last time we talked about speech output devices and the reason we need speech output devices this time we will start talking about the design of outputs

we have first time we look at the objectives of the design of outputs while designing the outputs and picking the output devices will take into account the user group and the proposed use

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and obvious when we talked about speech output devices that the user group where people who did not have their hands free or eyes free and they are diverted the attention and a speech [02:00] gave them the signal while they are doing something else

and so in that case the user group are somewhat like you know might say pilots who where piloting a plane or a driver who is driving a car so that otherwise is eyes are occupied ok so we have look at some method of getting their attention

so the user group is and the proposed use these are important obviously and also in the case of particularly printed outputs which are the major amount major type of output which are used in data processing for many information systems and large companies and so on
for instance if you looked at examination processing then the volume of output is very large so one has to look at the volume of output

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whereas we are just printing an email letter the volume is just one or two pages and so the design in that case is obviously not very important whereas design is important if it is very large volume as also it is important if it is for specific user group or for a purpose

periodicity how often should the output be printed out and at what times the the output should be delivered timely delivery when required whenever the user requires it

for top management obviously top management has too many other things to do there primary job in organization is strategic planning and they are not concerned about day to day operations

so for strategic planning you have to present them summary highlighting important results so that it bring bring into there\attention and don’t gave them all kinds of detail the higher up in the organization they smaller is the amount of information you present to them and also in a form which is easily digestible

so graphical outputs like pie charts bar charts and maps are very lot more useful for top management we will see letter on what these charts are and when these charts are being we will be used but the more than printed output a graphical output is lot more appropriate for the top management
because for decision making very quick decision making you requires something which can bring out the significance of the results or the output so a significance can be perceived by the management it will help them

(Refer slide time:05:21) middle management you you gave a little more outputs to them so they gave you gave exception reports and whatever reports are required for tactical management because there primary job is tactical management as we saw
and so the output volume should be reduced it should could be little bit larger then for strategic management then it should not be great amount of detail which you gave to operational management

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operational management that is day to day working complete details are needed suppose you are actually a person who is looking at details of inventory then entire inventory detail should be available to you with along with some analysis of the inventory and for middle management the more important thing would be the status of very high value inventory these are too much of high value of inventory or in some inventory going out of stock and so on because tactical management has to take a decision and when to order and stuffs like that

and then top management would be interested in value of the inventory and how much inventory is there and different categories and so how to reduce that inventory would be his primary goal so to to help him we have to provide the appropriate type of an output

so examples apart from inventory details are things like payroll payroll is the pay slips have to be clearer for every individual in the organization and the operational management operate the system should actually dispatch the pay slips to each individual in the organization

grade sheets in a examination cheques to be printed out to be sent out to people so particularly cheques are important because they are they are obviously monitoring anything to be with money responsibilities higher and but so the management the operational management has to make sure that the cheques are the the right number of cheques have been printed and the right names are there and and so on
the periodicity of the reports the top management whenever there are significant any
significant changes you inform the top management and you don’t have to really send it
you know in a normally the the period may be once a quarter and that is there is once in
three months or so towards the time and they have to kind of review their operations

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so once in three months you send send reports but whenever there are any significant
changes in the operations which you will not bring to the notice the top management you
have to do that

so give option to ask at any given time where you give a summary if the person wants to
get details then option to provide it to get details this is it periodicity important normally

middle management send daily exception reports everyday anything ex which is
exceptional like for instance if we had a large number of absentees in a particular day
then that has got to go to the middle management
so they should kind of take a decision why there is a huge absentee on the particular day

so there are situations when there is a for instance suddenly there is a an increase in the total inventory value on a particular day or suddenly some item has gone out of stock which was very critical those kinds of exceptions had you brought to attention of the middle management provide summary on terminal with a with option to look at very greater details on request ok

so normally nowadays machines are all on a network and so you gave on the terminal itself some some freedom for the individual to ask for details on required

and operational management regular periods if it’s a payroll once a month if it is grade sheets may be once a semester and so periodic depends on the application
the structure of a report particularly in designing the operational reports is what is why the more critical things in the organization

because operational reports are important for day to day running and computer are very good had giving you prompt information for day to day running of the organization so the structure of the report is important to be able to get the attention of the operational management and very often the report design takes up a fair amount of time of the systems analyst

