

Design Thinking A Primer
Professor Bala Ramadurai
Test
Workshop - 01

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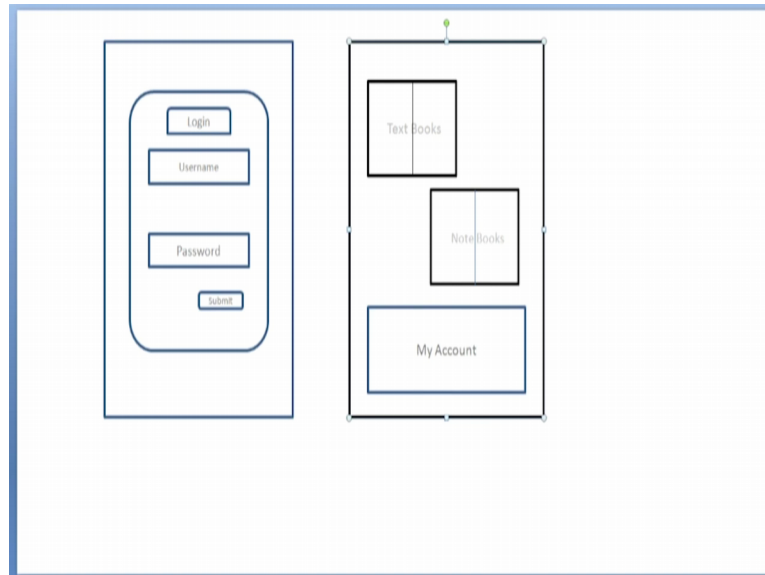
Professor Bala: Hello and welcome to the test phase of design thinking, no we are not learning music here, we are not here for music lessons, we are going to do the testing phase of the design problem that my team took up in the last phase, which was related to education about note taking and we arrived at a solution some, not solution its entirety, it still needs raw form, we arrived at the features that their solution should have, so they have sort of what I describe in my elephant and blind men story.

So they have pieces of the puzzle, they trying to piece it altogether and like a good music on symbol tall comes together, so this is what we are going to try to do the testing phase, trying to get different ideas, merge them together and see how it all looks like because when you externalise what you are thinking, your thought process it starts forming much more concrete idea, of course it does not stop there, you need to take it the users whom eventually your trying to help and see what their reactions are and let the rock 'n' roll begin after that.

So that is what we are going to do, so over to you guys for the two steps, for the first and we are going to do is to see if we can actually build a prototype before that I will ask them to state their assumptions, that is important because we need to find out what it is that we are going to test with our users, we may have some ideas preconceived notions and that is something that they will have to test, so here is my team again, you met them before many

many times, so you will meet them again and we will see what they do with their idea, they are solution, over to you guys.

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Student Siddharth: So since we already discussed about the solution and what the solution, what the features in the solution is to be, we have come up with some basic assumptions what we are thinking our still happening in the current situation in a classroom, so I will start with stating the assumptions, first one would be teachers who actually is preparing her notes to teach in the class has a master copy of that notes in a soft copy, which she can be sharing it to her students later, that would be assumption one.

Two will be students have some sort of access to electronic gadgets or a smart device where they can access this solution what we are trying to develop and eventually added save and keep writing, adding to the repository that would be assumption two, then three is, assumption three is that there is a admin in the school who will be monitoring all the activities that would be happening inside this repository what we are going to develop right now.

Than assumption four would be all the textbooks or subject textbooks basically are available as soft copies, so that they can be uploaded into the systems, so these are the basic assumption you come up with, now we are going to start with discussing, in fact brainstorming how this prototype should be, what? How these features we have discussed previously can be incorporated into this prototype.

Student Nithin: So let us start with basic design of what the solution could actually be, essentially what we have in the solution would broadly be classified into two, one is the textbook and 1, the other would be the notes, so let us start with basic homepage.

Student Siddharth: Where we have these 2 aspects in the application or the system right, so since we are developing a repository and it also has a, we also have an assumption that there would be an admin, would be monitoring all that activities, so he would also be adding new students as users into the system, so this would require a login system and account features basically, so we will start with having these three components in the application, so the first component would be textbooks, another would be notebooks fine.

