Usability Engineering
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Module - 05
Lecture - 17
Requirement Analysis - II

Welcome to lecture number 17 module 5 in this lecture we will discuss about a new tool or a technique. Essentially until now we have been discussing about the various tools and techniques that helps us to define the Requirements or to define the user need unmet needs accurately and correctly. Ah

We will slightly move or deviate little bit here in this lecture essentially, we are focusing on the empathize state only, but here we are discussing a technique that goes that is conducted after you have certain kind of ideas or concepts in hand. This is also with the users or it helps you to understand your users' mental model in detail, but essentially it is a technique that is used to evaluate or understand your users' mental model in great detail.

So, essentially this is not as a tool where you will just go to the user and study them no, it is a tool wherein you have a design, you have a concept and now you would like to see how your you users would react to this concept and you would do some kind of analysis in order to comprehend that. It is a tool from that perspective, but yes it focuses on how users or predict how your users are going to behave. So, let us begin.

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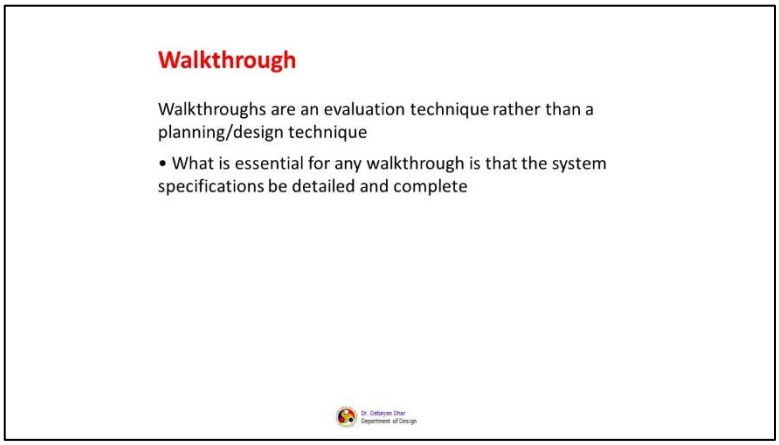

So, in this lecture we are going to talk about walkthroughs. Now the name itself suggests you what does it mean. A walkthrough means these are evaluation techniques and rather than you know planning or design technique which have which we have been discussing about.

Now what is essential for any walkthrough is that the system specifications be detailed at complete; that means, we are not essentially at the empathized state we have already started ideation we have already defined the brief. We have already defined the problem and now we are in a situation where we have some kind of concepts of our product we know the structure of our concept; that means, initial ideations or initial details have been there.

Though we have not went to a stage where the complete product is ready, but initial clarity with specific details are ready and those are being referred to as specifications which needs to be detailed in a way that we need to conduct these walkthroughs.

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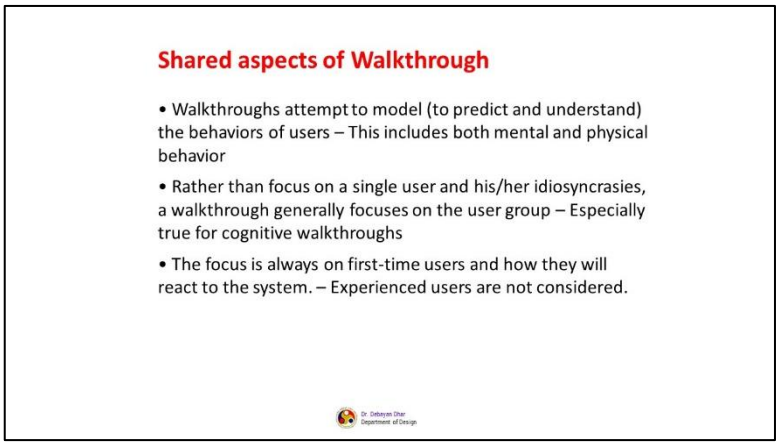

Now, what are the shared aspects of walkthroughs? Now, walkthroughs attempt to model, model means it intends to predict as well as understand the behaviors of users. This includes both the cognitive behavior; that means, that means the mental processes and as well as the physical processes the physical behaviors.

Now rather than focusing on a single user and his or her idiosyncrasies; that means, extreme experiences a walkthrough generally focuses on the user group that means we are focusing on the user segment we are not essentially focusing on one particular user or individual users. It is especially true when we will talk about the cognitive walkthrough techniques.

