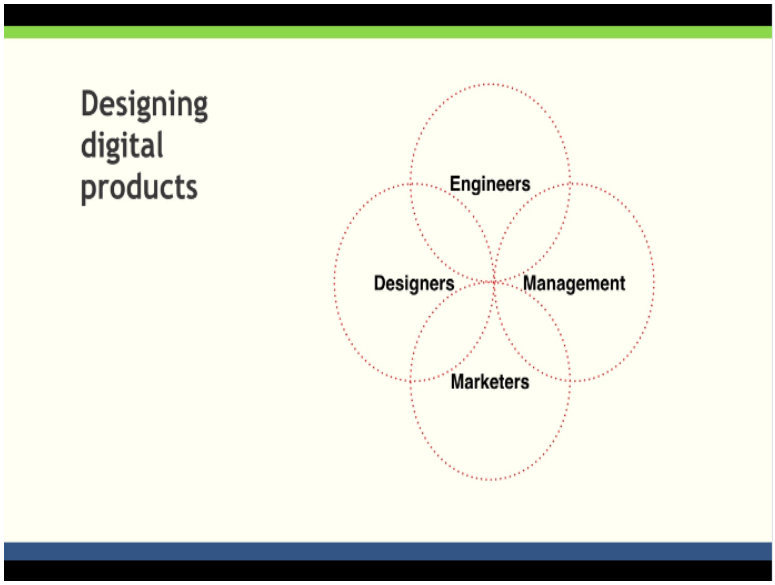
Interaction Design
Dr. Abhishek Shrivastava
Department of Design
Indian Institute of Technology – Guwahati

Lecture - 02
Relevance of Goals in Interaction Design

Hello, we have seen in one of our earlier sessions how different definitions of interaction design pay emphasis on knowing goals before attempting to design interactive products. The topic for today's session is therefore the relevance of goals in interaction design. Let us know a little bit more about designing digital products.

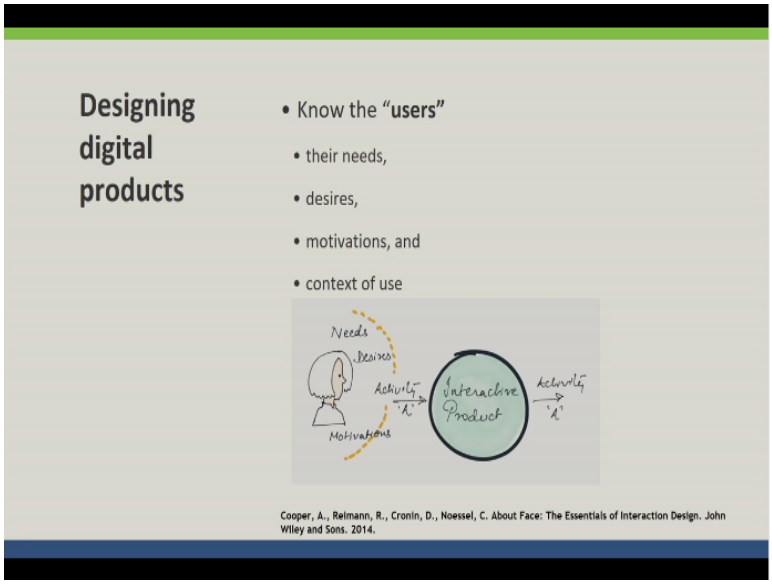
(Refer Slide Time: 00:55)



The act of designing digital products is a highly collective process. In a professional setup like a corporation, a company or a designer studio involve in designing interactive products. Designers often work in collaboration with engineers, marketers and management; however, for the designer or more specifically for an interaction designer, it is imperative to know the users in greater details possible.

By knowing the users what we mean is an understanding of user needs, desires, motivations and the context of use.

(Refer Slide Time: 01:40)



As shown on the slide, a user comes to use an interactive product when they are in need of performing certain activities of interest say an activity A. Knowing about their motivations and needs will enable designers to better design the product such that users perform such an activity with enough ease and control and leave with a sense of satisfaction at the end of their interaction with the product.

Apparently, even within a single user group, there is a huge variation in the preference towards performing different activities in their daily lives. An interactive product in sensitive to such a change in preferences or to such aspects would end up providing an unsatisfactory experience to its users. Designers therefore must employ methods to get a good estimate of user needs, desires and motivations.

They must know or have an idea of the elements that make their users delightful or frustrated knowing context of use or context of deployment is also important to get an understanding of different factors, which affect product interaction with the users while it would have been ideal for designers to only know what their users want before beginning to design interactive products but as I have told you earlier that interaction design is a collective process.