Professor Bala: So what do you have so far?

Student Nithin: We have the application opening with three.

Student Siddharth: Textbooks, notebooks and another thing would be my account basically where user would usually go login into the system.

Student Nithin: Or should the login page be separate so that based on how the student logs in the content will be available for him or would it be standard content available for all respective of login.

Student Siddharth: Yes we can have a login page in the beginning or we can direct this option where we are going to have is my account to a login page and outside the login they can have their.

Student Nithin: Because essentially you do not want any user to come in and you know edit the system right, you want to ensure that whatever content is available for editing is only available to the users that have been added into the system that are part of the system, so I think we can create a login page, so the login page would essentially have a username and a password right and then ok button probably, password okay but right.

So that will be the first page, was the user login he have yes, so then I do not think this is required right, account tab is not required.

Student Siddharth: Or we can let it be for having his Profile related content.

Student Nithin: So textbooks, notebooks and my accounts.

Professor Bala: So what have you so far?

Student Nithin: So we have two pages, the first page would be a login page that the student would login with a username and password, once it submitted the relevant content will be available as two tabs, one will be a textbook tab and one will be a note tab and you will also have an account tab which has all the details of that particular user, so inside the textbook tab and the notebook tab you would have all the relevant textbook and the notebook repository available separately for the users to go and edit.

Professor Bala: And the notebook, sorry the textbook is supplied by the teachers.

Professor Nithin: Yes that was part of our one of our assumptions, we have four assumptions, so the first assumption, one of the fourth assumption was the textbook would be available in soft copies, so again textbook is not the core part of the problem that we are trying to solve but we still would want to see if students would have the ability to like you mention write on top or edit on top of textbooks and that contain also can be available for everyone.

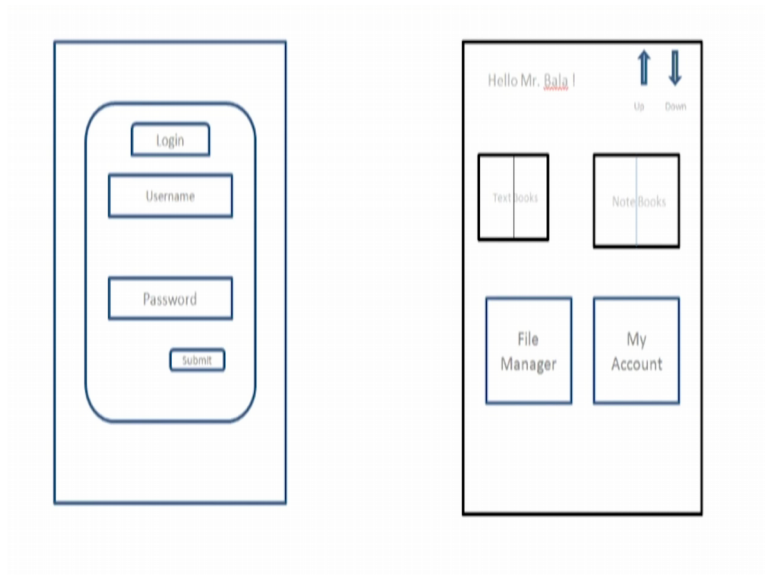
Professor Bala: Hmm, so this is your primary thinking in terms of only mobile application or this could be extended to web or.

Student Siddhartha: Yes it could be a web as well as mobile application.

Professor Bala: Okay.

Student Siddhartha: So now we have the login page and the first homepage of the system basically the repository or the system what we have to develop.

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Student Siddhartha: Now what we will be doing is since students might be having already notes which have been shared with them previously or.

Student Nithin: Or the master copy that has been collected by the admin from all the teachers or all subjects, so that content should already be available on the system when the student accesses it.

Student Siddhartha: So that would be the books there.

Student Nithin: So the tiles that he you are creating right now are the books for each subject right, so the next page sir, in this navigation would be once a user clicks on the notebook tab or the notebook page then subsequent page would open where you would have notes of each subject and the master copy whether it is collected from the teacher based on our assumption that master copy would be available for each subject in each of those tabs.

