Hello and welcome students toHCI in Unit 3. We are going to study models and theories and this module slide is going to explain to you what is hypertext multimedia and the World Wide Web. So basically when we talk of hypertext, these are the components that I'm going to cover. Graphics audio. Finding things how we can navigate through the World Wide Web, and finally, what are the various web technology? An issues that we face? So at the end of this you will be able to understand hypertext multimedia all the ways in which we can do searches and the working of web servers and climbs. So when we talk of hypertext, hypermedia, hypertext multimedia and the World Wide Web. We will be understanding what is the meaning of hypertext. So let me take this hypertext in more detail. So when we talk about text, many times when the text is displayed, we kind of tend to navigate 1 page to another way. So when you are taking one page,then going to the next reading, like the help of a book that is called basically as linear progression. But whenever we don't read in a sequence, that means when we find something interesting on a web page. Thanks to something called as hypertext, we are taken from one place where we were. We were taken. We are taken slowly into

something else or the other, sothis is normally happening when we visit webpages, so web pages are not just linear, but they incorporate a lot of hypertext now. Another interesting thing happens when you interact with hypertext. These different hypertext may use different media, so you could visit a web page which has just plain text.

You see one nice video there.You click on the video so that is another hypermedia which you use. You click on the video, there are still more videos which open or they may be just audio which is being played,which in turn May Redirect you to some graphic or animation. Soif you see when we talk of hypermedia it's not anymore about text but it is about photographs. It's about videos.It about sound a lot of things happen now talking from the HCIpoint of view how we navigate. Through all these things from where we have reached how we have come is where links hotspots highlights. All these things help us in knowing where we're at the same time, time, location of these videos. Whenwe saw it, what duration all these things are important, so incorporating all these media into one thing is called as multimedia. When we add a little bit of motion to images, it's called Animation. Animation

need not be the full frame.

But you could just play around with peoples faces. You could

use parts of their body hand or something like that to show or

move them in a particular fashion with respect to time.

Have some kind of live displays,have some kind of cursors being

played or some busy cursors are glass spinning progress bars.

All these come under the category of animation. We know

animation has got various applications for education,

training and more importantly.

They are finding a very important area to be used and

that is in data visualization,so we know that a picture is

worth 1000 words. So this is way if you are able to analyze the

data in show. This is the app.This is the drop with when it

comes to weather when it comes to batsman playing when it comes

to where the ball should hit the bed. All these things this is

coming under the main domain of data visualization. So use

animation to interact with the system so that a person knows

what is in store for them.

Video and audio is also a very important component of

multimedia. At the same time,it's not or no longer about,

just shooting just about recording. But we have to do a

lot of editing, which is therein terms of maybe removing noise

in terms of syncing the videomotion and audio which is there.

All these things have to be done when we talk of audio and video.

We've got various formats that come into play, whether they're

MP3 players and so on.

There used to be a time where we would use CDs and DVDs, so

that is a way in which we store this information. So when it

comes to audio we've got various formats like media, MP3, some

issues with regards to noise inthe background, music dragging.

All these issues have to be solved when we do audio editing.

Same way when you use animation and video. Also you have to use

powerful tools and software so that you are able to.

Work with this with these powerful tools and then normally

the success nowadays of various movies or TV serials. Or these

all these arcade games with very new play, gaming and all these

things are all thanks to animation and video. So the

thing what I'm trying to tell you if we have to harness the

full potential of this technology using it. see I we

have to try to find out means through which we will be able

to. Interact with them using our standard interfaces using a

joystick using a mouse. Nowadays We use voice recognition. We can

use our fingers. All these are powerful tools which we need to use. So definitely all these things are used by filmmakers to artists, writers and all of them. Now when we talk about computers, do you think that computers only have to show things? No, it is up to us as programmers as people who use these machines to do the things.

So the doing of things takes place when we do good interface designs. When we write good code, this is where the do things comes into play. So we have to act as if we ourselves are inside that computer. Anemulate the human brain. So if someone wants to search the HCIbook, he's not only searching for books, but probably he or she wants some slides he or she wants some exercises to practice. So all these things we have to make them show up when a person searches for content. If a person wants interaction interactivity, then we have to build in the form of having puzzles in the form of giving them quizzes in the form of flash cards. Flip books. All these things will help in interactivity. Ultimately, we use computers to benefit human day-to-day life, so even when we are adapting this technology for our regular Commerce or day-to-day applications likebuying, selling of things and E

Commerce site is definitely the place to go. Where in all these things have to be shown?

Open, let me take an example.Whenever you go to any Commerce website, maybe to buy a mobile phone or to buy a nice pair of shoes you have got this rollover which is there. It shows you you know how big what is the pattern on the shoe, what is the patterns or the stripes? Which Are they? What colors you can get. So all this is a way in which we need to adapt. So we need to think to make the computer think like human an make it possible for people to interact with it. How do we deliver this technology earlier?

