Design of webpage template for

Engineering Colleges

(prototype for Departments of IIT Bombay)

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Visual Communication Project 2

Submitted by

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Guide

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Submitted in partial fulfilment of the requirements for the degree of Master of Design in Visual Communication

Industrial Design Center

Indian Institute of Technology, Bombay

2003

Approval Sheet

The visual communication project titled "**Design of webpage template for engineering colleges**" by Pudi Ravi Krishna 02625006 is approved as partial fulfilment of the requirements for the Post Graduate Degree in Visual Communication.

Project Guide:

Chair Person:

Internal Examiner:

External examiner:

Date:

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I would like to thank Mr. Zaki Ansari and Mr. Sandeep Ozaria at Rediff.com, Mumbai for their technical inputs and suggestions.

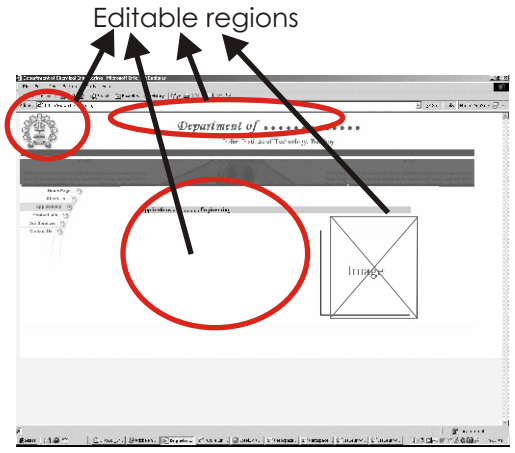
I would like to thank the webmaster of IIT Bombay for their help and special thanks to Mr. Mahesh Barve of Electrical Engineering Department of IIT Bombay for his enthusiastic participation through out the project.

Contents

Part-2

Abstract

Blank Template



Filled Template

A template is a blank page layout where the kind of information and the placement of information is pre-defined but is sufficiently flexible for the end user to modify it according to his needs. A webpage template helps webmasters create and maintain professional looking websites. The primary task of the webmaster when using a template is to upload information.

The information pertaining to Indian engineering colleges on the world wide web is largely unorganised and poorly presented. Most of them have neither uniform navigation nor visual consistency. Also the information is scattered across the site and not easily accessible.

This poor state of engineering college websites could be attributed to the fact that there is no permanent webmaster updating the site. A lot of people keep updating a site over short periods of time thus adding their own individual understanding of how the site should look or behave.

This is a cause of concern since the end users like aspiring

students and parents have to go through the hassle of spending long hours digging through information. Also the poor graphical quality of the site fails to project the excellence of even the most accomplished engineering colleges like the IITs.

This project aims at designing a template specifically for engineering colleges taking into consideration the problems faced by them and their design needs. The deliverables of the project can be used by webmasters of Indian engineering colleges to create and maintain a professional website.Also the template shall provide screens through which college users like faculty and students can manage their content on the site without the help of webmaster.

Introduction

template (*templet*)-noun :
1. a pattern made of metal, plastic or paper, which is used for making many copies of a shape or to help cut material accurately
2. a document or file having a preset format, used as a starting point for a particular application so that the format does not have to be recreated each time it is used.

The concept of templates has existed in the manufacturing industry where replicas are made based on one master design. In print media too a magazine will have a specific layout design which is consistent in all its editions. Grids have been used to neatly format the text.

In computer terminology a template is a blank form that shows the kind of fields which exist, their locations, and their length. It is a spreadsheet in which all the cells have been defined but no data has yet been entered. Websites too make use of templates to present their information.

Since the evolution of the WWW, more and more information is sought online. Webmasters are assigned with the task of upkeep of the websites. Typically webmasters may have sound technical knowledge but lack the time to design individual pages.

Web templates provide a quick platform to create a simple or elaborate site. The complete website will consist of blank pre-designed pages. Utilising these templates, the webmasters would be able to create or update pages easily and make content accessible to all audiences.

India has about 1200 AICTE (All India Council for Technical Education) approved engineering colleges. Information pertaining to these colleges on the World Wide Web is either absent or very badly presented.

The primary problem for the bad presentation is the lack of a sound understanding of the user groups utilizing the web site. A typical user faces difficulty in locating information which is sometimes absent. Users often get hassled and confused because the navigation scheme across the pages within a site keeps changing.

The whole idea of designing a web page template is to provide

a standard guideline after studying what the actual endusers of the website want. The design will attempt at consolidating the information needs of the typical users of an engineering college website. The attempt is at structuring this information and devicing an optimal navigation scheme such that all information is easily accessible. Also the entire site should carry a well defined visual quality.

This web template is meant for those webmasters of engineering colleges who find it difficult to design or structure information. They can use this template to directly upload the information onto their webiste.

Communication Objective

The template could act as a good example of how Indian engineering colleges can restructure their existing websites or build their own site without investing too much of time and effort on graphics or information structuring.

1. The template would be usable by anybody who has an understanding of the web and minimum technical expertise to create or update webpages. It would be simple and easy to use, customizable and provide for easy maintenance of the site.

2. The design of the template would be modular so that the webmaster can pick up only those parts of template which he finds useful. The design would also provide for permutations and combinations in terms of color schemes and graphics.

3. The graphics would not only help in enhancing information but also display the unique character of an engineering college (e.g. electrical department).

4. The navigation would be uniform across the site and

information would be sufficiently structured so that the person building the site gets clues to the kind of information that needs to be put and how it can be effectively displayed in a user friendly manner.

The objective of the project is to try and apply my learning of Information design, Human Computer Interaction and Visual design so far as a student.

The project would help me develop skills in
1. User Study
2. Information Architecture
3. Visual Design
4. Technical Skills

PART-1

Situation Analysis

The study involved browsing through templates available on the world wide web and also looking at websites of various engineering colleges both in India and abroad. The various award winning websites were studied for their graphical quality and also to get an awareness of the criteria of judging a good website.

The various usergroups associated with a typical engineering college website were interviewed to get an understanding of their needs. The inputs and suggestions of people making use of templates on a commercial basis at Rediff.com were taken.

Study of Templates

There are many ready made templates available on the world wide web in the following categories like online shop, education, health, florists, etc. Lots of generic templates too are available which are graphics intensive. The educational templates are directed towards schools. It is difficult to find a design that goes well with the needs of an engineering college. However there are instances of Engineering colleges in the US who have tried to develop a uniform website using specific guidelines for graphics, information structure and navigation.

One such example for a template is the Department template developed for College of Engineering, North Carolina State University. The template was deigned using the features provided by Macromedia Dreamweaver software. This template has been successfully adapted by the Department of Industrial Engineering of the same college.

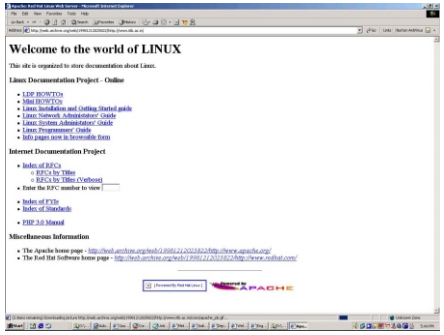
Study of Indian Engineering college websites

The websites of all the prominent engineering colleges in India like the IITs, RECs , state level and private colleges were studied. This study helped get an understanding of the quantity and quality of information that is already present on the existing websites. Browsing through the websites gave a first had experience of the various problems that a user can face.

Findings:

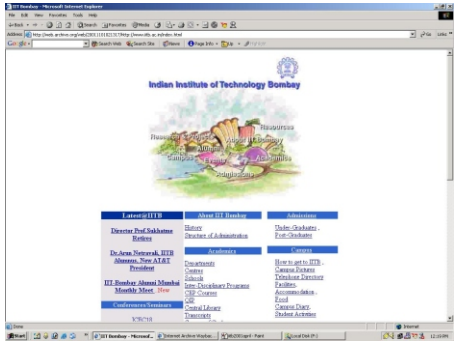
1. The quantity and quality of information is low.
2. Unpleasant graphics .
3. Unorganised and unplanned structure
4. Inconsistent navigation and dead links.
5. Lack of understanding of user needs.

Situation Analysis



1996

2000

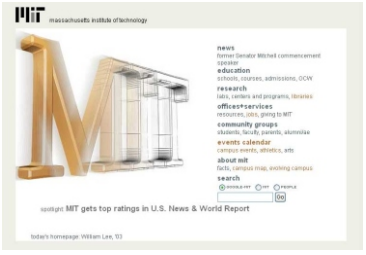


2001

2002

Case study of IIT Bombay Website

The website of IIT Bombay has grown graduallly since its creation in 1996. The information on the website was scattered initially but after 3 itereations of structuring has reached a state of relatively well organised information.

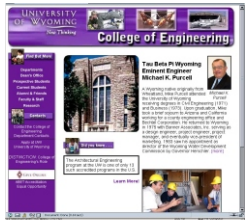


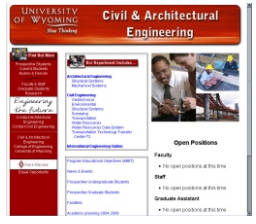
Study of websites of engineering colleges abroad

The websites of colleges abroad have dedicated webmasters and sometimes even designers. Also there is considerable use of templates in almost all websites.

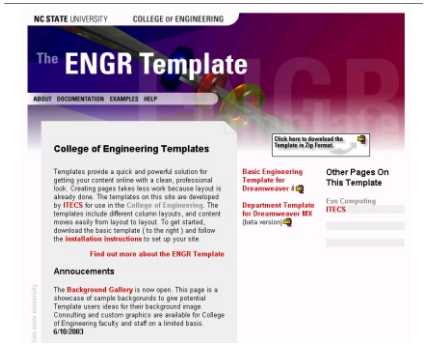
Findings:

1. The quality and quantity of information is substantially good.
2. Considerable care is taken to project the visual identity of the college in terms of prescribing the guidelines for use of College logo.
3. Information is chunked on main page specifically directed towards a specific user group in mind.





Situation Analysis



Case Study of College of Engineering, North Calorina State University, US.

The information services cell of the college had come up with a standard web template using dreamweaver software. The use of the template for the Industrial Engineering department was observed.

Findings:

1. The template helped achieve visual consistency.
2. But failed to give proper feedback to the question, “Where am I?”

User Study

The user groups associated with a typical engineering websites can be broadly categorized as **internal user** or **external user** based on the frequency of usage and and the network through which they access the website.

Differences:
Internal Users reside in the college and access the site with greater frequency through a local network on which the website resides.
External Users access the website mostly during admissions on a low bandwidth internet connection.

External Users:
1. Aspiring students
2. Parents

Internal Users:
3. Campus Students
4. Faculty
5. Webmaster

UserGroup1
Aspiring students

User1: Mr. Krishna, 18 years old, JEE-04 rank holder.