Professor Bala: Okay, so the teachers job to upload its.

Student Nithin: No it is the admins job, the admin is running the system, so the admin would collect the content from either the teacher based on our assumption or from student, one of the student to create the first master copy for all the subjects.

Professor Bala: So you are field test will the subjects be primarily students, teachers or who will your primary subject be for them.

Student Nithin: I think our users would be students, so our subjects would also be students but in order to test our assumptions as to whether teachers maintain record of the notes that would form the base of this system that is something that we need to probably check with our teachers as well. Okay so he is basically creating for each subject.

Professor Bala: So you will have couple of prototypes for one for college as well as one for.

Student Nithin: Yes we can I think right now we are designing it for schools we can also have one for college as well.

Professor Bala: Okay.

Student Siddhartha: Now we have the page for the notebooks.

Student Nithin: Yes there will be similar architecture for the textbooks as well right.

Student Siddhartha: Yes and notebooks we also have need to incorporate a new note right.

Professor Bala: So you may want to check it with the list of features you have also that if all of it is covered in your prototype, the assumption and the features these are the important parts in this case, so all of it, I think I can see that it has been covered one by one, the evaluation bit and the continuous evaluation is going to be tricky is to how to insert that into this.

Student Nithin: Okay, so do we need to have that as part of the solution or can stand outside of the solution.

Professor Bala: You have put that is a feature because that you saw as one of the things that motivate them to share, so and something that you may want to test also saying is that really true that they did it take you need to motivate.

Student Nithin: I think we can also add that is part of our assumption, the continuous evaluation and robot system would motivate student who, that is an assumption that we have made I guess.

Professor Bala: Absolutely, that is put it down as well, lots of time student do it for general good, they do not do it because they need a reward, maybe a complicating this system by introducing that robot system.

Student Siddhartha: Now what will, new notetaking page, this would be existing notes that admin has already put up into the system two things will have to create here, one is the opening each notebook what the admin is already put up into this and two is the new notetaking a user would want to do.

Students Nithin: So in the new content that users are going to add, that we have depicted this icon, writing in the list of features like sir mentioned they would have the option to upload any kind of content, it could be JPEG, it could be in any format, so I think we should be able to accommodate that.

Student Siddhartha: Then we also need to have a file manager for all this, management of all this different formats of documents we will have another option here in.

Student Nithin: Or could it be part of my account, file manager no.

Student Siddhartha: file manager is different okay account would be Profiling that student.

Student Nithin: Okay but essentially the activity that student would have to do to enter any kind of content irrespective of its format would be the same right or would it be different.

Student Siddhartha: I am sorry.

Student Nithin: Imagine the student wants to types some content, new content versus he would want to upload a image of note that is already taken in his notebook, so the process in this application that we are building be the same to our, essentially is doing the same activity it is uploading is content, so would the process be the same.

Student Siddhartha: In file manager what happens is you can segregate your entire documents like weird image, PDF, Word document than textbook, notebook they have come down as downloads or uploads basic all the logged it of uploads and downloads would be recorded in the file manager, in sickness of the time period, pertaining to earlier being on top, then textbook and notebooks would be very particularly what the admin is shared with the students for that particular class, so file manager can have a lot of personalised content as well.

Student Nithin: Okay that is what you are saying, so if again my question remains as to whether if a student wants to contribute to a certain subject on certain content and he was to contribute it through the notes that he has taken on paper and is contributing it in the form of image, would it remain only the file manager or would it be part of the content that the admin is seeing and updating the original master content, my question again is like if you are creating a file manager and we have given the option to the students to upload is image only in the file manager, would the admin have access to these content so that he can use that contain to upload a master, update the master content.

Student Siddhartha: No, then to clear this confusion what we can have two buttons on every page.

Student Nithin: Or what I was thinking is you have created that plus icon, so this is basically the icon for new right, so once that icon is clicked and then could you ask the user on what format the uploaded content is going to be because basically this is going to be an activity on uploading right.

