Week 1 :
Web Programming Introduction & HTML

Lecture Team

PLO-10

Mampu membangun perangkat lunak untuk berbagai platform, serta membuat dokumentasinya, dengan memperhatikan aspek keamanan (security) dan kenyamanan pengguna

CP MK

Mahasiswa belajar tentang arsitektur web, pemrograman web dasar, teknologi yang mendukung pemrograman web, dan pemrograman web lanjut dengan framework.

CLO

- Mahasiswa mampu menjelaskan dasar dan implementasi pemrograman web sederhana
- Mahasiswa mampu menjelaskan dan menerapkan yang mendukung pemrograman web
- Mahasiswa mampu implementasi pemrograman web lanjut dengan menggunakan framework

Komponen Nilai	Bobot
Assessment CLO-1	20%
Assessment CLO-2	35%
Assessment CLO-3	45%

Grade	
A: NA > 80	C: $50 < NSM \leq 60$
AB: $70 < NSM \leq 80$	D: $40 < NSM \leq 50$
B: $65 < NSM \leq 70$	E: $NSM \leq 40$
BC: $60 < NSM \leq 75$	
Metode Assessment disesuaikan mode perkuliahan yang diselenggarakan: - Reguler - Blended Learning - Pembelajaran Jarak Jauh	

Outline

› Web Technologies

› Learning and Training

› Jobs

Web Technologies

› Tipe Web Developers

› HTML

› CSS

› Javascript

› Servers

› Server-Side Scripting

› Database Language

Tipe Web Developers (Stack)

› Front End Web Developers

- HTML

- CSS
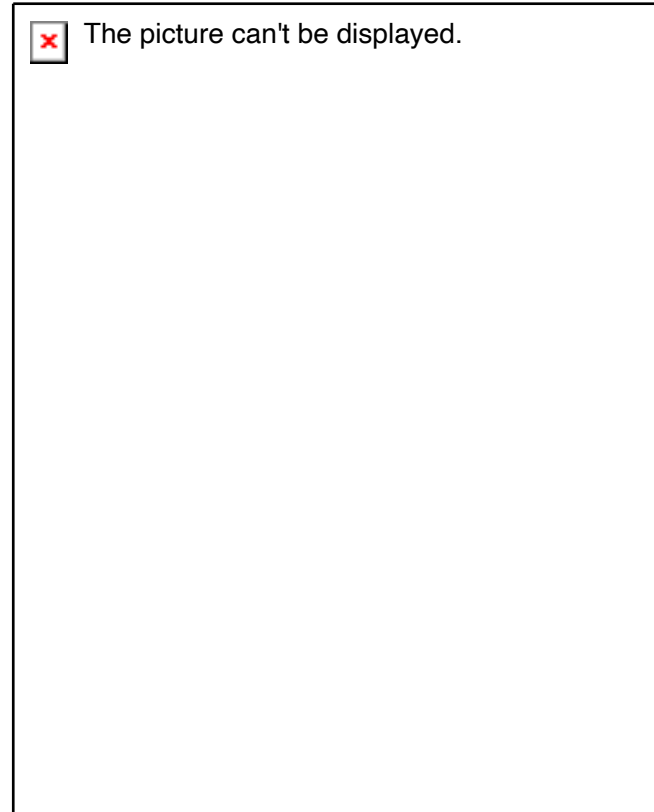
- Javascript

› Back-end Development

HTML (Role)

- Describe content and defines the structure within webpage.

- Hypertext documents on the web are not meant to be consumed in a liner fashion, they're designed to be linked to other documents.

- Information Architecture : involves best structure site, how user is going to navigate and what type of access users need to other content

HTML (Critical Role)

› Markup Language : set of tagsthat are added to the text of eb page to define its structure

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CSS (Role)

› Design plays an important part and is akey component of every successful website.

› Some people interested into finding the look and feel of a site, and enjoy working on the User Experience/UX.

› Some people prefer to work on the functinoality of a site called User Interface/UI.

