
Information Architecture Of an Open Educational Resource website.

INTERACTION DESIGN PI

A Summer Internship at Vigyan Ashram, Pabal.

Sukanya Nirmal

Roll no.126330005

Interaction Design

COMPLETION CERTIFICATE



Vigyan Ashram

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Dt.29/6/2013

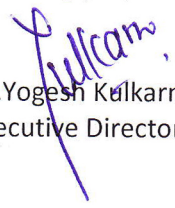
To Whom It May Concern

This is to certify that Ms Sukanya Mudaliar (1st year, M.Des student IIT,Mumbai) underwent one month internship with our institute from 6th May 2013. She was assigned on a project to develop an interface for our website www.learningwhiledoing.in by studying user interaction and different educational resources developed by our teachers.

She had submitted work as per our satisfaction and requirement. We found her sincere and efficient in her work.

This certificate is issued for completion of her internship project.

Thanking you,


Dr.Yogesh Kulkarni
Executive Director

DECLARATION SHEET

I declare that this written submission represent my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea / data / fact / source in my submission. I understand that any violation of the above will be cause for disciplinary action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

Signature:

Name of the student: Sukanya Nirmal

Roll no. : 126330005

ACKNOWLEDGEMENT

I'd like to thank Dr. Yogesh Kulkarni for providing this opportunity, his guidance, his patience & encouragement.

I'd also like to thank Mr Pankaj Shirke, Mr Mohit Ahluwalia & Mr Rohit Hedda for their advice on the technical feasibility and their valuable feedback on the interactions.

This note cannot end without offering thanks to my dear friends Sugandha, Deepanwita, Sajal, Nishi and my parents for being there when the going got tough.

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INTRODUCTION

Education, today has been isolated from work. Often there is little or no connection between a person's education and their occupation. Furthermore, in the Indian villages, where a huge majority of the country's population resides, youngsters, despite being educated, find it hard to find an occupation due to not being sufficiently enterprising or due to a lack of opportunity.

To address this concern, the Indian Institute of Education (IIE) has developed a unique education model, known as the 'learning while doing' model. Which along with education, generates employment and opportunities in rural areas. It also contributes very well to the cause of communal development and welfare, and has the potential to address issues like over population in urban areas and development of the base of the economic pyramid.

This model has been sustained, evolved and applied quite successfully at Vigyan Ashram in Pabal, Maharashtra. The lessons, tips, projects and course materials developed and gathered from such experience have been documented and made freely available for all to use and replicate the model of Vigyan Ashram.

The project documented herein, is an effort to organise and facilitate enrichment of this body of information



HOSTEL
NO
1



VIGYAN ASHRAM, PABAL.

Vigyan Ashram (VA) is a center of Indian Institute Of Education (IIE) Pune. A scientist turned educationalist Late Dr.S.S.Kalbag started Vigyan Ashram (VA) in 1983 to find out solutions to the problems in education. For, the team "Vigyan" means 'Search of Truth' and "Ashram" symbolises 'Simple living and High thinking '. It strives to be an organization where all are equal, so as to create a modern version of the old Gurukul system.

It is located in Pabal approximately 70 kms from Pune. Pabal situated on Rajgurunagar - Shirur Road. It has a population of 10000 and is a draught prone village which has several small hamlets attached to it. This makes it the central market place. The Pabal campus of VA was established with the intent of making it a model example of their Educational philosophy, it can be replicated in any part of the country.

One of the impressive features of this organisation, is its unbiased and open, yet thoughtful approach towards new information and technology, which it may adopt in order to optimise the pace and quality of its education delivery system.

VA's educational program IBT (Introduction to Basic Technology) is adopted by more than 122 high schools –across 4 states in India. Many Government and Private organizations, as well as individual donors support the programs of VA. "CAPART (Ministry of Rural Development), "Department of Science & Technology" "Sir Dorabji Tata Trust" "Hindustan Lever" "Lend-A-Hand-India", "Association for India's Development (AID)", "ASHA for Education", "MHRD ", are some of the organisations that support these programmes.



VIGYAN ASHRAM, PABAL.

Vigyan Ashram (VA) conducts 2 kinds of courses:

I Diploma in Basic Rural Technology (DBRT)

This course is recognized by National Institute of Open Schooling and useful for students interested to learn by hands. This is a multi-skill program in which training is given in the area of:

- a) Engineering- (Fabrication & construction& Basic Carpentry, Engineering Drawing & Costing)
- b) Energy & Environment - (Electrical, Motor rewinding, survey techniques, solar / biogas etc.)
- c) Home and Health (Sewing, food processing and rural lab)
- d) Agriculture and Animal Husbandry (polyhouse, poultry, goat farming, dairy nursery techniques).

Beside this, computer, meditation, adventure sports, etc. are parts of the program. Students offer services in each of the sections for 3 months under the supervision of instructors. Most of the campus of VA has built by students as part of their project work.

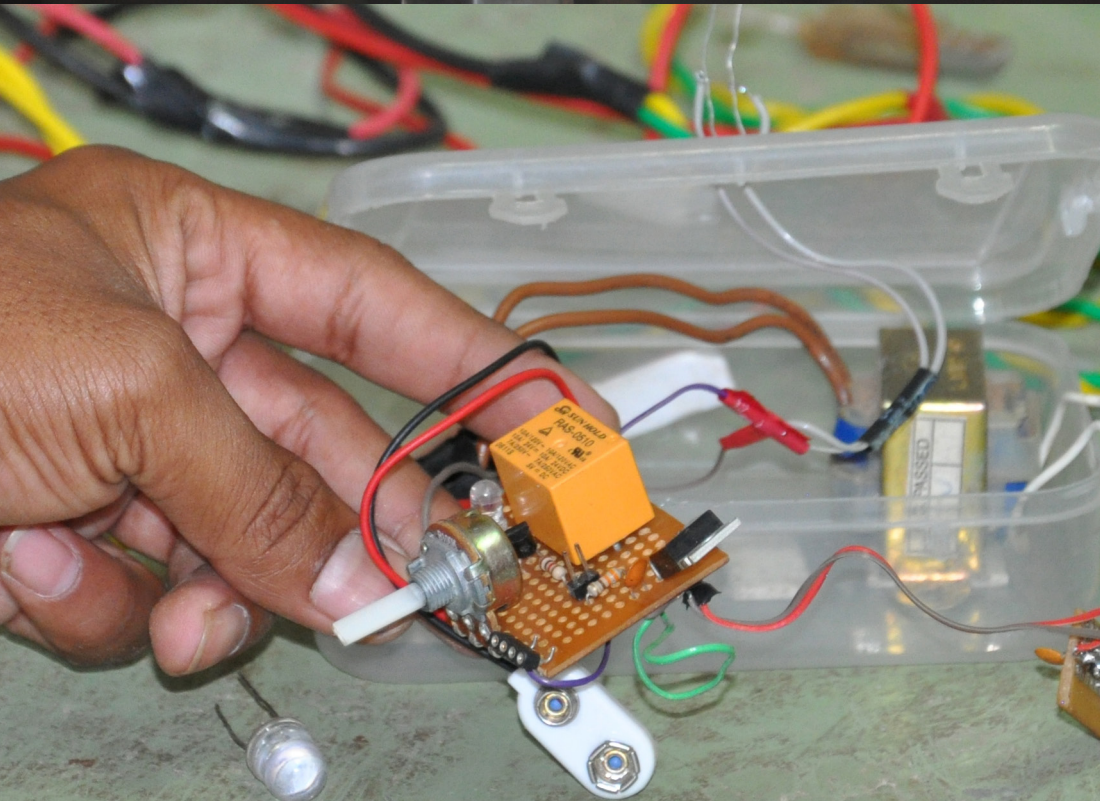
Duration : 1 year residential plus one year apprenticeship in a vocation of one's choice.