because the report layout and the design is of closure interest through operational management and they insist on certain types of layouts which they like and layouts change from organization to organization because to some extent the way in which it is layed out is subjective it is not always very objective some people like certain way of reporting and and so on
so you must have some flexibility in reporting or creating and output report so but
normally all reports have a report heading what’s all this report about and every page
must have a heading as because the pages if you are you know and also every page
should be paginated suppose if there is misplacement of pages and so on you need to be
able to put that in the proper order and detailed heading for each column if there are
multiple columns normally in payrolls it will be the id member the name of the individual
the the gross pay various deductions and various heads and the net pay

so all these are columns and each column must have some title and detail heading for
each column set of records forming a logical group is called a control group and is given
a control heading in other words in order to be able to track any errors and so on what
should do is make it a batch smaller batch or something like say forty or maybe one or
two pages at the end of it you give a summary of whatever is there in that previous set

so that you can track down if there is any error using the control you can get to that
particular batch where the error occurred

so there is also a footing or at the end of the the in the report the labels are used to
describe information contained in the control group are called control footings there is
control footings are normally they come at the bottom of the page that’s how its called a
footing so contained information called control footings
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Labels printed at the end of each page of a report is called the page footing. See the control footing need not be always at the end of a page. It can be in the middle of the page. Whereas at the end of the page, some summary of the page is normally given and it’s is a page footing because the last page may be some odd numbers any case.

Labels are used to give control information for the whole report called final control footing. There is a final control footing at the end of the report. You have final control which consists of a entire data which has been printed and label printed at the end of the entire report is called report footing.
these are kinds of terminologies which have been used for many years from the data from the day data processing started see whereas the page heading the column headings these are all common sense really and control footings wherever you have control totals taken and then the page footing and then report footing at the end of the report some some report some summary has to be presented

the example are given here report heading Indian institute of science academic roll list ok there is the report the heading of the report page heading where list of students in semester one of two thousand one two thousand two thousand one and control heading [noise] normally we do it for each department so list of students in aerospace engineering department and detailed lines roll number name there will be other information because if the limitation of the space in the screen have given only two columns normally have a many more columns address and so on ok that’s not relevant
the point is that there is something like a control heading and there are detailed lines and they have column heading detailed see each lines contains information about one record in the particular set and then control footing say total number of students in aero pace engineering is so and so in this case it would say four that looks very small again because limitation in the screen size

so control list of students in chemical engineering there is suppose after the aeros the chemical comes then the chemical engineering students are listed and list of students chemical engineering department and the total number it will say total number of students control footing in at for that chemical engineering department is total number of students chemical engineering department is sixty three and final control footing with total number of students whose whose information is appeared in this report is total number of students in semester one is eight hundred and fifty two

so we add up all those and report footing end of IISc Bangalore roll list for semester one two thousand two thousand one
so those kind of various which we did we we we talked about and normally a pen chart with appropriate number of columns and squares for each column are designed by the output designer its called print chart to develop a proper kind of report format so that before you have given you machine you can do that of course nowadays you can do the interactively

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languages available to describe formats of reports and report generation programs exist to create a report in other words lot of advanced now in the very olden days one have to sit down and write out and do all that now in the days of terminal and keyboards and good good video screens and so on there are report generation programs called crystal reports and other types of many many report generation programs which are available they [17:05] language it is it is like a high level language in that language you can describe a report and that you have to learn that language its farley straight forward language and use to be called report generator programs

so once you write this program and you gave the appropriate information of that program then automatically it will generate the appropriate headings footings control footings all all that very nicely so you don’t and also the formats you can describe like in a like for instance in a in c programs and so on you can describe how many columns it will be resolve and stuff like that

so same way you can effectively define the reports in terms of a language ok and that’s called a report program generator

general principles of for designing reports is that any any report you should be able to these are all common sense ideas it is not very something which one has to spend a long time about one should be able to read from left to right because that is the way you normally read except if it is in Urdu you read from right to left english we read from left to right and then from to top bottom