Now the focus is always on first time users and how they will react to the system experience users are not considered. Understand we are focusing on novice users, we are considering not on experienced users. Let me give you an idea why we are discussing walkthrough in this requirement analysis phase.

You will remember the discussion on design thinking process user centered design thinking process that we had in earlier lectures. And you would also remember that I discussed about the idea that the design process is iterative in nature. So, many times what happens you start with defining a requirement you go for a contextual inquiry observational techniques or other techniques you use.

And then you define your requirements start up with some concepts and then what happens is that if you take it directly towards prototyping and usability testing phase a lot amount of time and resources spent. So, many a time it happens that the designers immediately after doing the conceptualizations concepts they go for quick detailing of the concepts and go for some walkthroughs.

So, that immediately they get feedback based on the users mental model. Now what happens this also shapes the requirements in a way. So, if any inaccurate details or wrongly any concepts have been defined this gets addressed at this stage. So, therefore, understand that walkthroughs are also can; also be used to redefine the requirements based on the initial concepts that we have.

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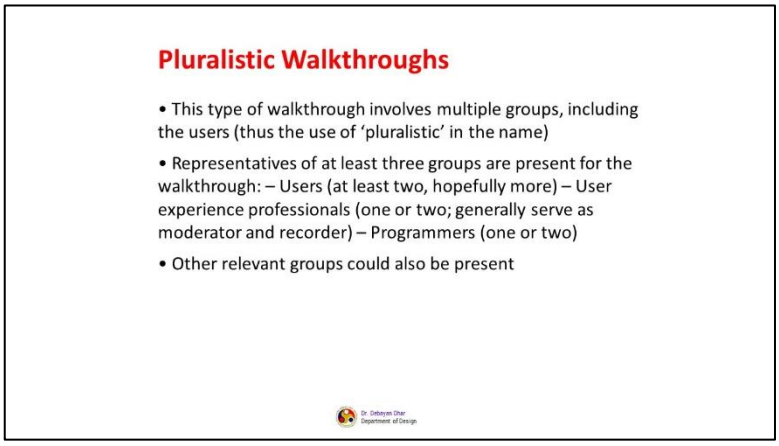

So, this type of walkthroughs. So, now we are talking about pluralistic walkthroughs. This type of walkthroughs involve multiple groups; including the users. Now see the name

when we talk about walkthrough essentially, we have two types of walkthroughs; one is the pluralistic walkthrough the other one is the cognitive walkthrough.

Now as the name refers to if you can understand that pluralistic means multiple groups are involved and this includes the user groups also the actual representative user groups ok. And apart from that user groups which are the groups that you have representatives of at least three user groups are present for the walkthrough and these are the users at least some sub users should be there two minimum two.

User experience professionals or usability experts you know one or two generally they serve as the moderator or the recorders and also the programmers. So, software developers one or two these different segments you have and you conduct the walkthrough with them and therefore, they are called pluralistic because you have more than one user segments the actual users the usability experts and the developers.

So, you have them together different segments together and therefore, it is called pluralistic walkthrough other relevant groups can also be present if they are directly or indirectly getting affected with the product or the process that you are conceptualizing those groups can also be considered as part of this walkthrough.

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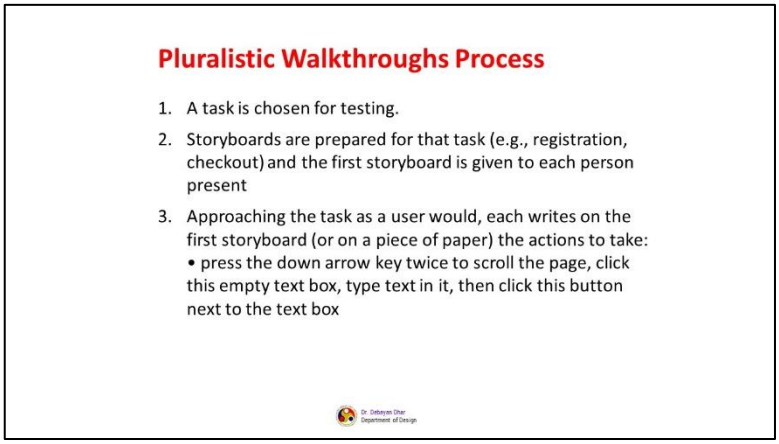

Now, what is the pluralistic walkthrough process? The pluralistic walkthrough process is this a task is chosen for testing, storyboards are prepared for that task and the storyboard is given to each person present. Approaching the task as a user would each writes on this first story board or on a piece of paper the actions to take like press the down arrow key

twice to scroll the page, click this empty text box, type text in it, then click this button next to the text box.