So there are other stakeholders which are also involved. Designers are therefore required to be sensitive to the perspectives of these stakeholders. They must engage in discussions with different teams of the stakeholders to understand the boundary conditions. For example, an engineering team would be in a much, much better position to suggest or recommend the

scope and limitations of the technology which is going to be used in the design of interactions with the user.

Similarly, for that matter the management team would be in a much, much better position to recommend available timelines and monetary resources to be utilized in the design and development of the product.

(Refer Slide Time: 04:09)

I believe that you are noticing that the interaction design is a highly applied discipline as well, even more when we are hugely surrounded by oriented towards using technology interventions in our daily lives. Interaction designers often have to strike out a right balance between different stakeholders, between user needs and technological constraints.

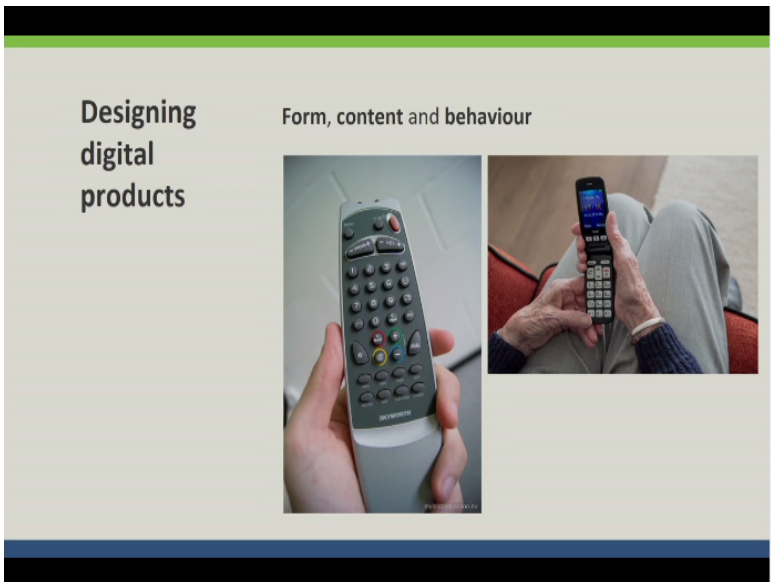
(Refer Slide Time: 04:38)

They are required to evolve their designs whose form, content and behaviour are not only useful but also usable and desirable while staying economically viable and technically feasible.

(Refer Slide Time: 04:51)

However, in the design product these 3 different properties form, content and behaviour may gain different emphasis by the designers depending on the product itself.

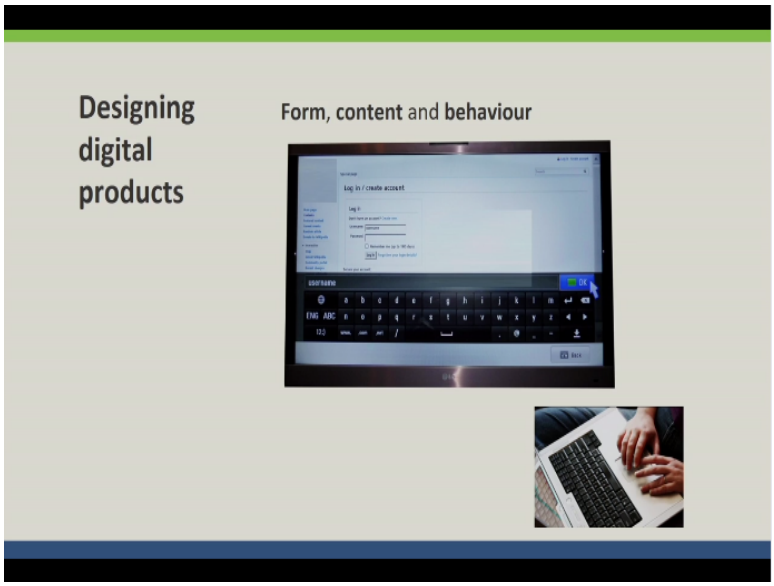
(Refer Slide Time: 05:11)



If you are designing a remote to operate a television or if you are designing a kind of a device like a mobile phone for elderly population, as designers you might be required to pay more attention to the form of the product mainly because in case of the elderly population because of lessening motor skills, they might be required to use products with enough hard keys and enough affordance.

So the form of the product is dependent on the kind of the product that you are going to be design.

