SUMMER INTERNSHIP REPORT

"A WEBSITE FOR INFORMATION RETRIEVAL LAB IIT (BHU) VARANASI "

Under the guidance of

DR. SUKOMAL PAL

At

Information Retrieval Lab, Dept. of CSE

Indian Institute of Technology (BHU), Varanasi

Submitted By

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B.TECH. (C.S.E) Vth Semester

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DECLARATION

I hereby declare that the project report titled "**A WEBSITE FOR INFORMATION RETRIEVAL LAB INDIAN IIT (BHU) VARANASI**" submitted by me to Indian Institute of Technology (BHU), Varanasi in complete fulfillment of the requirement for the award of certificate for Summer Internship 2018 is a record of bona fide project work carried out by me under the guidance of **Dr. SUKOMAL PAL, Assistant Professor, Department of Computer Science & Engineering IIT (BHU), Varanasi** .

I further declare that the work reported in this project has not been submitted and will not be submit in part or full, for the award of any certificate in this or any other Institute or University.

IIT-BHU Varanasi

Date:-

ABHINAV SINGH

SIGNATURE OF THE CANDIDATE

CERTIFICATE

This is to certify that ABHINAV SINGH (E. No. 161B004) pursuing B.TECH in Computer Science Engineering from Jaypee University of Engineering & Technology Guna, (M.P.) has successfully completed his Summer Internship at IIT (BHU), Varanasi. He has developed a Website for Information Retrieval Lab IIT (BHU) Varanais between 23rd May to 10th July 2018 under my guidance at Dept. of Computer Science & Engineering IIT (BHU) Varanasi. I certify that he has put in all his efforts for the same. The project fulfills the requirement of the internship.

I wish him ALL THE BEST for his future.

Dr. Sukomal Pal
Assistant Professor
Dept. of Computer Science & Engineering
IIT (BHU) Varanasi

ACKNOWLEDGEMENT

The internship opportunity I had with Indian Institute of Technology (BHU), Varanasi was a great chance for learning and professional development. Therefore, I consider myself as a very fortunate individual as I was provided with an opportunity to be a part of it. I am also grateful for having a chance to meet so many wonderful people and professionals who led me though this internship period.

Bearing in mind previous I am using this opportunity to express my deepest gratitude and special thanks to the Dr. Sukomal Pal Assistant Professor Dept. of Computer Science & Engineering IIT (BHU) Varanasi who in spite of being busy with his duties and research, took time out to hear, guide and keep me on the correct path and allowing me to carry out my project at the esteemed organization and extending during the training.

I express my deepest thanks to Mr. Anurag Banerjee, Research Scholar IR Lab for taking part in useful decision & giving necessary advices and guidance and arranged all facilities to make life easier. I choose this moment to acknowledge his/her contribution gratefully.

It is my radiant sentiment to place on record my best regards, deepest sense of gratitude to Ms. Anita Saroj, Mr. Tribikram Pradhan, Mr. Siba Sankar Sahu, Mr. Susheel K Kulkarni [Research Scholars IR LAB IIT (BHU) Varanasi]for their careful and precious guidance which were extremely valuable for my study both theoretically and practically. I would also like to extend my thanks to Mr. Ribhav Soni [IDD Scholar IR LAB IIT (BHU) Varanasi] and all my fellow interns for their valuable support.

I perceive this opportunity as a big milestone in my career development. I will strive to use gained skills and knowledge in the best possible way, and I will continue to work on their improvement, in order to attain desired career objectives. Hope to continue cooperation with all of you in the future.
Sincerely,

ABHINAV SINGH

Place:

Date:

INTRODUCTION

WEB TECHNOLOGY

Web servers and web browsers are communicating client-server computer programs for distributing documents and information, generally called web data, over the Internet. Web data are marked up in the HTML language for presentation and interaction with people in web browsers. Each web server uses an IP address or domain name as well as a port number for its identification. People use web browsers to send data requests to web servers with the HTTP protocol, and the web servers running on server computers either retrieve the requested data from local disks or generate the data on-the-fly, mark up the data in HTML, and send the resulting HTML files back to the web browsers to render. Apache, Tomcat and IIS are popular web server programs, and IE and Firefox are popular web browsers. The term Web 2.0 was coined in 1999 to describe web sites that use technology beyond the static pages of earlier web sites. It is closely associated with Tim O'Reilly because of the O'Reilly Media Web 2.0 conference which was held in late 2004. Although Web 2.0 suggests a new version of the World Wide Web, it does not refer to an update to any technical specification, but rather to cumulative changes in the ways software developers and end users use the Web.

The word technology refers to the making, modification, usage, and knowledge of tools, machines, techniques, crafts, systems, and methods of organization, in order to solve a problem, improve a preexisting solution to a problem, achieve a goal, handle an applied input/output relation or perform a specific function. It can also refer to the collection of such tools, including machinery, modifications, arrangements and procedures. Technologies significantly affect human as well as other animal species' ability to control and adapt to their natural environments. The term can either be applied generally or to specific areas: examples include construction technology, medical technology, and information technology.

History Of Web

- The term "Web 2.0" was first used in January 1999 by Darcy DiNucci, a consultant on electronic information design (information architecture). In her article, "Fragmented Future", DiNucci writes:

The Web we know now, which loads into a browser window in essentially static screenfuls, is only an embryo of the Web to come. The first glimmerings of Web 2.0 are beginning to appear, and we are just starting to see how that embryo might develop. The Web will be understood not as screenfuls of text and graphics but as a transport mechanism, the ether through which interactivity happens. It will appear on your computer screen, on your TV set your car dashboard your cell phone hand-held game machines maybe even your microwave oven.

