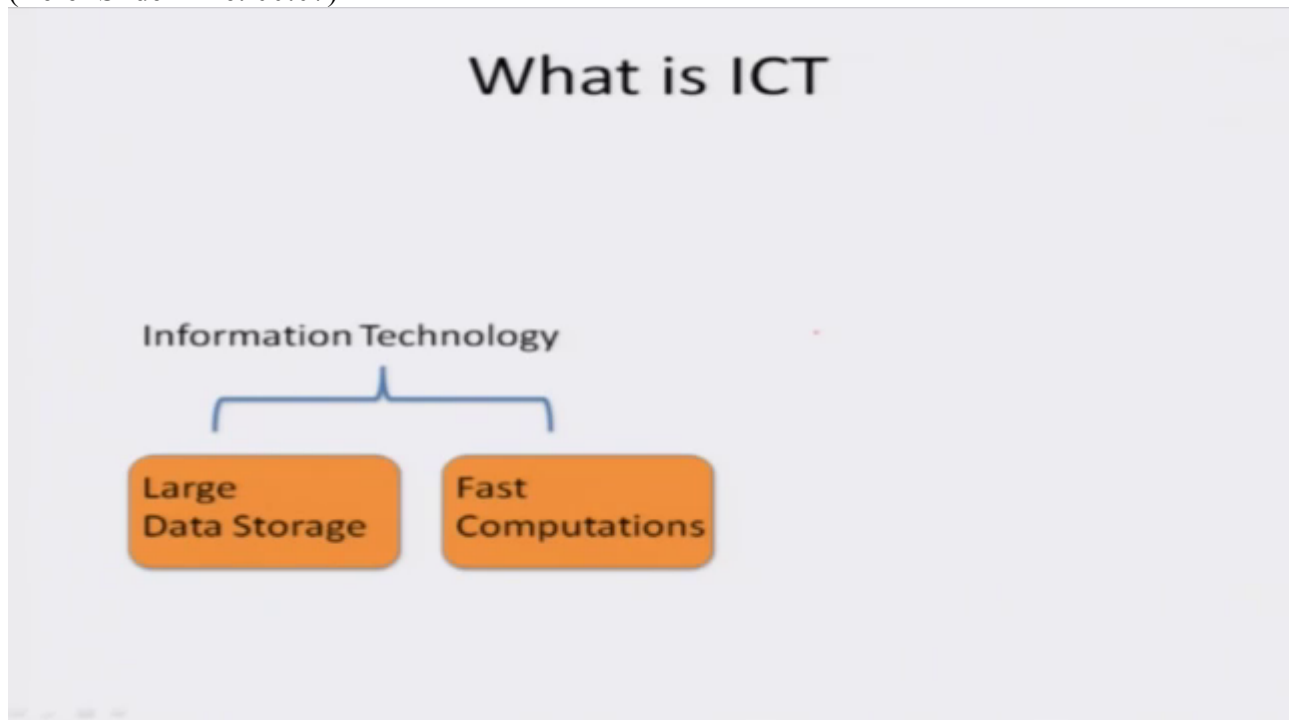


agMOOCs
What is ICT?
T.V. Prabhakar

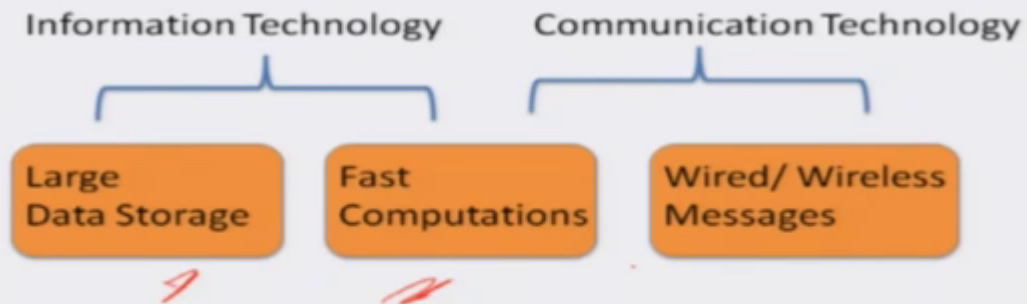
Hi. My name is Prabhakar. I am with IIT Kanpur.
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So welcome to this lecture on what is ICT. We know that a computer can do very fast computations, slightly less known is a fact that it can store large amounts of data and when I bring these things together I can now manipulate huge amounts of data very quickly. I can store large amounts of information I can find relationships amongst them. I can compute interesting relationships that exist between various data items. I can retrieve your history for example. So this is what information technology is about. This is what we refer to as information technology; ability to do fast computations and store large amounts of data and manipulate that.