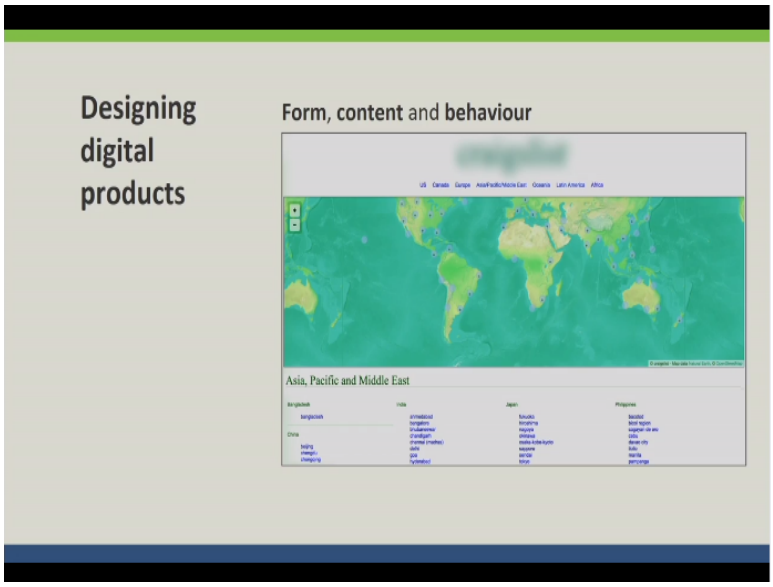
(Refer Slide Time: 05:34)



Another example where form takes more prominence than the content and behaviour is the case of keyboards. You would notice that the keyboard for typing onscreen of a television is somewhat different from the keyboard that you use with your laptop. So here also the form is important because in case of television you are going to manipulate keys at a distance of approximately 4 feet or 5 feet and you are doing that with the use of a remote.

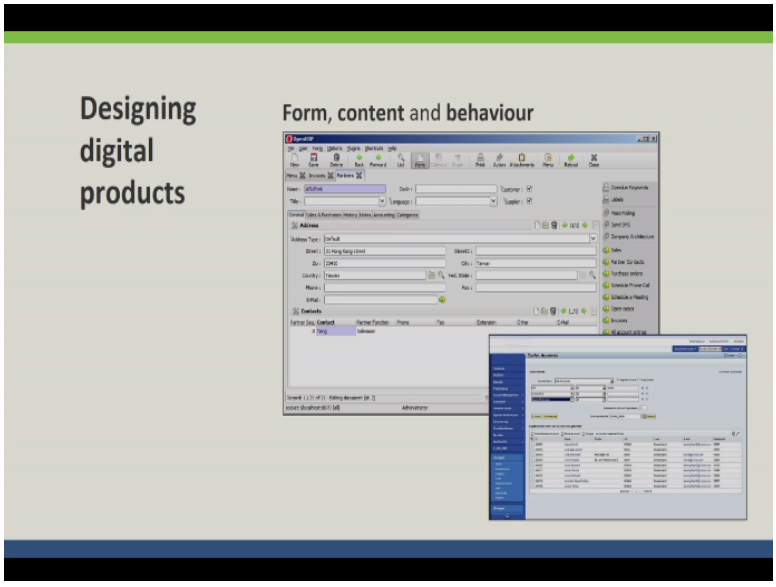
So it is important to have a keyboard that facilitates such an interaction over such a distance. So in this example also you have the form which is gaining more prominence than the content and behaviour while websites which lists notices from different employers, businesses and individuals may be more oriented towards the content.

(Refer Slide Time: 06:25)



The designers will pay more attention to the categories and the subcategories than the form of the website itself. It becomes more important to let users find the very specific information which they are interested in from such a huge sea of content thus these websites have.

(Refer Slide Time: 06:50)



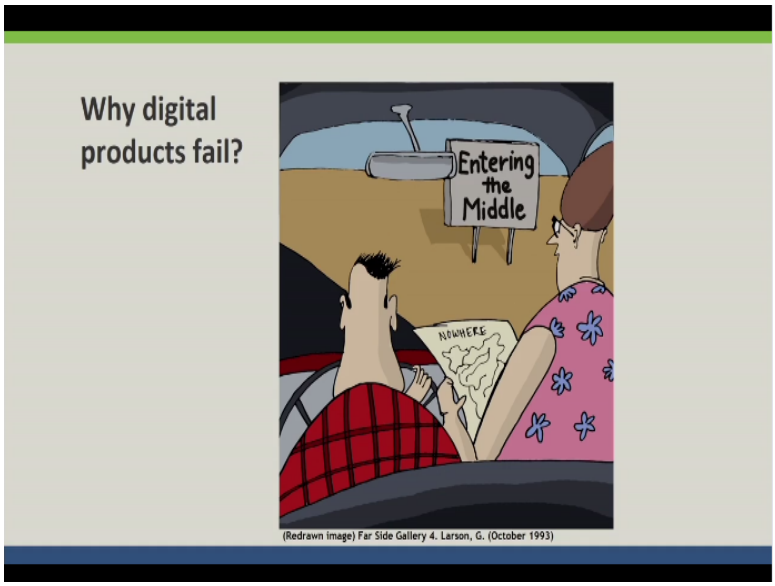
Talking about the behaviour, you see that in ERP softwares, enterprise softwares are in softwares which are designed specifically for different needs, for example hospital management software. You will be noticing the designers pay more attention to the behaviour of the artefact, to the behaviour of the interactive product than on its form and content.