What you see here is that why I am going I am discussing these techniques in the requirement phase. It is important that you must realize that whenever there is a design brief every time you may not have a design brief where a new product would be asked or a design brief that states an issue and a new product is being asked to get developed by the design by the stakeholders. Many times rather than this what will happen is that you will also be given an existing product.

And then you will be asked to define an issue and then come up with the requirements for this project in these cases pluralistic walkthroughs can be used to study the existing products and then identify the issues and then use those issues to define the requirements of the project or for the design project.

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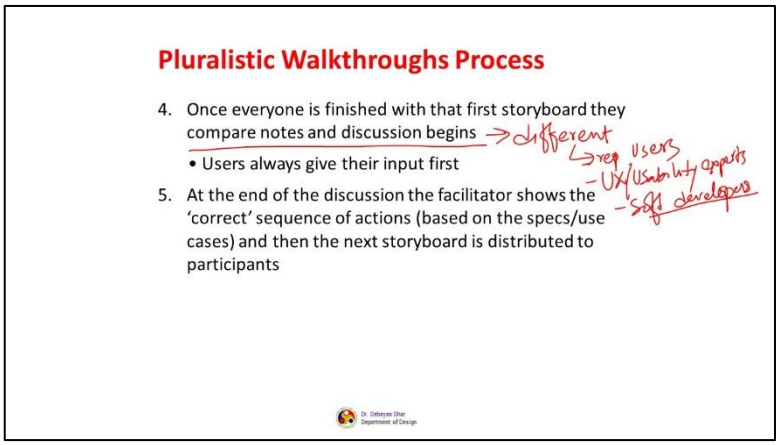

So, once everyone is finished with that first storyboard they compare notes and begins. So, what happens? The comparison of notes happens between which group? The comparison between the notes happens between the different user groups. And they are the representative users right the UX or the usability groups, experts as well as the software developers because each one of them has been given a task to come up with the story for the task.

So, at the end of the discussion the facilitator; that means, the usability expert or the UX expert shows the correct sequence of actions based on the specifications or the use cases

that has been given to them and then the next story board is distributed to the participants. This process of individual analysis followed by group discussion

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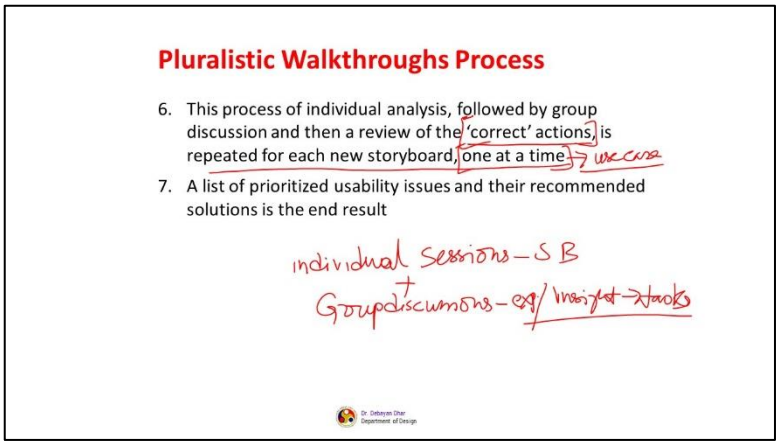

So, you have individual sessions right you have individual sessions where the participants comes up with their storyboards followed by group discussions on the experiences or their insights about the task. So, this process of individual analysis followed by a group discussion and then a review of the correct actions is repeated for each new storyboard one at a time.

So, the actual correct actions are defined and this is gets repeated every time a new use case is taken a new use case is taken right. A list of prioritized usability issues and their recommended solutions is the end result. So, see that is what we have been discussing about. So, from this technique we can also redefine or define the requirements if it is a redesigned project if already there is an existing product ok.