- Writing when Palm Inc. was introducing its first web-capable personal digital assistant, supporting web access with WAP, DiNucci saw the web "fragmenting" into a future that extended far beyond the browser/PC combination it was identified with. Her vision of the web's future focused on how the basic information structure and hyperlinking mechanism introduced by HTTP would be used by a variety of devices and platforms. As such, her use of the "2.0" designation refers to a next version of the web that does not directly relate to the term's current use.
- The term Web 2.0 did not resurface until 2002. These authors focus on the concepts currently associated with the term where, as Scott Dietzen puts it, "the Web becomes a universal, standards-based integration platform". John Robb wrote: "What is Web 2.0? It is a system that breaks with the old model of centralized Web sites and moves the power of the Web/Internet to the desktop."
- In 2004, the term began its rise in popularity when O'Reilly Media and MediaLive hosted the first Web 2.0 conference. In their opening remarks, John Battelle and Tim O'Reilly outlined their definition of the "Web as Platform", where software applications are built upon the Web as opposed to upon the desktop. The unique aspect of this migration, they argued, is that "customers are building your business for you". They argued that the activities of users generating content (in the form

of ideas, text, videos, or pictures) could be "harnessed" to create value. O'Reilly and Battelle contrasted Web 2.0 with what they called "Web 1.0". They associated Web 1.0 with the business models of Netscape and the Encyclopædia Britannica Online. For example,

  - Netscape framed "the web as platform" in terms of the old software paradigm: their flagship product was the web browser, a desktop application, and their strategy was to use their dominance in the browser market to establish a market for high-priced server products. Control over standards for displaying content and applications in the browser would, in theory, give Netscape the kind of market power enjoyed by Microsoft in the PC market. Much like the "horseless carriage" framed the automobile as an extension of the familiar, Netscape promoted a "webtop" to replace the desktop, and planned to populate that webtop with information updates and applets pushed to the webtop by information providers who would purchase Netscape servers.
  - In short, Netscape focused on creating software, updating it on occasion, and distributing it to the end users. O'Reilly contrasted this with Google, a company that did not at the time focus on producing software, such as a browser, but instead on providing a service based on data such as the links Web page authors make between sites. Google exploits this user-generated content to offer Web search based on reputation through its "PageRank" algorithm. Unlike software, which undergoes scheduled releases, such services are constantly updated, a process called "the perpetual beta". A similar difference can be seen between the Encyclopædia Britannica Online and Wikipedia: while the Britannica relies upon experts to create articles and releases them periodically in publications, Wikipedia relies on trust in anonymous users to constantly and quickly build content. Wikipedia is not based on expertise but rather an adaptation of the open source software adage "given enough eyeballs, all bugs are shallow", and it produces and updates articles constantly. O'Reilly's Web 2.0 conferences have been held every year since 2004, attracting entrepreneurs, large companies, and technology reporters.

- The term Web 2.0 was initially championed by bloggers and by technology journalists, culminating in the 2006 TIME magazine Person of The Year (You). That is, TIME selected the masses of users who were participating in content

creation on social networks, blogs, wikis, and media sharing sites. In the cover story, Lev Grossman explains:

It's a story about community and collaboration on a scale never seen before. It's about the cosmic compendium of knowledge Wikipedia and the million-channel people's network YouTube and the online metropolis MySpace. It's about the many wresting power from the few and helping one another for nothing and how that will not only change the world but also change the way the world changes.

TECHNOLOGY

The word technology refers to the making, modification, usage, and knowledge of tools, machines, techniques, crafts, systems, and methods of organization, in order to solve a problem, improve a preexisting solution to a problem, achieve a goal, handle an applied input/output relation or perform a specific function. It can also refer to the collection of such tools, including machinery, modifications, arrangements and procedures. Technologies significantly affect human as well as other animal species' ability to control and adapt to their natural environments. The term can either be applied generally or to specific areas: examples include construction technology, medical technology, and information technology. Technology has affected society and its surroundings in a number of ways. In many societies, technology has helped develop more advanced economies (including today's global economy) and has allowed the rise of a leisure class. Many technological processes produce unwanted byproducts, known as pollution, and deplete natural resources, to the detriment of the Earth and its environment. Various implementations of technology influence the values of a society and new technology often raises new ethical questions. Examples include the rise of the notion of efficiency in terms of human productivity, a term originally applied only to machines, and the challenge of traditional norms. According to above information technology means the making of new things, modifications in things and something that changes human efforts in daily life that is known as technology. In upcoming chapters we will discuss about New technologies in web standards like Html and CSS.

Markup Languages And Style Sheets

Introduction

A (document) markup language is a modern system for annotating a document in a way that is syntactically distinguishable from the text. The idea and terminology evolved from the "marking up" of manuscripts, i.e., the revision instructions by editors, traditionally written with a blue pencil on authors' manuscripts. Examples are typesetting instructions such as those found in troff, TeX and LaTeX, or structural markers such as XML tags. Markup instructs the software displaying the text to carry out appropriate actions, but is omitted from the version of the text that is displayed to users. Some markup languages, such as HTML, have pre-defined presentation semantics, meaning that their specification prescribes how the structured data are to be presented; others, such as XML, do not. A widely used markup language is Hyper Text Markup Language (HTML), one of the document formats of the World Wide Web. HTML, which is an instance of SGML (though, strictly, it does not comply with all the rules of SGML), follows many of the markup conventions used in the publishing industry in the communication of printed work between authors, editors, and printers. A web style sheet is a form of separation of presentation and content for web design in which the markup (i.e., HTML or XHTML) of a webpage contains the page's semantic content and structure, but does not define its visual layout (style). Instead, the style is defined in an external style sheet file using a style sheet language such as CSS or XSLT. This design approach is identified as a "separation" because it largely supersedes the antecedent methodology in which a page's markup defined both style and structure.

HTML

HTML(Markup Language) Hyper Text Markup Language (HTML) is the main markup language for creating web pages and other information that can be displayed in a web browser. HTML is written in the form of HTML elements consisting of tags enclosed in angle brackets (like <html>), within the web page content. HTML tags most commonly come in pairs like <h1> and </h1>, although some tags, known as empty elements, are unpaired, for example <img>. The first tag in a pair is the start tag, the second tag is the end tag (they are also called opening tags and closing tags). In between these tags web designers can add text, tags, comments and other types of text-based content.The purpose of a web browser is to read HTML documents and compose them into visible or audible web pages. The browser does not display the HTML tags, but uses the tags to interpret the content of the page.HTML elements form the building blocks of all websites. HTML allows images and objects to be embedded and can be used to create interactive forms. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. It can embed scripts written in languages such as JavaScript which affect the behavior of HTML web pages.Web browsers can also refer to Cascading Style Sheets (CSS) to define the appearance and layout of text and other material. The W3C, maintainer of both the HTML and the CSS standards, encourages the use of CSS over explicit presentational HTML markup.