These 3 examples illustrate that the form, content and behaviour of an interactive product receive different design priorities with the respect to user groups and their needs, domain of application and context of use. While you would imagine that such a knowledge about

designing interactive products would be prevalent as it seems all quite logical and rationale but still we see that a lot of digital products fail which so many of us consciously trying to design and develop these interactive products.

We often find ourselves in the middle of nowhere.

(Refer Slide Time: 07:49)



Even if you are not an interaction designer, you can relate with these failures as a user. I am sure you could name a couple of interactive products yourself where the product fail to initiate or sustain an interaction with you. Let us see why this happens. As I have told you earlier that the interaction design or the design of interactive products in a professional setup is quite a collaborative process.

There are different teams involved, for example we have teams which look into the engineering aspect of the product. Then, there is a team which looks at the marketing aspect of the product. Then, we have the management team as well and then the team of designers. All of them have different roles and responsibilities to play in the design of the interactive product.

(Refer Slide Time: 08:37)

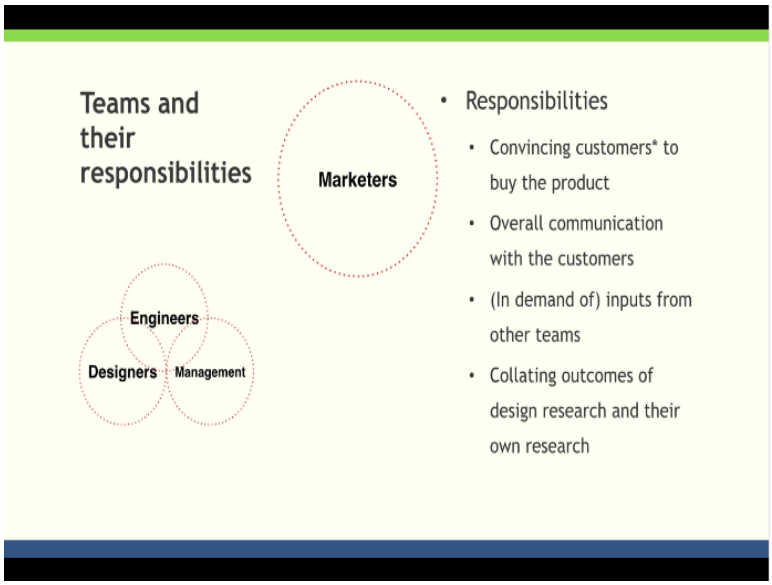
For example, designer's responsibilities would be to ensure user satisfaction with the product. They would decide on the look, feel and behaviour of the product and they would communicate across teams. That is also one of the expectations from the design team.

(Refer Slide Time: 08:55)

When it comes to engineers, their responsibilities would be to develop the product within a specified requirements and schedule. They are in demand of knowing clearer product specifications and they like designers are also responsible for communicating with others. So they have to inform others about the technological opportunities and constraints.

When it comes to management, they are often responsible for ensuring profitability of the product. They make teams and delegate tasks. They are in demand of inputs from other teams to decide better on their roles and responsibilities.

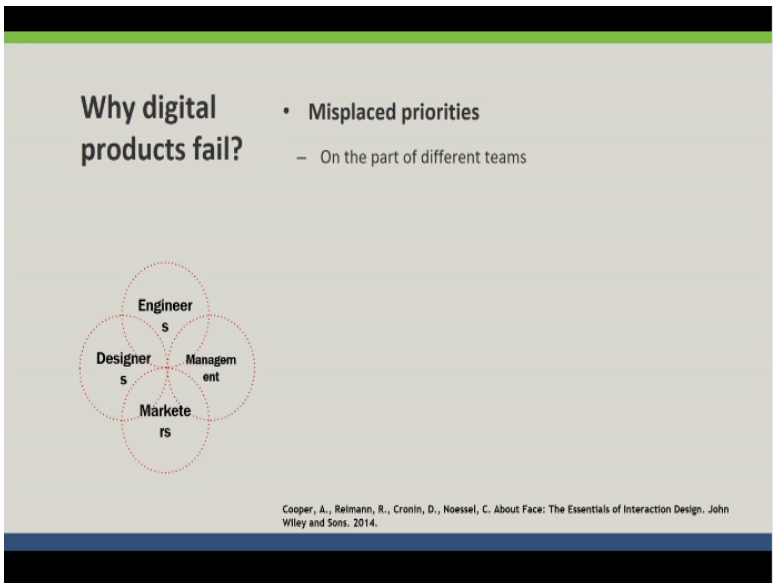
(Refer Slide Time: 09:32)