Had browsed through BITS Pilani website and IIT Bombay website. The information about departments is not written well. Wanted to know about the extracurricular activities/seminars in the college.
What are the options within each course? Placements?
Had come to IIT Bombay and specifically talked to the professors in Chemistry department. His brother is presently studying Civil engineering in IIT Bombay.

Findings:

1. Direct interaction with the professors helps students gain better understanding before joining a course.
2. Quality of write ups needs to improve.(need more detail)

Inferences:

1. Dummy content on template can act as a guideline to webmaster regarding the kind of information that users are looking for.
2. Online query answering interface will help students get in touch with professors.

UserGroup2
Parents

User1: Mr. Ram, 52 years, Doctor, Manipal, Karnataka.

He would want to know about the infrastructure and new courses that have been started in a college. Most information is got from peers/ coaching class institutes. His son was interested in Master of Science in Chemistry. He couldn't find enough information on the website. So he visited IITB specifically and talked to the professors prior to taking admission. Mr. Ram wanted to know about the future prospects after finishing the course. Contact addresses of alumni would be of great help in understanding the course. Checking online status of application forms is a good facility. SAT exams written after 12th class for admission to colleges outside India provide ample information where people can meet the college representatives in India so the aspirants can get first hand information about a college/course.

User2: Mr. Surendra Gupta, 48 years, State Bank official, Indore, Madhya Pradesh.

Has internet facility at home and has been using the internet for about a year now. Browsed through IIT Bombay website and IIT Delhi website after his son got a rank. Checked for the information about chemical engineering and mechanical Engineering Map of IIT Bombay and information about getting to IIT Bombay would have been helpful. He had mailed to professors and senior students of IIT Madras but didn't get reply. Got necessary information and phone numbers from peers in Indore. Had talked to Professor Kirti of IDC, IIT Bombay about the course prior to coming to Bombay.

User3:Mr. Reddy, 52 years, State Government employee, Hyderabad, Andhra Pradesh.

Has internet facility at home and has been using the internet but very sparsely as browsing is expensive. REC Trichi provides good information. Would want to know about placements, accommodation/infrastructure facilities, faculty and strength of each department. Placements should be department wise and how many students got jobs through the placement office and how many got outside the campus. How many got through GATE, CAT, GRE? This helps evaluate the standards as to how high a student reaches after engineering. Images of

all facilities helps evaluate a college. How are the hostels?

Findings:

1. Branch wise placement listing for previous years should be present.
2. Printable map would help getting to college from railway station.
3. List of alumni addresses needs to be given for contacting them for first hand information of job prospects.
4. Online posting of queries may help get answers.
5. A more explicit representation of links will help novice users of internet.
6. Should download fast as browsing costs money.
7. Images help get a better idea of campus.
8. Listing of student achievers (CAT, GRE, etc) helps gauge the education standards.

Inferences:

1. Branch wise placement listing to be provided.
2. Printable map with information of how to get to the college needs to be given.
3. Interface for alumni to update their information to be provided
4. Images of campus and facilities help get an idea of the infrastructure and environment.
5. Latest news of campus to be projected.

UserGroup3
Webmaster

User1: Mr. Vandurkar, 30 years old,
Webmaster(Mechanical Dept), IIT Bombay

Is a master in computer applications and an MSc in elctronics. Is comfortable with hardware and software. Bogged down by work overload. Mostly updates the publications of professors, networking and configuring systems etc. Uses Tomcat and FrontPage for creating websites. But finds them uncomfortable since he has to update the whole template. Issue of compatibility arises for different browser types like Netscape and internet explorer.

Findings:

1. Template can reduce time spent on designing and more time on updating.
2. Database enabling should be there.
3. No dependency of template on editing software.
4. Interface for logins and updating by authorised users.
5. Simpler the site the easier it is to update and maintain.
6. Logins to authenticate users to update respective pages.
7 .Databases help maintain up-to-date information and archiving data.

Usergroup4: Campus Students

Findings:
1.Search facility expected by Advanced users
2.Direct links to latest publications presented by faculty.
3.Web interface for checking mail.
4.Listing of details like syllabus and slots for classroom timings.
5.Alumni contact of past 5 years with company addresses.
6.Own links and creativity on Student homepage template.

Inferences:
1.Archiving tool & interface for publications
2.Interface for alumni to enter uptodate information
3.Informal template for student home page

Usergroup5: Faculty

Findings:
1. Login based assignments page for students enrolled for an elective
2. Search facility would help reduce digging information
3. Professional looking website
4. Latest publications list.
5. Uniformity of navigation within a college will help

Inferences:
1. Login based assignments page for students enrolled for an elective
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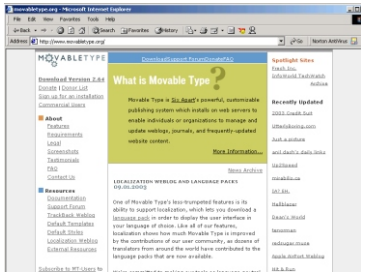
Insights and inferences from User study

1. Dummy content on template can act as a guideline to the webmaster about the kind of information that is expected by users.
2. Online query answering interface will help students interact with faculty online.
3. Archiving tool & interface for publications needed.
4. Interface for alumni to enter up-to-date information.
5. Informal template for student home page to be given.
6. Template options should be more so the college can choose what it likes.
7. Colleges feel the need for a professional website.
8. More functionalities to be provided for Aadvanced users
9. Branch wise placement listing will help gauge the job prospects for a branch.
10. Printable college will help people visiting college for the first time.
11. Images of campus and facilities help get an idea of infrastructure and environment.
12. Latest news of campus to be projected.
13. Database enabling should be there.
14. No dependency of template on editing software.
15. Interface for logins and updating by authorized users to be provided.

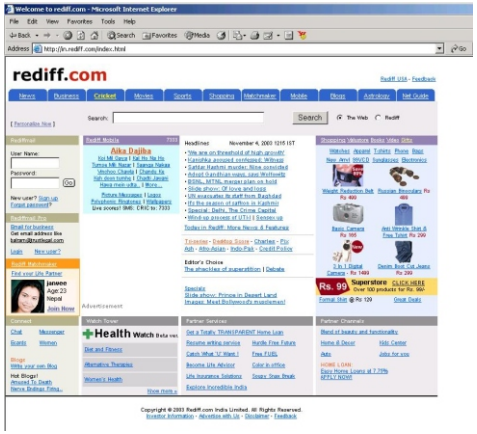
Commercial Study



Study of print layouts, web layouts & e-rgonomics

The layouts of various magazines were studied to get an idea of the various possibilities of presenting the same information.

However web layouts differ from print layouts .
1. Print layouts can have multiple columns for easy readability but single column layouts (for paragraph text) are preferred on web pages since this would reduce scrolling.
2. On a webpage for conventional type sizes (9 to 12 points), the optimal line width lies between 10 to 12 words per line i.e 50-70 characters per line of text.



Study of templates at rediff.com

Rediff has developed its own templates for its portal. The interface has been developed in XML (Extended Markup Language) so that specific regions on a page are updated by the authorized person only. The regions within a page are password protected and are updated by the editor in charge of that specific area on the page.All non technical staff enter their stories on templates assigned to them without worrying about coding/designing.

The basic navigation structure is divided into three templates
1. The main categories(eg: news, movies, cricket, blogs….)
2. The sub categories(eg: under NEWS the sub categories are commentary, diary, picture gallery etc)
3. Related links to the article are placed on the right side.

Findings:
1. The content can be updated by an individual without any technical knowledge if he is provided with a data entry interface page.

Study of award winning websites

Webby awards are presented annually by The International Academy of Digital Arts and Sciences to the best websites. The websites are judged based on Content, Structure and Navigation, Visual Design, Functionality, Interactivity, Overall Experience and voting by users.

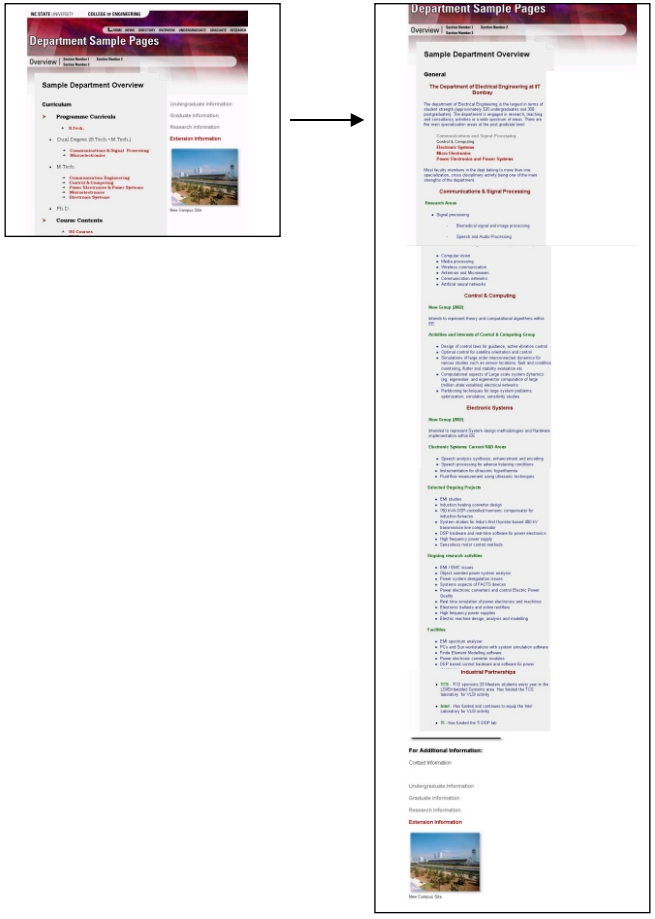
A few webby winners of 2002

news.google.com
www.theonion.com
www.movabletype.org
earthobservatory.nasa.gov

The listed website of 2002 were analyzed for their approaches.
Findings

1. Programming can bring in dynamism
2. Clever use of small images can reduce file size of webpages
3. Neat layouts can be pleasing even in absence of graphics

Contextual Enquiry



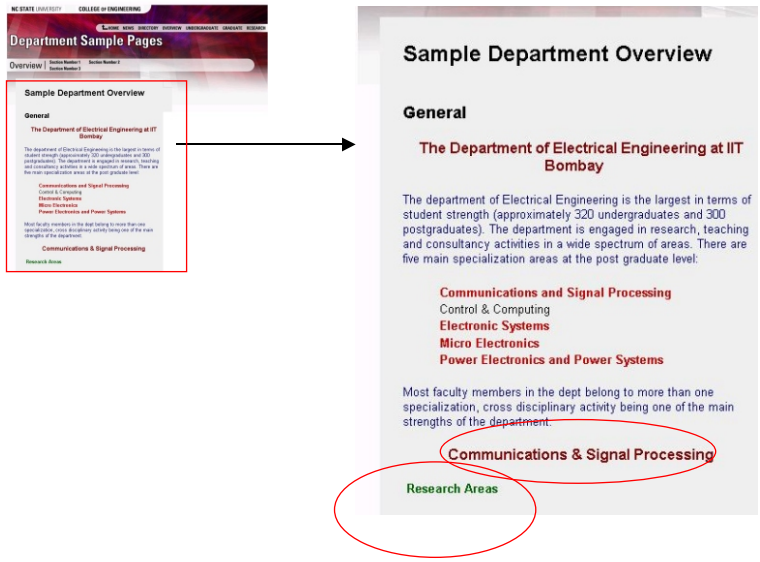
Contextual enquiry of webmaster when using a readymade template

Date: 19 Sep03

The department template designed and used by the College of Engineering, North Carolina State University was given to the electrical department webmaster at IIT Bombay. He was asked to use it to build the web pages of Electrical department website of IIT Bombay. The problems encountered by him during the process were observed and noted down.Suggestions by him were also taken into account.