HTML 5

Features

- New Elements
- New Attributes
- Full CSS3 Support
- Video and Audio
- 2D/3D Graphics
- Local Storage
- Local SQL Database
- Web Applications

Introduction

HTML5 is a markup language for structuring and presenting content for the World Wide Web(Web Pages) and is a core technology of the Internet. It is the fifth version of the HTML(Hyper Text Markup Language) standard. Its core aims have been to improve the language with support for the latest multimedia while keeping it easily readable by humans and consistently understood by computers and devices (web browsers, parsers, etc.). HTML5 is intended to subsume not only HTML 4, but also XHTML 1 and DOM Level 2 HTML. Following its immediate predecessors HTML 4.01 and XHTML 1.1, HTML5 is a response to the observation that the HTML and XHTML in common use on the World Wide Web are a mixture of features introduced by various specifications, along with those introduced by software products such as web browsers, those established by common practice, and the many syntax errors in existing web documents. It is also an attempt to define a single markup language that can be written in either HTML or XHTML syntax. It includes detailed processing models to encourage more interoperable implementations; it extends, improves and rationalises the markup available for documents, and introduces markup and application programming interfaces (APIs) for complex web applications. For the same reasons, HTML5 is also a potential candidate for cross-platform mobile applications. Many features of HTML5 have been built with the consideration of being able to run on low-powered devices such as smartphones and tablets. In December 2011, research firm Strategy Analytics forecast sales of HTML5 compatible phones will top 1 billion in 2013. In particular, HTML5 adds many new syntactic features. These include the new <video>, <audio> and

<canvas> elements, as well as the integration of scalable vector graphics (SVG) content (that replaces the uses of generic <object> tags) and MathML for mathematical formulas. These features are designed to make it easy to include and handle multimedia and graphical content on the web without having to resort to proprietary plugins and APIs. Other new elements, such as <section>, <article>, <header> and <nav>, are designed to enrich the semantic content of documents. New attributes have been introduced for the same purpose, while some elements and attributes have been removed. Some elements, such as <a>, <cite> and <menu> have been changed, redefined or standardized. The APIs and Document Object Model (DOM) are no longer afterthoughts, but are fundamental parts of the HTML5 specification. HTML5 also defines in some detail the required processing for invalid documents so that syntax errors will be treated uniformly by all conforming browsers and other user agents.

Why HTML5?

- In previous version HTML have some limitations. To cover them a new version of HTML was introduced that was known as HTML5.
- There are many features in HTML5 which will attract us in coming future.
- Now HTML5 have some benefits, some of them are:-

1. Accessibility

HTML5 makes creating accessible sites easier for two main reasons: semantics and ARIA. The new (some currently available) HTML headings like <header>, <footer>, <nav>, <section>, <aside>, etc. allow screen readers to easily access content. Before, your screen readers had no way to determine what a given was even if you assigned it an ID or Class. With new semantic tags screen readers can better examine the HTML document and create a better experience for those who use them. ARIA is a W3C spec that is mainly used to assign specific ―roles to elements in an HTML document – essentially creating important landmarks on the page: header, footer, navigation or article, via role attributes. This has been well overlooked and widely under-used mostly due to the fact that it wasn‘t valid, however, HTML5 will validate these attributes. Also, HTML5 will have built in roles that can‘t be over-ridden making assigning roles a no brainer. For a more in depth discussion on HTML5 and ARIA please visit the WAI.

2. Video and Audio Support

Forget about Flash Player and other third party media players, make your videos and audio truly accessible with the new HTML5 <video> and <audio> tags. Getting your media to play correctly has always been pretty much a nightmare, you had to use the <embed> and <object> tags and assign a huge list of parameters just to get the thing visible and working correctly. Your media tags just become these nasty, huge chunks of confusing code segments. HTML5′s video and audio tags basically treat them as images; <video src="url"/>. But what about all those parameters like height, width and autoplay? No worries my good man, just define those attributes in the tag just like any other HTML element: <video src="url" width="640px" height="380px" autoplay/>.

3. Doctype

<!DOCTYPE html>

That is the doctype, nothing more, nothing less. Pretty simple right? No more cutting and pasting some long unreadable line of code and no more dirty head tags filled with doctype attributes. You can simply and easily type it out and be happy. The really great thing about it though, beyond the simplicity, is that it works in every browser clear back to the dreaded IE6.

4. Cleaner Code

If you are passionate about simple, elegant, easy to read code then HTML5 is the beast for you. HTML5 allows you to write clear and descriptive code, semantic code that allows you to easily separate meaning from style and content. With HTML5 you can finally cure your ―divitis‖ and ―classitis‖ by using semantic and HTML headers to describe your content. Previously you would generally just use div‘s for every block of content than drop an id or class on it to describe its content but with the new <section>, <article>, <header>, <footer>, <aside> and <nav> tags, HTML5 allows you to code your markup cleaner as well as keep your CSS better organized and happier.

5. Smarter Storage

One of the coolest things about HTML5 is the new local storage feature. It‘s a little bit of a cross between regular old cookies and a client-side database. It‘s better than cookies because it allows for storage across multiple windows, it has better security and performance and data will persist even after the browser is closed. Because it‘s essentially a client side data base you don‘t have to worry about the user deleting cookies and it is been adopted by all the popular browsers.Local storage is great for many things, but it‘s one of HTML5 tools that are making web apps possible without third party plugins. Being able to store data in the user‘s browser allows you to easily create those app features like: storing user information, the ability to cache data, and the ability to load the user‘s previous application state.

