

Design Thinking
Professor Bala Ramadurai
Test Prototype Validation

Professor: So what have we here design thinking prototype?

Student1: Yes sir, what we have built is a basic app as a part of our solution phase in design thinking. We are trying to test our assumption through this app basically, so you can just run through the app and give us a feedback on how it is. What all features can be added to modify this app?

Professor: Okay, so you have login screen, okay textbook notes. So it sounds to me like it is very similar to what you had in the presentation software, okay.

Student1: Yes sir.

Professor: Textbook, notebook, file manager, settings (1:01) download, upload. Notebook I click I get all the list of notebooks mathematics, chemistry whatnot under the plus for me to create a new notebook okay I have to start writing here, to do I go back backward textbook and all of these again plus and I see...okay this is a downloadable textbook okay and yes it looks good, great. So here is my suggestion to you, this is great for you to get to know how to interact with a product, so that way it is nice but what I would like you to also see is that you had a list of assumptions, assumptions that you have made about to know the teacher has access to a digital notebook and all that.

So I would say most of those can be ask us questions simple like does your teacher have access to or has a digital version of a textbook so that is something you can probably ask them, so those can be just quick questions that you see and make sure that this is right. Also I think one of them has a question like if I remember right, does the student have motivation to share their notes, so one way to do this is rather than asking them, so do you have the motivation to share your notes instead get instances from their past as to how they have shared your notes, so when was the last time for example question could be.

So when was the last time you shared your notes with your classmates? And they will say in my biology class I have shared my notes with guy who was absent, so then you know this guy is really shared the notes or not, so that way you can get instances from their past and that would be a great way to do it. The rest of them I think yes or no questions, I have looked

at your assumptions, so anyway so then you can make them interact with this also looks quite good and you did it in very short period of time. Congratulations.

Student1: Thank you very much.

Professor: Okay good luck with your testing.

Student1: Thank you very much that was a great feedback.

Professor: Okay thanks.

Student2: Hello.

Student1: Hi, can you start with you name?

Student2: I am Rajshree.

Student1: How old are you Rajshree?

Student2: I am 18.

Student1: You are studying at IISER?

Student2: Yes I am studying.

Student1: What course?

Student2: It is BSMS (3:44)

Student1: Great, So Rajshree what we have here is a solution as part of our design thinking course. We would like you to test the solution and give a feedback what can be done with this application. So you can just run through this application (4:03) download upload (4:08). So in this process I have questions for you they might be study materials given to you in your classes (4:21), so is there a form of soft copy of this study material that you (4:29).

Student2: It is mostly the presentations which we are taught from the class that is only send to us via mail or there send to this app called (4:40).

Student1: Yes.

Student2: So soft copy of these class notes are uploaded there.

Student1: Okay, so do you have access to smart phone in classroom?

Student2: Well in the classroom if we have to refer to anything, yes of course but mostly Professors prefer if we do not use smart phone during the class hour and we can use it later.

Student1: (())(5:06) in case if the Professor allows you to use smart phone, so is there any monitoring happening like this is what we have to check, you can check with them...

Student2: Not really, there is no such monitoring but we are free to access whatever we want during class if Professor ask.

Student1: Great, so we also have these textbooks which you can access through a smart phone to take a picture (())(5:36), so is there a provision there these textbooks are available as soft copy as an as PDF for download and you can write on top of it, is there a provision...?

Student2: We cannot actually edit or write on top of it but we can just download it from sites like (())(5:51).

Student1: Okay, so how frequently do you share your handwritten class work with your classmates?

Student2: It is generally a two-way process if I have missed a class or say for example if Professor speaks to class then it is difficult for me to take down notes then I generally prefer waiting (())(6:17).

Student1: Any instance that you remember, yes this was very important for me, if sharing of notes then happen which can be...I would have helped by a learned person, so is there any instance you can think of?

Student2: Well in few of our courses actually it is kind of difficult to understand and interpret what the Professor is saying because he is saying it way too fast for us to write down, so if I try to listen to him I will miss out the notes and if I try to write I will miss out what he is saying, so generally a collaborative work.

Student1: Okay.