Marketers, their responsibilities include convincing customers to buy the product or they are also responsible for overall communication with the customers. They are in demand of inputs from other teams and they are also responsible for collating outcomes from design research that is the input that they receive from the design team and from their own research which is mostly market research and product placement insights.

As I was saying earlier, the digital products keep on failing.

(Refer Slide Time: 10:04)

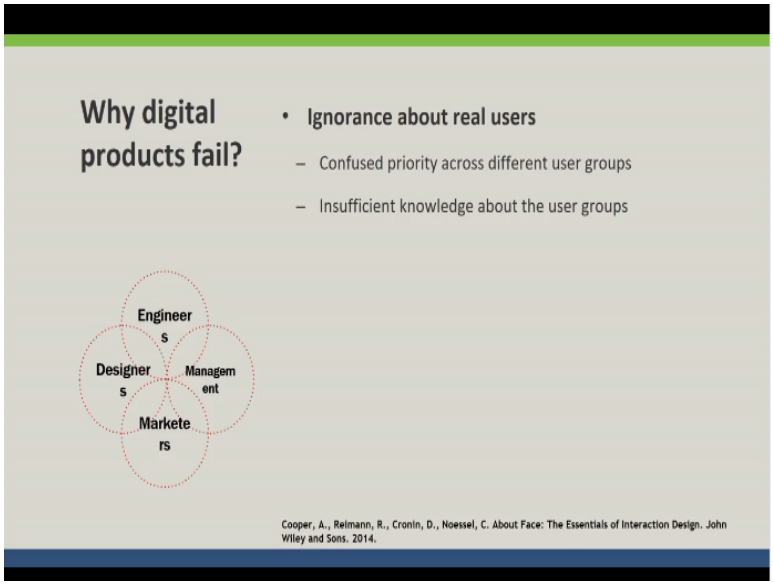


What could be the reasons for this? One of the reasons could be misplaced priorities, for example it would be necessary to keep knowing the users and understanding them in greater detail on a very higher priority. The design and development team should consider doing this

early on in the process. It is like having a design of a building from the architect before you begin constructing the building itself.

However, often due to shortage of time or money or because of unavailability of expert manpower knowing the users appears quite late in the priority list of the team. Under these conditions, the interactive product gets built without considering users eventually it fails.

(Refer Slide Time: 10:54)

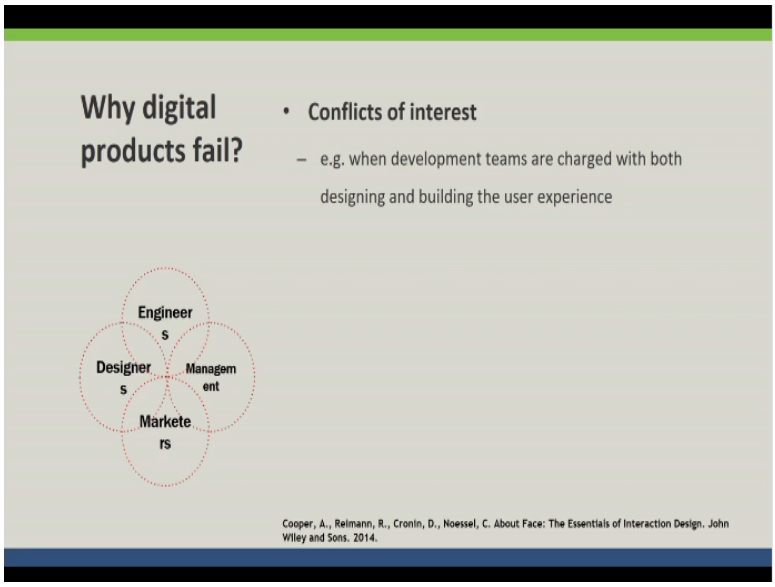


The other reason could be ignorance about the real users. Sometimes it also happens that the teams are ignorant about the real users. This happens widely when the interactive product caters to more than one user groups. So in that case, there would be a possibility of confused priorities across different user groups. There might be insufficient knowledge about these user groups as well.