› All developers need to learn how CSS influences a document.

CSS

› Set of rules, or style sheets, for how the DOM is translated into visual form

› Cascading style rules priority of how the styles are rendered on a page

CSS Example

› CSS Zen Garden

– Same HTML code

– But we can choose/change to a different theme/style.

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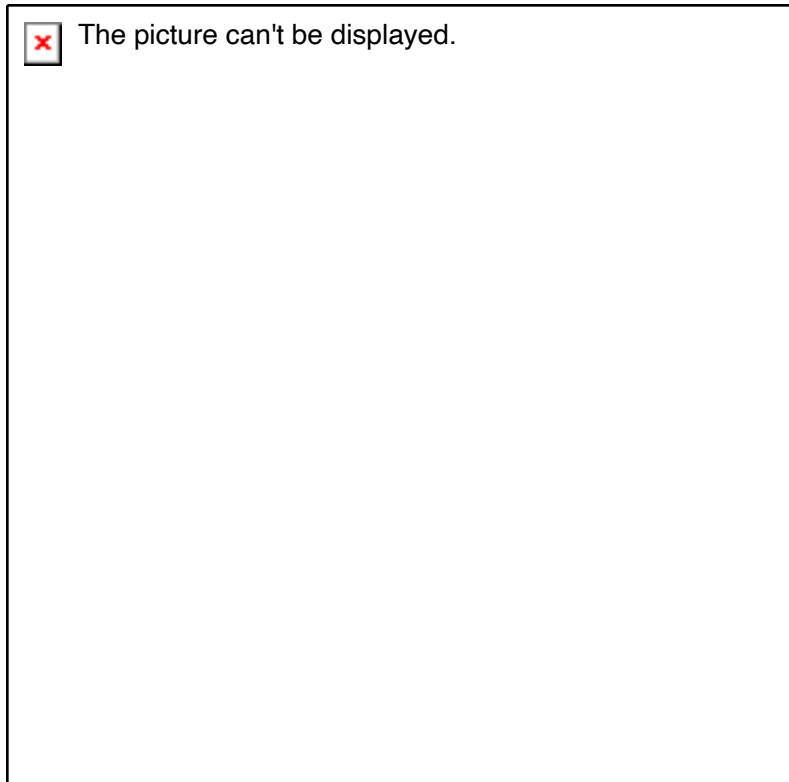
The picture can't be displayed.

CSS

The picture can't be displayed.

The picture can't be displayed.

CSS

› Desktop, Mobile, Tablet

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Javascript (Role)

› Language responsible for managing interaction within browser.

› Backend Developers using javascripts 50%

› Handling events, loading and unloading media, and creating modifying and deleting elements in a page

› Browser support issues

› Tools : NodeJS, WebPack, GulpJS

Backend

› Massive amounts of information makes it impractical to custom-build every single page using only HTML, CSS, and Javascript.

› Using DB to manage the flow of information sent to the user

› PHP+MySQL
  – The Most popular
  – Explore within NodeJS, Ruby on Rails

› Rapidly Changes Updates !!!!

Web Application Architecture

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Server

› Linux
  – More Common
  – Less Expensive
  – Fully open source

› Windows
  – Popular with large company
  – Great dev environments
  – Some open projects

Server on Local Machine

› XAMPP

– Web Server Apache

– PHP

– MYSQL

Server side Scripting

› **PHP**

› **NodeJS**

› .NET

› ASP.NET

› Ruby

› Python

Some of these language married to a specific OS (ASP.NET Windows OS)

Database Language

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DB Language

› How to access your data

› SQL and other SQL inheritance (example cqlsh Cassandra Query Language)

› Most Common using Relational DB (RDBMS)

Tools Makes You Better Code Experience

› IDE
  – Visual Studio
  – Sublime
  – Atom

› CLI (Command Line Interfaces)
  – Linux Command

› Browser
  – Debug HTML
  – Debug CSS
  – Debug Javascript

Jobs

› Front-end Developer

› Back-end Developer

› Full stack developer is a **UNICORN**

› Full time workers / remote workers

› Keyword : more talented you are the easier it will be to find work.