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What is ICT



Now when you are able to send messages over the wired lines or wireless lines and compute the information that comes over the messages very quickly you are in the communication technology revolution. So now I can keep my data anywhere any amount of data, access it quickly and manipulate it. So ICT is all about just this. Your data is sitting somewhere, huge amounts of data, you can access it, manipulate it and do wonderful and interesting things with it. All this happens with the help of computers, right? For example the cell phone that you have is actually as powerful as a desktop just a few years back.

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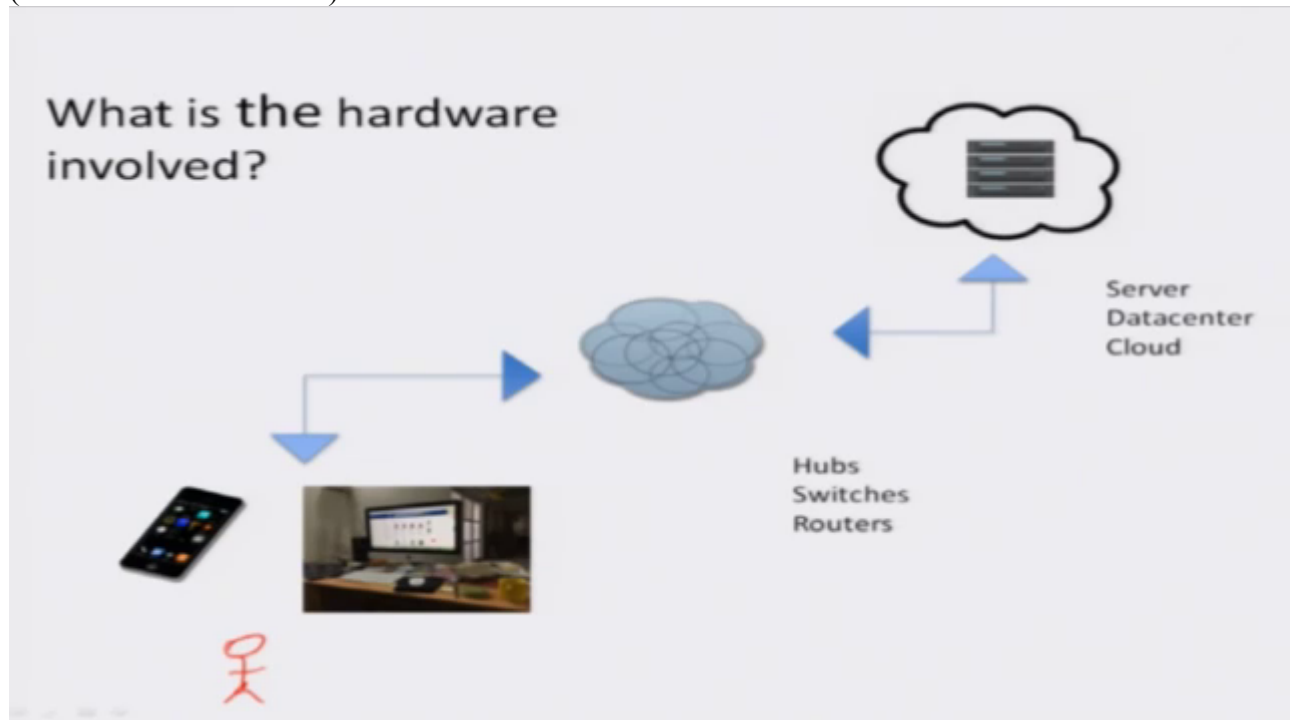
Typical ICT application