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and easy to find important information’s which has keys they should be available in a with a proper heading all pages should be numbered and must have a heading report date
is essential and the date of one month that report is been generated that becomes very important particularly for archival purposes and all columns should be labeled and keep only essential details don’t put all kinds of unnecessary details proper use of control footings so that you can do an audit trial page and report footing is are very useful space for end of report signature if needed very often suppose you are printed a whole set of cheques somebody who is responsible for that printing and distributing the cheques has to authenticate at the end and there will be an operational management person who has to sign at the end of rep of these things

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similarly in the at the end of the report which is the payroll report or a grade report somebody who is responsible should sign at the end so that it is the responsibility can be fixed so very often people forget that signature is required and they don’t allow any space and its again common sense you have to essentially even may be printout signature and and then above that provide space for signature ok
(Refer slide time:20:47) see now lot of apart from print out forms and so on see large scale print put out forms or big forms are use of payroll date sheets and so on that is normally using a line printer but for many of the day to day work particularly for strategic management tactical management and so on you provide reports on screens there is screen of a video [20:34] and it is screen display is convenient for interactive use because you can actually [noise] mouse around and can apply something and get down to some other page and things like that and screen size normally smaller something like eighty columns and twenty four lines per screen

principles of layout are similar there is ease of reading is extremely important

provision should be made at the bottom of the screen to continue so there should be some place some button which you go and click to continue
nowadays screens are using buttons which can be clicked using a mouse to get details and also exit from the screen exit continue or the normally the at the end

for instance screen with general student information Indian institute of science total information report and it would be available for for the department or the departmental offices or registers office wherever is appropriate even in terms of enquiry areas like public relations officer or hostels and stuff like that

and so this screen (Refer slide time: 22:03) will have the names of students in may be in some alphabetical order department year which the person is studying and then f you want to get a details then you click details and you get to that details otherwise you say continue go to the next page and exit you want to exit the report ok
so if you want details you have if you click details then you it gives the further details including the address and so on if more details are available then you again click details and give more details ok or if the that is only the details then it is just stay at that point and you have to return and then go go for some other person you want to get the details click that person go to det details

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and this primarily the kind of reports which are very often used but for both tactical and operational management and graphics these are more important for strategy information those information in pictorial form its easy to understand i i already said why you require picture because it is brings out the very quickly the significance of the output and in that use different types of pictures for different purposes bar charts brings out the relative distribution its easy to see you have suppose you have bar chart of of marks of students in a class bar chart will say how many out of hundred for a standard students how many got above ninety five how many got between eighty five and ninety five and so on the chart will essentially tell you and how many got very low marks

so normally it will be it will be a curve or where it will be small at the very high marks and small at very low marks and maximum it will be in the middle mar middle range ok

also will tell you what kind of distribution it is it is in terms of the the class ok and so relative distribution is easy to see

pie charts are used for resources percept of resources is for various purposes is easy to see trends are easy to see in x y graphics things are going like stock market prices or the sales we guess and so on they always show a graph so that we can say the price are going up or going down and if your sales are going up or going down so there is a bar the x y x y graph is very easy

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if you want to show geographical distribution there is we got many cities where you have operations and how how much of say how many cars are being sold in Chennai how many have sold in Bangalore and all that then you can have picture map of India and
each of those cities shown and then the cities will have by the side number of cars sold or is zonal wise east zone west zone north zone south zone what what sales figures are there things where type you can you can use for because very quickly it says south is doing better or north is doing better whatever

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so for this is total sales use of graphs total sales of textiles in lakhs so you can see this this kind of slowly growing but it was dip in a particular year and he ask a question why is a [dip] in that year and you try to find out the reasons that’s what the strategic management is all about ok
(Refer slide time: 26:46) and the bar chart to know the number of employees by age now when you look at the chart you immediately see that there was a fare large fairly large employees in the fifty fifty age group that means you have the plane for retirement you are the there was very very soon the fifties will become sixties and so the company may be aging in terms of the average age so you have to do some recruitment of younger people to kind of make the distribution less queue in terms so having too many people who are old having more people who are younger and you may take strategic decisions to gave things like vrs voluntary retirement scheme because there are too many old people and i would like to recruit new fresh blood and i might give a incentive to them to the older people to leave earlier and take early retirement and things like that