Student3: My name is Aditya First Year BSMS.

Student1: How old are you Aditya?

Student3: I am 19 years old.

Student1: This is a solution for design thinking course we are teaching on NPTEL.

Student3: Yes.

Student1: So this is a note taking application basically (7:22) basic prototype. If you can run through the app and give us any feedback in terms of making this even more better.

Student3: So basically while I am taking notes I am a science student I usually need to write in a lot of mathematical equations, so most of the apps I have used for this not account for that suppose I am writing a differentiation equation and I need a square sign over the variable x , so I cannot type it very efficiently, so if I had a simpler method to type equations that would be great. Also there is this I think this is great app if I can use it efficiently plus I will not have to carry this bag.

Student1: Absolutely that is (8:13)

Student3: I was thinking about the same of designing an app like this.

Student1: You develop app?

Student3: No actually my dad does.

Student1: I have few assumptions we put in our (8:26) while developing this app and we also like to test these assumptions.

Student3: Okay.

Student1: One of them is when you are in class your teacher might have giving you some sort of study material...

Student3: Okay.

Student1: Is there a way where they hand out to you the soft copy by any chance?

Student3: Yes, actually (8:43) course websites, most of the course have a websites and every tutorial (8:50) all the lecture notes are given on that, so mostly we need to copy a jest of it.

Student1: Do you have any access to smart phone inside your class like if you want to refer to some part...

Student3: We are not allowed to take photographs as such but I use a laptop to take notes.

Student1: Okay, so when you are using a system like laptop or a smart phone, is there anyone monitoring you like what is so and so person doing?

Student3: No.

Student1: There are people playing games.

Student3: Now since you said you use laptop for taking notes, is there a provision where you get all your textbook as (9:42) like as soft copy so that you have your textbook at the same side and...

Student1: Actually most of the text books are not available... Because it is a copyright issue, so mostly we do not get it but... Yes mostly we do not get it.

Student3: So when you are taking down notes digitally (10:10) share your notes?

Student1: Yes.

Student3: Can you remember of any (10:16) situation where you felt sharing of notes would have been really nice.

Student1: Yes basically when we have open textbook example the book is not available to everybody, the notes not available to everyone, so you need a soft copy so that everyone can... (10:35) open photocopy (10:38) so in case of short copy it is way better because we can access everybody's notes in a single...but if it takes photo (10:47) in the classroom...

Student3: So in this way it will also reduce papers.

Student1: Papers, paper use and also we can access everybody's notes in a single.

Student3: Yes absolutely.

Student1: Thank you very much.

Student3: Thank you.

Student1: Hi can I have your name first.

Student4: My name is Sunil.

Student1: How old are you?

Student4: I am 22 years old.

Student1: Are you a student of IISER?

Student4: Yes.

Student1: Okay so this is the basic note taking application is developed as a part of our solution in design thinking. We would like you to go through this app and give any feedback if you can. If I may ask in your class you might be attending classes where teacher has to give notes, study materials, right?

Student4: Yes.

Student1: So is there a provision where all the study materials are available on a softcopy to you.

Student4: Softcopy (0)(11:51).

Student1: As if a teacher is giving you a study material and it can be shared via digital platform or given as a...so what is the way that is happening right now?

Student5: We have to go to the website.

Student1: So you also must be having access to some sort of digital gadget inside classroom?

Student4: Yes.

Student1: So when you have a smart phone or a laptop for taking notes or accessing something, is there anyone monitoring you like this is what has to be done and are you taking down (0)(12:27). In our 11th 12th engineering class there would be a medical test option or something like that, so is there any process where Professors asking you, is everything right? Have you taken down the notes?

Student5: Many of the websites open by only IISER email account not by other email account or IISER IP address, so outside (0)(12:50) they cannot open it.

Student1: Just in case if you have access to the study materials there can be text books also. So do you have your subject textbook or your specialisation textbook as softcopy available to you?

Student4: In certain websites is available.

Student1: Sorry.

Student4: In certain websites.

Student1: In certain websites they take care of it.

Student4: () (13:17).