6. Better Intraction

We all want better interactions, we all want a more dynamic website that responds to the user and allows the user to enjoy/interact your content instead of just look at it. Enter <canvas>, the drawing HTML5 tag that allows you to do most (if not more) interactive and animated possibilities than the previous rich internet application platforms like Flash.

Beyond <canvas>, HTML5 also comes with a slew of great APIs that allow you to build a better user experience and a beefier, more dynamic web application — here‘s a quick list of native APIs:

- Drag and Drop (DnD)
- Offline storage database
- Browser history management
- document editing
- Timed media playback

7. Game Development

Yup, that is correct, you can develop games using HTML5′s <canvas> tag. HTML5 provides a great, mobile friendly way to develop fun, interactive games. If you‘ve built Flash games before, you‘ll love building HTML5 games.

8. Cross Browser Support

Your modern, popular browsers all support HTML5 (Chrome, Firefox, Safari IE9 and Opera) and the HTML5 doctype was created so that all browsers, even the really old and annoying ones, er, IE6 can use it. But just because old browsers recognize the doctype that doesn‘t mean they can use all the new HTML5 tags and goodies.

9. Mobile, Mobile, Mobile Mobile

Mobile browsers have fully adopted HTML5 so creating mobile ready projects is as easy as designing and constructing for their smaller touch screen displays — hence the popularity of Responsive Design.

There are some great meta tags that also allow you to optimize for mobile:

- Viewport: allows you to define viewport widths and zoom settings.
- Full screen browsing: IOS specific values that allow Apple devices to display in full screen mode.
- Home Screen Icons: like favicons on desktop, these icons are used to add favorites to the home screen of an IOS and Android mobile device.

10. It’s The Future, GET WITH IT

The number one reason why you should start using HTML5 today is this: it‘s the future, start using it now so you don‘t get left behind. HTML5 is not going anywhere and as more and more elements get adopted more and more companies will start to develop in HTML5. HTML5 is essentially just HTML, it‘s not scary, it‘s not anything you really need to figure out or relearn — if you‘re developing XHTML strict right now you are already developing in HTML5 so why not take full advantage of it‘s current capability? You really don‘t have any excuses not to adopt HTML5 and begin your new love affair with it. Truly, the only real reason I prefer to use HTML5 is just to write cleaner code, all the other benefits and fun features I haven‘t even really jumped into yet, but that is the great thing about it, you can just start using it right now and not even change the way you design. So, start using it right now, whether you are just simplifying and making your markup more semantic OR you are gonna build some sick new mobile game that will take over the world — who knows, maybe you can start selling stuffed animal versions of your gaming characters too.

CSS(Cascading Style Sheet)

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation semantics (the look and formatting) of a document written in a markup language. Its most common application is to style web pages written in HTML and XHTML, but the language can also be applied to any kind of XML document, including plain XML, SVG and XUL. CSS is designed primarily to enable the separation of document content (written in HTML or a similar markup language) from document presentation, including elements such as the layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple pages to share formatting, and reduce complexity and repetition in the structural content (such as by allowing for tableless web design). CSS can also allow the same markup page to be presented in different styles for different rendering methods, such as on-screen, in print, by voice (when read out by a speechbased browser or screen reader) and on Braille-based, tactile devices. It can also be used to allow the web page to display differently depending on the screen size or device on which it is being viewed. While the author of a document typically links that document to a CSS style sheet, readers can use a different style sheet, perhaps one on their own computer, to override the one the author has specified. CSS specifies a priority scheme to determine which style rules apply if more than one rule matches against a particular element. In this so-called cascade, priorities or weights are calculated and assigned to rules, so that the results are predictable. The CSS specifications are maintained by the World Wide Web Consortium (W3C).

(CSS3)

- Latest Standard for Cascading Style Sheet.
- New ways for fantastic design.
- Added new modules.
- Completely backwards compatible.

Introduction

- Very briefly, CSS stands for _Cascading Style Sheets‘ and is a mark-up language for altering and giving style to a website or elements within a website. The 3 represents the next generation/version of style sheet language.
- It is very important to learn that while it is fun to learn and play with CSS3, it is still not yet fully supported in current browsers. This means that if you are to incorporate CSS3 in a live website, it would be a good idea to make sure there is fallback code for the browsers that are struggling to support it.
- CSS3 is short form for Cascading Style Sheet Version 3. Earlier there was version 2(CSS2). CSS3 added some new features. CSS3 is completely backwards compatible, so you will not have to change existing designs. Browsers will always support CSS2. CSS3 offers a huge variety of new ways to create an impact with your designs, with quite a few important changes.
- Using CSS3 keyframe animations, developers can create smooth, maintainable animations that perform relatively well and that don‘t require reams of scripting. It‘s just another way that CSS3 is helping to solve a real-world problem in an elegant manner. CSS3 is a sprawling specification that attempts to modularize CSS and both extend and improve on previous CSS versions.

Why CSS3?

- In previous version CSS have some limitations. To cover them a new version of CSS was introduced that was known as CSS3.
- There are many features in CSS3 which will attract us in coming future.
- Now CSS3 have some benefits, some of them are:-

1. CSS3 Borders

CSS3 contain following border properties:’

- border-radius
- box-shadow
- border-image

With CSS3, you can create rounded borders, add shadow to boxes, and use an image as a border without using a design program, like Photoshop. The CSS3 border-radius property allows web developers to easily utilise rounder corners in their design elements, without the need for corner images or the use of multiple div tags, and is perhaps one of the most talked about aspects of CSS3.
Since first being announced in 2005 the border-radius property has come to enjoy widespread browser support (although with some discrepancies) and, with relative ease of use, web developers have been quick to make the most of this emerging technology.

2. CSS3 Text Effects

CSS3 contain following background properties:

- background-size
- background-origin

CSS3 contains several new background properties, which allow greater control of the background element. CSS3 allows web designers to specify multiple background images for box elements, using nothing more than a simple comma-separated list. The property adds new functionality to CSS allowing designers to specify the size of background images using either lengths, percentages, or by using one of two keywords; contain or cover.