Student Siddhartha: This is more of creating the note on uploading, creating a new note this would be, uploading what I was thinking which is popped into my hand what will have is two buttons here and here where if I click on the upload button or page inside repository should

open, where I can write my files and drop it into their and it gets uploaded, then similarly I will have a down arrow which I click on the down arrow, all the downloadable content in the repository which I am enable to access will be there in that repository, that page in the repository should open, so that I can choose what I want to download and click on download in that, in that page.

Student Nithin: So you said in conflict with the content that you are already giving in textbooks and notebooks because textbook and notebook is essentially the content that you want your users to see and access, so is there something that is different that is going in your download tab that is not available in textbook and notebook.

Student Siddhartha: We can have runs coming from different subjects basically, imagine in our UG, mechanical student could have his textbooks fixed in this repository, he would get downloadable access only to his textbooks of the admin, then electronics engineer would have, would be using the same repository but different set of text books would be coming in.

Student Nithin: So basically the second page that you have built would be personalised content right, so based on how the users has logged in it would be personalised list of textbooks that he has access to and personalised notes that has been maintained for that particular user and the download and upload that you are talking about would provide a old stuff content that from which he have access to it, from which he can download, upload content.

Student Siddhartha: So that could be working more like a DC++ where admin puts in.

Professor Bala: What is DC++?

Student Siddhartha: DC++ is a intranet repository where, usually Institute Incorporated this thing and all the students can go online into this DC++ either upload all their content said documents anything since if we four of us are connected to DC++ and we four are sharing our files, say I have hundred books, he has some other contents and you might be having some other content which want to share it with all appears, so I will put up all that content in DC++ and I can flush out all the temporary or unrequired files from my system it is already there in the repository, I can download whatever I want from that part and it not just means we four are connected to that system, anyone can download from that system, so it is more like a repository kind of thing as well.

Professor Bala: Okay.

Student Nithin: So when you are downloading content probably there should be a navigation as to once that content is downloaded that into what particular tab, what basically organisation, see I have, I could have an end number of contain available for me to download and downloading that and putting it either into my textbook content or into a personalised note content, so there should be a flow from where the downloaded content should be routed to the relevant.

Student Siddhartha: So that is why we are using a file manager, so I, if I click on download and open the repository to download any content I will have another folder inside my file manager which is downloads, all the downloads by default it will go into that folder.

Student Nithin: Okay, from their you can.

Student Siddhartha: From there I can move that file into the required, into my required, so this would be upload and this would be download, we also need to create the poor prototype for our system like DC++ our repository where the download and upload of the admin would be.

Professor Bala: The assumptions that you have mentioned if you can validate that, whatever you need to validate that, so this is going to be barebones skeleton just to validate your assumptions okay, then the next round you get sort of built, you know give it me enough meet to make it a complete system, here we are not there to make a full-fledged system and see how it works that is not our aim, our aim is to check with the users this is the first level of testing, you can do multiple rounds of these but the first level is to just go and see what is it that my users want, so are they comfortable with this idea.

Student Nithin: Yes so textbooks and notebooks in terms of this would be a copy right, you are also I would have made a new folder, create right because like creating my own personalised content here, so I could have a different subject and content for the different subject being added right, okay so this next would be someone clicking on any of this particular icons right.

So imagine I choose a certain subject in notes, so what happens would be that, there would be an existing repository of notes that is been initially created by the admin and transferred to this particular folder by me right okay, it will be edit, save and share which is basically

uploading in it back into the repository, so what is buttons would do is that if I click on I open a an existing node page, so there is the content that I have added available to be, if I make any addition to it and I click on save it, it gets saved into only my personal folder, edit obviously allows me to edit the content and if I share that this content would be going into the common server where the admin would have access to this particular content.

Professor Bala: Okay now where are we at.

Student Siddhartha: We are creating a new note taking page.

Student Nithin: In that essentially you would have three features in that page, so the page would begin with whatever existing content you have for that particular subject, you would have the option to edit content on that subject, you would have the option to save, when I say save, you are saving whatever editing or additions that you have made only for yourself and if at all you want to share this with the administrator who would be in charge of creating the master copy you can share it as well, so there would be three options on this page, new line would be blank.