Entry qualification : 8th std minimum, suitable for aspiring rural entrepreneurs.

Language : 'Learning while doing' approach overcomes language barrier and 'Work becomes the medium of education'. Marathi, Hindi and English are the medium of instruction.

II Short term courses:

Courses on Ape-culture, Bamboo craft, Basic Agriculture, Basic Electrical, Basics of Computer, Computer Assembling / Hardware, Enterprises suitable for the Pench areas, Food preservation and processing, Making of LED application, to mention a few. that last between 5 days to 2 months, or in some cases one crop cycle.







THE PROBLEM

Vigyan Ashram conducts teachers training workshops on its campus at Pabal. But only a limited number of teachers are able to attend such workshops. The team wished to share their educational philosophy with teachers from all over. In recent times the team has started preparing OER (Open Educational Resources). These OERs have been uploaded on their blog. But as the projects and their documents have accumulated, they now feel the need for

- a) redesigning the way information stored in their database (in the form of OERS) is displayed and accessed online.
- b) Information be displayed in such a way that it communicates their educational philosophy more effectively and facilitates teachers in forming their own lesson plans based on the same.



USER

The users are:

a) Educationists who wish to adopt Vigyan Ashram's learning while doing educational philosophy.

b) Teacher's who are already part of such programmes and are in search of relevant course materials and lesson plans.

Teaching skills novice to mediocre.

Computer savvy: Mediocre

My Project Scope



Profile	(classifying OERs as per) Syllabus	About	Contact
Teacher's background	View OERs		
Student's List (Personal data)	Create		
OER's created			

SCOPE

- Documenting content requirement and preparing the features list and page hierarchy for the site.
- Laying rules for organizing and classifying content on the website to enable efficient search and consumption of information.
- Designing wire-frames for critical tasks undertaken by user (novice to mediocre competence teachers)

The Information architecture and interaction design done to the first draft of wire frame level for the following tasks:

- Organizing the content of the www.learningwhiledoing.in
- Designing a template for creating OERs
- Designing a template for displaying the OER

Searching and retrieving relevant information from the existing body of data.

Allowing Interconnections between projects, which allows viewing similar projects in a close sequence.

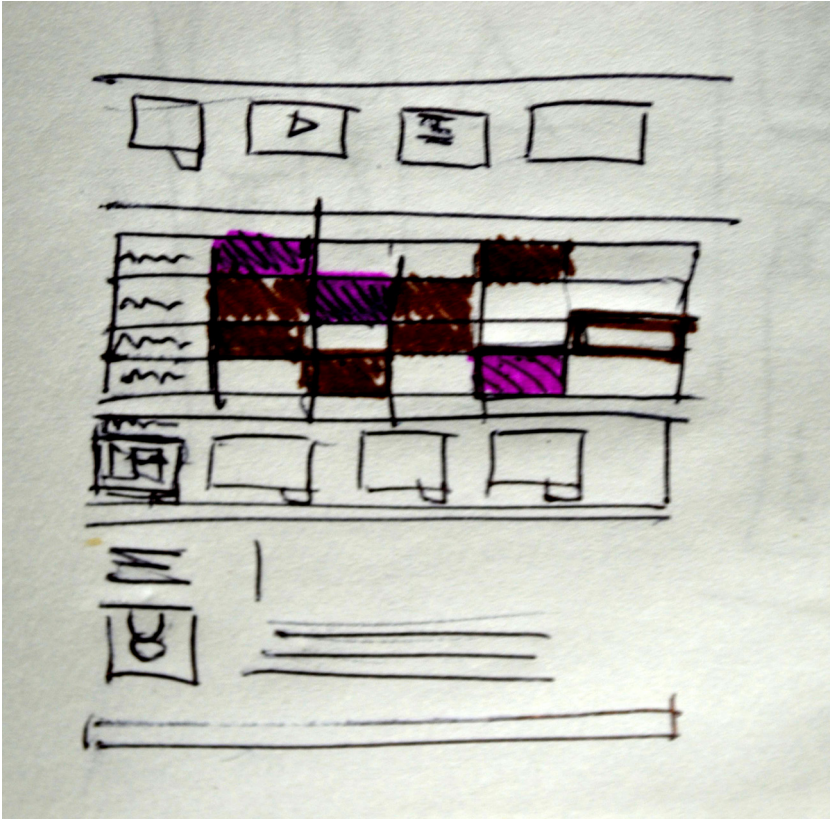
Preparing a facility for allowing novice users to create meaningful OERs.

REQUIREMENTS

- The primary requirement was that the solution should be something that a developer can code without much trouble and the team must be able to maintain without much effort.
- Relevant information must be easily accessible and retrievable. Accommodate uploading and viewing of multiple media like text, videos, images in the most user friendly manner.
- Allow editing rights to the authors even after the document is shared
- Allow the author freedom to organize and rearrange content in a way that's best for a particular lesson plan.
- Design to suit easy/smooth translation of the page into vernacular languages.

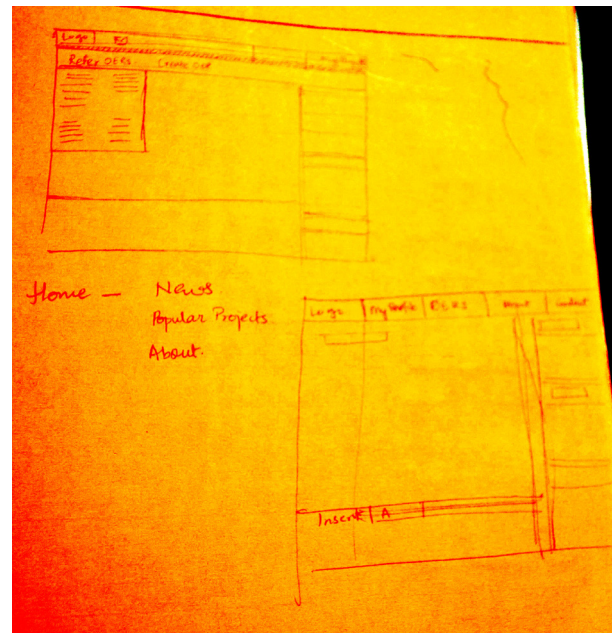
Profile		
Teacher's background	OERs created	Student's List (Personal data)
	Edit	Student's Details
		Their Progress
		Their Interests
		Their Projects

(classifying OERs as per) Syllabus		
View OERs	Create	
Pin	Add Exercises/Lessons	Add Students
	Search relevant OERs	System Suggestions
	Refer to Pins	