so the point is [noise] this kind of a chart brings out significance and very quickly you can see what decisions are to be taken based on this chart
(Refer slide time: 27:05) and a pie chart for instance say it it gives the way in which the money is being spent you say that twenty percent spent is being on salaries and raw material twenty percent is being spent five percent is being spent on R&D and you see here the interest payments are fifteen percent at the kind of it wake up there is on paying the means i borrow too much money may be i should reduce that and if the raw material cost are growing up maybe i should reduce that so point is the pie charts essentially tells where the money is going ok where the budget is going and that would give a good idea of [27:39] management to be able to kind of take an appropriate decision so that is the so the conclude this module on output devices we saw that there are number of types of output of devices and you have to pick the right device for the right application

and similarly you also have to find out the right type of report to be sent to the right type of people at the right time and the content of the report should also be appropriate for the level of management for whom it is intended then it should be user oriented appropriate for the user so that is essentially the the primary purpose of this particular module but one thing which happening which i want to get into next is that there is a trend towards high network computers and network computers are becoming more and more important not only in the case of individual companies but also in the case of the fact that e commerce and so on are grown in quiet a bit and e commerce depends entirely on having a good network

so we look at very quickly in next module even though this course is not about computer networks and internet and so on i have to review little bit of that for with you in this in this course to be able to understand also the the web based reporting the world wide web based reporting and also later on the in the course we will talk about d commerce so e commerce world wide web becomes essential so we need to have some method of we had understand the implications of a network and impli what types of networks are available
and how to use those networks for various applications so I am not spend some time on the networks in the rest of the lecture

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we are we said that we going to talk about web and documents in the web the world say something about the internet in the world wide web and the documents in the world wide how do put documents in the world wide web basic technology used to build the internet you have to learn something about it how the world wide web uses the internet because world wide web is an application on the internet and how documents are specified using something called hyper text mark up language

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and distinction between presentation and structure of documents there is a very interesting kind of a we talked about report photon generators and in fact the the HTML XML are various languages which are used for generating reports on the web and how
document is specified using the extended markup language its called or HTML is called the hyper text mark up language

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and examined how the documents are formatted and printed and documents in that context meant results computed by computer in a more general context one should look at also documents which are to be disseminated in the world wide web this is what i was saying that world wide becomes web becomes very important with the emergence of the internet

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besides dissemination one should also consider possibility of reading values from documents stored in remote computers and processing them for various purposes because the every computer is connected to the computer prior

the need to exchange documents electronically and processing them have gained importance since the emergence of the of e commerce

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understand the need to distribute documents electronically you should first understand how computers are connected together and how they communicate in an orderly fashion among themselves that’s the reason i am going talk about networks a little bit

thus we first examine very briefly the internet in the world wide web which which uses the internet infrastructure
(Refer slide time:32:08) as I said no computer today has an isolated existence. Computers in an organization are connected to a local area network within the organization.

And computers at your home are connected through telephone lines or wide band lines to the Internet service provider so your even the home computer becomes part of the world wide network of computers.

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local organizations or LANs or local area networks of organization is connected to local area networks of other organizations each organization that is known LAN and these LANs are interconnected through either a public switch telephone network there is public switch telephone network or communication lines which are provided by communication providers like BSNL in India BSNL as well as reliance and tata infocom and so on and so this interconnection is so called routers and so on

internet is the networks of networks and interconnects millions of computers all over the world

so the LANs of different organizations are interconnected individuals are connected through the internet service provider to other computers which may belong to a LAN of an organization and internet is used to exchange electronic mail exchange files and log into remote computers so we are done all is that probably

and common set of rules must be used by computers connected to the internet to communicate so its called internet protocol unless unless there is a common set of rules which every computer uses to communicate then communication cannot happen between computers and computers are of of various types and varieties there are desktop machines there are laptop machines there are machines which are mainframes there are mainframes made by IBM they are PCs made by by DEL and so on

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so there are varieties of machines and also different architecture some computers are very different from HP computers and HP computers would be different from my pc’s and IBM’s machines will be very different from the HP computers
so the point is that different architecture machines all need to kind of communicate and that can happen only if there is a common grid on set of rules of communication these called a protocol

