

Markup Languages

Lecture 1. Introduction



About

◆ Teacher

- ◆ Ivanova Elena Vladimirovna

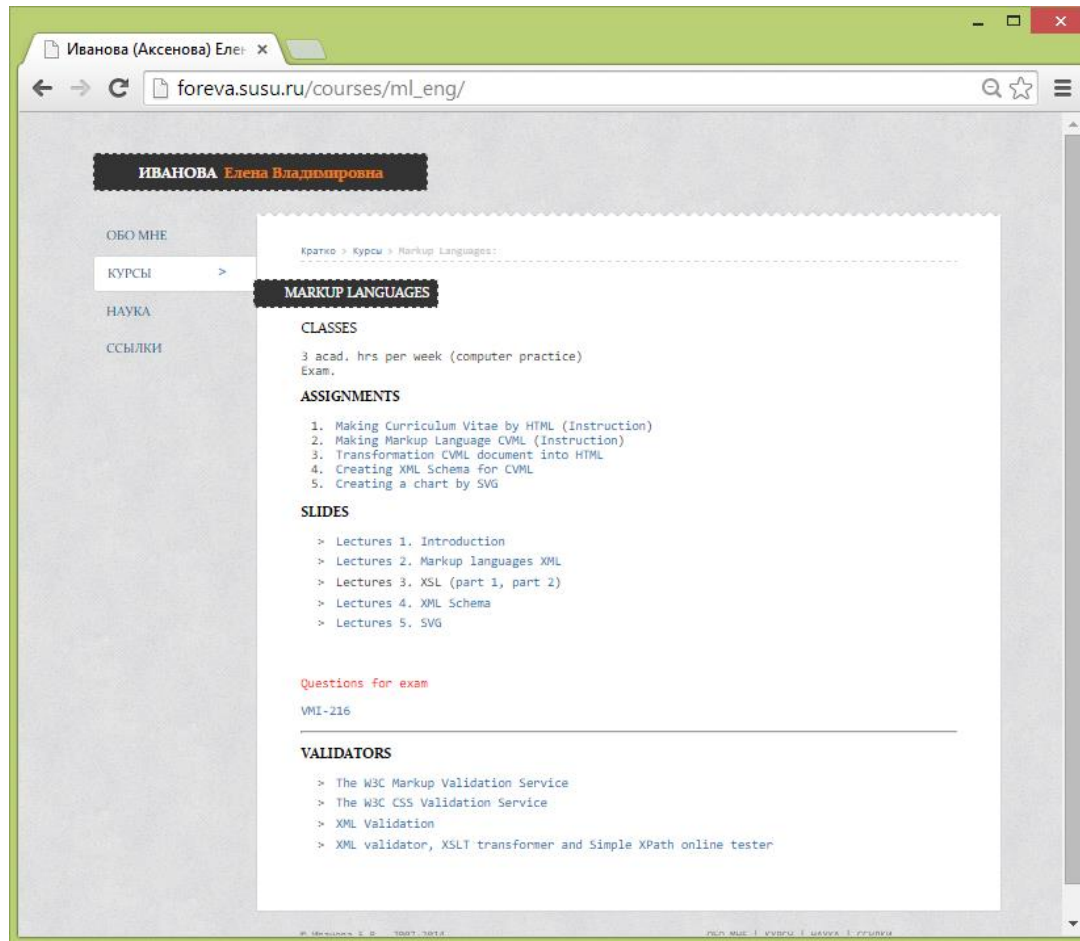
◆ Classes

- ◆ 3 acad. hrs per week

- ◆ Exam

Web-page of the Course

http://foreva.susu.ru/courses/ml_eng/



The screenshot shows a web browser window with the address bar displaying `foreva.susu.ru/courses/ml_eng/`. The page content includes a navigation menu on the left with options like "ОБО МНЕ", "КУРСЫ", "НАУКА", and "ССЫЛКИ". The main content area features a header for "ИВАНОВА Елена Владимировна" and a breadcrumb trail "Кратко > Курсы > Markup Languages:". The main heading is "MARKUP LANGUAGES". Below this, there are sections for "CLASSES" (3 acad. hrs per week), "ASSIGNMENTS" (a list of 5 tasks), "SLIDES" (a list of 5 lectures), "Questions for exam" (VMI-216), and "VALIDATORS" (a list of 4 services).