For example in a hospital management system, you might see that this system should be meant to be used by the doctors, nursing staff, the other non-nursing staff, the administrative staff and by the management as well but if you happen to be in a hospital where the hospital management system is installed or is working, you will notice the doctors find it really hard to use the computers on their desk.

Half of the time they are involved either in writing diagnosis onto the computer or there is someone else who is feeding the diagnosis details into the computer. So it is also important to know the user groups which might be absent from your imagination, for example the data entry operators.

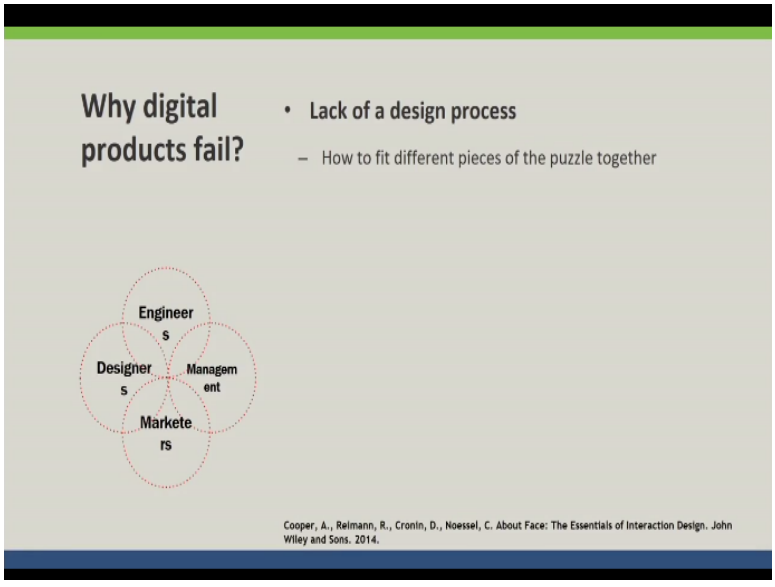
(Refer Slide Time: 12:10)



The third reason could be conflict of interest, so for example when the development teams are charged with both designing and building the user experience by the nature of the practice that they do, they are responsible for building of the product by conceding the technological challenges. They are responsible for making it in the scheduled time and with available resources.

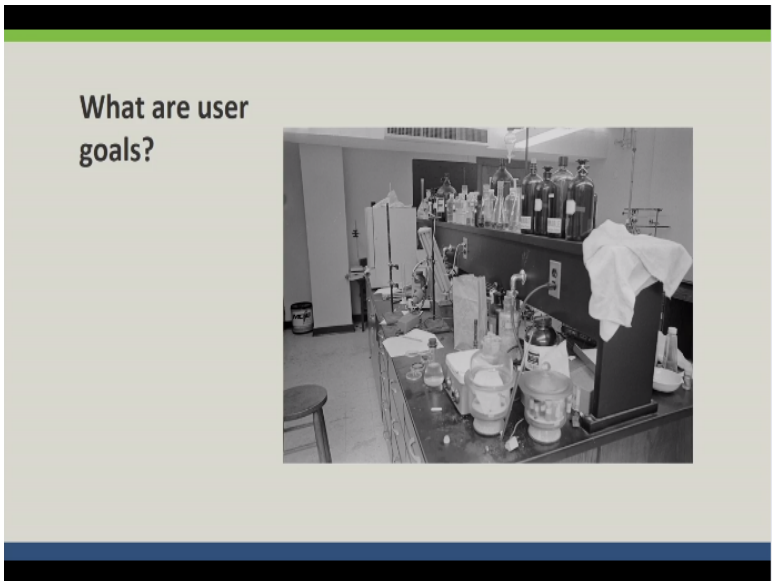
But if the same team is interested with the responsibility of designing the product also, they might find themselves in a confusing state when deciding priorities across these two disciplines. So there would be a conflict of interest in any such case and then the fourth reason could be the lack of a design process itself.

(Refer Slide Time: 12:54)



So if the team is unaware of the design process, they might not know how to fit different pieces of the puzzle together. So in this way, it is very important to acknowledge the user goals before embarking on the design of interactive products but we wonder what are user goals because their understanding could be quite different. So let us see what these user goals are. User goals may be quite different from what we imagine.

(Refer Slide Time: 13:23)



Let me ask you to revisit your school days when you were a student attempting a practical in the chemistry lab. Assume that you would be working individually with an assignment at hand. Let us say you are trying to replicate the experiment of titration. You had a burette on the table, a pipette and the flask in both of your hands and you are supposed to find out the moment when ferrous iron turns into ferric iron making your solution turn pink.