You ask or have some novice people on board to conduct these pluralistic walkthroughs, you know the ideal way to complete the task you ask them to come up with the storyboard of completing the task encourage the discussions and the individuals after the individual sessions that how you understand what are the specific insights or the specific usability issues that needs to be addressed.

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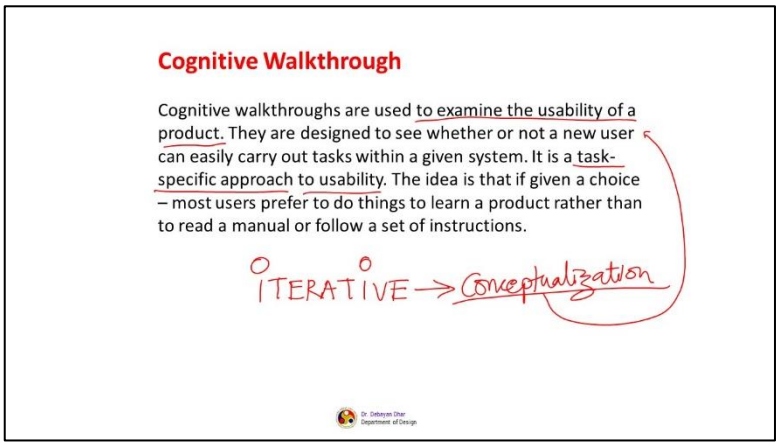

We will now discuss about cognitive walkthrough. So, see pluralistic walkthrough focused on different user segments, you had the actual users, you had the representative users, you had the user experience professionals or the usability experts as a segment who were the moderator or the recorder you also had the software developers.

So, therefore, it was a pluralistic way to gather insights from different segments. We now start talking about we will now talk about the technique which is called the cognitive walkthrough. So, cognitive walkthroughs are used to examine the usability of a product. So, the focus here is to examine the usability of a product right.

They are designed to see whether or not a user can easily carry out tasks within a given system remember why we are discussing this; because we know that the design process is iterative in nature. So, when we are at the conceptualization stage we have some idea, we want to get this tested and therefore, to see how it works and therefore we can we can conduct a cognitive walkthrough.

So, these techniques are designed to see whether or not a new user can easily carry out tasks within a given system. It is a task specific approach to usability. Always remember that cognitive walkthroughs or any walkthroughs are task specific approach to usability. The idea is that if given a choice most users prefer to do things to learn a product rather than to read a manual or follow a set of instructions.

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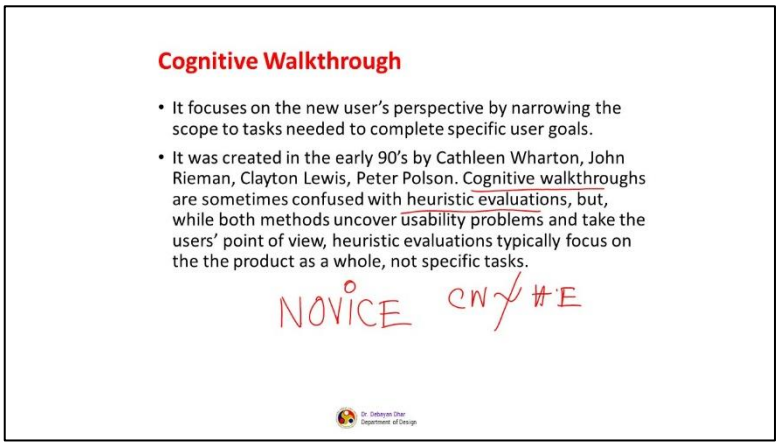

Cognitive walkthrough focuses on the new users perspective. The focus is on novice new users by narrowing the scope to tasks needed to complete specific goals. It was created in early 1990's by Cathleen Wharton, John Rieman, Clayton Lewis, Peter Polson are the founders they actually initiated this technique and is being widely used in the UX industry or by the usability experts.

Cognitive walkthroughs are sometimes confused with heuristic evaluation. You will see end up in this kind of situations many a time that people think that cognitive walkthroughs are synonymous with heuristic evaluations, but that is not the case they are not because both the methods they.