(Refer slide time:35:17) so internet protocol is universally used for connecting computers to the internet these computers connected to the internet has the unique address called its IP address the IP address is unique for every computer connected to the network and it’s a four bytes long and it’s a scarce of resource because number of computers are increasing all the time and so there is always a demand for new IP addresses and so now they are going towards the next generation IP not yet happen but its expected to be happen in next two three years

when you go to the next generation of IP the [35:40] drastically increase so there is something which people are looking forward to

IP address of course are numeric strings are numbers and they converted to strings of characters which are easy to remember because as are we concerned it is difficult for us to remember a large you know something which is a like ciber number so many digits ten digits we have to remember said if you have sixteen digits to remember it is always very difficult to remember that ok
and so you kind of combine them to understand the groups like the the address for instance i is an IP address for B which is converted to a unique address which is of the type which is can be remembered

so for the instance the it is divided address are divided into number of parts you starting from the right to left last part is top most domain normally gives the country code and next one ernet this in is a country code is called top most domain and this is the internet service provider and iisc is the the place where i belong for instance by kind of look at iisc this is the organization registered with ISP that is what i to which i belong

serc the department within the organization name is assigned by the organization in other words the iisc gets the group of IP addresses and within that group they will assign various departments and the departments assign in terms in turn to the individuals of the department and rajaram is the name of the user in department assigned by the department and this hierarchy of addressing facilitates expansion
suppose tomorrow one more person joins the department then we can give one more one more address for them person and give a add it without touching the rest of the thing ok

and similarly if the internet service provider namely ernet has gets one more organization as there subscriber they can add a new subscriber name just like as iisc they can add another name ok so that is that is the well idea ok

and internet breaks up messages sent from a source destination to number of packets its called packet switching because the packet switching is extremely important i will explain why and packet structure in every packet there is if you got a long message it is broken up into a number of packets and each packet have its own existence might say and the packets are sent one after the other but they can take different routes
The advantage being that if suppose one route is busy or one route is down for some reason it can take another route so different packets can follow different routes and that’s the advantage of packeting/packetizing and that’s what leads to the decrease in the cost of all the communication you send, send your email and almost no cost and now of course people are talking about voice over IP that is using the internet having a telephone conversation which is at a very very low cost so these are all possible because of this technology and they packet structure there is a this is a part of the message and then these are all kind of neighbors source address from where it starts this destination address serial number of packets packets can arrive orderly order and control bits of checking any error in this have some parity bits stuff like that ok.

And and the payload can be there is actual message can be up to one kb very large but not large enough for say [voice] and so on.
(Refer slide time: 40:19) packets need not be a fixed length maximum is one kb message packetised to allow different packets to go along different paths is called packet switching ok

(Refer slide time:40:31)each packet can pick cheapest path to take and finally these packets are reassembled using there serial number because each packet has got the serial number as we saw and its overall existence as we said

packet switching is less expensive and adaptive to faulty path and so on major disadvantage of packet switching is difficulty of predicting actual time so it will taken by different packets because one packet may take one route another packet may take another route and the route times time saven by the different routes may be different and also they will change they will be dynamically changing because many people are using that network suddenly one line may become very congested
so the router will route it to a different path which is relatively free and so you can't predict ahead of time which particular path particular packet we will take

so they would normally arrive out of order but then you got to have method of reordering them at the recipients place to able to make sense for the person who gets the final message this creates little bit of a problem for voice if the voice is cut up in different parts and it takes a long time to reassemble them then you have a lot of delay would in sending the voice and receiving the voice and that is disturbing

because conversation cannot go on in fact even in telephones if suppose if the satellite communication is used for the telephones you find that there is a certain delay for the speech to go out to a satellite and come back to you and this delay is disturbing to the user

and so people will come up with better solutions in terms of resolving lines and so on for reservation protocols are used to be able to make it somewhat less choppy the they send by one
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so the voice over IP is not becoming much more sophisticated than the earlier methods ok does not matter for email and text files and for audio and video has send it be no problem major advantage of the protocol is that diverse machines and LANs may be interconnected if they use the same common protocol its called TCP IP transmission control protocol internet protocol