3. CSS3 Text Effects

CSS3 contain following Text Effect properties:

- text-shadow
- word-wrap

The new CSS3 properties give developers a wonderful chance to enhance their designs in a way that‘s quick and easy, yet visually impressive. To give a website a visually impressive look, designers put emphasis on neat and stylish typography. For years designers have depended on Photoshop, but CSS3 is a revolution with easy-to-create text effects. Almost all of the major browsers now support most of the CSS3 features so that‘s another reason for mastering the new techniques.

4. CSS3 Fonts

Before CSS3, web designers had to use fonts that were already installed on the user's computer. With CSS3, web designers can use whatever font he/she likes. When you have found/bought the font you wish to use, include the font file on your web server, and it will be automatically downloaded to the user when needed.

- Your "own" fonts are defined in the CSS3 @font-face rule.

5. CSS3 2D Transforms

A transform is an effect that lets an element change shape, size and position. CSS3 contain following 2D Transforms properties:

- translate()
- rotate()
- scale()
- skew()
- matrix()

6. CSS3 3D Transforms

CSS3 allows you to format your elements using 3D transforms. CSS3 contain following 3D transforms properties:

- rotateX()
- rotateY()

7. CSS3 Transitions

With CSS3, we can add an effect when changing from one style to another, without using Flash animations or Java Scripts.

8. CSS3 Animations

With CSS3, we can create animations, which can replace animated images, Flash animations, and Java Scripts in many web pages.

PROPOSED WORK DESCRIPTION

Website's Outline

- The website for Information Retrieval Lab IIT (BHU) Varanasi has been developed using HTML5 CSS3 and JavaScript. This is a very light website with a little bit of animations and is designed so to make it easily accessible on a very slow internet connection.
- Most of the people nowadays access the internet not only laptops but also mobiles & tablets. So keeping this in mind the website is build responsive so that it can be easily seen on all devices with varying screen sizes.
- All the pages are properly linked with each other and webpages also open automatically in a new tab wherever it is needed.
- All the webpages contains a footer section which contains the links to IIT (BHU) website and and Computer Science Department IIT (BHU) website and it also contains a circle button which points to the top of the webpage.
- Proper font awesome icon have been used wherever necessary and academicons has been also used.

Academicons was originally built as a supplement to Font Awesome, so the two fonts intentionally share the same metrics.

There are two ways to install **Academicons** on your site. The most reliable way is to place the `fonts` and `css` folders on your server and link to the **academicons.css** stylesheet by adding the following to the page header:

```
<link rel="stylesheet" href="/path/to/folder/css/academicons.min.css"/>
```

Alternatively, use the RawGit service to call the most recent version of Academicons from the StackPath content distribution network using:

```
<link rel="stylesheet"
href="https://cdn.rawgit.com/jpswalsh/academicons/master/academicons.min.css">
```

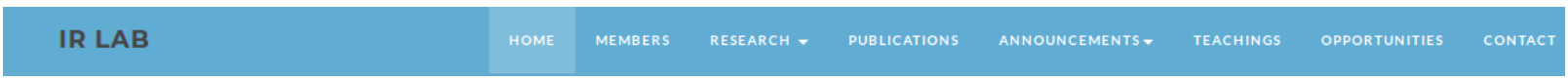
Call the icons in the same way as you would using Font Awesome, but replacing `fa` with `ai`. For example:

```
<i class="ai ai-google-scholar-square ai-3x"></i>
```

Website's Structure

- HOME
- MEMBERS
- RESEARCH
  - ONGOING PROJECTS
  - Ph.D. RESEARCHES
- PUBLICATIONS
- ANNOUNCEMENTS
  - ACHIEVEMENTS
  - NEWS
  - GALLERY
- TEACHINGS
- OPPORTUNITIES
- CONTACT

WEBSITE’s NAVIGATION BAR



IMPLEMENTATION DETAILS

1. HOME SECTION

The HOME Section contains an image that incorporates two images

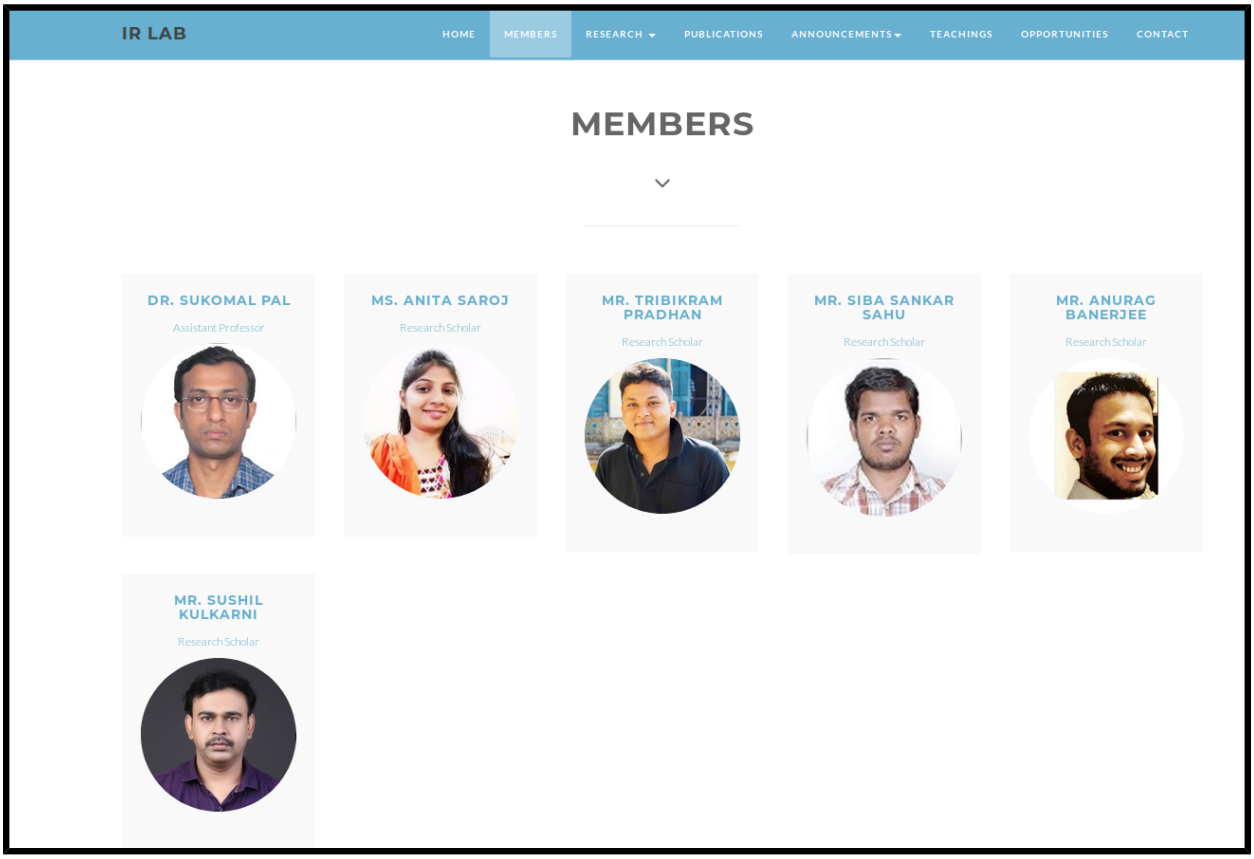
1. Department of Computer Science Indian Institute of Technology (BHU) Varanasi