ИВАНОВА Елена Владимировна

ОБО МНЕ
КУРСЫ >
НАУКА
ССЫЛКИ

Кратко > Курсы > Markup Languages:

MARKUP LANGUAGES

CLASSES

3 acad. hrs per week (computer practice)
Exam.

ASSIGNMENTS

1. Making Curriculum Vitae by HTML (Instruction)
2. Making Markup Language CVML (Instruction)
3. Transformation CVML document into HTML
4. Creating XML Schema for CVML
5. Creating a chart by SVG

SLIDES

- > Lectures 1. Introduction
- > Lectures 2. Markup languages XML
- > Lectures 3. XSL (part 1, part 2)
- > Lectures 4. XML Schema
- > Lectures 5. SVG

Questions for exam

VMI-216

VALIDATORS

- > The W3C Markup Validation Service
- > The W3C CSS Validation Service
- > XML Validation
- > XML validator, XSLT transformer and Simple XPath online tester

Your Presence on my Classes and your Results

Deadline

2013 - Markup Languages BMI-216										
Results		Presence								
	Name	No variant	Practice mark	Test mark [1]	Overall rating [2]	1. HTML+CSS	2. CVML+DTD	3. XSL	4. XML Schema	5.
						2 Octobe	23 Octobe	13 November	4 December	25 December
1	Алавси Мухиб Кейс Халиль	1	0							
2	Алаимера Ебраихем Ахмаид Сальмин	2	0							
3	Алеси Осама Абдулдалиль Али	3	0							
4	Аль Анссари Алаа Неамах Азиз	4	0							
5	Алькарави Хайдер Хасан Маджид	1	0							
6	Вахаб Хадер Ибас Абдулваххаб	2	0							
7	Куба Хасаниен Карим Абед	3	0							
8	Хусейн Ахмед Саад Хусейн	4	0							
- Exam test. Max. test mark: 50										
- Overall rating = Practice mark + Test mark: 0..50 - "2", неуд. 51..65 - "3", удов. 66..75 - "4", хор. больше 76 - "5", отл.										
- Extra task										
Mark:										
Task is done in time :-)										
Task is done :-										
Task isn't done :-										



Markup Language

- ◆ ***A Markup Language*** is specialized computer language for description data and its metadata.

What is the data?