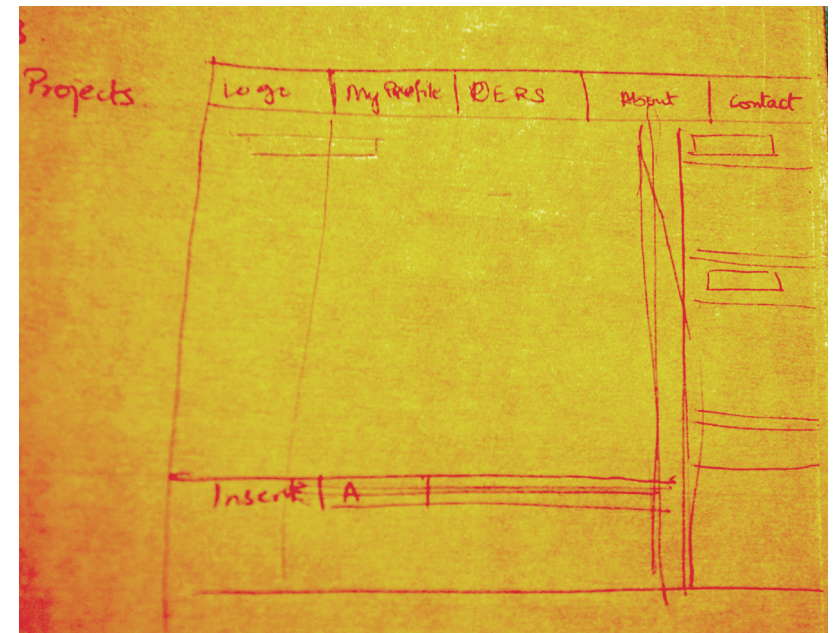


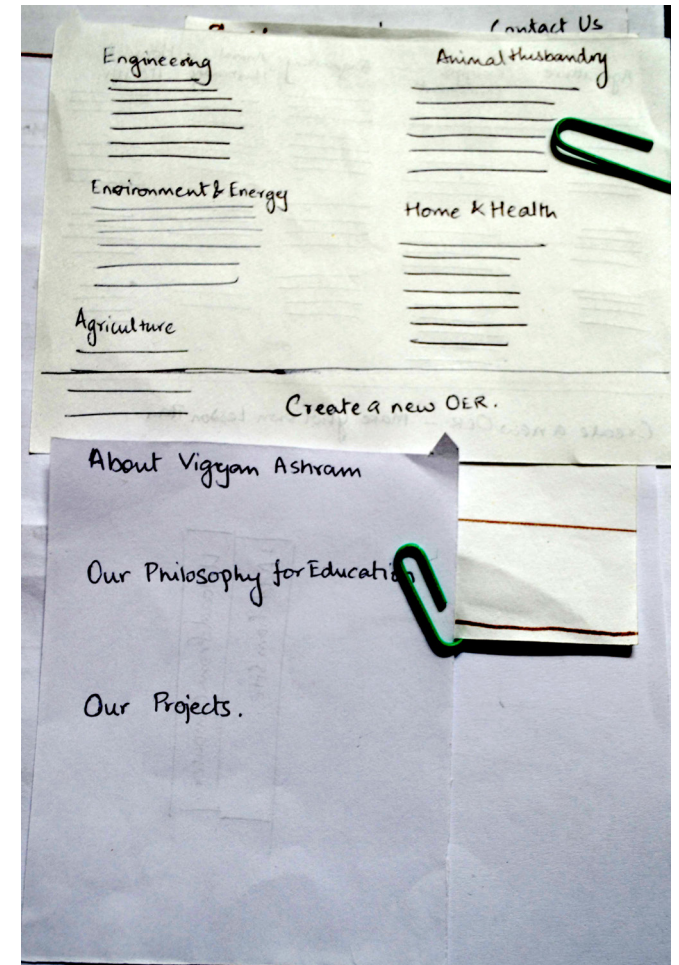
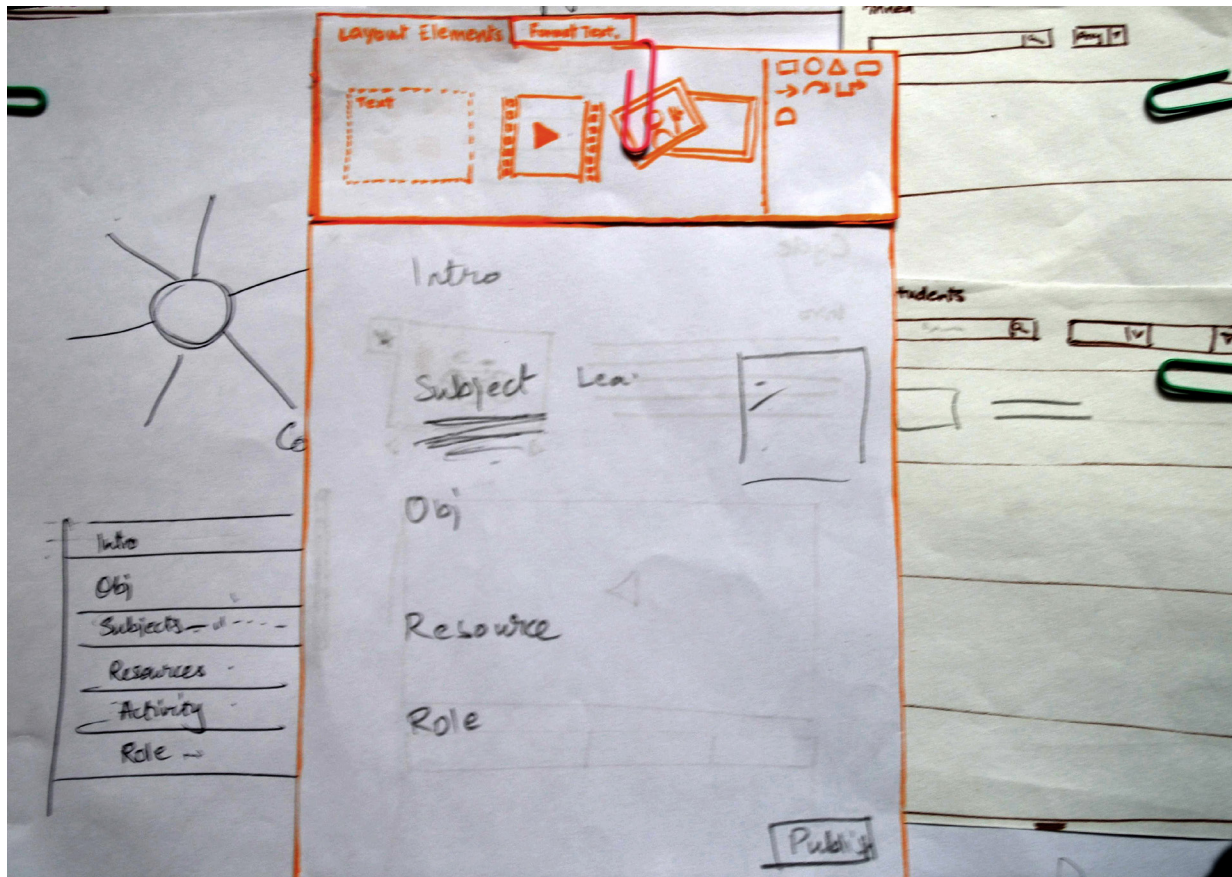
HEIRARCHY OF IINFORMATION AND INITIAL SKETCHES

After gathering the requirements and fixing the scope, the first step in designing was to plan the hierarchy of information and pages, and to identify their interconnections. Previously, the data used to be arranged as per the format of the course material. In the new design however, reorganised and created a new system that allowed the user to search and access data, directly as per relevance of subject, which is more natural and intuitive.