So assume that you probably would have somebody like a laboratory technician watching you along with your chemistry teacher. This is something that we all have been through at least once in our lifetimes, unless you were a student who had skipped it for some reasons okay. Now let us reflect back on our own estimates of why we were doing things in a particular way in the chemistry lab during the titration experiment.

Possibly, we will have an idea of the goals of different people in this particular example. If you were the teacher, we would imagine that the students were learning the chemistry behind titration as a process that to us seems like a goal for most of the students in the chemistry lab. Students who are giving their time and effort to the experiment and that is a good enough

reason for us to believe that they were interested in learning the chemistry behind the titration process.

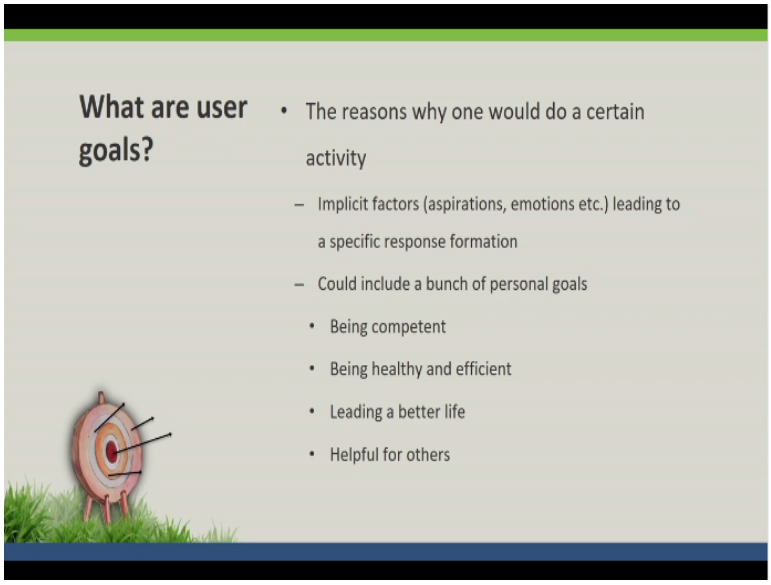
But are we sure about that, anyways past is past but if you could time travel to ask your classmates then or even to observe them, it was very likely that you would found them following just a simple routine of attending the lab much like they would have attended any other lab or a lecture session in the school.

In fact, they might have found being a chemistry lab much stressful as there was a constant fear of breaking delicate glass equipments during the experiment and finally attracting a heavy fine from the school. Let us consider the goals of the laboratory technician. It might be possible for you to imagine that the laboratory technician is interested in helping students conducting their experiments.

While it might be possible that he would himself be falling into a stressful situation by seeing so many students for that very short duration during the school hours. He might also be worrying about broken facilities in the lab like broken sinks and water taps and might be worrying about how to manage so many students with so little facility. So you see that our estimates of others goals are quite deceptive.

We might not be in a position to estimate user goals as well unless we use established methods of knowing these user goals but before we go on finding these methods, let us understand user goals a little more in detail.

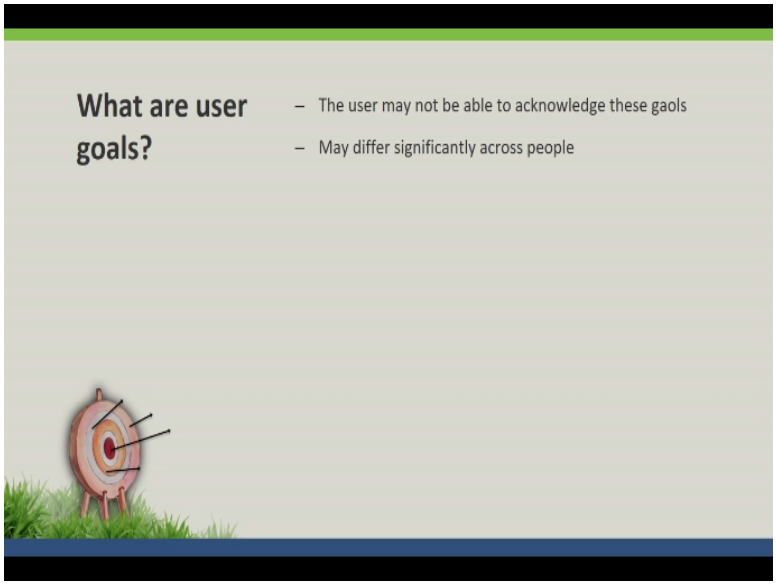
(Refer Slide Time: 16:30)



User goals are the reasons why one would do a certain activity in a certain way. These are results of implicit factors, aspirations, emotions etc. leading to a specific response formation. These could include a bunch of personal goals, for example being competent, being healthy and efficient, leading a better life, helpful for others are all personal goals. When it comes to designing interactions with users, it is possible that some of these personal goals would club up to form a bigger goal.