So, the idea is both the methods are used to uncover usability problems and take the users point of view, but you know heuristic evaluations typically focus on the product as a whole and not on specific tasks cognitive walkthroughs or pluralistic walkthroughs you see the focus is on specific task the idea is task specific usability concerns are being identified.

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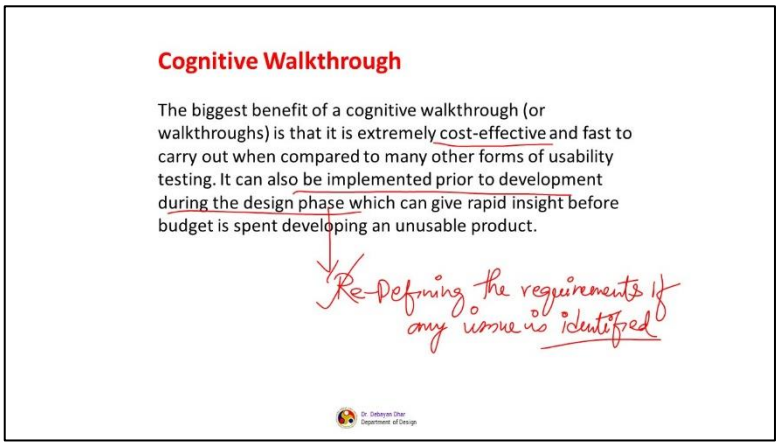

The biggest benefit of a cognitive walkthroughs is that it is extremely cost effective it is extremely cost effective. And therefore, many a time as we discussed whenever you have an idea you take it to some detailing and conduct a cognitive walkthrough in order to ensure see that the usability issues of the idea can be sorted out at a very early stage and it is also fast to carry out when compared to many other forms of usability testing.

So, the other formats of testing that we are going to discuss later in subsequent modules are generally conducted once you have a detailed prototype or some level of interactive prototypes are ready and then only you recruit people and conduct it. In comparison to that cognitive walkthrough are can be conducted in a very fast way and these are very agile kind of techniques to be used.

It can also be implemented prior to development that is what we have been focusing you know prior to development during the design phase. Because, that is why it helps us in redefining the requirements if any issue; if any issue is identified right and these can give rapid insight before budget is spent developing on unusual product.

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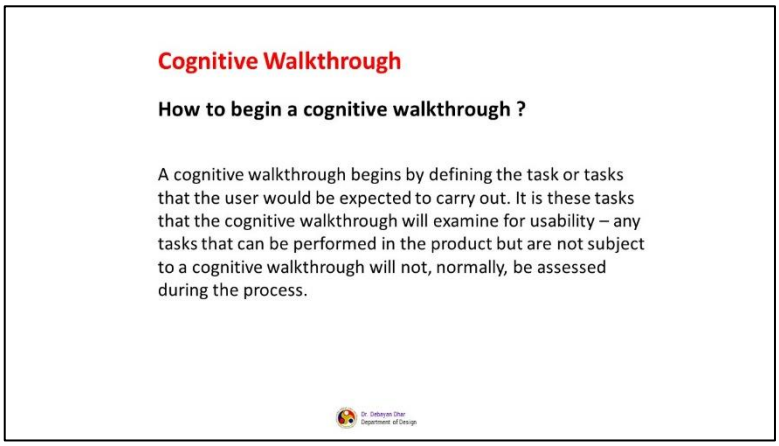

So, how do we begin a cognitive walkthrough? So, a cognitive walkthrough begins by defining the task or tasks that the user would be expected to carry out it is these tasks that the cognitive walkthrough can be will examine for usability. Any tasks that can be performed in the product, but are not subject to a cognitive walkthrough will not normally be assessed during the process.

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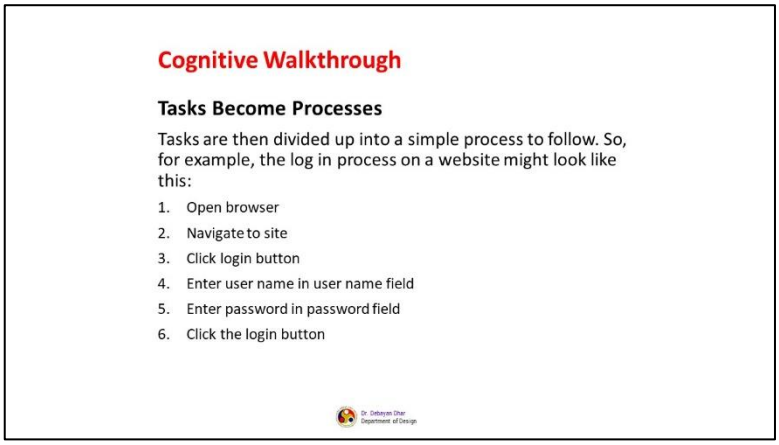

