



Computer Programming

MODE4201-05

CRN14051

Lab 3

“XML and Related Technologies”

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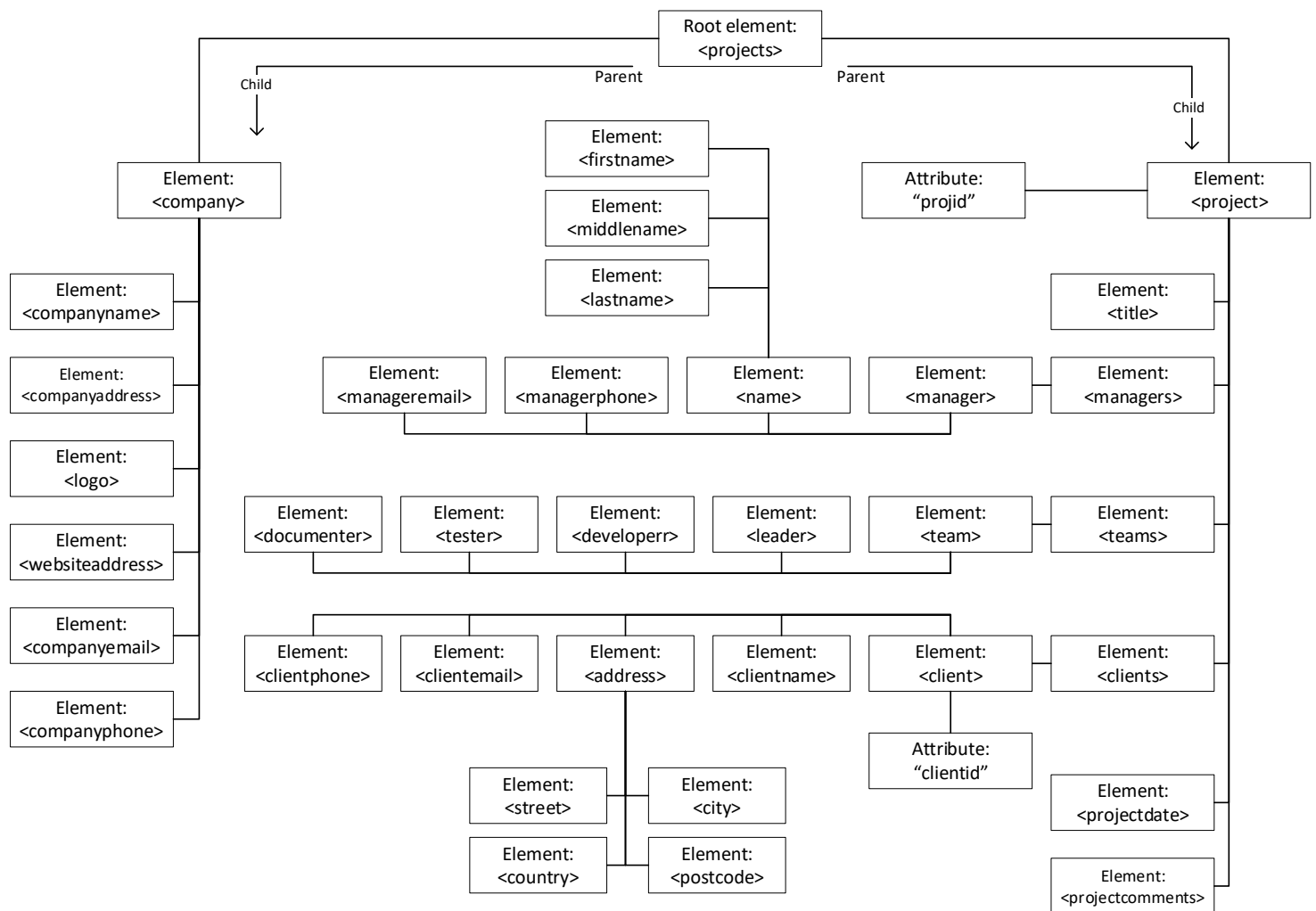
Professor:
Mohammad Shamas

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XML tree diagram

The following diagram is a representation of the XML tree for this assignment.