&

2. Group Photograph of Members Information Retrieval Lab IIT (BHU) Varanasi

It also contains a circle button that points to the members section of th website.

2. MEMBERS SECTION



The members contains playcards that contains :

- Name of the Member
- Rank of the Member
- Photograph of the Member

The first section under th heading MEMBERS contains the playcards for the current members and it also has a subsection. The playcard come up in the website with the Bounce Up animation. All the playcard in linked with the portfolio page of the members. The portfolio page contains the information about the members.

PORTFOLIO PAGE

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About

Research Interests

Data Mining, Information Retrieval, XML Retrieval, IR Evaluation, Natural Language Processing

Courses Taught/Teaching

Information Retrieval, Operating Systems, Advanced Operating Systems, Computer Organization, Internet Technology

Computer Programming, Probability & Statistics, Database Management Systems, Internet & Multimedia

Google Scholar

Research Gate

dblp

Linkedin

github

publons

PUBLICATIONS

CONFERENCE:E-LEARNING RECOMMENDED SYSTEM FOR TEACHERS USING OPINION MINING

JAN 2015

PUBLISHED AT:Springer Information Science and Application (LNEE, Volume 339)

AUTHORS:A.S. Tiwari, Anita Saroj, A.G. Barman

ACHIEVEMENTS

QUALIFIED GATE

2012

What is G.A.T.E. ?

RESEARCH WORKS

FIRE-2018 (EVENT TRAC-IL)

JUNE 2018 - CURRENT

Event Detection & Location Prediction Problem

EXPERIENCE

ASSISTANT PROFESSOR

JULY 2015 - JUNE 2016

Government Engineering College Bijnor

EDUCATION

IIT (BHU), VARANASI

JULY 2016 - CURRENT

Ph.D.

NIT, PATNA

2013 - 2015

M.Tech.

FGIET, RAEBARELI

2008 - 2012

B.Tech.

The portfolio page contains playcards in one third proportion of the page which has the contact information and about section. In the contact information we have the **Member's Name, their rank their native place and their personal and official email ID's** along with the proper font awesome icons**.**
In the About section we have there is a short description about the interests of the members and other stuffs about the members which they want to share with the world in brief.
Then there is a box which contains all the profiles which the member wants to share with the world. These profiles have the can be on any of the platforms such as Linkedin, github etc. depicted with the academicons.

Then in the next two third part of the page we have a properly specified sections for PUBLICATIONS, ACHIEVEMENTS, RESEARCH WORK, EXPERIENCE.

The PUBLICATION part contains all the publications of the member along with the name of co-authors and Publication date and the name of the conference at which the paper was published.

The ACHIEVEMENT part contains all the academic and non academic achievement of the member.

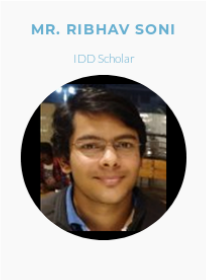
The RESEARCH WORK part may contain the ongoing as well as the completed researches of the member.

The EXPERIENCE part may contain the previous experience in the field of industry or academics of the member.

Then there comes the EDUCATION part that contains the Course Name, The institute name and the starting and ending year of the course.

Then in the members section there is also a subheading for the previous members and it contains the playcard for the previous members of the Information Retrieval Lab.

PREVIOUS MEMBERS



The playcard is linked with the Google Scholar page of the member.

3. PUBLICATIONS

The publication section contains all the publications year-wise that has been done by the present or the previous members in the lab . The publication section contains a responsive table that that the following fields

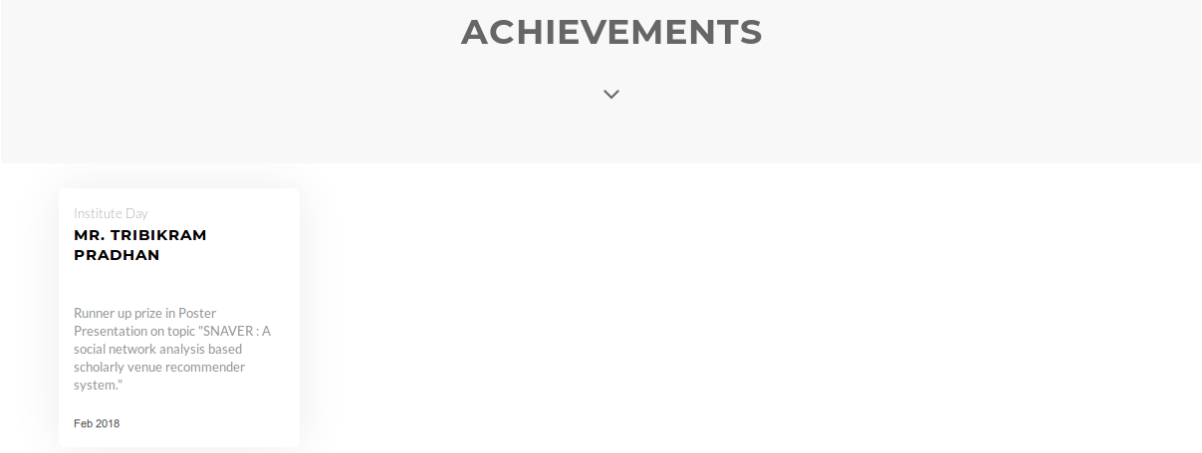
- Title:- The title of the paper published.
- Author:- The name of the authors and the co-authors.
- Published At:- The conference where the paper was published.
- Type:- The type of the paper that was published.
- Download:- This contains the link to the paper that was published.