- Buying a cell phone
- Go to your favorite ecommerce site
- You login
- Choose the Phone
- Make the payment
- Logout

Let us see an example of an ICT application so these things become clearer. Let us say you want to buy a cell phone. What do you do you go to your favorite e-commerce site. So what's

your favorite e-commerce site? Have you bought online? Try it sometime. There you login to the site and let's say choose the phone that you want to buy. It is such a large number of them. It is very very difficult to make this choice. Then you do the payment. There are many different ways of making the payment. You can use your credit card. You can use net banking. You can do debit cards and so on, and then finally logout. So this is how you can buy a phone over the internet, e-commerce as they call it.

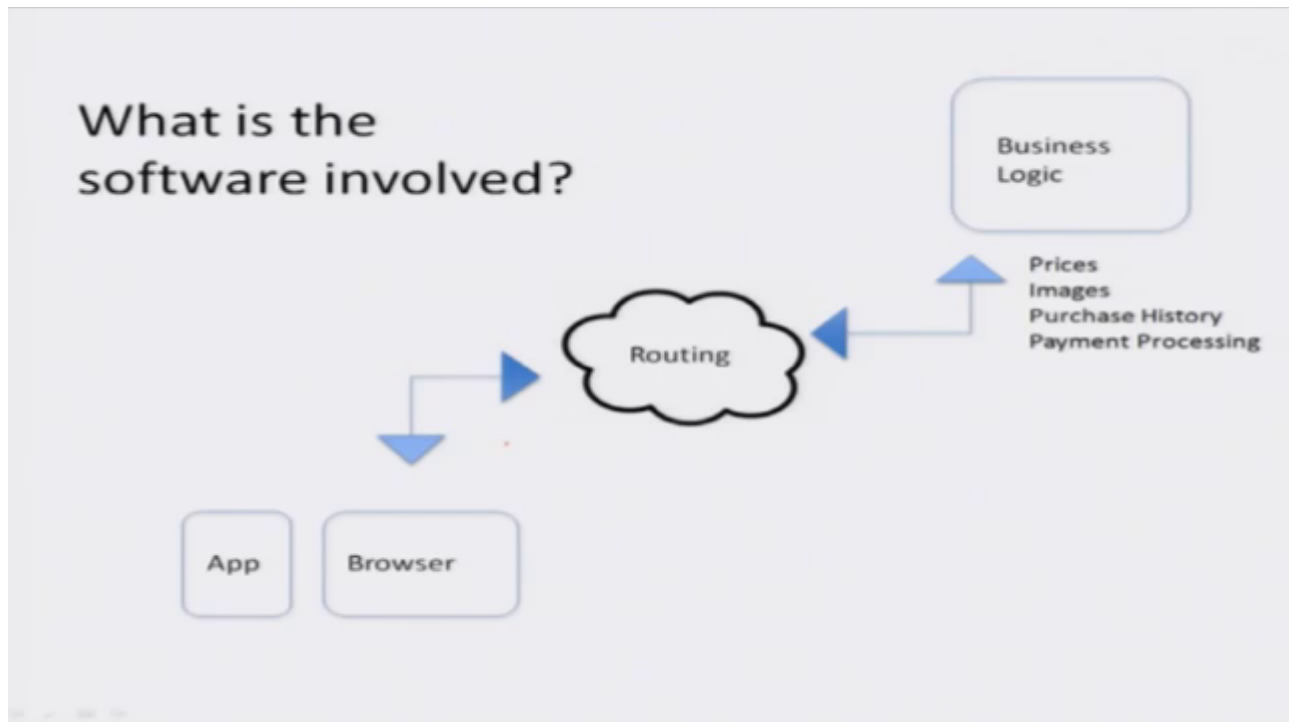
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So now let us see what is the hardware involved? So you are sitting here accessing the site over a desktop computer. This is my desktop or over a smartphone and you communicate to the e-commerce site through the internet. This is what I am represented the internet as. And the servers of the e-commerce, site is somewhere in the world, we do not really know. In fact e-commerce sites have huge number of servers and your particular request on which server it is being processed is actually very difficult to find out.