Till the 1990s and early 2000swe should give it on hard disk or we used to give it on CD ROMs DVDs. Now this thing is something which is outdated and all this information is available on the website in the form of web pages and there is a lot more thing which is happening also at the same time multimedia which we use we can access it on mobile phones. We can use it on laptop. Computershare personal digital assistants so there is no dearth.

Of any device which does not play multimedia, it depends on who and where you're using. You Go to airport kiosks, you go to

railway stations. You will find a kiosk center which will guide you of how to get there. So These are various areas where in you will be using multimedia hypertext at the same time, let's take a look at some more application areas with reference to HCI in HCI we have got something like storyboarding which tells you that this is a story this is from. Weird how the app opens to how the app is performing the functions to. Maybe how the order is displayed. All this entire sequence is done in the form of storyboards. Then in software engineering you've studied. What is the meaning of prototyping? So exactly theseHCI tools should help to produce these things for you. It should help you in creating these mockups of storyboards. These Mockups of visualizations of all these application interfaces that you want to do. That you want to design some documentation, definitely, which is a regular part, also has to be supported at the same time. We found a huge advantage of using this multimedia hypertext and the World Wide Web ineducation. It helps us not only by just giving a linear, linearway of transferring information by just clicking clicking on slides, but you can have these video recordings which are there which you can view at your own

pace. Then at the same time you upload all your multimedia presentations in something called as a learning management system like Google Classroommodel. So this is a huge area wherein we can use multimedia.

Now when you want to search for this information on the Internet, you shouldn't get lost in hyperspace, hyperspace. So how do you go about finding four things? One thing is you can go about sequentially, but it takes time. So the best thing to do is to go for a nonlinear structure,which is very powerful, but it is very confusing because even if you just give a Google search for an HCI textbook, so many things come up so at the same time when these things are produced before you.

It should be in this in the sense that you shouldn't get lossed totally in this information, which is given an you shouldn't be confused, so it should give you when you search for maybe HCI information on communication models. Then these modules models which I have thought D should come up, so it is not an easy solution and we need to search or help these people to see that we do not confuse them and we do not make them lose in cyberspace.

So the best thing to do is to design one structure. So what

you can do is when you are preparing information to be searched or when you are displaying on the Internet, you go in for a structure so you will decide that this book is there. This will have chapters.This will have exercises, it will have nodes. It will have some more references, so you give a structure, so give some tasks and then use it according to what the person wants. So Automatically when the person says books, that is when the books with regard straight CI comes, he or she says.

Yep, it is. All those PPT's come, so this is where we are using an indirectly a nonlinear way of going about doing things at the same time ensure that some traces there which we call it as sent. So if a person wants to get back to REI, search that thing which was there the other day. How do I go back to that? That is where navigation plays an important role. So give them Maps, give them recommended routes, give them a level of access wherein they can decide

how much. In depth, they want togo where they want to search. So one very common example isGoogle Maps, so some may wish to see the terrain. Some may want to see only the traffic which is there, so give people or the shortest route level of excess

so some of them have used Googlevery extensively so they are the high end users. They will want some more features, so according to your type of user you should provide also with navigation at the same time it always just like how I had explained to earlier. It helps to store history or to leave a scent, so see to it that when you design browsers you take care of noting that which is what is the history which people had gone through. Allow them to add to favorite stars. You can use bookmarks, frames. All these are ways in which you could do at the same time at your end using dices directory search so that all these things people can easily search and hunt out for the data that they want. If the search is very complex, use Boolean search. You use words like you're searching for an engine an not a car. Use these kind of recommended combinations so that your search becomes effective. Let's say for example, if you want to search for a particular book, you're doing a literature or you're doing a research literature in bibliography. When we prepare in this bibliography, all other peoples papers are there. But When you cite, you're actually citing forward in time. So this is a very good application of using this hypertext channel in,

though. Real World when we talk about web technology and issues,

it's very important for us to know that the web is keeping on

changing. It's keeping an evolving. We're using XML. We

use web servers and clients wherein you have these browsers

who are accessing your web pages and these web pages then come

onto your onto the client machines at the same time. When

these requests are being made,we have got a lot of bandwidth

issues when, which means how much of data can be sent, how

fast it can be sent.

Without any errors, so bandwidth, latency, jitter's,

these are issues which we have to deal with. The connection

time big files many times don't get downloaded very fast, so we

need to send them in chunks,then at the same time when there

are delays in the networks, we should see that these packets

all assembled sequentially at the client server end, so we do

not lose any such packets. Soall these feedback feed through

are very important. And now we've gone to another stage

totally. We've moved from something called as.

The Internet to the web application available on our

phones so it essentially also works in the same way. Only

thing is, this whole stack,whichever is there, on our

servers, all this gets piled up onto our mobile phones by using something like a web on the phone app. So that is how we are able to access multimedia content everything on our website on our mobile phones. Soto conclude this module I just like to tell you.

That we have a lot of multimedia which is available in cyberspace and you need to navigate these cyberspace and somehow see to it that in this whole cyber or hyperspace, as we now start calling it, all these things are downloadable and you can use it on your phone. So that is where your web on the phone stands a chance thanks to the use of HCI.

Thank you.