› Twitter Company : almost 4000 (2016)

› Google Company : 72000 full time staff, 27000 RND

Hyper Text Markup Language (HTML)

Outline

› Introduction

› Syntax

› Tag

› HTML 5

HTML

› HTML (Hyper Text Markup Language) : Describe content and defines the **structure** within webpage.

› Hypertext documents on the web are not meant to be consumed in a liner fashion, they're designed to be linked to other documents

Basic HTML Syntax

```
<html>
    <head>
        <title> Hello World </title>
    </head>
    <body>
        <p>Hello World</p>
    </body>
</html>
```

tagging

› Html : menyatakan browser bahwa yang dibaca adalah file html

› Head : deklarasi title dokumen dan file yang berhubungan (CSS, js)

› Title : judul yang ditampilkan pada window browser

› Body : isi dokumen HTML

Struktur HTML

› Tag : tag pembuka dan tag penutup, ada beberapa tag yang tidak perlu menggunakan tag penutup (<img>)

  – <head></head>
  <body></body>

› Element : tag pembuka, isi dan tag penutup

  – <title> -> tag pembuka

  – Isi -> isi judul dari dokumen

  – </title> -> tag penutup

  – Tidak boleh saling tumpang tindih

  – <p>

  –

  – ....

  – </p>

  –

› Attribute : mendefinisikan properti daru suatu elemen HTML

  – <body bgcolor="blue" text="white">

Pengenalan tag HTML

› Ganti Baris :

› Paragraf : <p> …. </p>

› Cetak tebal : …

› Cetak miring : <i> … </i>

› Cetak garis bawah : <u> … </u>

› Heading : <h1> … </h1> → <h6> … </h6>

› Pengaturan Font : …

› Warna tulisan : <body text="warna"> …. </body>
  – <body text="#0000FF"> …. </body>

› Garis : <hr align="left" size="850" width="100%" noshade>

Pengenalan tag HTML

›   Hyperlink :

klik link ini google

klik link ini google

›   Menyisipkan image : <img src="img.png" alt="text image" width="" height="" >

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>link</title>
</head>
<body>
klik link ini <a href="google.com">google</a>
<br>
klik link pada gambar ini <a href="google.com" ><img src="google.png" ></a>
</body>
</html>
```

klik link ini google

klik link pada gambar ini

Google

Pengenalan Tag HTML

› Image button :

<form action="login.html">

    <input type="image" src="img_loc" alt="hoverimg"

</form>

Pengenalan tag HTML

› Urutan

– Order list (A=Abjad besar, I=Romawi besar, 1=desimal)

<ol start="number" type="A" | "a" | "I" | "i" | "1">

   first

   second

   ....

Pengenalan tag HTML

› Urutan

– Unorder list

<ul start="number" type="circle" | "square" | "Disc">
    first

    second

     ......

Pengenalan Tag HTML

› Tabel

```
<table align="left" | "center" | "right">
        <tr>

                <th></th>

                <th></th>

                <th></th>

        </tr>

        <tr>

                <td></td>

                <td></td>

                <td></td>

        </tr>

</table>
```

Form

› Struktur input(formulir isian) pada dokumen html

› Jenis : text, password, email, radio, checkbox, submit(button), textarea, dropdown, hidden

› Atribut : id(penting), value,

Form

- Teks satu baris (single-line text): <input type="text" />

- Teks banyak baris (multi-line text): <textarea></textarea>

- Teks rahasia (password): <input type="password" />

- Pilihan tunggal (single selection / dropdown):
  - <input type="radio" />
  - <select>
        <option></option>
    </select>

Pilihan majemuk (multiple selections):
    <select multiple>
        <option></option>
    </select>
Checklist: <input type="checkbox" />
Data bawaan/tersembunyi (hidden): <input type="hidden" />
File: <input type="file" />
Gambar: <input type="image" />
Aksi user melalui penekanan tombol:
    <input type="submit" />
    <input type="reset" /">
    <input type="button" />
    <button></button>

Contot