So if you look at the server it is sitting in a data center in the cloud. If you look at the internet your communication is routed through hubs and switches and so on so your request goes through what is called HTTP to the server, it gets processed and the request comes back to your client that you are using. So this is a hardware that is involved.

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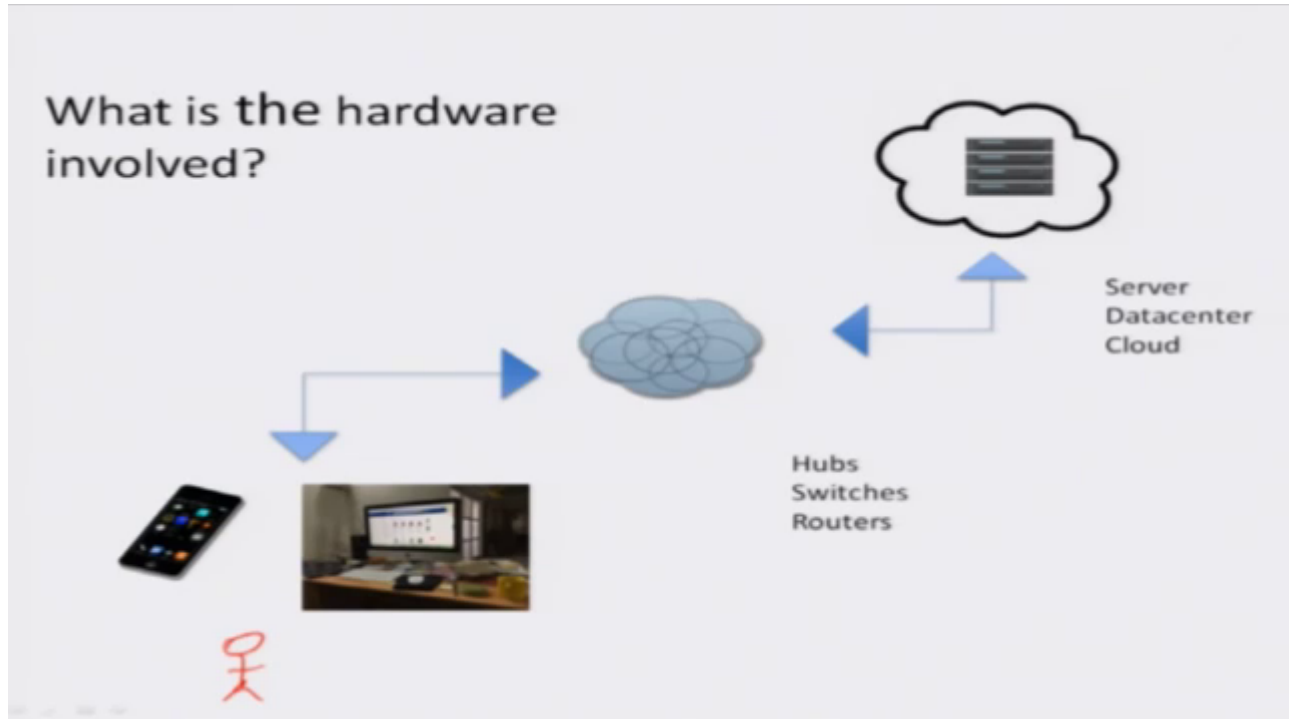


So if you want to look at a little more about what is the software, so you are accessing the e-commerce site using a browser perhaps -- what is your favorite browser? What are the browsers that are there anyway? Or maybe a app typically app is an application that is running on your phone. So you can connect to your e-commerce site using that application.

So this is the software that is running on the client side. And inside the Internet, the requests, the messages get routed and when it goes to the server it executes what we call business logic, a business logic is a generic term to cover the actual activity that happens when a request comes. It has to go and figure out what your request is all about, bring out all the phones and show it to them, when you choose one of them it has to mark that and tell you the price of that and then when you actually make the payments, consolidate the payments, go to the payment gateway and make it happen and send you acknowledgments that it has happened and so on.