DTD (projects.dtd)

The following represents the contents of the projects.dtd document.

```
<!ELEMENT projects (company,project+)>
  <!ELEMENT company
(companyname,companyaddress,logo,websiteaddress?,companyemail,companyphone+)>
    <!ELEMENT companyname (#PCDATA)>
    <!ELEMENT companyaddress (#PCDATA)>
    <!ELEMENT logo (#PCDATA)>
    <!ELEMENT websiteaddress (#PCDATA)>
    <!ELEMENT companyemail (#PCDATA)>
    <!ELEMENT companyphone (#PCDATA)>
  <!ELEMENT project (title,managers,teams,clients?,projectdate,ProjectComments)>
    <!ATTLIST project projid ID #REQUIRED>
    <!ELEMENT title (#PCDATA)>
    <!ELEMENT managers (manager+)>
      <!ELEMENT manager (name,managerphone,manageremail*)>
        <!ELEMENT name (firstname,middlename?,lastname)>
          <!ELEMENT firstname (#PCDATA)>
          <!ELEMENT middlename (#PCDATA)>
          <!ELEMENT lastname (#PCDATA)>
        <!ELEMENT managerphone (#PCDATA)>
          <ATTLIST managerphone type (office|home) #REQUIRED>
        <!ELEMENT manageremail (#PCDATA)>
    <!ELEMENT teams (team+)>
      <!ELEMENT team (leader,developer+,tester?,documenter*)>
        <!ELEMENT leader (#PCDATA)>
        <!ELEMENT developer (#PCDATA)>
        <!ELEMENT tester (#PCDATA)>
        <!ELEMENT documenter (#PCDATA)>
    <!ELEMENT clients (client*)>
      <ATTLIST client clientid ID #REQUIRED>
      <!ELEMENT client (clientname,address,clientemail,clientphone)>
        <!ELEMENT clientname (#PCDATA)>
        <!ELEMENT address (street*,city,country,postcode*)>
          <!ELEMENT street (#PCDATA)>
          <!ELEMENT city (#PCDATA)>
          <!ELEMENT country (#PCDATA)>
          <!ELEMENT postcode (#PCDATA)>
        <!ELEMENT clientemail (#PCDATA)>
        <!ELEMENT clientphone (#PCDATA)>
    <!ELEMENT projectdate (#PCDATA)>
      <ATTLIST projectdate start CDATA #REQUIRED>
      <ATTLIST projectdate end CDATA #REQUIRED>
    <!ELEMENT ProjectComments (#PCDATA)>
```

XML document (projects.xml)

The following represents the contents of the projects.xml document.