```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Title</title>
</head>
<body>
<p>HelloWorld</p>
<table border="1"  >
    <tr>
        <th>Kolom1</th>
        <th>Kolom2</th>
        <th>Kolom3</th>
    </tr>
    <tr>
        <td>test1</td>
        <td>test2</td>
        <td>test3</td>
    </tr>
</table>
</body>
</html>
```

HelloWorld

Kolom1	Kolom2	Kolom3
test1	test2	test3

Contoh 2

```
helloworld.html ×    hello2.html ×
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Title</title>
</head>
<body>
<table width="80%" height="50%" border="1">
<tr>
    <th rowspan="2">Nama Lengkap</th>
    <th colspan="2">Gelar Pendidikan</th>
    <th rowspan="2">Age</th>
</tr>
<tr>
    <th> Sarjana </th>
    <th> Magister </th>
</tr>
<tr>
    <td>Budi</td>
    <td>S.Kom</td>
    <td>M.Sc</td>
    <td>35</td>
</tr>
<tr>
    <td>Andi</td>
    <td>S.SiKom</td>
    <td>M.T</td>
    <td>52</td>
</tr>
</table>
</body>
</html>
```
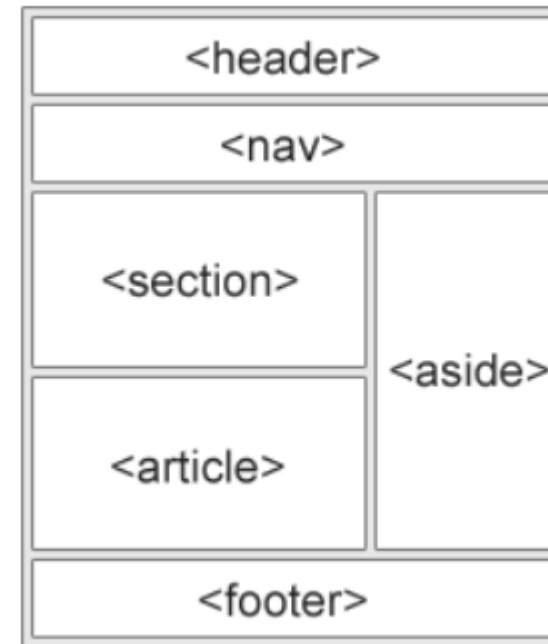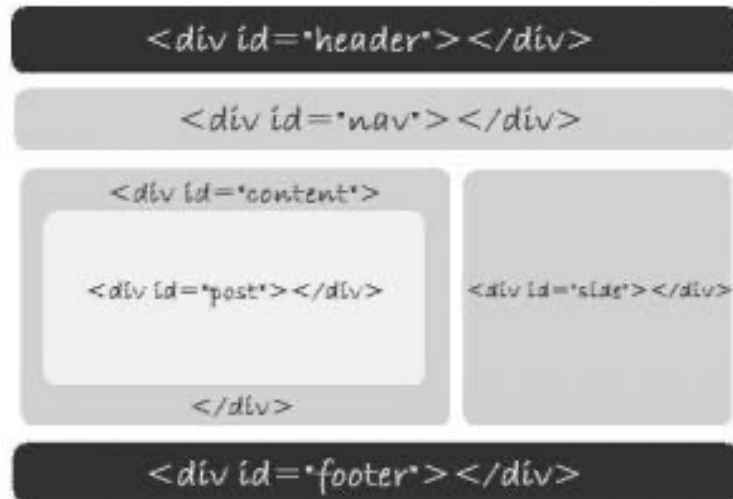
Nama Lengkap	Gelar Pendidikan		Age
	Sarjana	Magister	
Budi	S.Kom	M.Sc	35
Andi	S.SiKom	M.T	52

HTML5 Layout

› Old vs new

Text