1. User searched for Microsoft FrontPage to edit the templates but couldn't find it on the computer (Windows 2000 professional). He proceeded to edit the templates using notepad.

Insight: A webmaster has access to the basic editing tools and hence the templates should not be dependent on any editing tool like Macromedia Dreamweaver or Flash or Adobe Photoshop.



2. Had to attend two phone calls.

Insight: A webmaster is overloaded with work and has less time for designing or spending time deciding the structure. The template design should provide for not only easy editing but provide sufficient clues to structuring and organizing.

3. Replaced existing links with IIT Links. But faced problems with roll over buttons since they had java script which he wasn't well versed with. Also the no of links to be edited with rollover buttons is 3 times.

4. He searched for a manual to learn about specific terms which he didn't understand. E.g. a link named 'Directory ' was not understood by him.

Insight: A manual with complete documentation of the template design and editing process has to be provided along with the design of a template.
All terminology used in the webpage should be simple as used in common parlance.

5. Decided to change the names of links and hence had to edit the image files used as links. There was no image editing tool.So he edited the link using Microsoft Paint.

Insight: A webmaster may not be a good graphic designer although he may be a good at coding. All links should be text based and not images.

6. He is hassled with extensive search of images in image folder to change name.

Insight: Folder organization and image naming must be standardized and easy to relate to.

Consolidated list of insights/ inferences from Contextual enquiry.

1. A webmaster doesn't have access to high end editing tools and hence the templates should not be dependent on any editing tool like Macromedia Dreamweaver or Flash or Adobe Photoshop.

2. A webmaster is overloaded with work and has less time for designing or spending time deciding the structure. The template design should provide for not only easy editing but provide sufficient clues to structuring and organizing.

3. A webmaster may not be a good graphic designer although he may be a good at coding. All links should be text based and not images

4. A manual with complete documentation of the template design and editing process has to be provided along with the design of a template.

5. All terminology used in the webpage should be simple as used in common parlance.

6. Folder organization and image naming must be standardized and easy to relate to.

Learnings before start of design

1. Lengthy text is not readable. Hence a line in a paragraph should contain 8-10 words for easy readability.

2. Webmaster cannot edit images skillfully. Hence links cannot be images.

3. Links shouldn't have roll over buttons since it makes editing difficult.

4. Photographs should be of smaller sizes since it affects the download speed.

5. Ideally the size of a complete page should be less than 50 kb for a 56 kbps line of network speed.

6. Editing software used for building HTML pages insert junk code. Final template should be clan of any unwanted code. Hand coding is preferable.

7.The design should accommodate the additional elements that a webmaster may want to add. Template should have flexible areas and not get disrupted.

8. Flash cannot be used for building any components since it doesn't allow for copying text.

9. Pages to be designed for 800*600 pixels color monitors.

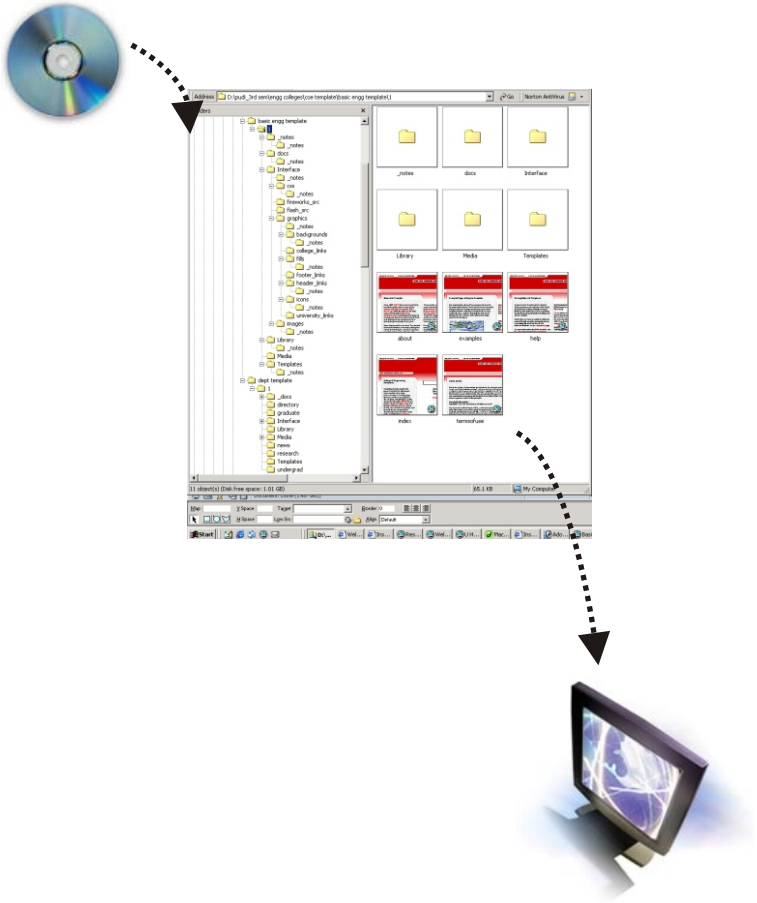
10.There has to be interactive communication between webmaster and users. Password enabling should help users update their information online all by themselves.

PART-2

Target Audience

The templates are aimed at addressing the needs of webmasters of Indian Institute of technology, Bombay who have expertise in programming but not essentially in designing. The project aims at designing a template considering the needs of the departments of IIT Bombay and Prototyping the template for Electrical Engineering Department. The template can be applicable to Metallurgical Engineering department of the same college by changing the parameters given in the design.

Deliverables of project

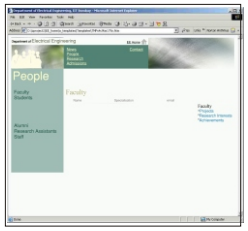
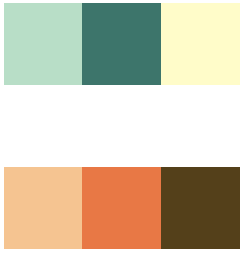
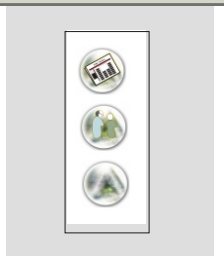
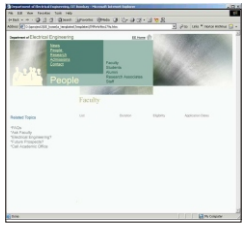
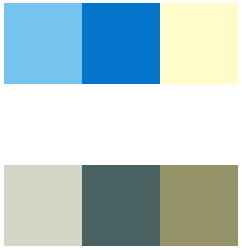
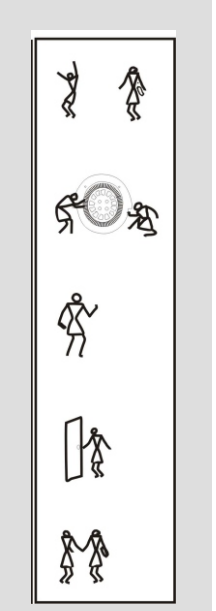


Considering the limited time available for the project the deliverable will contain a complete executable template meant for the Electrical Engineering Department. The skeleton of the same template can be used by other departments by varying the color palettes options, graphics and icons included on the CD. The document explaining the design of the template and its application shall be provided.

The CD will contain:

1. Executable template with dummy data.
2. Example of a site built using the template.
3. Design options chart for the webmaster to choose from.
3. Colour palette options willbe provided(refer chart on next page).
4. Icons and images to suit the respective department(for Electrical Engineering & Metallurgical Engineering Departments).
5. Reference manual explaining the design and the usage of template.

Design options Chart

	layout options	color schemes	graphics	icons	combinations
Design Option 1					40possibilities
Design Option 2					40possibilities

Design Goals

The whole idea of designing a web template specifically for an engineering college is to address the needs of a large segment of institutions who are still grappling with task of presenting their information in a professional manner. The goal is to arrive at template options which can be used by any engineering college.

But owing to the short duration of the project the design is limited to the Electrical engineering department of IIT Bombay. The use of the template can be extended to other departments of IIT Bombay.

The design goal envisaged for this project are:

1. To create a ready to install web template which addresses the information needs of IIT Bombay.
2. It should be easy to use, customizable and provide for easy maintenance of he site.
3. The design should allow for sufficient permutations and combination for the webmaster to choose from.
4. The template should be software independent i.e. the web-master should be able to edit and maintain the site based

on whatever HTML editor he is comfortable with.

5. The template should provide clues for information structuring

6. Navigation and visual treatment should be uniform across the site

7. The graphics should not only help in enhancing information but also display the unique character of an engineering college (e.g. electrical department).

8. There should be sufficient documentation regarding the design to help the webmaster

Design Strategies

Parameters for designing the template

2.4.1. Flexibility & Design options

The design of the template needs to be as flexible as possible so that the person using the template can modify the parameters like color scheme, fonts, behaviour of site links, graphics, icons and layouts. The changing of these parameters allows for greater permutation and combination of the same template so it can be reused in another context. For example the template can be used by the electrical engineering department and with slight modification of graphics, color scheme and icons the same template can be applied to the metallurgy department.

2.4.2. Dummy Content

The presence of dummy content and links in the template layout provide clues to the user of the template as to what kind of information is expected and how such content needs to be structured within the site. Hence the site structure and links will be provided within the template which can be easily modified at the time of use if the webmaster finds anything which irrelevant to his needs.

2.4.3. Modularity

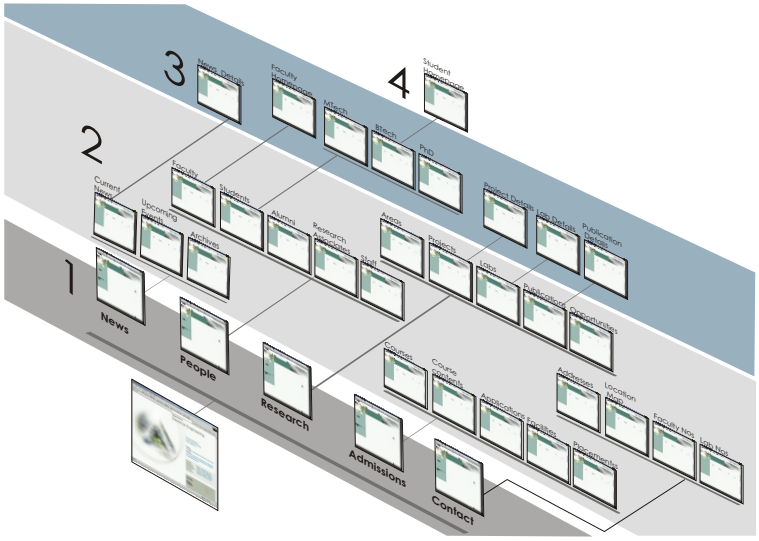
The design of the template needs to be modular so that the webmaster can use only specific parts of the template that he finds of help to him. Also he should be able to change any parameter within the template with ease.