Book shelf

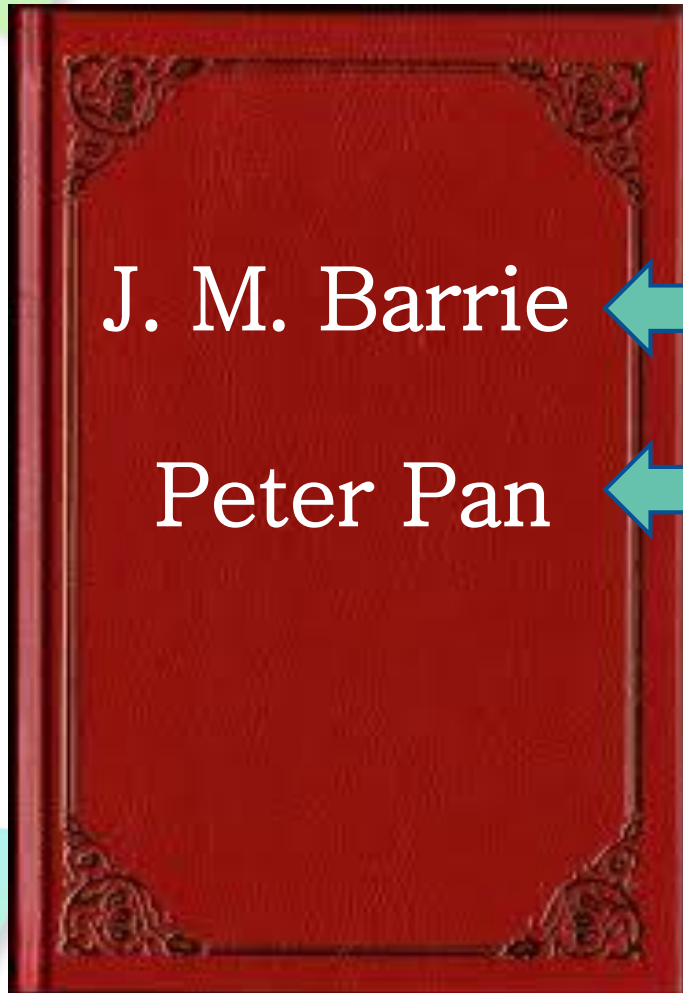


- ◆ *Data* is information about things, their properties and relationship.
- ◆ Examples:
 - ◆ Bookcase
 - ◆ Book shelf
 - ◆ Book (author, title, years, pages, etc.)

What is the metadata?

- ◆ ***Metadata*** is "data about data".
- ◆ Metadata is defined
 - ◆ meaning of data
 - ◆ presentation of data

Meaning of Data



Metadata:

**This is
Author**

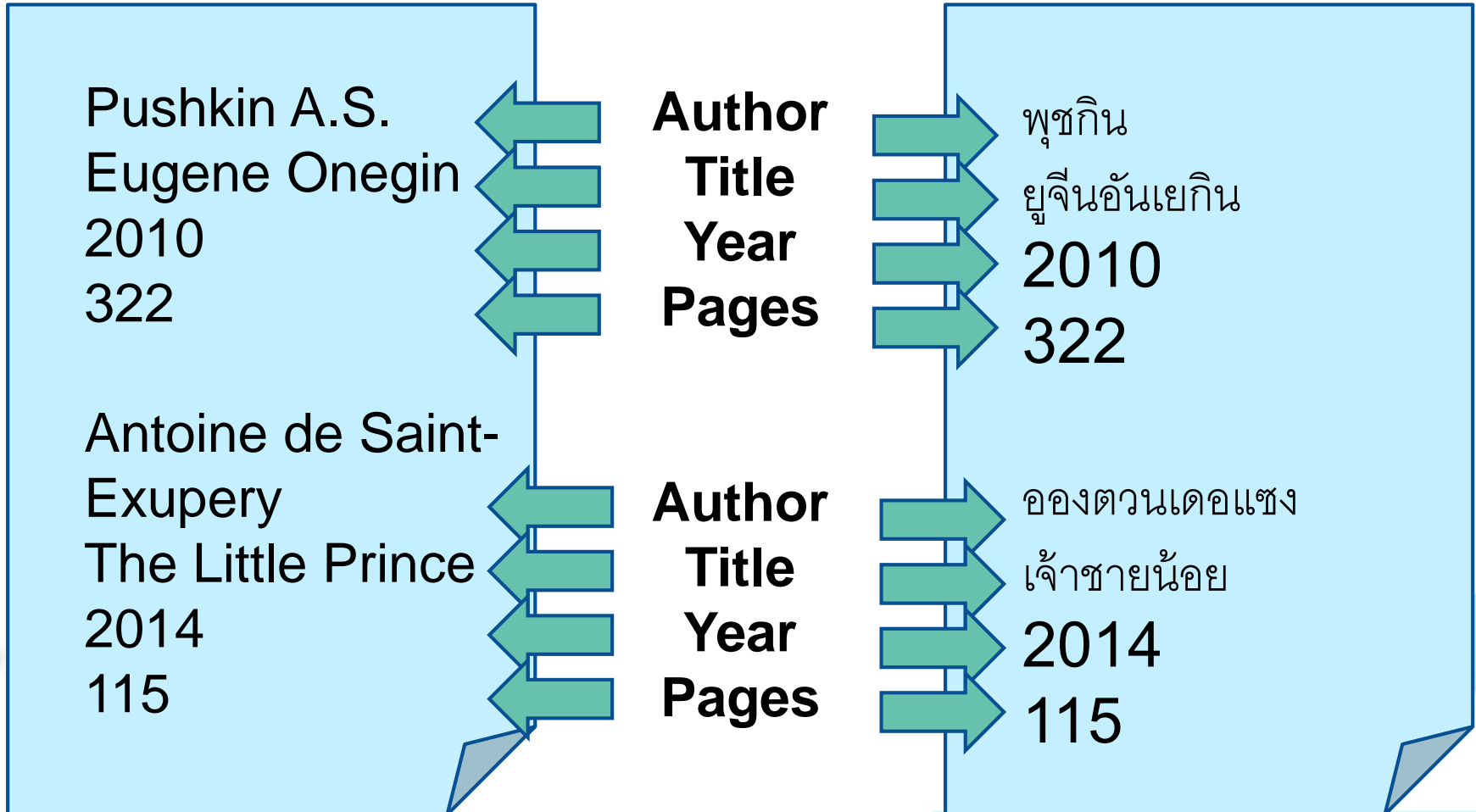
เจเอ็มแบร์รี่

**This is
Title**

ปีเตอร์แพน

Meaning of Data

Metadata:



Meaning of Data

<name> is metadata

```
<author>Pushkin  
A.S.</author>  
<title>Eugene  
Onegin</title>  
<year>2010</year>  
<pages>322</pages>
```

```
<author>Antoine de  
Saint-Exupery  
</author>
```

...

```
<author>พุชกิน  
</author>  
<title>ยูจีนอันเยกิน</title>  
<year>2010</year>  
<pages>322</pages>
```

```
<author>อองตวนเดอแซง  
</author>
```

...

Presentation of Data

Document with
presentation metadata

<bold>Pushkin A.S.
</bold>

<big font>Eugene
Onegin**</big font>**

2010

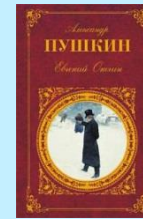
322

<insert cover.jpg />

<bold>Antoine de
Saint-Exupery**</bold>**

...

HTML-document



Pushkin A.S.

Eugene

Onegin

2010

322



Antoine de

Saint-Exupery

...

program

Markup Language

- ◆ Markup language \neq Programming language
- ◆ Markup language **does not calculate!**
- ◆ Markup language **does not display** data!
- ◆ Markup language **only marks** data!
- ◆ Example Markup language:
 - ◆ HTML
 - ◆ XML
 - ◆ SVG
 - ◆ T_EX




The World Wide Web Consortium (W3C)



- ◆ The World Wide Web Consortium (W3C) is an international community where Member organizations, a full-time staff, and the public work together to **develop Web standards**.
- ◆ Led by Web inventor Tim Berners-Lee and CEO Jeffrey Jaffe.

W3C STANDARDS:

-  Web Design and Applications
-  Web Architecture
-  Semantic Web
-  XML Technology

-  Web of Services
-  Web of Devices
-  Browsers and Authoring Tools

W3C MARKUP LANGAUGES:

- HTML
- XML
- SVG
- etc.

Base Elements of Markup Language

- ◆ **Tags** – special characters that describe metadata of the document.
- ◆ **Elements** = tags + data.
- ◆ **Attribute** is used for extra description of elements.