You would notice that we are not always aware of these goals ourselves.

(Refer Slide Time: 17:07)

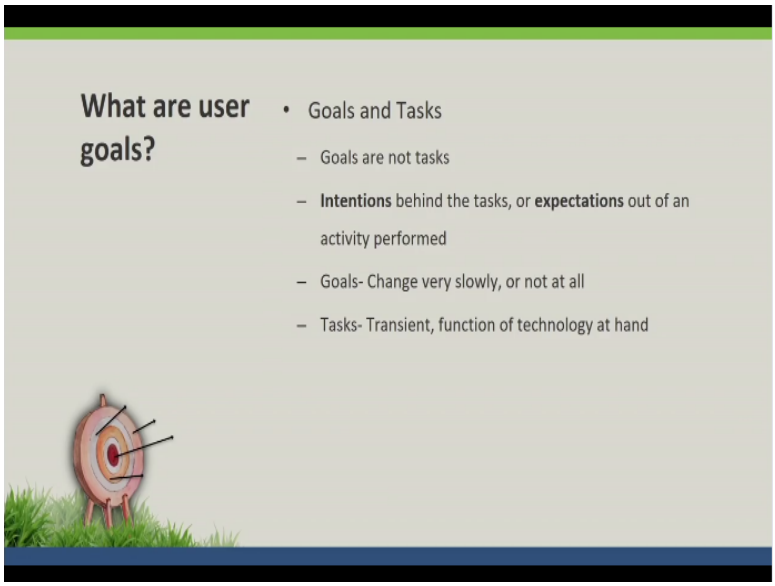


In fact, we might not be able to acknowledge these goals consciously as well. So when you are doing user research, it is very important for you as designers to know that you have to probe your users in such a way so that you can get a sense of the user goals because they

themselves might not be very much consciously aware of those goals or may not be able to articulate them.

They may differ significantly across different people. Let us now understand how goals are different from tasks.

(Refer Slide Time: 17:37)

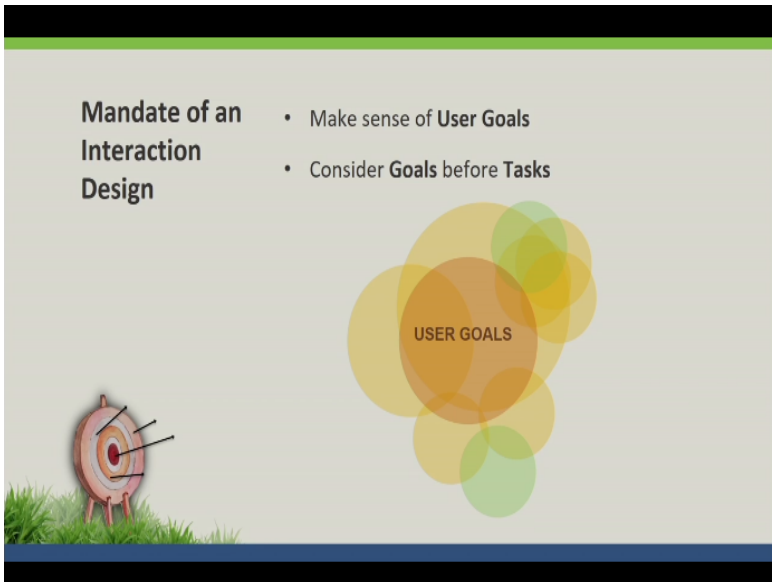


First of all, goals are not tasks. These are the intentions behind the task or expectations out of an activity perform. Goals change very slow, at times not at all, while task they are pretty transient. They are the function of technology at hand. Let us look at an example which clearly illustrates this difference between goals and tasks. The example is also interesting because it clearly indicates that goals are slowly changing and often at times they change not at all.

Imagine yourself as a traveller in earlier times. If you were to travel between any two destinations in a horse wagon and your journey goes through jungles and hills and valleys, you would perhaps carry weapons to travel safely, so the goal is to travel safely. In modern times, if you were to travel between the same two destinations at the airport, you would submit all your weapons, in fact people would make sure that no one carries weapons with the same goal to travel safely.

So you see that the goal of travelling safely has a change over so many decades and centuries and that is where we are coming to the closure of this session which is the mandate of an interaction designer.

(Refer Slide Time: 18:58)



As an interaction designer, it is very important to kind of understand this amorphous mass of user goals and you have to consider goals before task. In fact, if you were to design an interactive product solely based on the task, you might end up with the product which is either short lived or is not that useful for the user groups. Thank you.