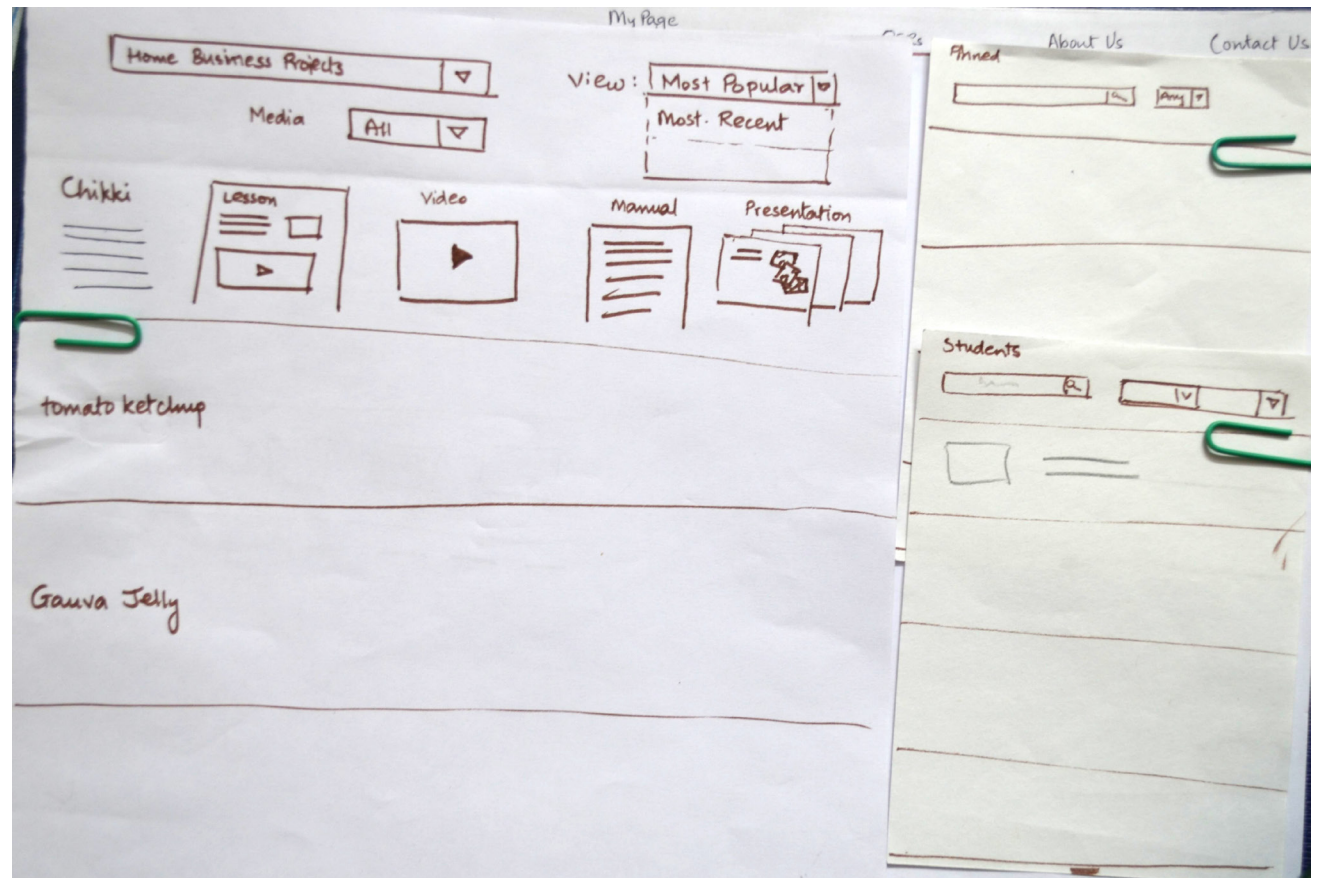
Home and dropdowns
Create OER





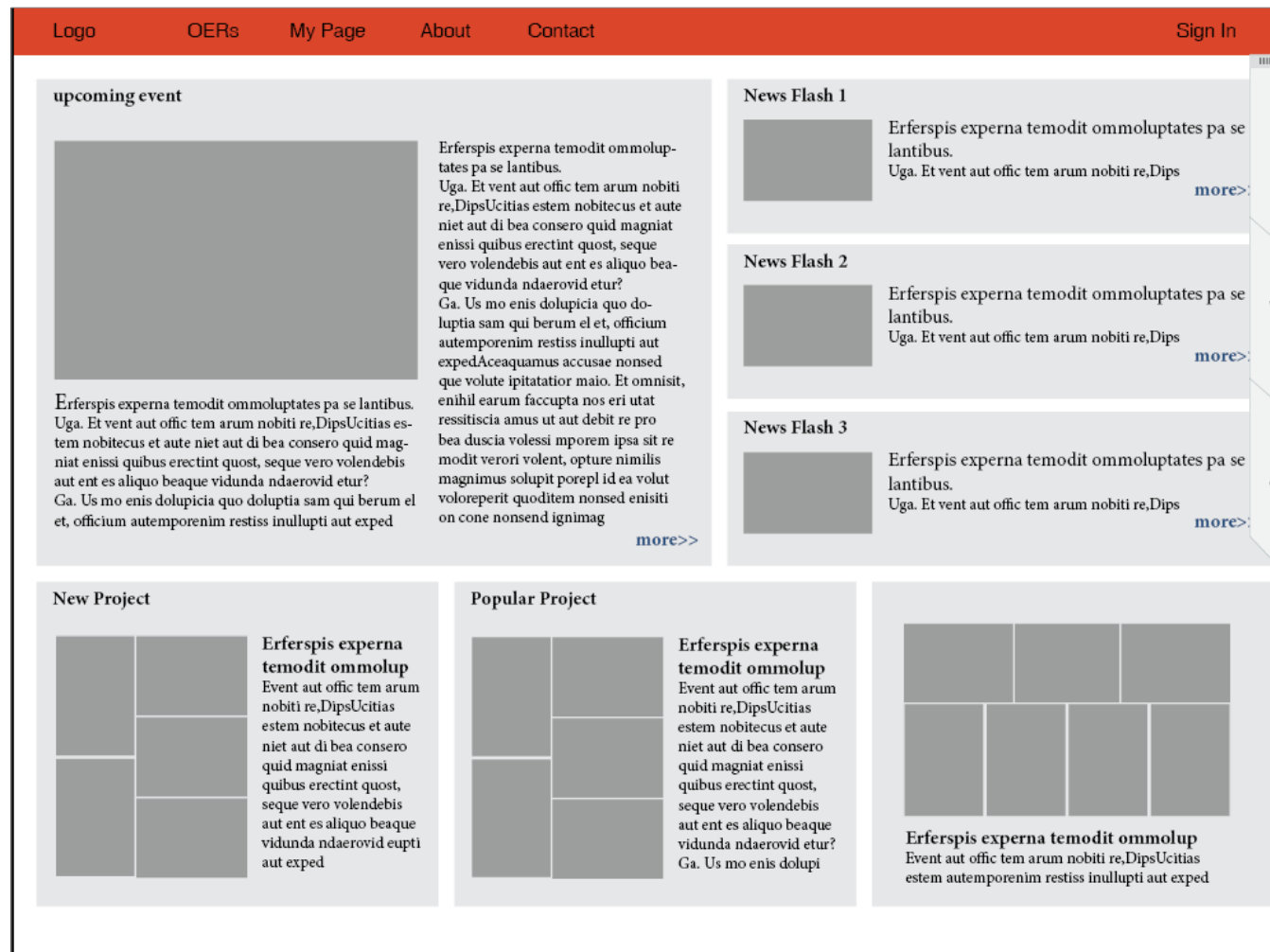
PAPER PROTOTYPE

Paper cut wire frames were used to demonstrate and discuss the interactions with various teams of stakeholders. This method seemed to be more effective than digital prototyping at initial levels, as it allowed users and other stakeholders to touch and easily relate to rearrange.



FINAL INTERACTION WIREFRAME PROTOTYPE

Fig. 1: Home



The home page may display articles relevant to effective practice of the learning while doing model and also the latest and the most popular projects. All data on the site is accessible at all times through the menu bar.