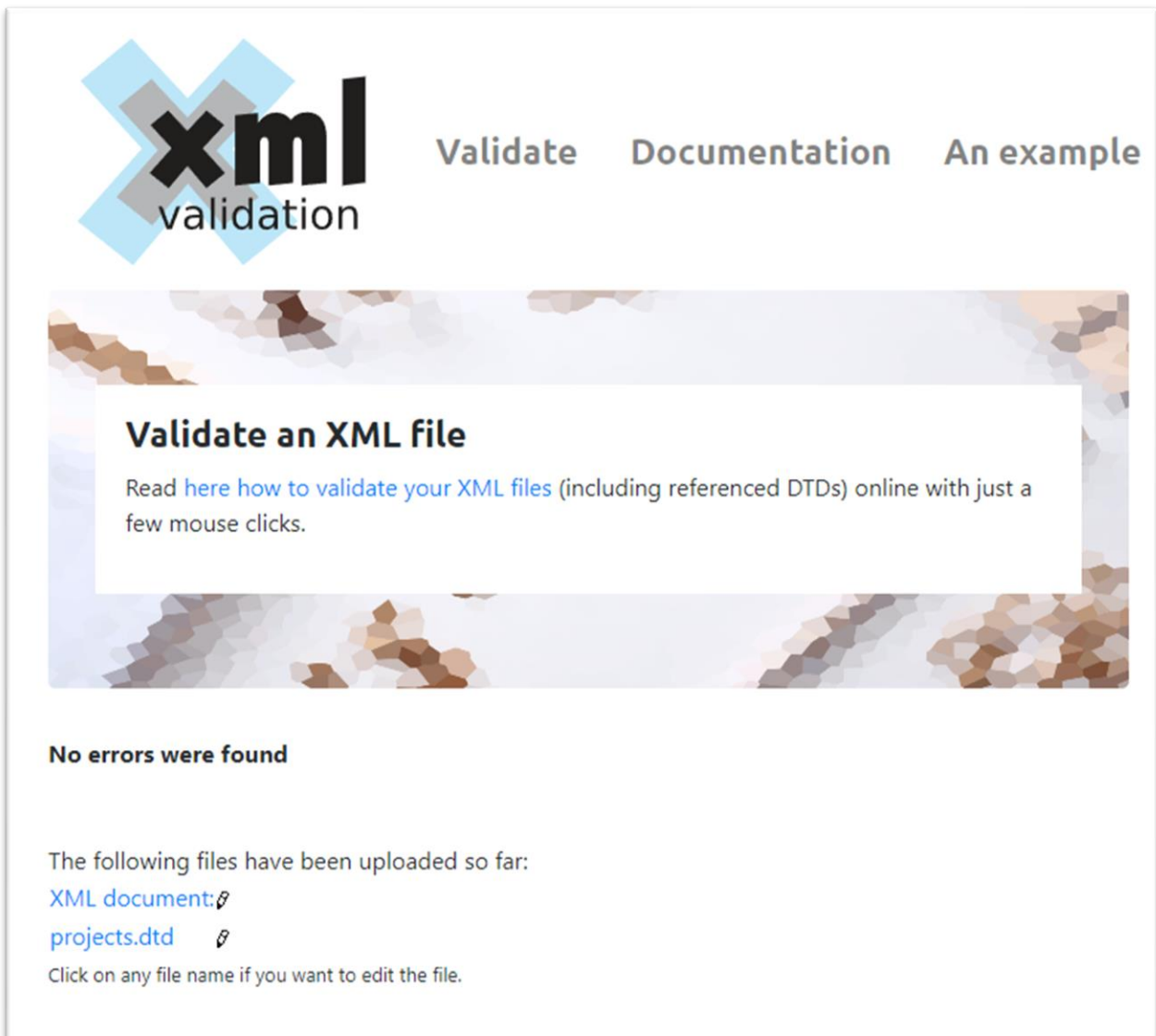
```
<?xml version="1.0" encoding="utf-8"?>
<!DOCTYPE projects SYSTEM "projects.dtd">


<projects>
  <company>
    <companyname>Jack-In-A-Boxing</companyname>
    <companyaddress>44 Box Street</companyaddress>
    <logo>box.png</logo>
    <websiteaddress>jackinaboxing.com</websiteaddress>
    <companyemail>jack.box@example.com</companyemail>
    <companyphone>444-444-4444</companyphone>
  </company>
  <project projid="P01">
    <title>Go Green</title>
    <managers>
      <manager>
        <name>
          <firstname>Marky</firstname>
          <middlename></middlename>
          <lastname>Mark</lastname>
        </name>
        <managerphone type="office">333-333-3333</managerphone>
        <manageremail>marky@example.com</manageremail>
      </manager>
    </managers>
    <teams>
      <team>
        <leader>Jack Back</leader>
        <developer>Stack Pack</developer>
        <tester>Mac Hack</tester>
        <documenter>Fac Krak</documenter>
      </team>
    </teams>
    <clients>
      <client clientid="C01">
        <clientname>Mr Burns</clientname>
        <address>
          <street>77 Seventy St</street>
          <city>Sevensville</city>
          <country>Numbermerica</country>
          <postcode>N0N1M1</postcode>
        </address>
      </client>
    </clients>
  </project>
</projects>
```

```
<clientemail>burns@example.com</clientemail>
<clientphone>222-222-2222</clientphone>
  </client>
</clients>
<projectdate start="2022-10-12" end="2022-12-12"></projectdate>
<ProjectComments>Hello, Jack Back</ProjectComments>
</project>
<project projid="P02">
  <title>Go Red</title>
  <managers>
    <manager>
      <name>
        <firstname>Clamp</firstname>
        <middlename>Apache</middlename>
        <lastname>Lexington</lastname>
      </name>
      <managerphone type="office">111-111-1111</managerphone>
      <manageremail>cal@example.com</manageremail>
    </manager>
  </managers>
  <teams>
    <team>
      <leader>Cougar Luger</leader>
      <developer>Hillary Clinton</developer>
      <tester></tester>
      <documenter>Aaron Rogers</documenter>
      <documenter>Tom Brady</documenter>
    </team>
  </teams>
  <clients>
    <client clientid="C02">
      <clientname>DrillCore</clientname>
      <address>
        <street>13 Drill St</street>
        <city>Drill City</city>
        <country>Numbermerica</country>
        <postcode>POP1L1</postcode>
      </address>
      <clientemail>drillcore@example.com</clientemail>
      <clientphone>555-555-5555</clientphone>
    </client>
  </clients>
  <projectdate start="2022-11-11" end="2023-01-01"></projectdate>
  <ProjectComments>Hello, Mr Luger</ProjectComments>
</project>
</projects>
```

Validation output

Validation output from the website xmlvalidator.com.




The screenshot shows the homepage of the xmlvalidator.com website. At the top left is the logo, which consists of a large blue 'X' with the text 'xml' in black and 'validation' in a smaller black font below it. To the right of the logo are three navigation links: 'Validate', 'Documentation', and 'An example'. Below the navigation links is a large banner image with a white box in the center. The white box contains the heading 'Validate an XML file' and a paragraph of text: 'Read [here how to validate your XML files](#) (including referenced DTDs) online with just a few mouse clicks.' Below the banner is a section titled 'No errors were found'. Under this section, it says 'The following files have been uploaded so far:' followed by two lines of text: 'XML document: Validate [Documentation](#) [An example](#)


Validate an XML file

Read [here how to validate your XML files](#) (including referenced DTDs) online with just a few mouse clicks.

No errors were found

The following files have been uploaded so far:

[XML document:](#) 

[projects.dtd](#) 

Click on any file name if you want to edit the file.

References:

<https://www.xmlvalidation.com>