transmission control protocol is one which is use to reassemble all the packets which come out of order ok and i will not go into details of it but there is essentially the protocol which is used by the internet and these this protocol and the the primarily the availability of applications on the internet or email transferring file from one one IP address to other IP address remotely login into any any other computer and and so on

and within organization if all the facilities which are available on the internet are available to the local are network in the same protocol same programs and so on it is called a corporate intranet internet is for the world wide connection intranet is for the individual organizations connection
two corporate intranets may be interconnected using a leased line and from a public
switch telephone network and that’s called extranet there is suppose multiple
organizations decide to cooperate an interconnect there own internet intranets together to
have private connection like whereas in the company may be a manufacture and they will
have their own intranet and another company may be a spare parts supplier or or
component supplier and component supplier may have his own intranet and there may be
a a person who is your distributor of cars and he will also own intranet because you have
multiple branches within a within a city so all these need to be connected together to be
able to smoothly function as a overall structure from a supplier to the manufacturer to the
showrooms and consumers and so on

so this they are cooperating companies and then they connected together and they also
access to certain types of files and that’s called a an extranet extranet between
cooperating organizations provide internet services between them ok
world wide web is a world wide multimedia information service available on the internet
ok and it contains web pages created using a language called HTML hyper text mark
mark up language in fact web browsing is the one of the most common things people do

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HTML has features to embed links within the web pages to point to other pages the
greatest advantage of HTML is that when you do a search it can leave to other similar
kind of sites and take you to other sites
so HTML is a is got features to link other web pages and you can navigate through the 
links and search for required information that’s how it is called hypertext normal text is is 
just a single page and does not link to any thing else whereas hypertext links to other 
pages and if when you click the link then it gets to the new page the the link page 
like each web page has a has a scheme called uniform resource locator the uniform 
resource locator is used to be able to get to particular web web page which is stored using 
that locator you can immediately go to that web page and get the information which you 
want ok 
and if you know exactly the web address of a company or individual you can put the 
URL on the using a program called the browser and it will immediately bring out that that 
for you 
so the http is the protocol which is used for this interconnection and www is of course the 
world wide web and freesoft is the domain name of the server having the web page and 
the connected freesoft dot org is the company whose the domain name of the company 
having the web page which which you want to look at folder with required information is 
in connected there is this has the folder with required information and this is the required 
document formatted using hyper text mark mark up language so that’s why that’s all its it 
is says web browser is a program on one’s PC used to search for required information
browsers use search engines that is programs which will navigate web pages using links like internet explorer Netscape and so on

(Refer slide time: 48:31) search engines used to obtain relevant web pages using search tabs for example using google search engine where you can use search tabs if you don’t know the URL you can use search terms and get information like you want to find out about indian cars you can write just Indian cars and bring out the web pages of various
car manufacturers in India in fact it will bring out the whole lot of information wherever Indian car occurs see and of course you have to do a safe filtering through that

all organizations now maintain a web page to establish their web presence web [noise] you tries [48:57] that you exist ok web presence is very important for companies to be able be visible to the to the rest of the world because world wide web become becomes such pervasive including every home as it but the web page is very carefully maintained by most of the companies and lots of individuals also maintain number of web pages to be able to give information about themselves particularly if there are person who is a consultant who wants to kind of attract customers you will have them

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web presence important to publicize organization primarily advertising the services the doc document has got three parts in the in context of in fact any context but it is a specifically important the context of a web page creation as well as linking and methods of document storage and the retrieval on the world wide web
(Refer slide time: 50:24) the string of characters normally called coded in ASCII or Unicode see the content is normally has set of ASCII characters coded i nowadays of course Unicode is used particularly for multiple languages because Unicode is a sixteen bit code and it covers almost the entire languages in the world including various special symbols like alpha beta gamma and things like that a document nowadays also includes text pictures audio and video ultimately all of them become big strings because they are going to be digitized all of them