Student1: So if my ask was there any situation recently you come across where you felt sharing of your personal notes was very important as a part of learning for your friends as in even if you share notes with your friends or receive notes, is there any situation where you felt yes this sharing of notes is really important for us and if it can be done digitally.

Student4: Yes.

Student1: Is there a situation that you can tell?

Student4: Obviously () (13:51)

Student1: So can we remember any time where you shared your notes with your friends like what kind of notes you would be sharing?

Student5: If we are on Whatsapp or.

Student1: Basically you click images and.

Student4: Yes you can.

Student1: Any other feedbacks in terms of developing this app like what features can be added?

Student5: Here we upload notes.

Student1: Yes this is basically a () (14:34) this is practising your notes which you have already written on and this is a sample text what we have put up here as a part of our basic

prototype, so that once you say yes instead of typing say writing is very easy, so that would be a feedback for us to remove (14:52) part of it and say incorporating a (14:55).

Student5: Like we can write like (14:58).

Student1: Yes.

Student5: That is a good part like many good students have good note, so they can upload their notes and university students can download it and (15:09).

Student1: Right.

Student4: That will benefit local students.

Student1: Right, we can also...why I was asking about the monitoring part is, if we want to incorporate this system in our college like IISER there will be (15:25) sharing your textbooks to you and you can put up your notes into that cloud system as well.

Student4: So that everyone can see.

Student1: Everyone can see, so in the same process we do not want people putting up unrequired or (15:37) they should be admin. So in this entire process while you uploading your personal notes into the cloud where your classmates can access it or your administrator himself or herself can (15:52) or sharing your next week's timetable or anything (15:58) so any feedback in terms of managing this aspect.

Student5: Here we upload chapter wise or.

Student1: It is up to you, you can create a folder which has only one chapter or only one page or less than (16:22) entire textbook would be a (16:25) textbook like I want to write 20 cases first and (16:31) as you keep sliding (16:33) in this case what we expect is if you can give us feedback what it should be there it would be (16:43). We are in terms of improving this apps so we want to show our viewers how to start a basic prototype of an app and how to improve the app by taking (16:53).

Student4: (16:59)

Student1: (17:01) you feel you are studying (17:03)

Student4: Yes.

Student1: Great, thank you very much.

Student4: You are welcome.

Student1: Can you guys introduce yourself to start of with?

Student6: I am (17:19) I am from Kerala studying 2nd year BSMS.

Student7: I am Mohammed from Kerala also 2nd year BSMS student.

Student1: We would like you to run through this app and it is a basic note taking application from textbooks, notebook (17:49) this college I of IISER where your administrator can come up with content or you can upload your notes (18:03). I would like to get some feedbacks from your side what more can be done or any feature you want (18:13).

Student7: So since this is at initial stage I think I should be able to stores the favourites, so bookmarking will be very helpful. (18:41) those things will be helpful. Then handwriting should be enable but I thing that (18:51) it is always a problem while writing in tab, so a stylus should be enable.

Student6: Need more features.

Student1: During the classroom teacher might have saved some study materials and things like that, so was this study material always in term of paper format or is it shared online?

Student7: No, it is usually digitally.

Student6: (19:25) till (19:37)

Student1: Do you guys have any access to smartphone or laptop since the classroom?

Student6: No it is not allowed, we can bring it but cannot use.

Student1: When you are at hostel or at home while you preparing a subject, is there a provision for you to have a textbook, soft copy or anything?

Student7: Yes.

Student6: Usually we do that.

Student1: (20:15)

Student6: Yes.

Student1: Do you also kind of comments or write your personal notes on top of that PDF like for your personal understanding.

Student7: No, we do not do that because it is the challenge, typing will be a challenge it takes lot of time, so we just highlight it.

Student1: () (20:36)

Student6: () (20:39)

Student1: So even more than we giving you a format it would be nice if you can tell us, we would like to have this format also.

Student6: Yes.

Student1: So is there a format you can let us know.

Student6: Yes it is () (21:00) format.

Student1: Can you elaborate what this format is?

Student6: I do not know actually.

Student7: Some textbooks comes in the format.

Student1: Okay.

Student6: Only () (21:13) computer can open that.

Student1: Okay. Thank you very much.