FINAL INTERACTION WIREFRAME PROTOTYPE

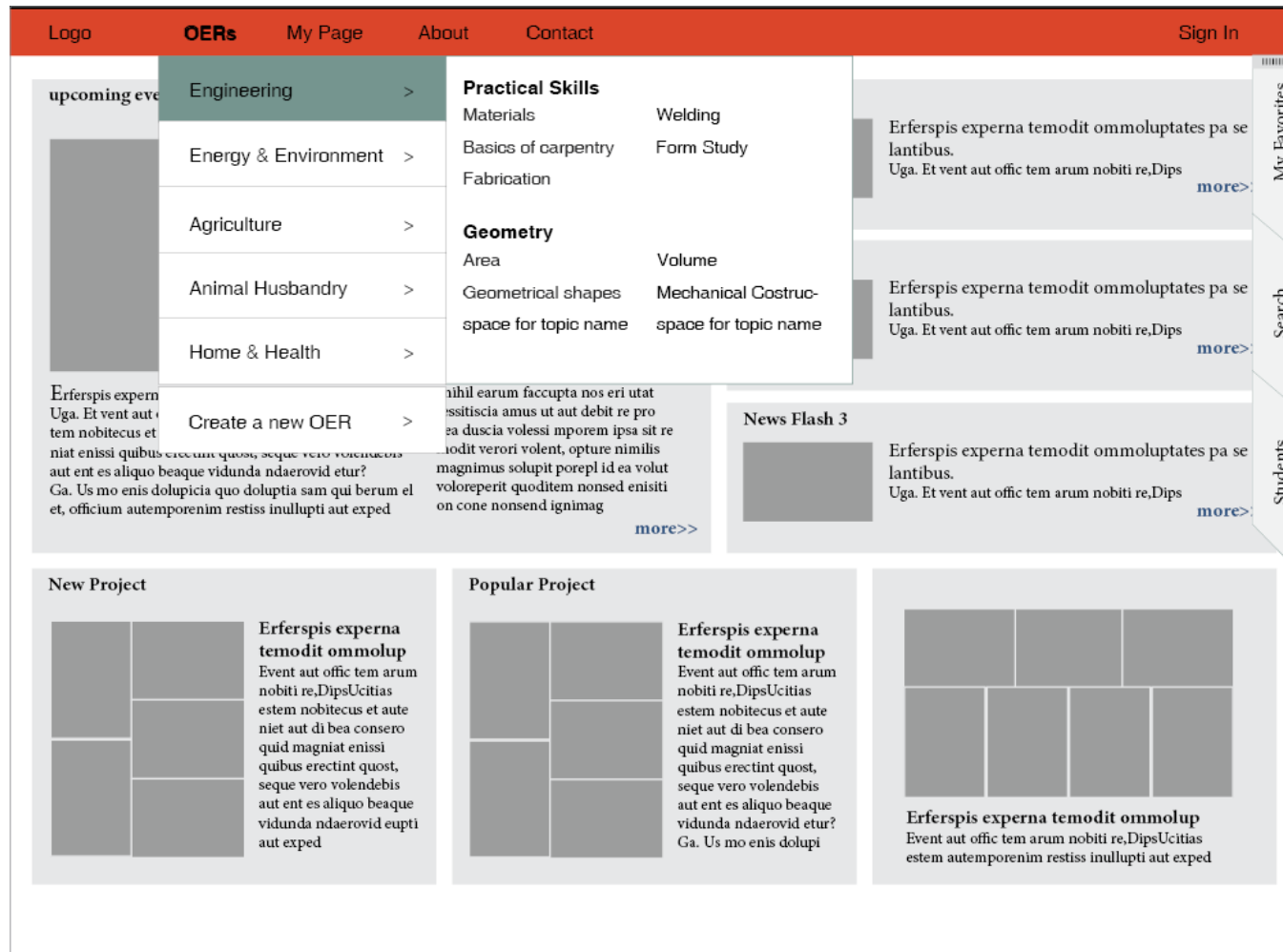


Fig. 2: OER dropdowns:
Vocation & Topics

The OER dropdown displays the vocations, their branches and the topics.

Users who have signed in may even create their own OERs.