1. Parameters like fonts, color scheme, hyperlink behaviour, will be controlled using the concept of cascading style sheets (CSS). All these parameter values can be changed across the site just by changing the value in the cascading style sheet file residing in the root folder.

2. The regions of the layout (like header, footer, logo etc) which are common to all the pages need to be separable in the code. This can be achieved by storing such areas of the layout in the form of libraries. Hence if any change occurs in any of these regions then the change needs to be done only once in the library file.

2.4.4. Multiple user updating

The content management of the site can be done by individual users themselves(*e.g.* faculty can upload their publications and update their homepage) through a webpage interface without the webmaster's help.



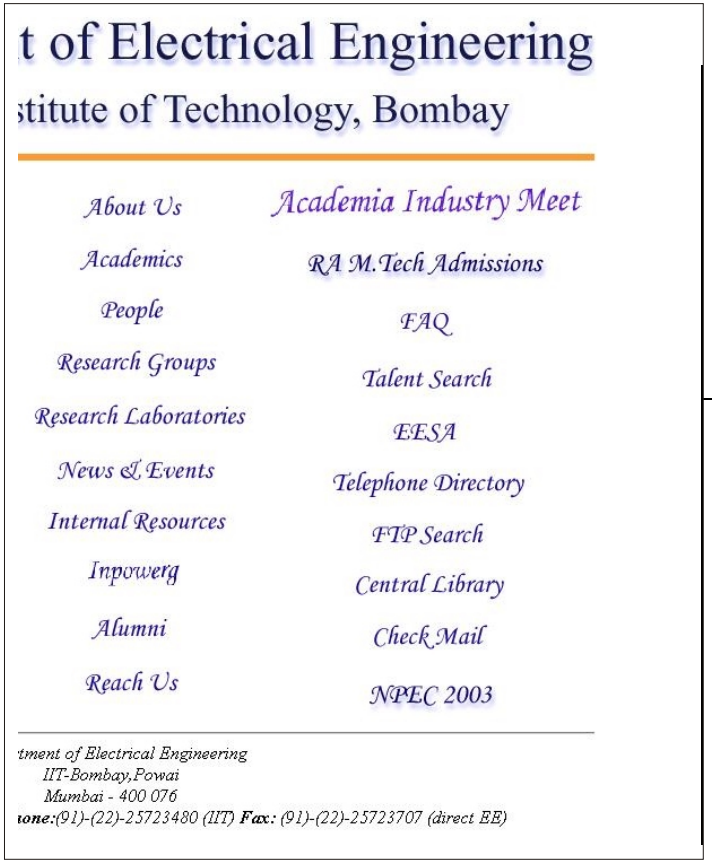
2.4.5. Information Structure

There are a lot of commonalities in the information that is displayed on websites of engineering colleges. An estimate of such information can be made and this can be structured using Gestalts laws of grouping. The information can be organized such that even the most detailed information is quickly accessible in the least number of mouse clicks.

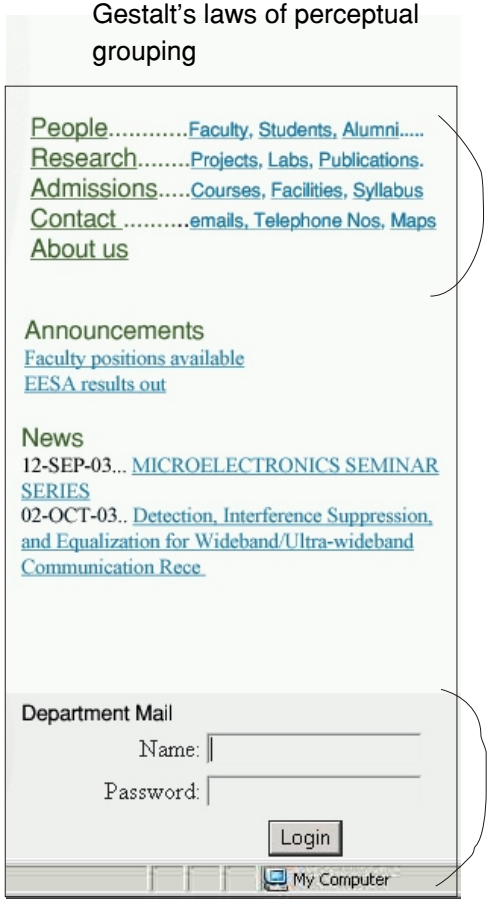
1. All information should exist within 3 levels so that end users don't have to dig for information.
2. Placement of information, their color schemes and font would follow Gestalts laws of grouping.
3. Webmaster is free to modify any information header or link which he doesn't find useful.

Grouping of Information

scattered information

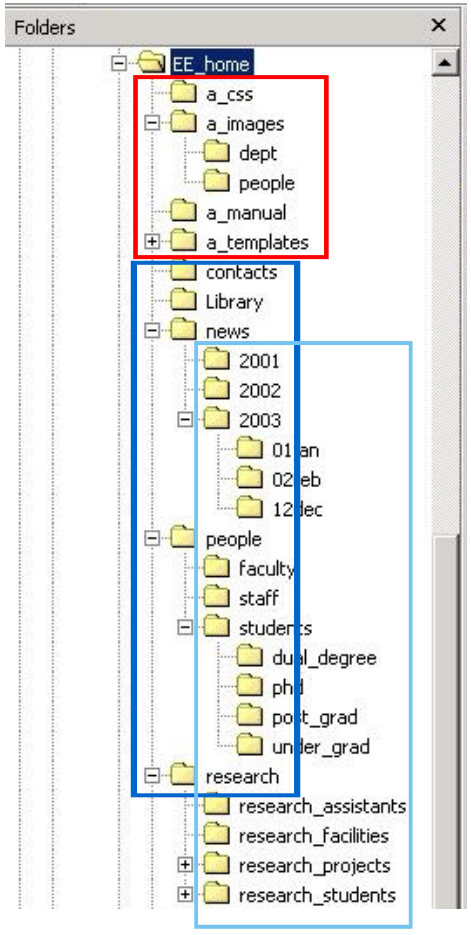


Chunking of information (based of Gestalt's laws of perceptual grouping



higher priority listing

for internal users

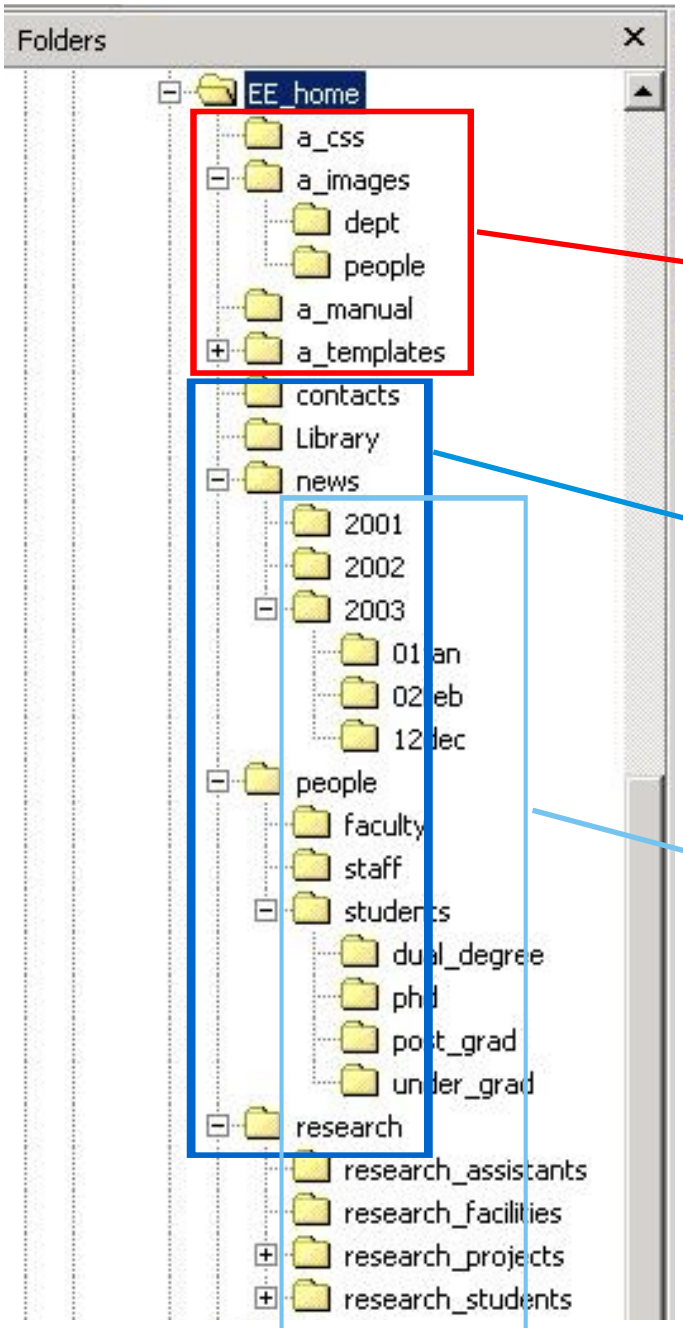


2.4.6. Site organization

Once the information has been structured the files containing this information have to be organized on the server where they reside. Hence a standard naming convention will be followed for names of folders, html files etc. This shall help in locating files easily.

1. Breaking down of information under broad categories.
2. Standard naming procedure to be followed for files and folders so that Web-master can understand easily.
3. Related files to be stored under named folders so they can be created, edited and organized easily.

Site Organisation



Administrative folders

a_css — Contains the file controlling all visual formatting like the color palette, hyperlink behaviour

a_images — Contains all graphics, icons and images

a_library — Contains the library functions like navigation bars, header, footer

a_templates — Contains the layout pages using which pages of entire site can be built

a_documentaion — Contains help files for usage of template, example of site built using template

Main Folders

News — Folder contain all pages relating to news

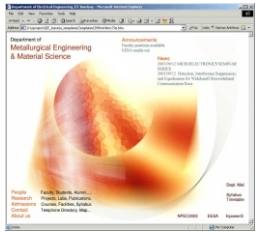
People — Folder contain all pages relating to faculty & students

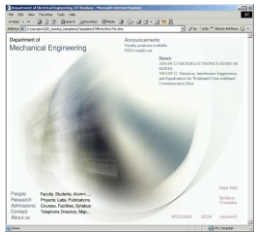
Research

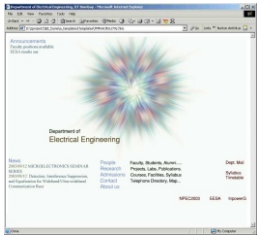
Admissions

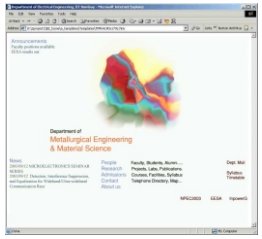
Contact

Sub Folders









2.4.7. Visual treatment

The aesthetics of the site are of as much concern as the information on it. To this effect the graphics should be pleasing and be pertinent to the usage.