Tasks become the central focus during a cognitive walkthrough they are they become the process tasks are then divided into simple process to follow. So, for example, the login process on a website might look like this you open the browser you navigate to the site you click login button enter your username in username field enter password in password field and click the login button.

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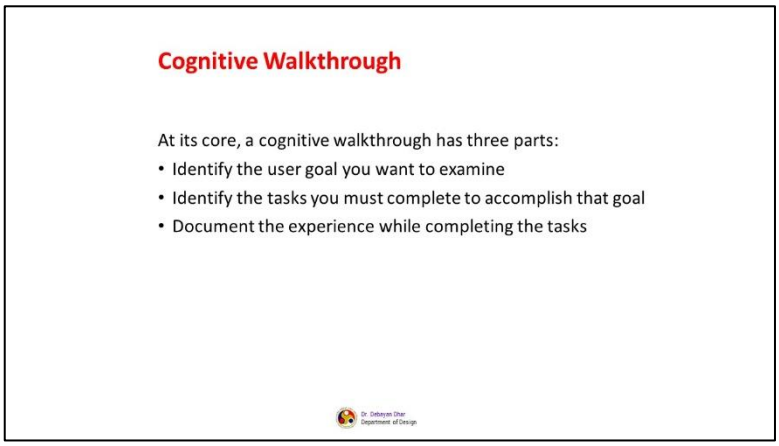

So, at the core of cognitive walkthrough we have three parts and these are identify the user goal you want to examine. Identify the tasks you must complete to accomplish that goal and document the experiment the experience while completing the tasks.

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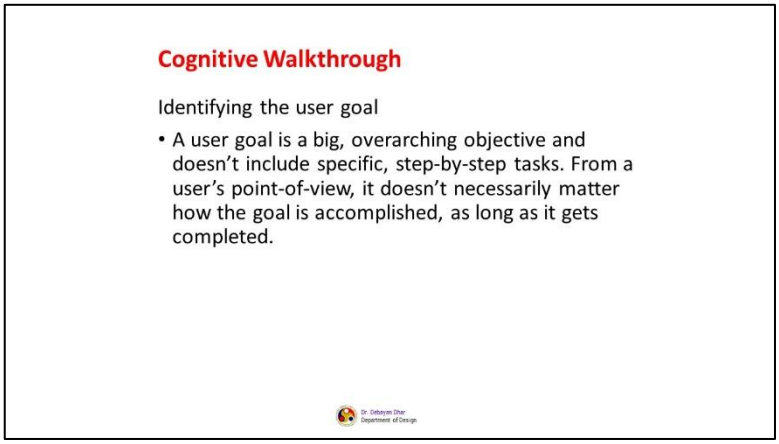

Identifying the user goal a user goal is big it's an it has an overarching objective and it does not include specific step by step tasks from a users point of view it does not necessarily matter how the goal is accomplished as long as it gets completed.

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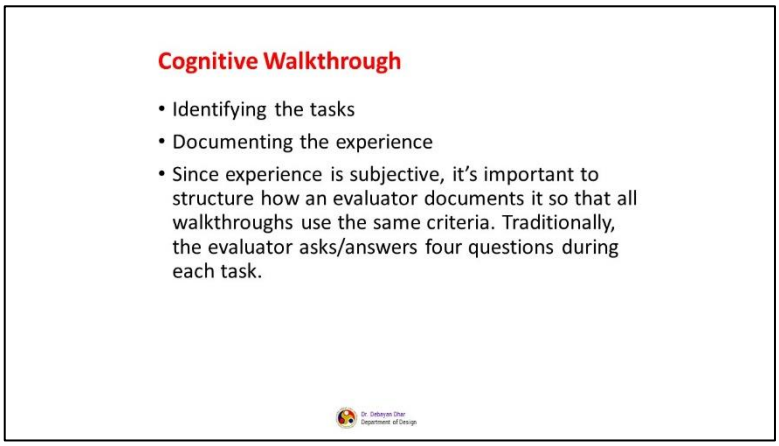

Then start identifying the tasks document the experience. Since experience is subjective its important to structure how an evaluator documents it so, that all walkthroughs use the same criteria. Traditionally, the evaluators ask or comments four questions during each task and we will see those questions here.