TITLE	AUTHOR(S)	PUBLISHED AT	TYPE	LINK
2018				
Gold Standard Creation for Microblog Retrieval: Challenges of Completeness in IRMiDis	R. Soni, S. Pal	Companion of the The Web Conference 2018 on The Web Conference 2018, 1639-1642	Workshop Proceedings	Download
2017				
IIT BHU at FIRE 2017 IRMiDis Track-Fully Automatic Approaches to Information Retrieval	H. Mehrotra, R. Soni, S. Pal	CEUR Workshop Proceedings	Workshop Proceedings	Download
Microblog Retrieval for Disaster Relief: How To Create Ground Truths?	Ribhav Soni, Sukomal Pal	SMERP@ ECIR	Workshop Proceedings	Download
2016				
IIT BHU at FIRE 2016 Microblog Track: A Semi-automatic Microblog Retrieval System.	Ribhav Soni, Sukomal Pal	FIRE (Working Notes)	Working Notes	Download

4. ANNOUNCEMENTS

The announcement section has a dropdown menu with three options

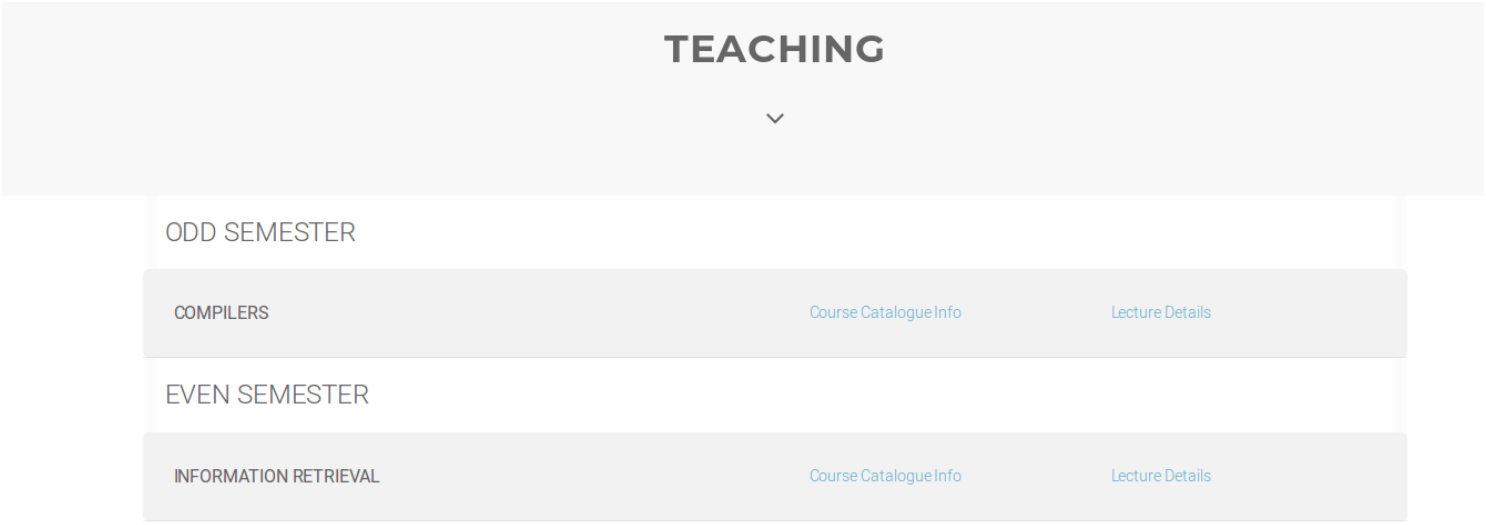
- ACHIEVEMENTS :- The achievement section contains the achievements of the members and the lab as a whole. These achievements can be in the field of academics and non-academics achieved by the member while being in the Information Retrieval Lab IIT (BHU) Varanasi. All the achievements are in the form for placards.



- NEWS :- This section will also be containing descriptive playcard which will notify the viewers about the upcomings and the latest happenings in the lab along with the date.
- GALLERY :- There is also a responsive image gallery which contains the image which will make the viewer get the live view of the recent happenings in the lab. These are the small grids which will go in the expanded view on clicking with next and previous buttons.

5. TEACHING

The teaching section contains a responsive table that contains the Course Name that are taken up by the Lab Instructor at Department of computer Science and Engineering Indian Institute of Technology (BHU), Varanasi. This has the Course Catalogue Info and Lecture Details of the subjects Semester wise (ODD & EVEN SEMESTER) and Yearwise that are linked appropriately.



6. OPPORTUNITIES

The opportunities section contains the openings in the Information Retrieval Lab IIT (BHU) Varanasi. This will have the notifications about the available posts in such as the posts of Summer and Winter Interns, Part Time Scholars etc.
The prerequisites for the post can also be uploaded along with the closing date of the vacancy.

After the completion of work by the Scholars who have taken up the vacancy floated on the website there will be a separate web page that will contain the description of the work done by the scholar in that tenure. That web page will be linked with the placard on which the vacancy was floated.