Student Siddhartha: Now we have the login page, homepage, page for the notebooks, page for textbooks, a page for taking new notes, we covered all the features and there will be the upload and download option where students can see the entire repository, so far this is essentially a feature that is not available for our users but it is part of the administrative activity related to the system, so do we have to prototype this as well or.

Professor Bala: So when you going your target audience is admin, say suppose you are taking it to an administrator then you need to take them that part of prototype and see what is it that they are doing and you can interact with that, another question I had this regard is whatever the admin and the teacher are one and the same because in regard that could be a possibility, in my case it would be definitely be a possibility.

Student Nithin: I do not think there would be any problem the admin being the teacher.

Student Siddhartha: It is all individualised with respect to their account details, login details, so even if our particular teacher is assigned or the admin she can login as an admin and she can also login as a teacher also.

Professor Bala: So there separate login okay.

Student Nithin: Or probably the same login would have, that particular login have admin plus teacher access.

Professor Bala: That would be convenient because I hate switching login and that is a pain.

Student Nithin: Absolutely.

Student Siddhartha: We have five pages which will, I think structures almost set sir.

Professor Bala: Okay.

Student Siddhartha: So we essentially designed five pages, the first page would be a login page where the users, students or teachers logs in.

Student Nithin: Once login is validated you go to a homepage where you have, where have four options basically one would be the textbook and second would be the notebook, that would be a file manager and forth would be my accounts, on top of that you also have an upload and download tab, so just explain what all are the features, so in the textbook application, the textbook tab the students will have access to all the list of textbooks that have essentially been saved as per his content, so he can organise all his textbooks content on in that.

If he clicks on a notebook what essentially happens is he will have all his note content essentially the primary content here would be the master content that the administrator has created out of the content that is received from either the teacher, we are assuming teacher here or any of the student, so that master content essentially be organised into several subjects by this particular user, so that is what would be available in textbooks and notebooks.

Apart from that we also have two buttons on the homepage, one would be an upload button and the other would be a download button, in the upload button student can best on whatever new notes or new content irrespective of what file format it is can be added into this repository through the upload tab and similarly the download tab whatever content is available in this repository irrespective of document format can be downloaded to the application.

Other than that there will also be a my account and a file manager tab which basically keeps track of all the content that he has uploaded, all the content that he has downloaded and all the other features that are part of this application.

Professor Bala: Okay so we saw creation of a prototype right in front of your eyes, I felt that such a demo will actually help you understand what is the process involved, you are not app developer, you have not done this before, you can use paper, you can use something that is lying around boxes, you can use paper plates, you can use just sketch with sticky notes on it to model your concept, to externalize and you can have your team like this or this this team, interact with each other and correct each other and going and checking back what is it that they were originally attempting, they is it solving the users situation or not, what are the criteria that we had in the earlier phase and they brought it to this the form of a prototype.

So prototyping building is to test the other assumption again there was a new assumption that came up, that was also added to the list, so they are going to go to the field to test these assumptions, one more point I would like to point out is that now they have three potential users of the same system, so you can take a pic on which is your favourite or you think is the most important stakeholder in this and you can build a prototype for them, as the assumptions for them.

So in that case the admin was sort of a secondary customer, secondary user, so they going to build that later on so that will be part of their other task, they do not have a prototyping experience or an app building experience probably a little bit here and there for a hobby, but they use their software of choice, you can use physical stuff, you can use software of your choice does not need to be anything fancy.

The basic promise is to test out the idea on the field with users who potentially may use this in the future, this is you can end this process is iterative, it goes on I do not know test three rounds, four rounds, five rounds and till your satisfied that yes it is ready for prime time and then start giving it more flesh and blood, make it a real product service or in their case may be an app, that is what is lying in store for them, well till then enjoy, this was a great demo session for us, we will join you with the user test so that is what is up next for that, so keep tuned and we will show you how the user test go and now will also be bringing this screenshots of the final product that we have, prototype that we have, thank you so much take care.