1. The graphics available should reflect the highly advanced technical outlook.

2. There needs to be lot of choice in terms of color palette options which the webmaster would want to apply to his site.

3. There can be different graphic options within the same template i.e the webmaster should be able to choose the kind of image or graphic he want on a specific page.

2.4.8. Technology

There are large variations in the technology used by various users. These could be factors like the operating systems residing on server and client machines, browsers and bandwidth used for internet access, monitor screen size of client machines, softwares used for creation and maintenance of website and lastly the technical prowess of the person building the website.

The technical considerations to be taken during design are:

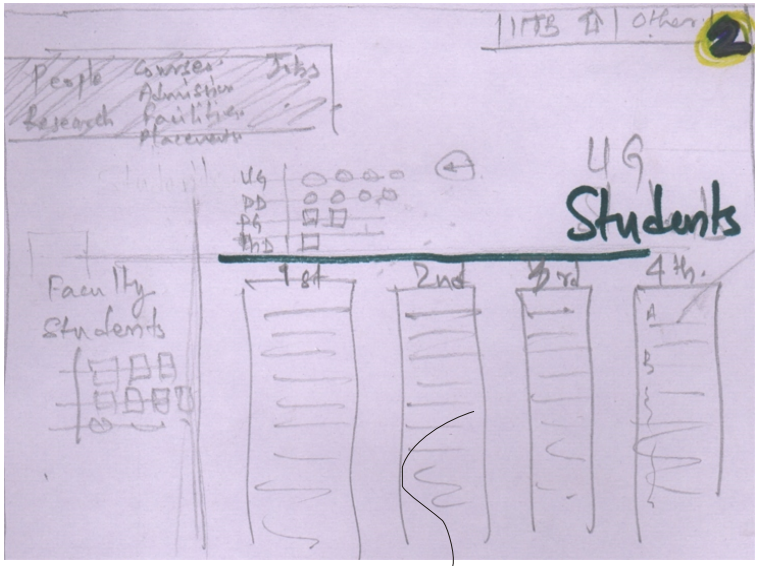
1. The page size shall be designed for 800x600 px color monitors which is the most prevalent size in the existing Indian market.
2. The template shall be tested for discrepencies during display in Microsoft Internet Explorer and Netscape Navigator which are the common browsers used on windows operating systems.
3. The template would be handcoded and software independent so that it is changeable by any competent programmer.

4. The graphics and file sizes would be optimized for quick access on a 56kbps bandwidth internet connection.

5. The font families used for the site will be limited to ‘Arial, Helvetica, San-serif’ and ‘Times New Roman’ since these are the default fonts on windows operating systems.

6. Documentation of the technicalities involved in the design shall be provided for reference of the webmaster.

Design Concepts



pages are text intensive and low on graphics/imafges.

Design Concept 1:
Text based approach

The design concepts were developed based on existing web technologies in use. Three design concepts were developed.

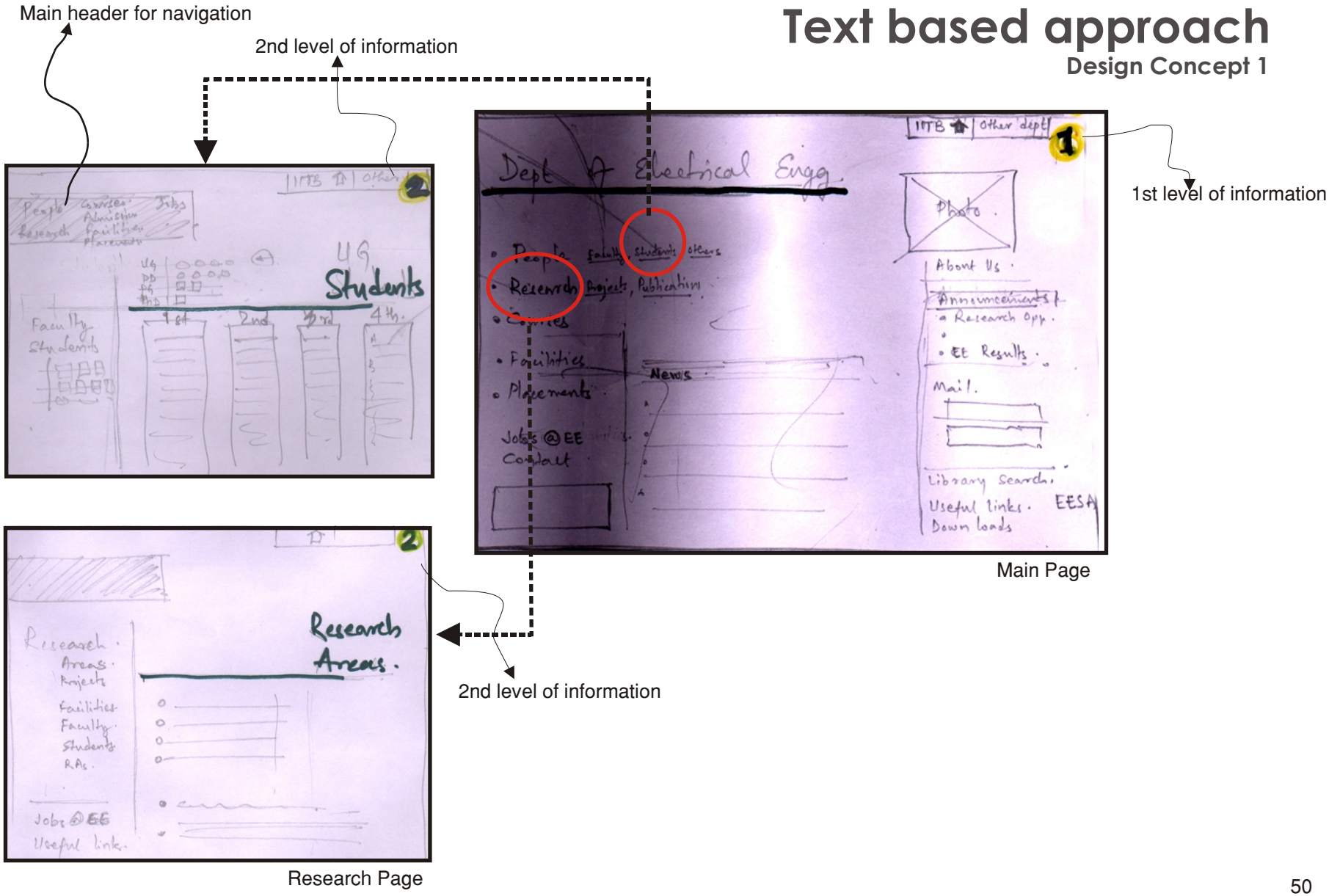
Design Concept 1
Completely text based approach - a design with an emphasis on an aesthetically pleasing layout using typography as the primary element

In this concept the emphasis is entirely on having pages which are devoid of graphics but can still be very pleasant owing to their layout.

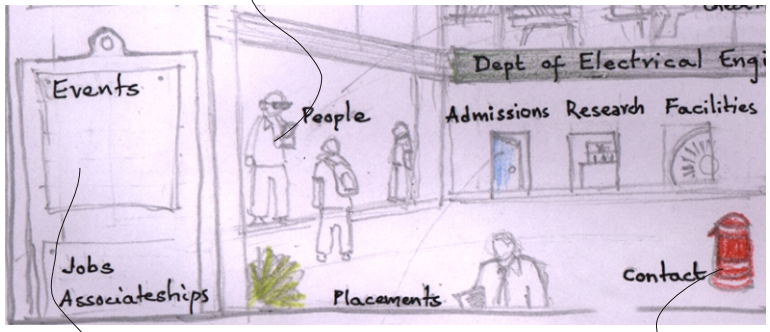
The advantage of such an approach is that it will be quicker to download on a low bandwidth internet connections which is common in India. However the font options available are limited on the WWW owing to the non availability of a font on different client machines. Also all sites built using this template would look alike.

Text based approach

Design Concept 1



Clicking on the faculty or student on graphic leads to 2nd level page



Events and News displayed on notice board like graphic

Contact placed near postbox graphic

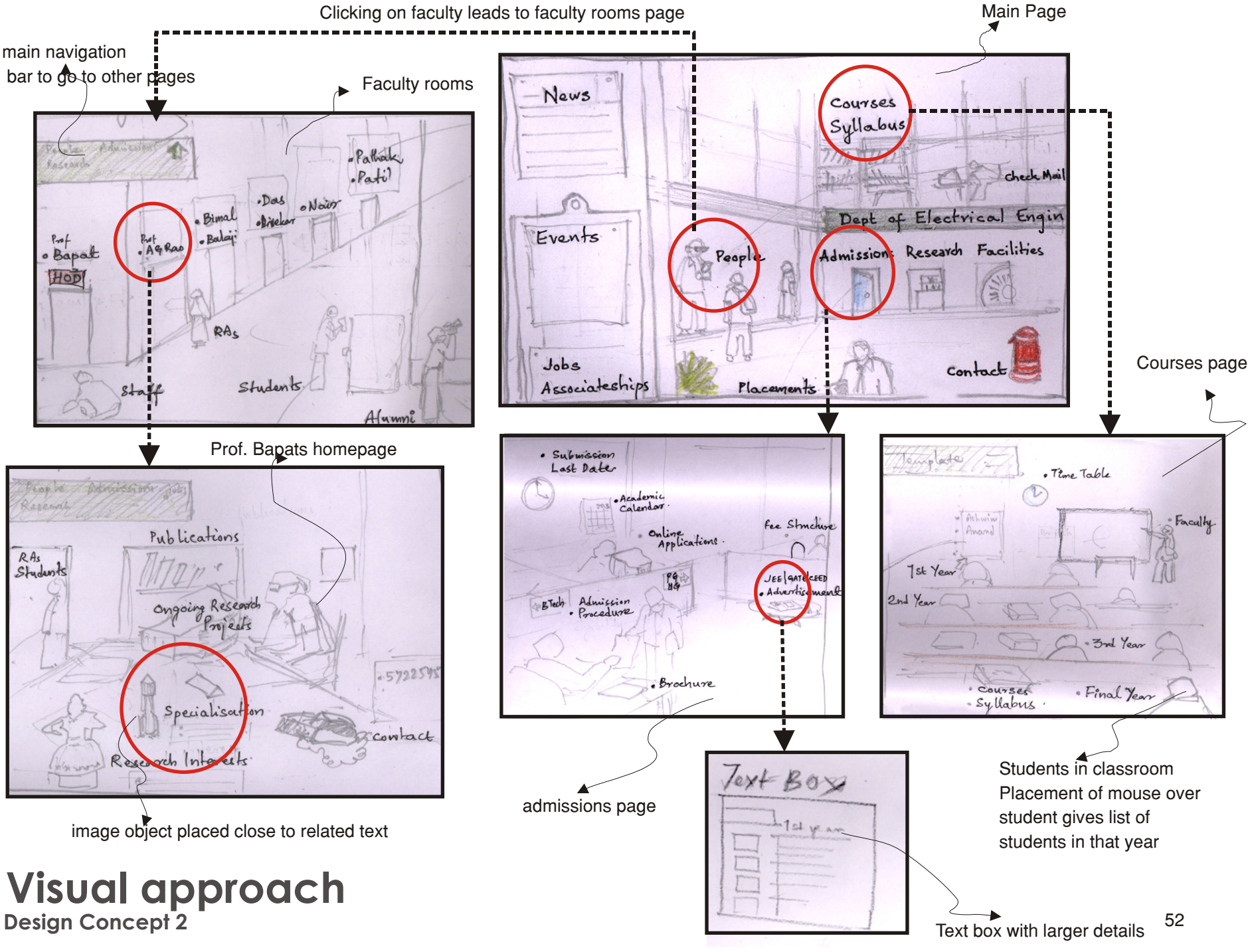
Clicking on the postbox will open the text page of contact details