- ◆ Example:
 - ◆ HTML: `<title>Resume</title>`
 - ◆ TeX: `\title{Resume}`
 - ◆ HTML: `<h1 face="Arial Bold">John Doe</h1>`

Kind of Markup

- ◆ **Presentation markup** is kind of markup for display document.

- ◆ **Example:**

```
<h1>The Adventures of Tom Sawyer</h1>
```

```
<h2>Mark Twain</h2>
```

```
<p>Most of the adventures <b>recorded in  
this book</b> really occurred...</p>
```

Kind of Markup

- ◆ **Content markup** is kind of markup for define of semantics' data (meaning of data).

```
<book>
```

```
  <title>The Adventures of Tom Sawyer  
</title>
```

```
  <author>Mark Twain</author>
```

```
  <abstract> Most of the adventures  
  recorded in this book really  
  occurred...</abstract>
```

```
</book>
```


Kind of Markup Language

◆ Layout Markup or Presentation Markup

- ◆ T_EX, RTF (Rich Text Format), PDF (Portable Document Format), Postscript, HTML (Hyper Text Markup Language).

◆ Content Markup

- ◆ SGML (Standard Generalized Markup Language), XML (eXtensible Markup Language).

Markup Language HTML

- ◆ HTML is a **presentation markup** language for **describing** web documents (web pages).
- ◆ HTML documents are described by **HTML tags**

HTML Example

- ◆ `<!DOCTYPE html>`
`<html>`
`<body> Text web-page`
`</body>`
`</html>`
- ◆ The **DOCTYPE** declaration defines the document type
- ◆ The text between `<html>` and `</html>` describes the web document
- ◆ The text between `<body>` and `</body>` describes the visible page content

HTML Tags

- ◆ HTML tags are **keywords** (tag names) surrounded by **angle brackets**:
- ◆ `<tagname>content</tagname>`
- ◆ HTML tags normally come **in pairs** like `<body>` and `</body>`
- ◆ The first tag in a pair is the **start tag**, the second tag is the **end tag**
- ◆ The start tag is often called the **opening tag**. The end tag is often called the **closing tag**.

Empty HTML Elements

- ◆ HTML elements with no content are called empty elements.
- ◆ `
` is an empty element without a closing tag (the `
` tag defines a line break).
- ◆ Empty element can be "closed" in the opening tag like this: `
`.

HTML Attributes

- ◆ HTML elements can have **attributes**
- ◆ Attributes provide **additional information** about an element
- ◆ Attributes are always specified in **the start tag**
- ◆ Attributes come in name/value pairs like: **name="value"**

Web Browsers

- ◆ The purpose of a web browser (Chrome, IE, Firefox, Safari) is to read HTML documents and display them.
- ◆ The browser does not display the HTML tags, but uses them to determine how to display the document.

HTML Structure

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>Title web-page</title>
```

```
  </head>
```

```
  <body>
```

```
    Content web-page
```

```
    (consist other html-element)
```

```
  </body>
```

```
</html>
```


HTML Headings

- ◆ HTML headings are defined with the `<h1>` to `<h6>` tags:
- ◆ Example
- ◆ `<h1>This is a heading</h1>`
`<h2>This is a heading</h2>`
`<h3>This is a heading</h3>`

HTML Paragraphs

- ◆ HTML paragraphs are defined with the `<p>` tag:
- ◆ Example
- ◆ `<p>This is a paragraph.</p>`
`<p>This is another paragraph.</p>`
- ◆

HTML Links

- ◆ HTML links are defined with the `<a>` tag:
- ◆ Example
- ◆ `This is a link`

HTML Images

- ◆ HTML images are defined with the **** tag.
- ◆ The source file (**src**), alternative text (**alt**), and size (**width** and **height**) are provided as **attributes**:
- ◆ Example
- ◆ ``

Continue...

1. Read task 1 “Making Curriculum Vitae by HTML”
(http://foreva.susu.ru/courses/ml_eng/)
2. Make task 1 as `cvml.html`, `cvml.css`