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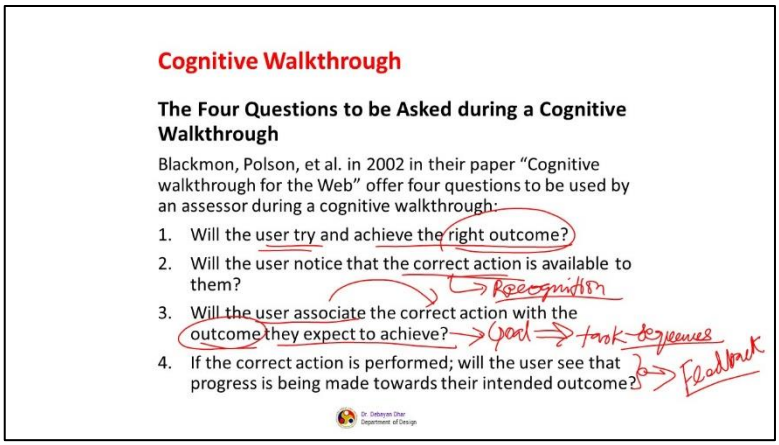

These questions have been proposed by Blackmon and Polson in the research paper ''Cognitive walkthrough for the Web'' in the year 2002 and these four questions that are to be used by an assessor during a cognitive walkthrough are will the user try and achieve the right outcome ok.

So, the focus is on the right outcome. Will the user notice the correct action that is available to them this focuses on recognition, right? Will the user associate the correct action while

the outcome they expect to achieve right? So, the focus is the user will he associate the correct action with the outcome that they expect to achieve.

So, the focus, the goal and corresponding tasks or the sequence of the test steps that is being offered by the interface. If the correct action is performed will the user see that progress is being made towards their intended outcome. If you see it granularly you will realize this is about feedback right. So, these are the important questions that needs to be asked while conducting a cognitive walkthrough.

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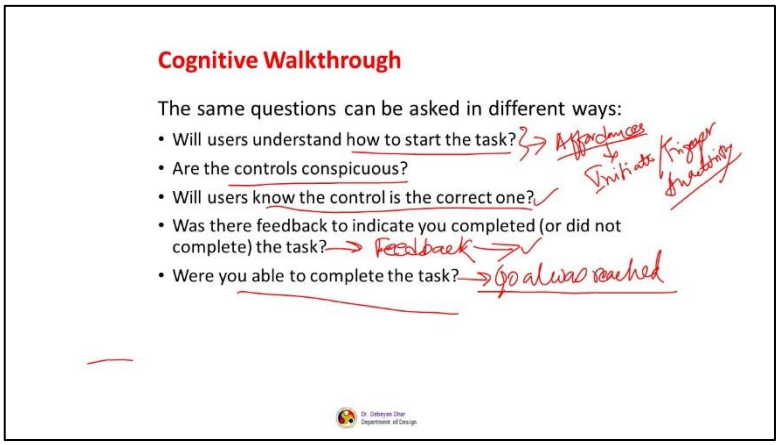

The same questions that we have discussed in the last slide can be discussed in a different way or put in a different way here like will the users understand how to start this task. So, he will only understand if the affordances have been designed correctly designed right and so, that the user understand how to initiate or trigger an activity are the controls conspicuous.

Will users know the control is the correct one, here we are talking about recognition was there feedback to indicate you completed or did not complete the task that is what we refer to as effective feedback right whether feedback is present or not. Were you able to complete the task? So, the focus is whether the goal was reached right.

So, with these questions and usability expert can ensure that he conducts an effective walkthrough and this would ensure that quick feedback can be received by him based on the insights of this technique. So, that if any errors or any decision that which he has taken does not reflect with the mental model of the user can be corrected at once and need not to be taken till the actual product being developed that stage.

So, these tools ensure the lot of time and resources can be saved in order to ensure that a product that is usable can be delivered to the target users or the representative users.