Design Concept 2
Completely visual approach

- a design which can make the experience of browsing through information more interactive.

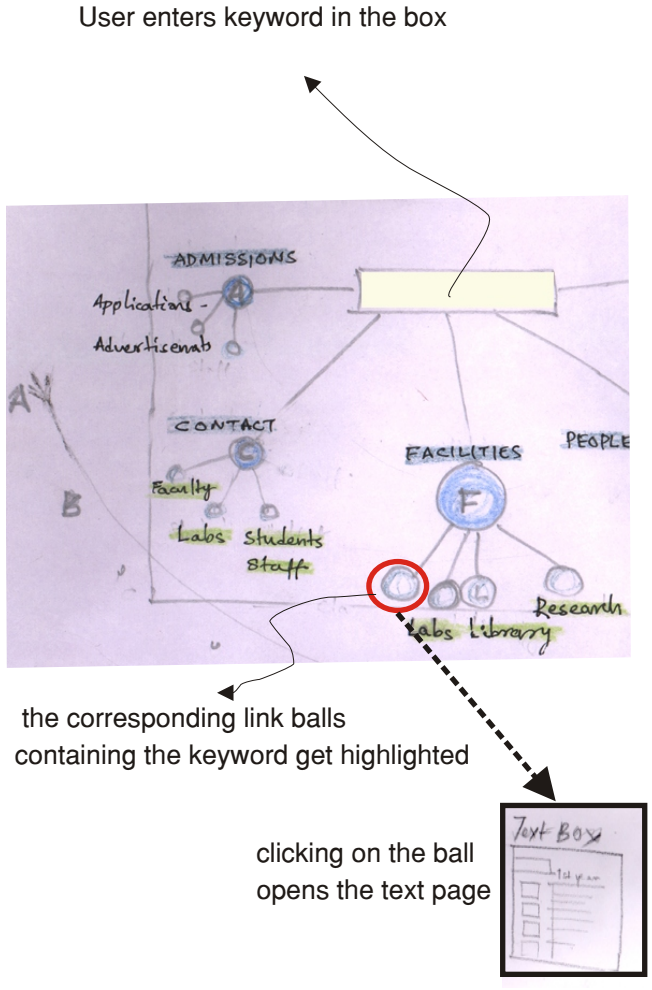
The interface could be a visual walkthrough of the department corridors. The WYSWYG option is interactive and easy to identify with.

The disadvantage with such an option for a template is that there is less possibility of changing the graphic. Also a graphic intensive site will take longer time to download on a low bandwidth internet connection



Visual approach

Design Concept 2



Design Concept 3:
Search based approach

Design Concept 3

Search based approach- a design where the user types the keyword he is searching for and he gets a display of options.

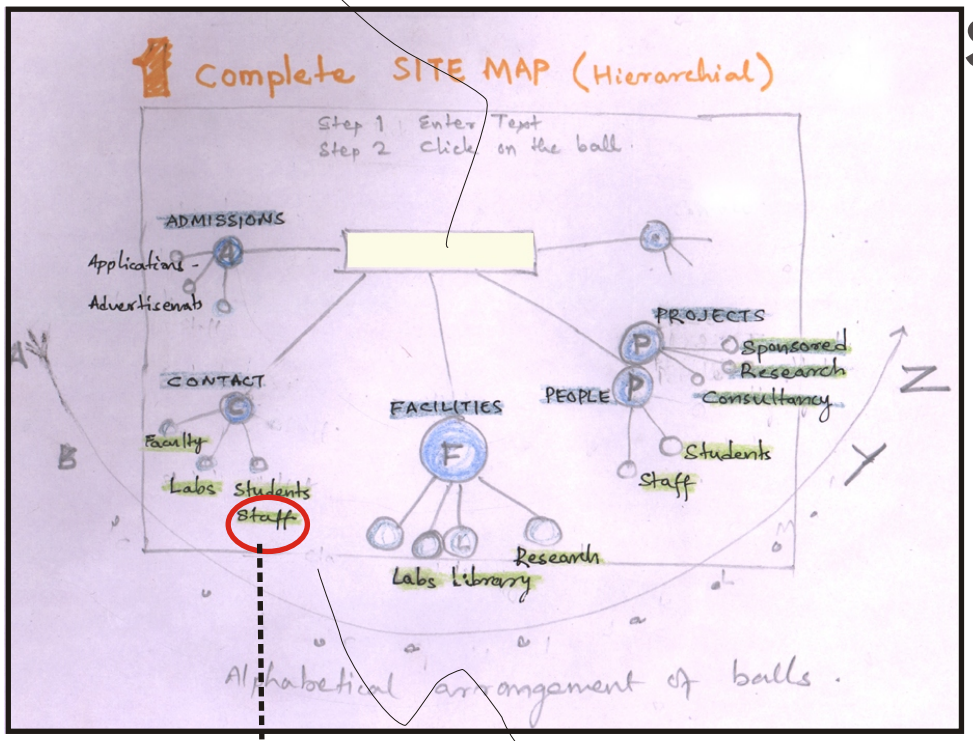
In this approach the user types whatever he is looking for and he gets a visual display of the list of pages that match his keyword. He can quickly click on the page he is looking for.

Such an approach is advantageous to get data quickly with minimum number of mouse clicks. However such an option would require a strong search engine.

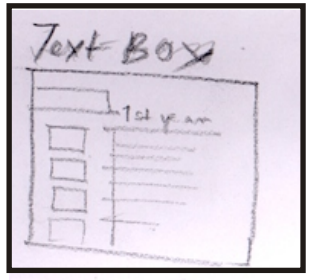
Search based approach

Design Concept 3

User enters keyword in the box

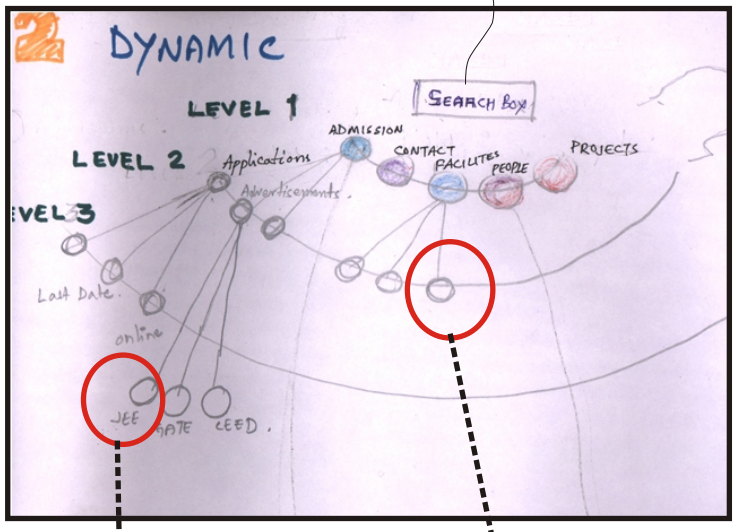


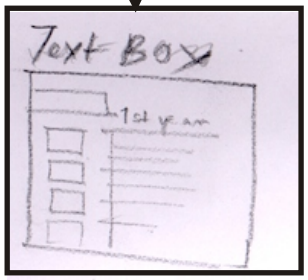
the correspondinglink balls
containing the keyword get highlighted

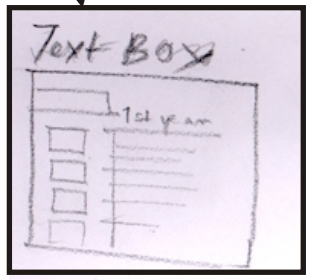


clicking on the ball
opens the text page

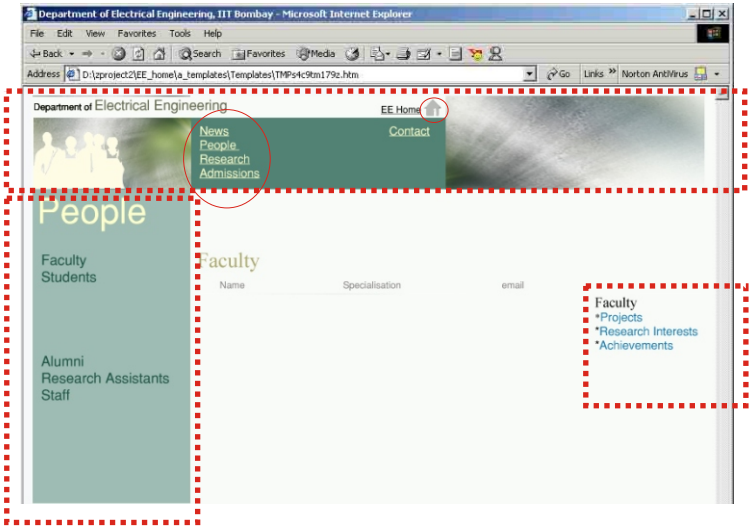
the sitemap can be generated dynamically
based on search text