FINAL INTERACTION WIREFRAME PROTOTYPE

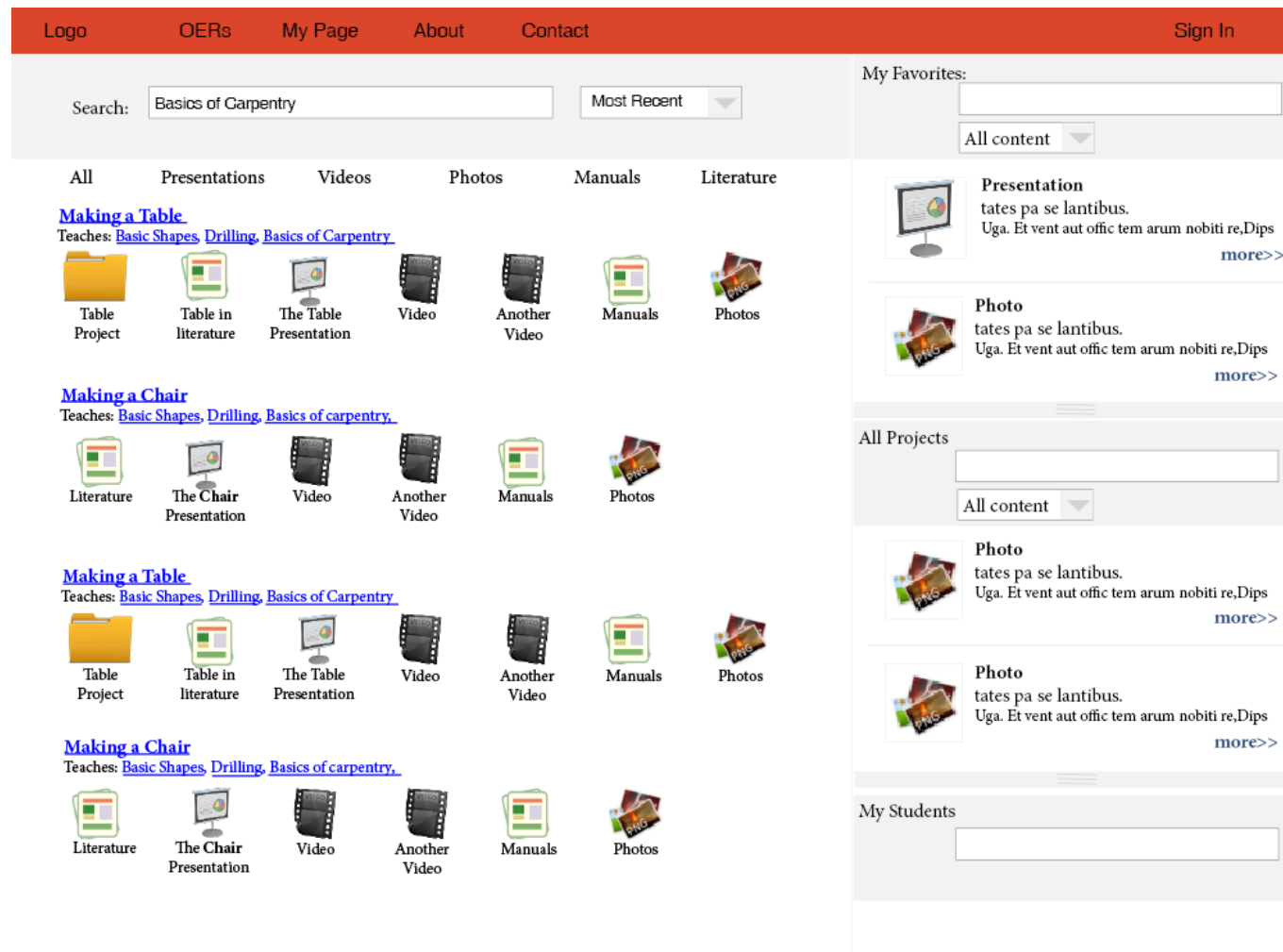


Fig. 3: Search

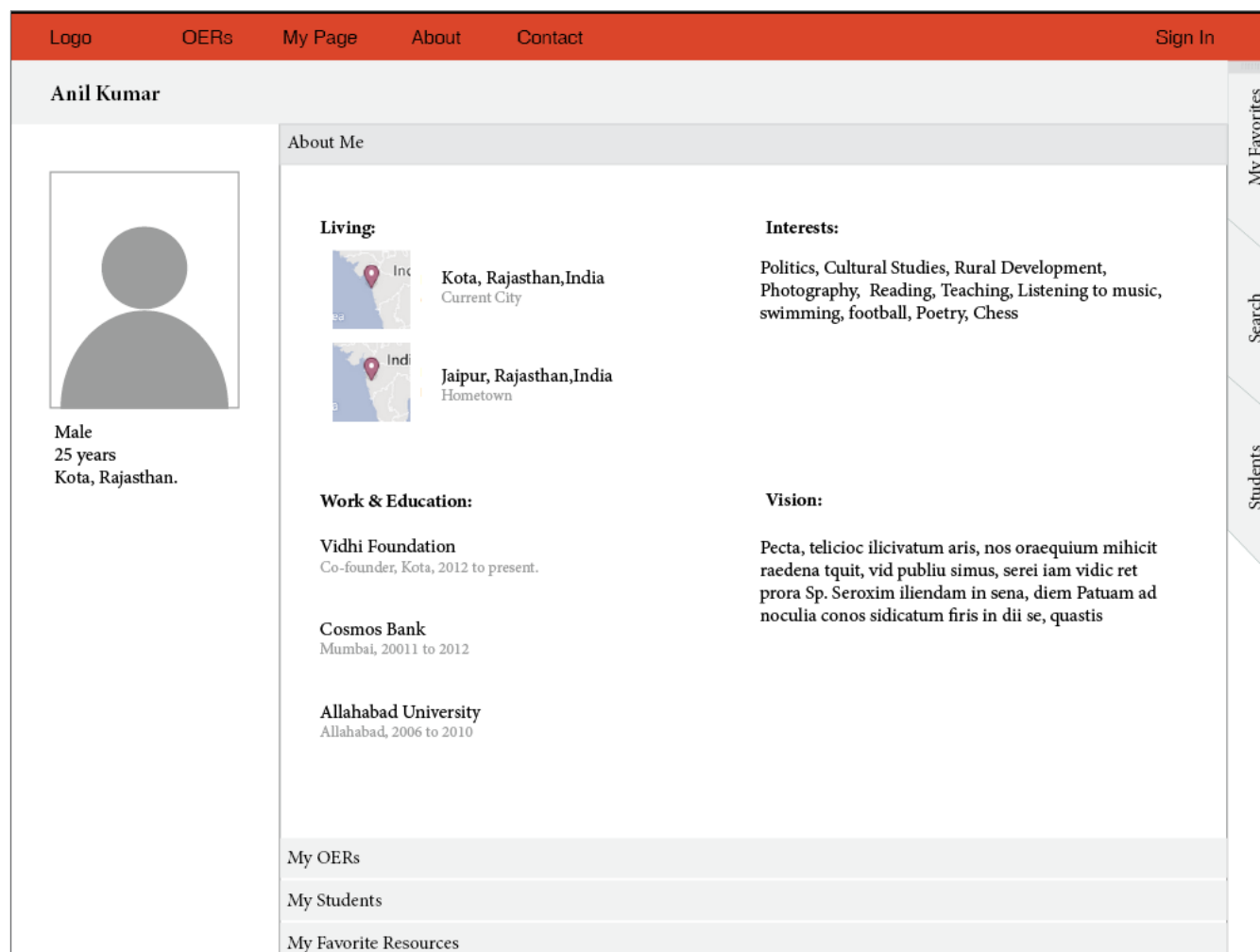
Search may be displayed in two ways:

- a) most recent
- b) most popular

It can also be filtered by a choice of formats. eg. One may search only the video results which may be relevant to keywords entered.

Projects also display the concepts covered in the lesson plans, as keywords. Upon clicking on these, one may view other projects that also cover the clicked concept. eg. One may click on the keyword "drilling" and view all projects that teach drilling. User can also favourite a project or course material.

FINAL INTERACTION WIRE FRAME PROTOTYPE



This will allow them to refer back to such material through their own page, without needing to conduct a major search through the entire database all over again.

Fig. 4: About Me

Every signed in user has a dedicated page where they may:

1. Share their profile,
2. Their published OERs
3. Maintain records on the progress of students (this page may only be seen by the page owner)
4. Collect favourite resources for study and reference.