While providing the link we will be using the target attribute as
<a href=" " target="_blank">
This will open the linked page in a new tab. The web page will have the heading INTERN WORKS and it will contain a responsive table with the following fields:

- MEMBER :- Name of the intern linked with his/her Linkedin Profile.
- MENTOR :- Name of Research Scholar heading the intern.
- PROJECT TITLE :- The title of the project taken up by the intern linked to his/her work.
- DURATION :- Duration of the project.
- INSTITUTE NAME :- Intern’s Institute name linked to its website.

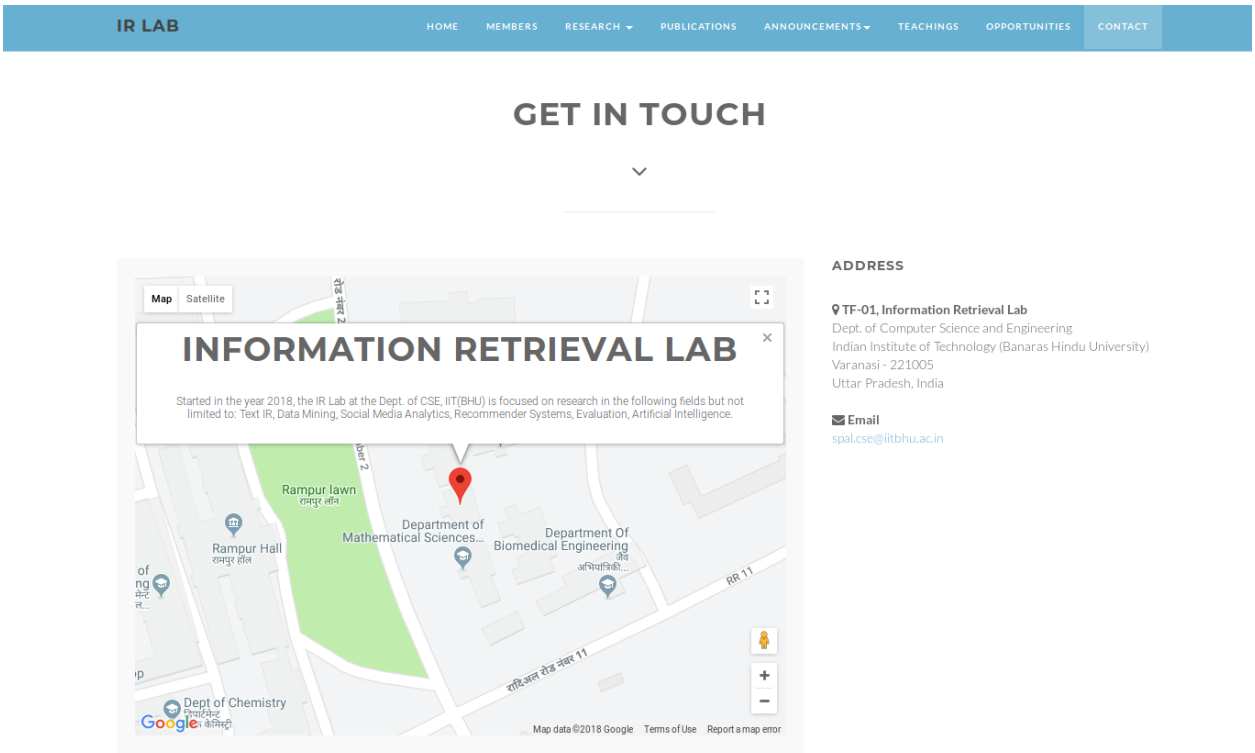
INTERN WORKS

SUMMER 2018

MEMBERS	MENTOR	PROJECT TITLE	DURATION	MEMBERS'S ADDRESS
SHIVANK PATHAK	TRIBIKRAM PRADHAN	Scientific Collaborator Recommendation System Using Natural laguage Processing and Deep Learning.	2 Months	IIIT BHUBANESHWAR
SANDEEP PULAVARTHI & VATSAL AGGARWAL	TRIBIKRAM PRADHAN	Citation Recommendation without Author Supervision using Deep Learning.	2 Months	Manipal Institute of Technology, Manipal
SATYEM SUBHAM	ANITA SAROJ	Event Extraction in Indian Languages from Newswire and Social Media Text.	2 Months	Manipal Institute of Technology, Manipal.
ABHINAV SINGH	ANURAG BANERJEE	Developed a website for Information Retrieval Lab IIT BHU	2 Months	Jaypee University of Engineering & Technology GUNA M.P.

7. CONTACT

The contact section has the information that will help the viewers to get in touch with the Lab Members and the IR Lab. This contains the address of the Lab,
the e-mail id to which user can give their queries and reviews. The there is a very good depiction of the Information Retrieval Lab IIT (BHU) Varanasi using Google Maps that contain a marker clicking on which the viewers will get a paragraph about the IR Lab.



CONCLUSION AND FUTURE WORK

One should always keep in mind that website development project doesn't start with coding and doesn't end after the day one finally launches his/her website. The phase of preparation affects all subsequent stages, defining how productive the development process will be. A profound and deep discovery of such aspects like age, sex, and interests of the end-user may become the key to success. The post-launch period is rather significant. The project should be agile and flexible enough to have a possibility to change the website according to users' feedback or spirit of the time. Keeping in mind that there's no such thing as insignificant website development phase will prevent the unexpected troubles and gives the confidence that everything flows as it should, and one have full control over the project.

The current website can be found at this URL :-

https://cse-iitbhu.github.io/irlab/index.html

There are many future developments that can be done on this website :

1. ***Proper Backed End for the Website:-*** *This will help us to host the website on a public domain as by building the back end we can carry out any changes as the server side and it will be displayed on the web.*
2. ***Incorporating the website with Java Scripts such as ANGULAR JS or React Js :-*** *This will help us to get the the input from the user and process the input according to our needs.*
3. *There is always a scope of making changes based on the feedback of users.*

The detailed description of stages of web development are described here:-