Final Concept



equal emphasis on text and graphics

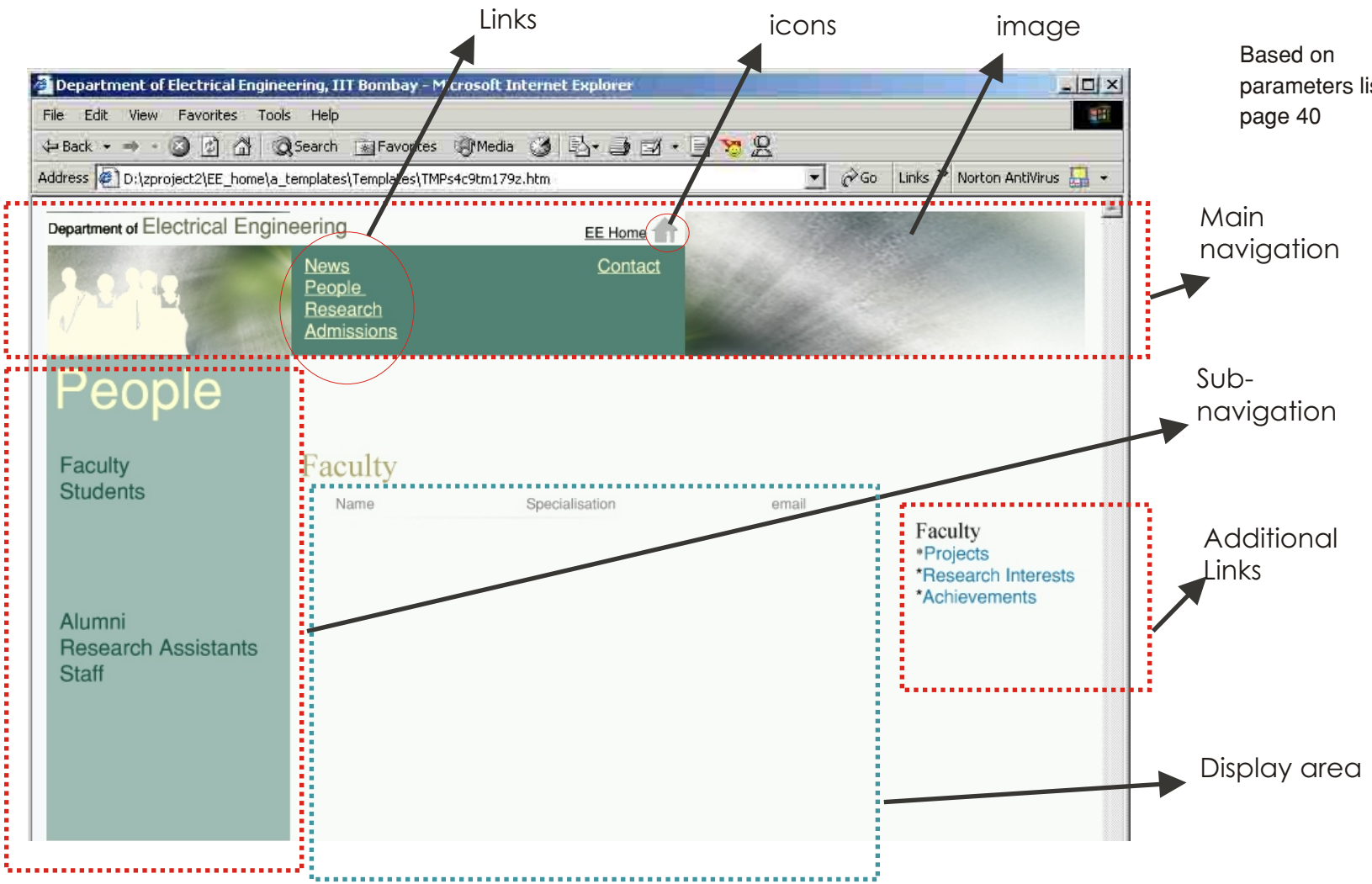
Based on the design parameters listed on page 40 the various options were weighed for their advantages and disadvantages, their applicability for a template, the technical expertise required for building the template with existing technical skills. The final concept arrived at was as follows.

Text & graphic approach- a design which involves a layout which can strike a balance between the text and graphics.

This kind of design would emphasize on equal importance to both the graphic aspect as well as the text. The graphics would aim at reducing the monotony of text. Icons can be added to aid the text.

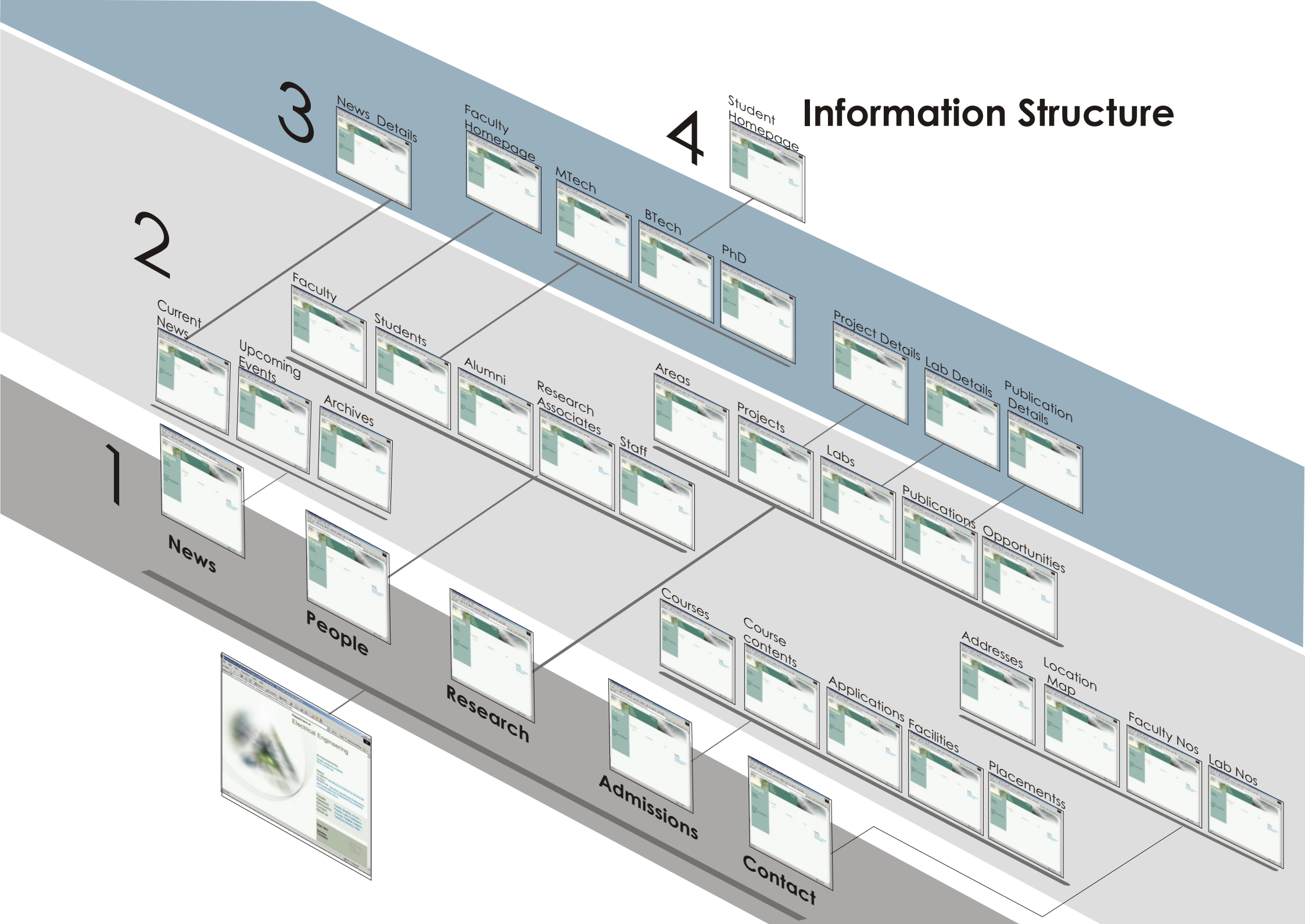
Final Concept

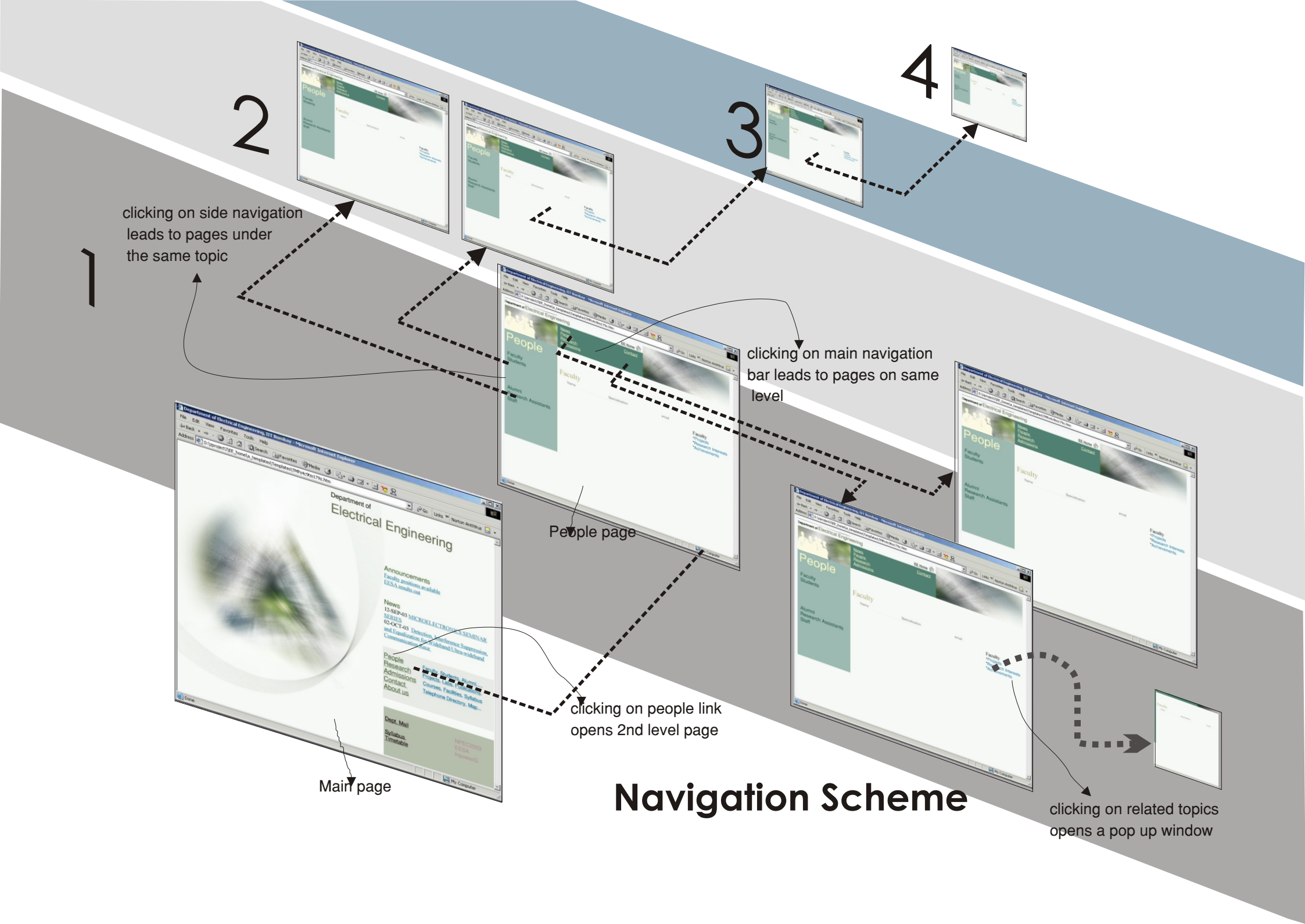
Layout option 1



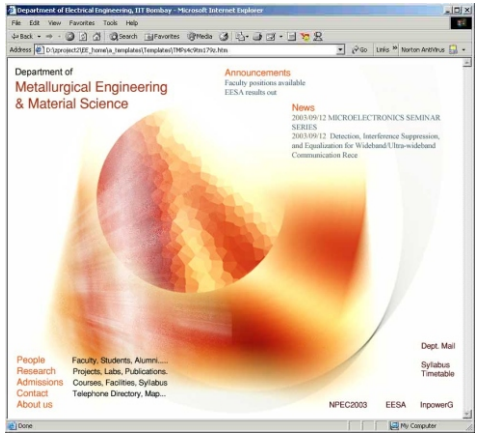
Based on parameters listed on page 40

Information Structure




1
2
3
4
clicking on side navigation leads to pages under the same topic
clicking on main navigation bar leads to pages on same level
People page
clicking on people link opens 2nd level page
Main page
clicking on related topics opens a pop up window
Navigation Scheme