FINAL INTERACTION WIRE FRAME PROTOTYPE

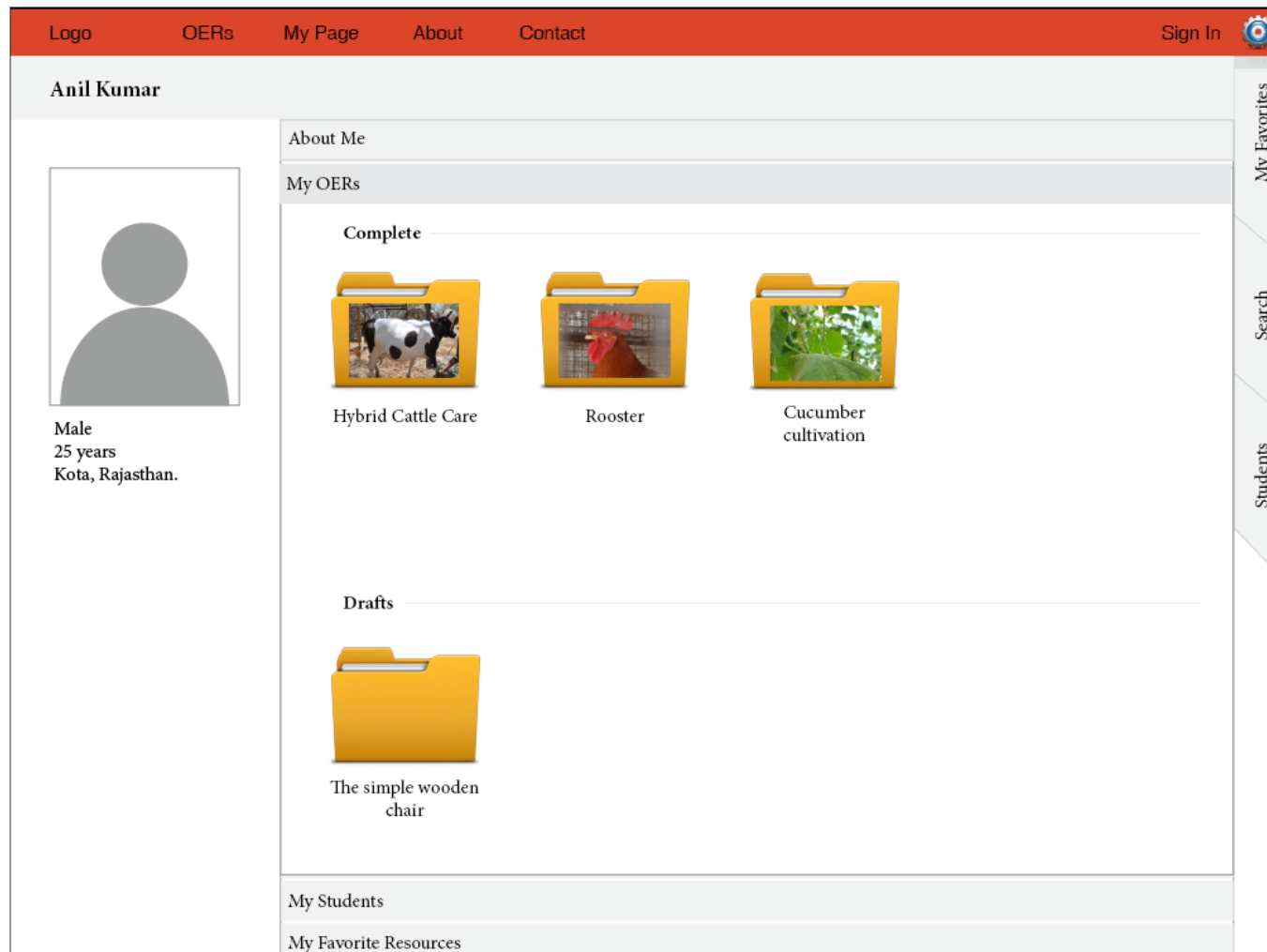


Fig. 5: My OERs

OERs that are complete maybe published for the benefit of all. However, those which are in the process of being made and yet to be completed will be saved to drafts. Drafts are only visible to the author.

FINAL INTERACTION WIRE FRAME PROTOTYPE

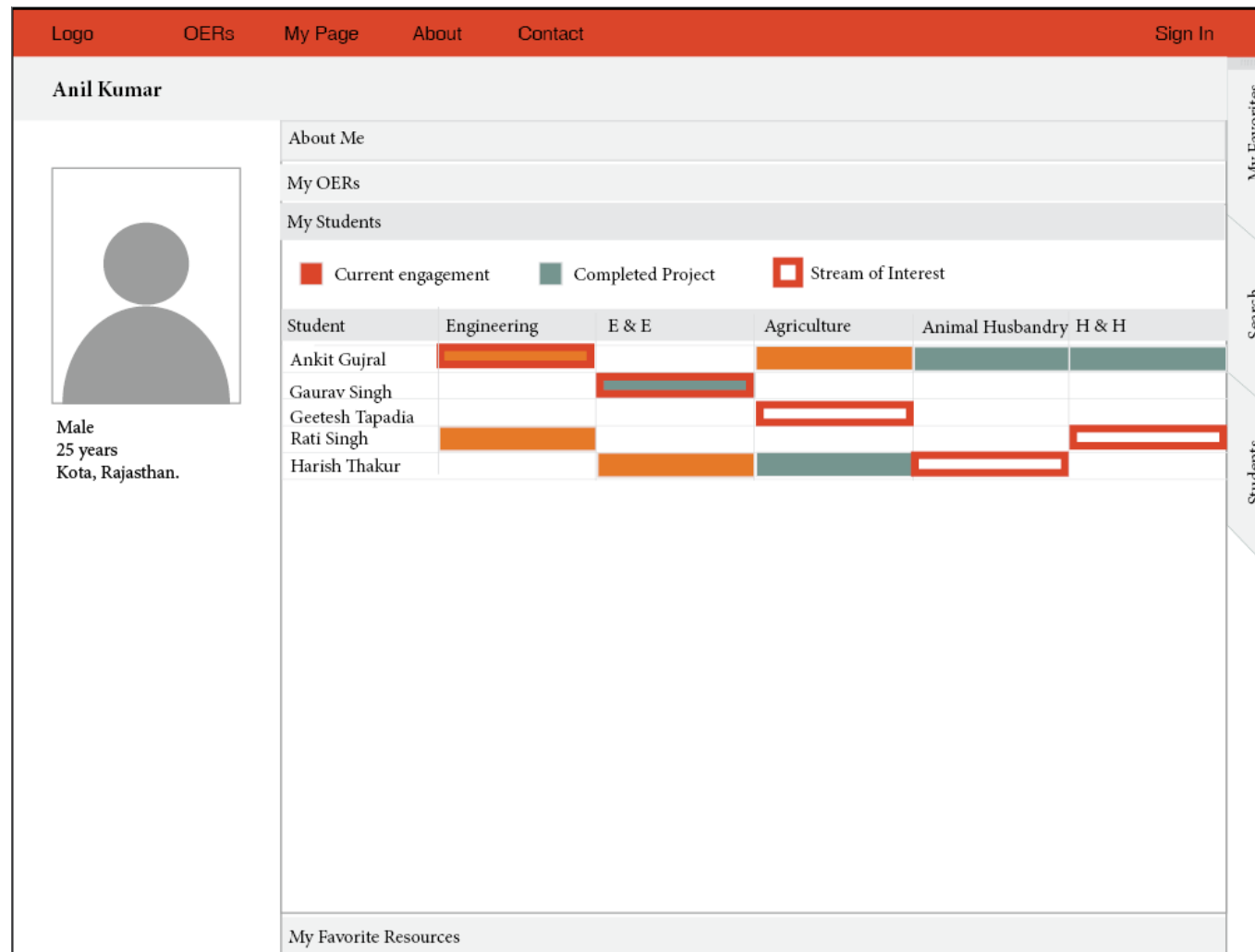


Fig. 6: My Students

User may maintain records of the work done by their students and their area of interest. With the help of this data the system can also suggest the involvement of a Particular student in a certain kind of project.