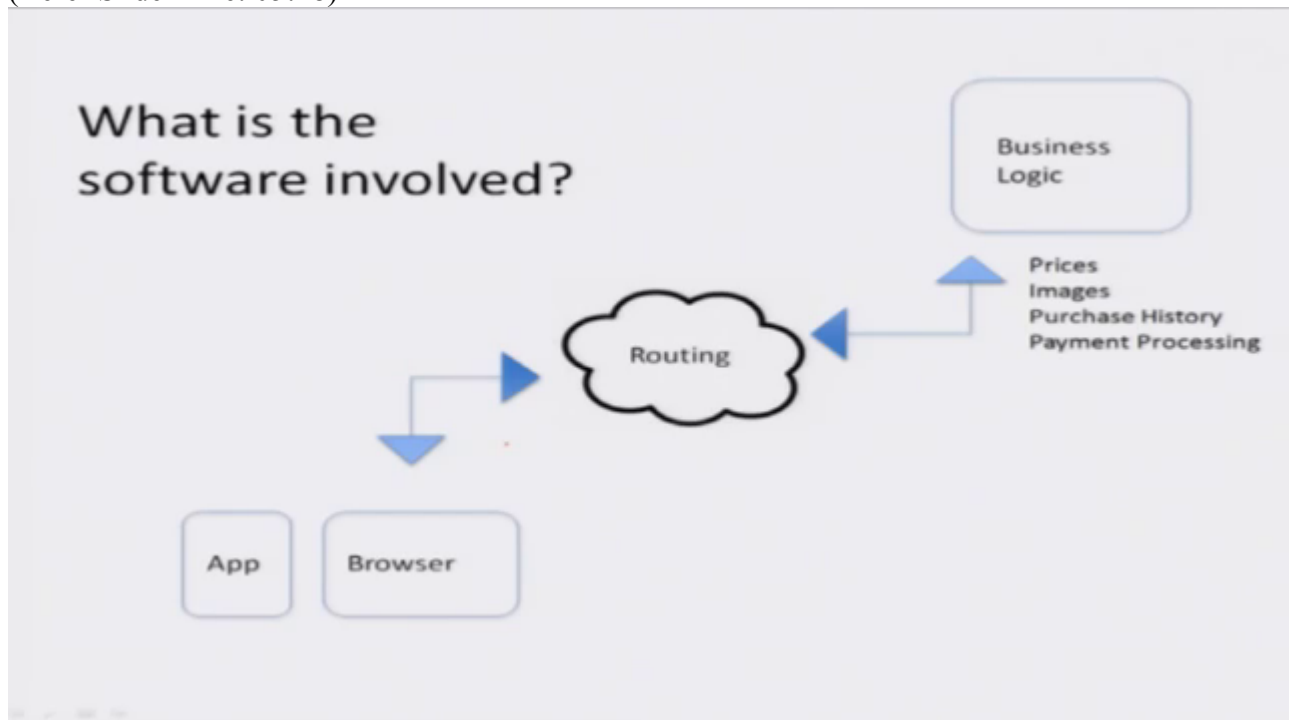
So it's keeping information like prices, images, purchase history, you know you might have bought other things before and or some people might have bought some other things and you may want to know who is buying what. They won't tell you the names of the people but they can tell you purchase history, person who has bought this has also bought this, it may be of interest to you as well that is what I mean. Then it has to do payment processing and so on, so all this data or information as you could call it is sitting in the server and its being managed by the business logic.

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So an ICT application involves accessing some services using some hardware. So in this course we are going to look at both aspects. We are going to look at some aspects of the hardware. We are going to look at what are the kinds of hardware that there is like we will look at what is the smartphone. What is inside a smartphone. We will see what is inside a computer. We will see what happens in the network. We will read about cloud and a little bit about servers.

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And then we will talk about the software, for example, on the client you may be using an Android operating system. So what is Android? And we will look a little about how is data

represented on the server, how do you manipulate that, all about data management and content management and so on. So this is what this course is about. Thank you.