Visual treatment



The emphasis is on developing graphics which have high technical appearance and yet have colors which are Indian. The look should be futuristic. The choice of colors too is given with a view of each department (e.g. orange for metallurgy, green for electrical). But the final decision lies with the webmaster.

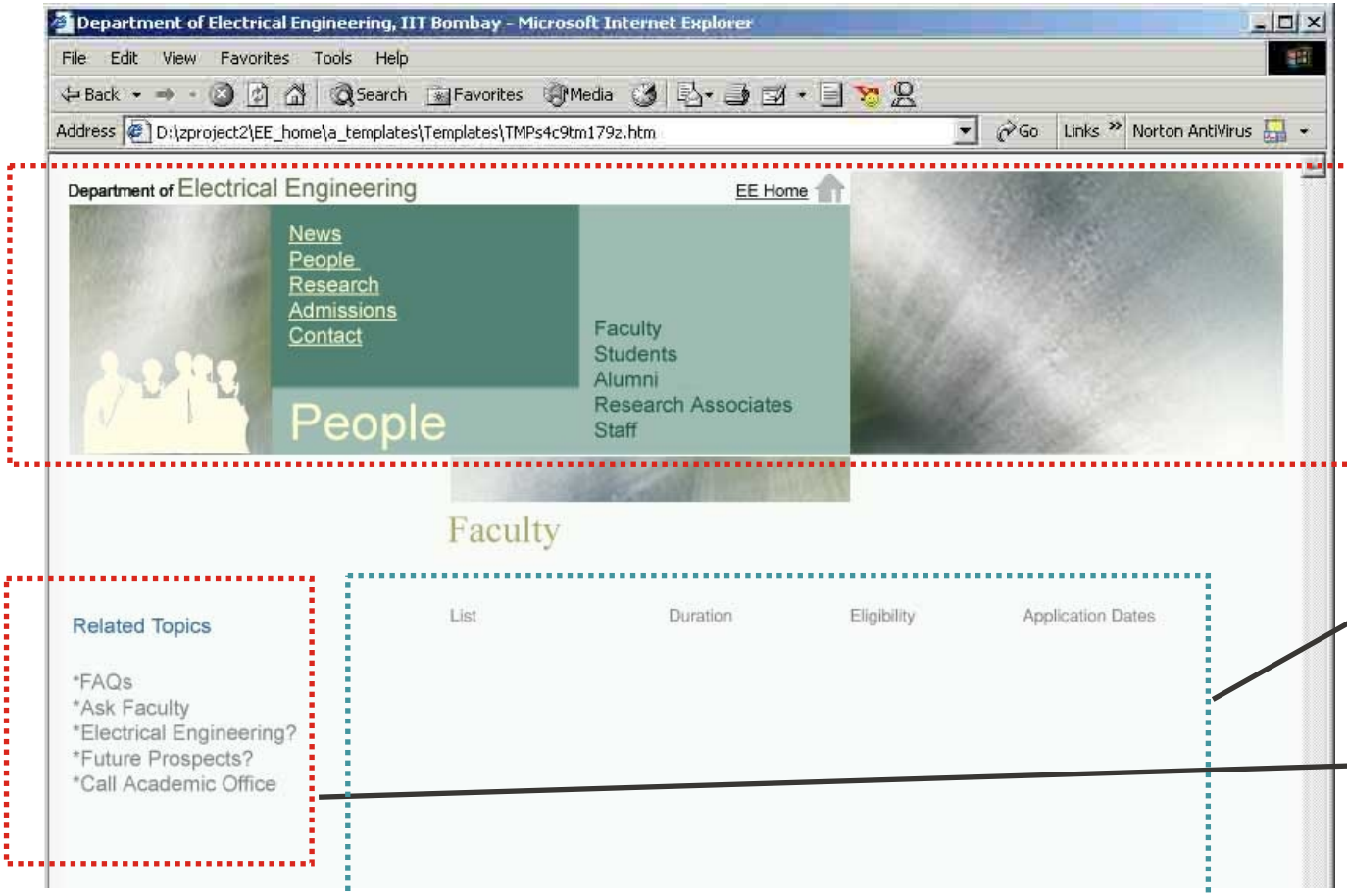
Technology

The templates were developed using HTML which is the basic language that a webmaster would know. Also such template would be editable in any of the webpage editing tools.

The use of Macromedia flash was avoided since the webmaster wont have the software to customize it.

Final Concept

Layout option 2

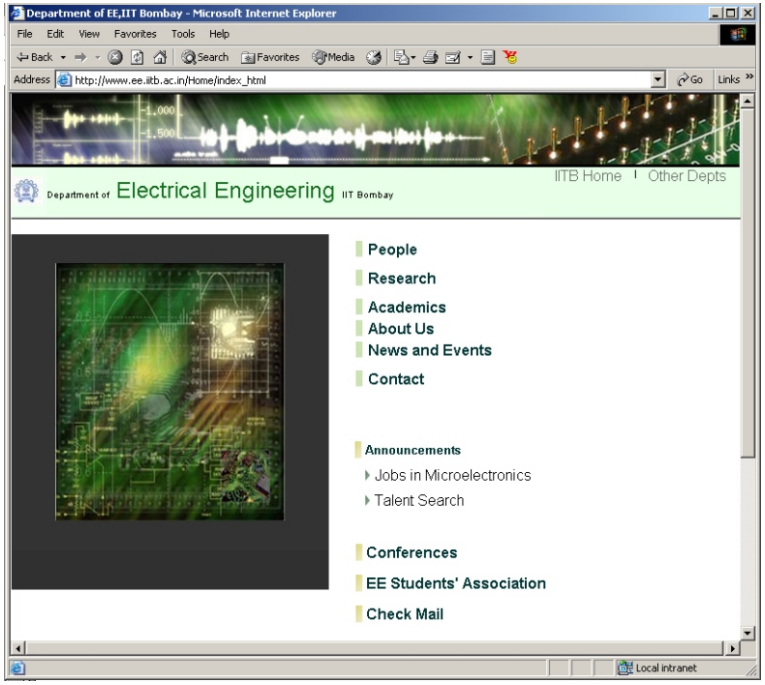


Evaluation Strategy

The electrical engineering webmaster shall be given a CD containing the deliverable. He is expected to go about building his site using the templates given on the CD without any help from the designer.

The final site built using the template was evaluated for any discrepancies in design. Suggestions and feedback were taken from the webmasters and head of the department.

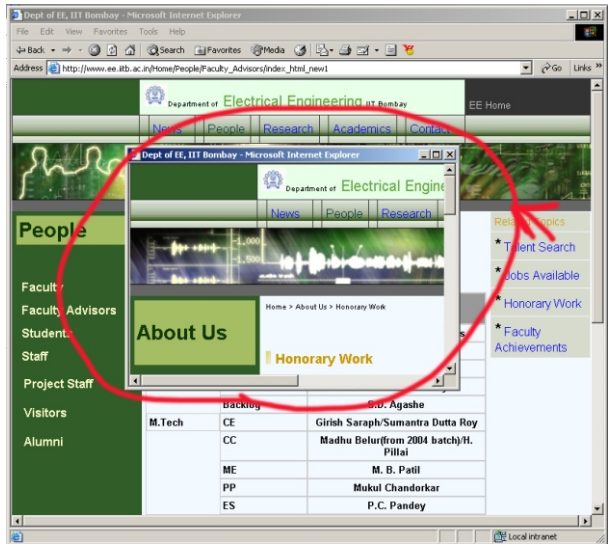
The webmaster of Metallurgical Engineering Department will be asked to build the Metallurgy website by trying the variations that he is provided and the success of the template will be evaluated by the flexibilty it offers.

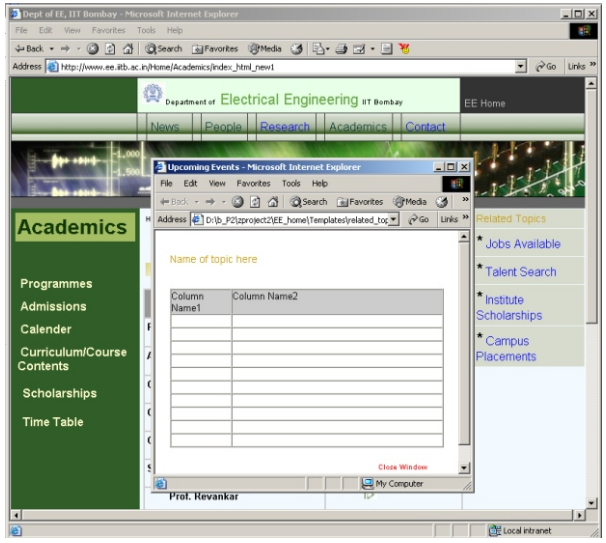


User feedback

The templates were given to the electrical engineering department webmaster and the process of customisation were observed. There was a need for a software that would help him, customize the templates according to his needs.

The department was happy with the design and felt the templates helped bring about a visual uniformity and greater structuring of information.





Design corrections

The originally designed template for the "related topics" page was not being used and hence the webmaster was advised to use the appropriate template for pop-up messages.(see below left)

Final Design Deliverables

The final templates were delivered on the CD along with the graphics.

Additional templates are now being designed for the individual labs at the request of the head of the department.

Bibliography

Websites

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www.iitb.ac.in
www.iitg.ac.in
www.iitk.ac.in
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