FINAL INTERACTION WIRE FRAME PROTOTYPE

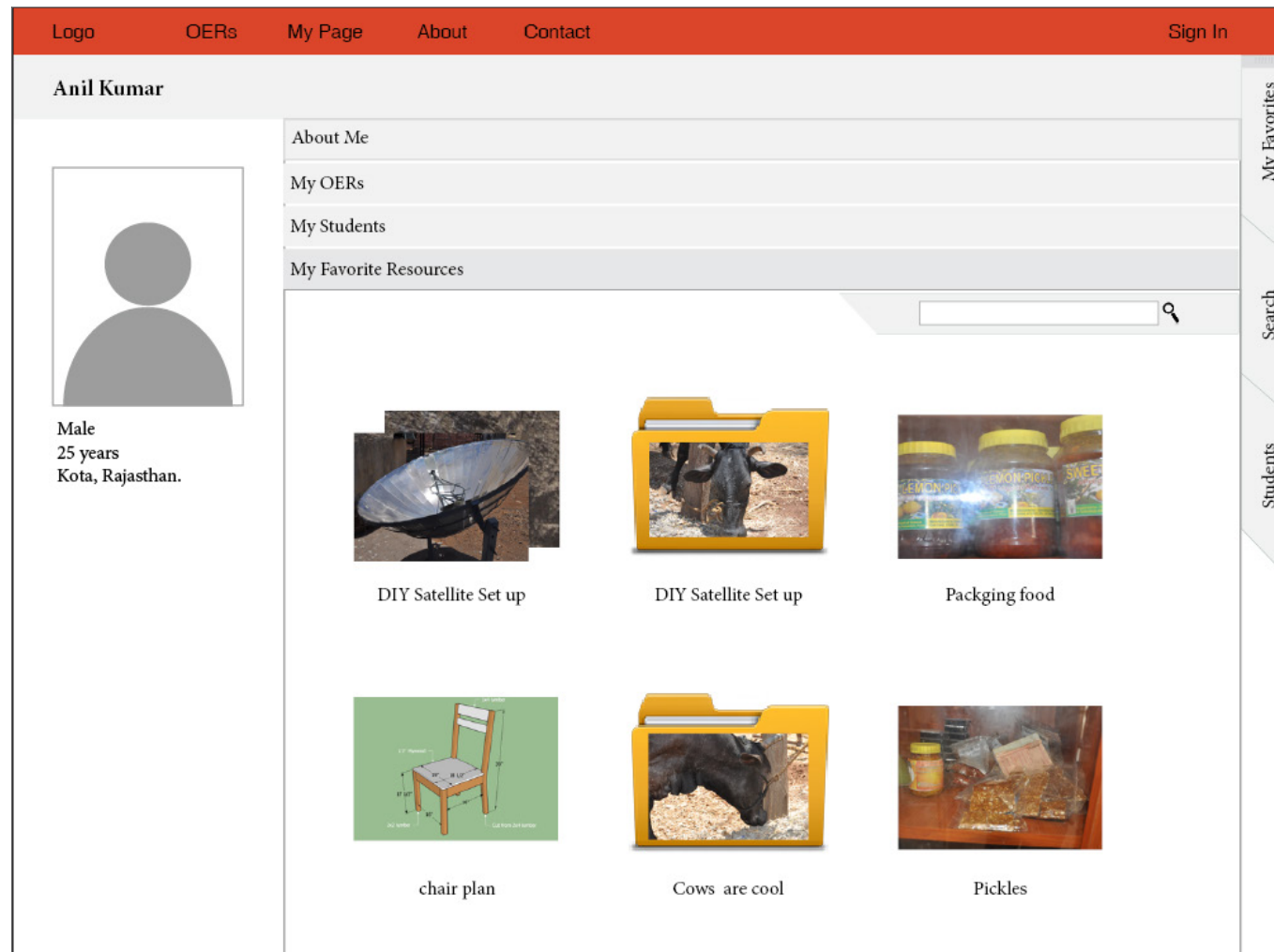


Fig. 7: My Favourite Resources

FINAL INTERACTION WIRE FRAME PROTOTYPE

Logo
OERs
My Page
About
Contact
Sign In

Scribbles
Basic Info
abc
funnel
wedges
drilling

intro :
basics of carpentry -
simple tasks
introductory lesson
teaches measurements and
estimation of space

resources:
wood, work space- 10x10
feet for 3 students,
cutting, drilling, joints, fin-
ishing, polishing

Project manager, product
designer, saw man, hammer
man, polishwala, supply
management.

Insert
Text Formatting

Slide show
 Video
 Photo
 Document
 Textbox

Basic Info

Project Name:

Stream *:

Lessons taught *:

Practical Skills	Math	Science	Geography	Literature	History
Abc Lesson	L joint	clay modelling	L joint		
fixing hinges	T joint	POP modelling	Drilling		
making a funnel	wedges and slopes	prototyping	fixing hinges		
lesson xyz	tool maintenance		Z Lesson		
lesson abc					

Other
(Please Specify):

Introduction
Resources
Activity
Student Roles

Publish
 Preview

Close

Fig. 8: Create OER

A template that facilitates the creation to allow quick lesson plans in an easy manner. All information on the site free for all to use. One may upload their own content or even extract resources from other's lessons to add to their own plan. eg. While preparing an OER on how to make buttermilk from milk, one may adopt some part of another OER existing in the database, which explains the process of making curds from milk.

FINAL INTERACTION WIRE FRAME PROTOTYPE

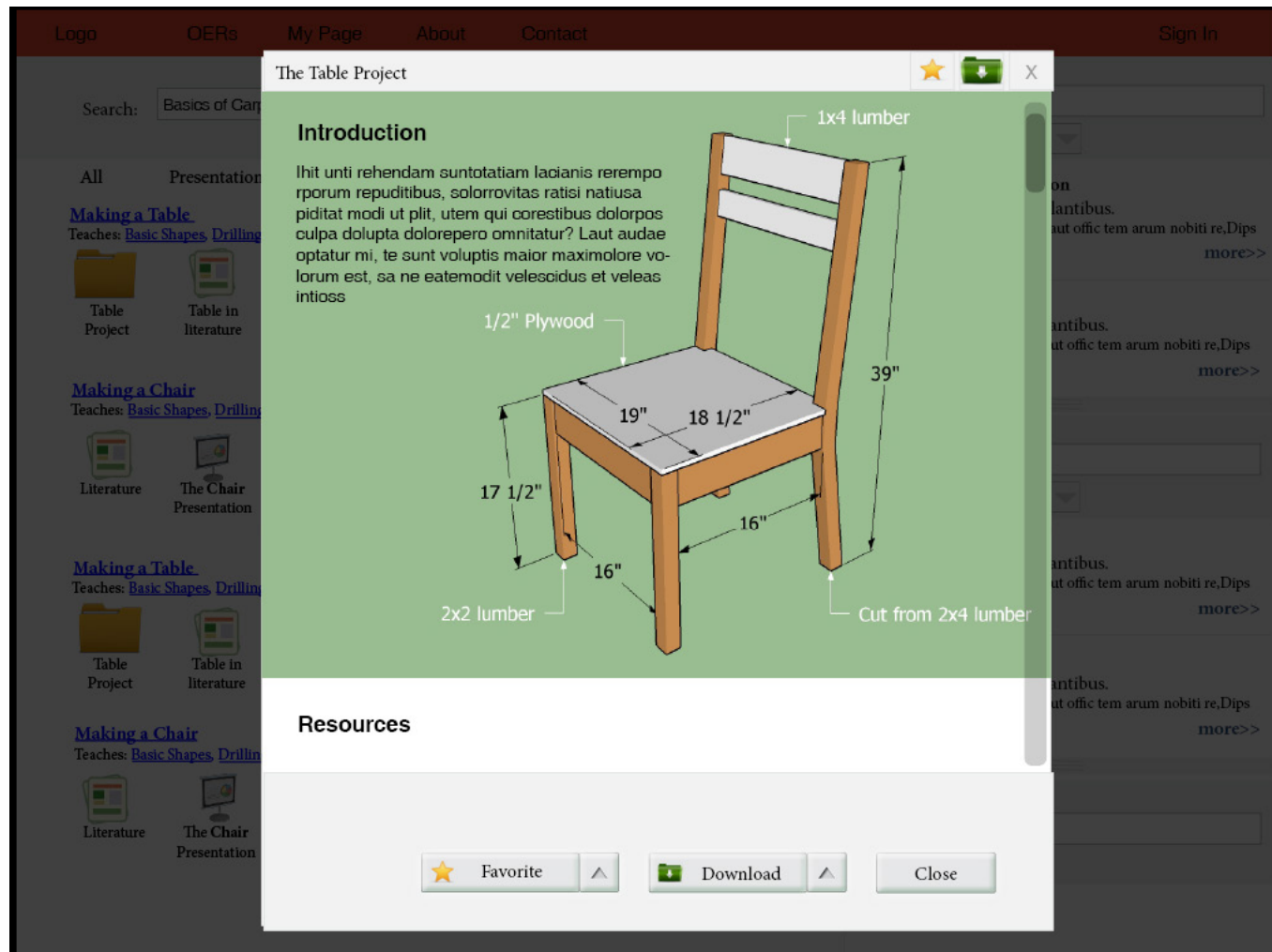


Fig. 6: OER Preview

Preview of lesson plan or their sub parts, open up in modal windows so as not to disturb the users' line of search. These previews allow download individual parts of the OERs to facilitate quick and light download in case of low internet bandwidth at the user's end.





CONCLUSION

The cause being of personal interest, my first learning in this project was to study, empathise and understand the context, and yet simultaneously remain fully aware of my own role as a designer and contribution as a designer. This perspective helped focus and add maximum value to the cause.

Secondly to I learnt to consider the entire life of the site, e.i. its design, coding, usability, maintenance and opportunities for expansion.