we will have primarily concerned with textual data because we are not really talking too much about other types of data in this course ok how the data looks like to a human user presentation is what we talked about in the report generation and report presentation
and a structure helps interpretation of data by a computer other words the presentation on a page is important for a human user we computerized use that data it needs to have some more information about a structure what do you mean by structure is it a number is there a set of characters is there a data structure like a vector or is it a record structure so that kind of a structure is important for for a computer to know in order to be processing type of data these are structure presents numeric alphanumeric and also information structure is it a invoice is it a purchase order is it a recipe things like that because each document has got some nature the recipe is got always something with which it starts saying that the ingredient required the method of cooking and then how many does it serve and things like that ok so each one is got a structure similarly invoice is a structure and purchase order has got a structure
text processors add special annotations primarily to help format resulting print outs ok text formatting text text like word processors they send it in to a formatting to make it some some bold face some italics and then paginate right justify things that type ok paragraphing font selection pagination tabulation etc so word word is a common example

there are primarily presentation aids which take raw content and transform them to neat looking documents when displayed on the video or printed on paper
they have no idea about type of document and what they mean they just don’t you know there is no semantic information built in meaning of the document is not whether it’s a invoice or a payroll it it cannot distinguish because doesn’t know there characteristics as well as the format is concerned

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word processors primarily used for application such as preparation of manuals preparation of catalogues routine office correspondence desk top publishing for all that of course the word processors is used

report generators we discussed are special special variety which use a special language to generate the format of reports ok so the [53:52] only in [] format is what is important not the content ok

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so primarily for linear text and not meant for linked text known as hyper text hyper text is what is important in the world wide web construct
the world wide web documents located in many computers are linked so the web pages need to be interconnected each one is got a unique path to retrieve it

(Refer slide time: 54:30) documents to be used in web pages need special annotation or markups mainly for formatting and for linking them to other documents in the web these annotations are called markups so this is what this is the latest advanced which took place in terms of the one of the biggest application of the internet ok the the coming of the web
because those transform the entire way in which even commerce is done that is the reason we have to talk about e-commerce in this course

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![Diagram](image)

as documents on the world wide web are linked to many documents they are called hypertext the mark up used to link documents called hyperlink and web pages are retrieved from the host computers where they are located by a program called web browser running on a client this is what talked about

clients uses a communication protocol called hyper text transfer protocol and language recognized by a HTTP is called hyper text mark up language which is resultly a formatting language
hyper text mark up language is has has special layout because you have something like it is called a syntax like any any language HTML version something which can give the version number which is optional and the headings headings and the tags are placed here so it starts with the double arrow and ends with the double arrow in which there is a slash to say its end of the heading ok
and then the body and the end of the body and end of html ok and the exclamation symbol used are commands and elements which has text with formatting tags links tables images etc are put in the body

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i will give an example an example of a document html i have not given the version number and so on head title description of book on information technology that’s what
the heading is and the body introduction to information technology and slash there is h one mean it is the heading the first level heading the second level heading say is that its a first level text book in it

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and then publisher and in italics so i i now shows the publisher and italics that is all we end here and in bold face the the year of publication two thousand three will be in bold face because the b shows bold face i shows italics so the point here is you can give certain kind of formatting as well as styling of the document using this this language
and I am getting into great details about this because it's not a purpose in this course but to give a favor of what this does if a document is viewed using a browser it will appear as shown below.

(Refer slide time: 56:42)

and I am getting into great details about this because it's not a purpose in this course but to give a favor of what this does if a document is viewed using a browser it will appear as shown below.

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html tells html doc html document is beginning and that slash html is the end and the version title i mean i told all about this h one to there are six levels of headings and various sizes bold face h one to the highest size is h one and the lowest size is h six

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p indicates paragraphing i indicates italics b bold face and tags the example are the beginning tag and end tag html is a tag the body was a tag and so on ok

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and html can link document in other files for example link to an image we use a image source is mypicture dot gif so this will so connect to an image called my mypicture dot gif ok and img indicates the image and src indicates the source ok it is it is observed that it is stand alone tag it is does not have an end unlike the other cases ok

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html allows a web page to Refer to other web pages ok when a Reference link in the page is clicked the browser switches to the Referenced site
like the a the anchor tag and if you click that it will it will get to that web page given by www.iisc.ernet.in linking can also be to other files that is i have given to it to other in this case for another web page it can be to a file also automatic conversion of web document to html is possible otherwise the the it is possible tool to do that ok

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and there are lot of up comings in html which we look at in great detail and the successor called xml which we will talk about the next lecture