```
<form action="/action_page.php">
  First name:<br>
  <input type="text" name="firstname" value="Mickey"><br>
  Last name:<br>
  <input type="text" name="lastname" value="Mouse"><br><br>
  <input type="submit" value="Submit">
</form>
```

First name:

Mickey

Last name:

Mouse

Submit

Radio Button

```
<form>
  <input type="radio" name="gender" value="male" checked> Male<br>
  <input type="radio" name="gender" value="female"> Female<br>
  <input type="radio" name="gender" value="other"> Other
</form>
```
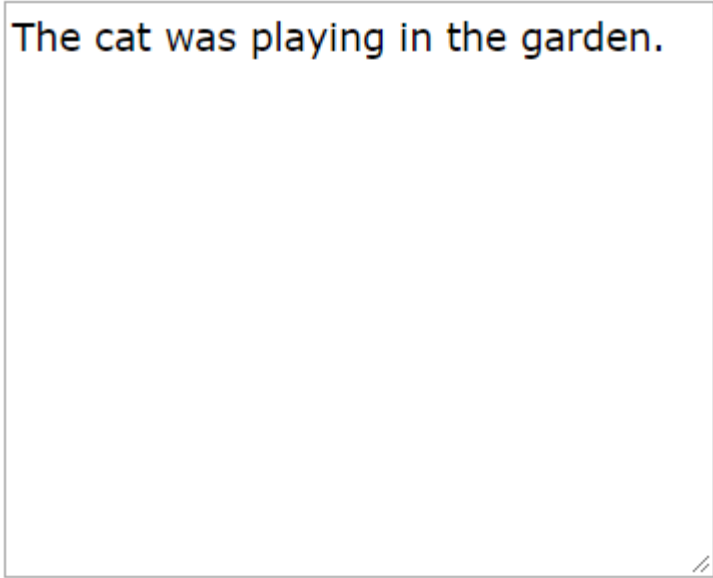
Textarea

<textarea name="message" rows="10" cols="30">
The cat was playing in the garden.
</textarea>

Reference

› Lynda.com : Web Development Foundations: Full-Stack vs Front-End

› Stanford : http://web.stanford.edu/class/cs142/lectures.html

› Modul Praktikum

› http://www.w3schools.com

TUGAS BESAR

› Tema & Kelompok sesuai dengan Proyek Tingkat 2

› Membuat minimal 3 halaman berbeda / 3 modul (HTML, CSS, Jquery), diwajibkan ada element Form dan Table CRUD dan Slider (Tidak harus di semua halaman).

› Diharapkan menggunakan JQuery Plugins minimal 2. Diperbolehkan menggunakan Datatables untuk table.

› Dilarang menggunakan Template JQuery

Monev (Minggu ke-7)

› Presentasi tampilan website (Clickable Mockup)

› Minimal sudah ada 3 halaman yang berbeda

› Diperbolehkan mengguanakan framework bootstrap tetapi tidak diperkenankan menggunakan template bootstrap. (Jika ada yang menggunakan template nilai akan di kurangi)

› Penilaian :

– 3 Halaman (Form, Data Table) (Max 30)

– Menggunakan JQUERY, AJAX, JSON : (Max. 30)

– Jquery Plugin (Max. 20)

– Slide (Max. 10)

– Presentasi (Individu) (Max. 10)

Laporan Akhir (Minggu ke 14)

› Presentasi (dengan Dosen)

› Coding on the spot (dengan Asisten Praktikum)

› Penilaian :

- Menggunakan Framework Bootstrap : (Max. 15)
- 3 halaman (include: form, table, crud) : (Max. 30)
- Poin 2 menggunakan Framework CI Nilai Max (+10), jika NodeJS Nilai Max (+20)
- Jquery Plugin (Max. 20)
- Menggunakan data json untuk table dan datatable(jquery) (Max. 15)
- Dokumentasi (Max. 10)

THANK YOU