Computer Programming

MODE4201-05

CRN14051

Lab 3

"XML and Related Technologies"

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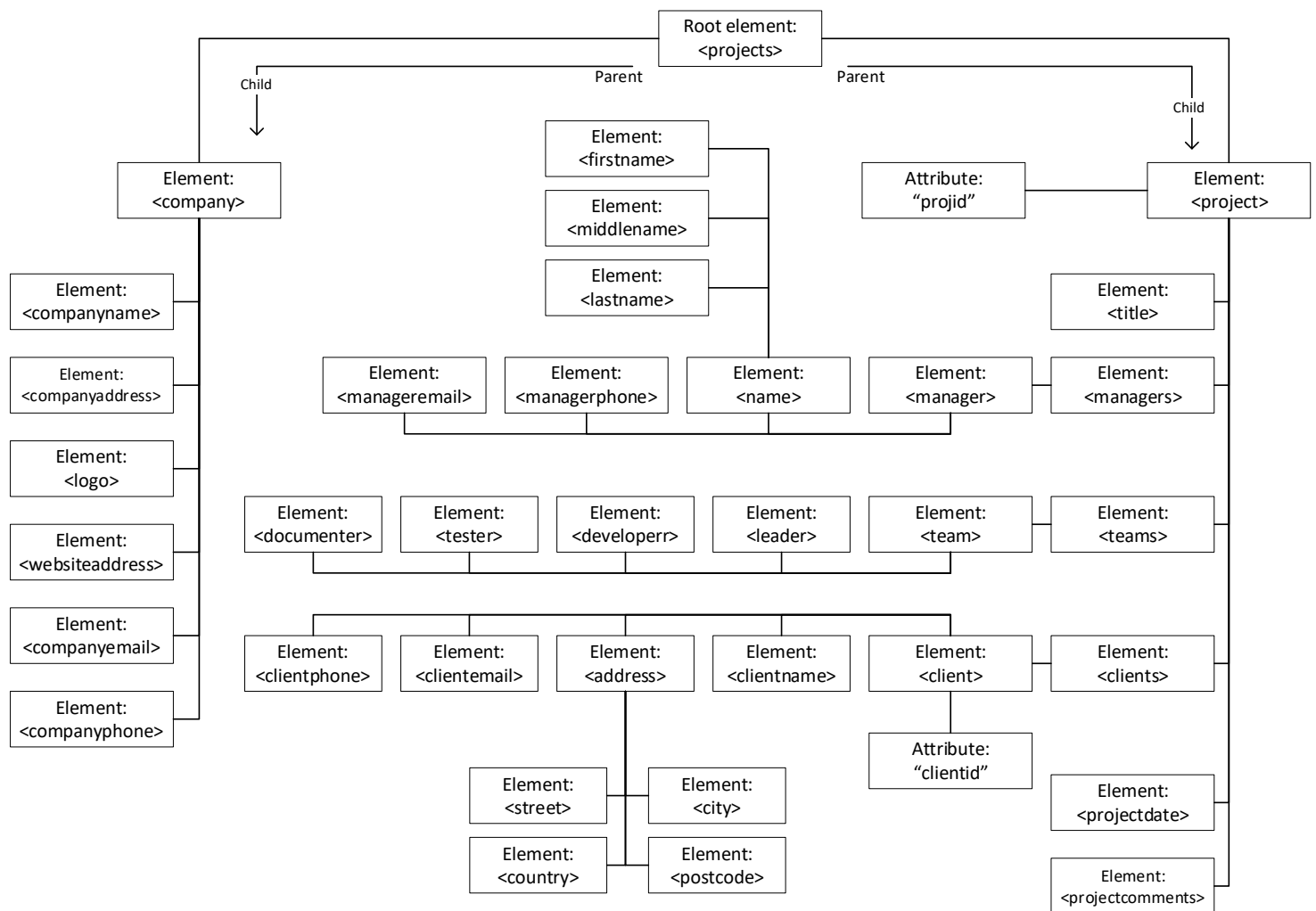*Author:*
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Professor:
Mohammad Shamas

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XML tree diagram

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

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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>
```
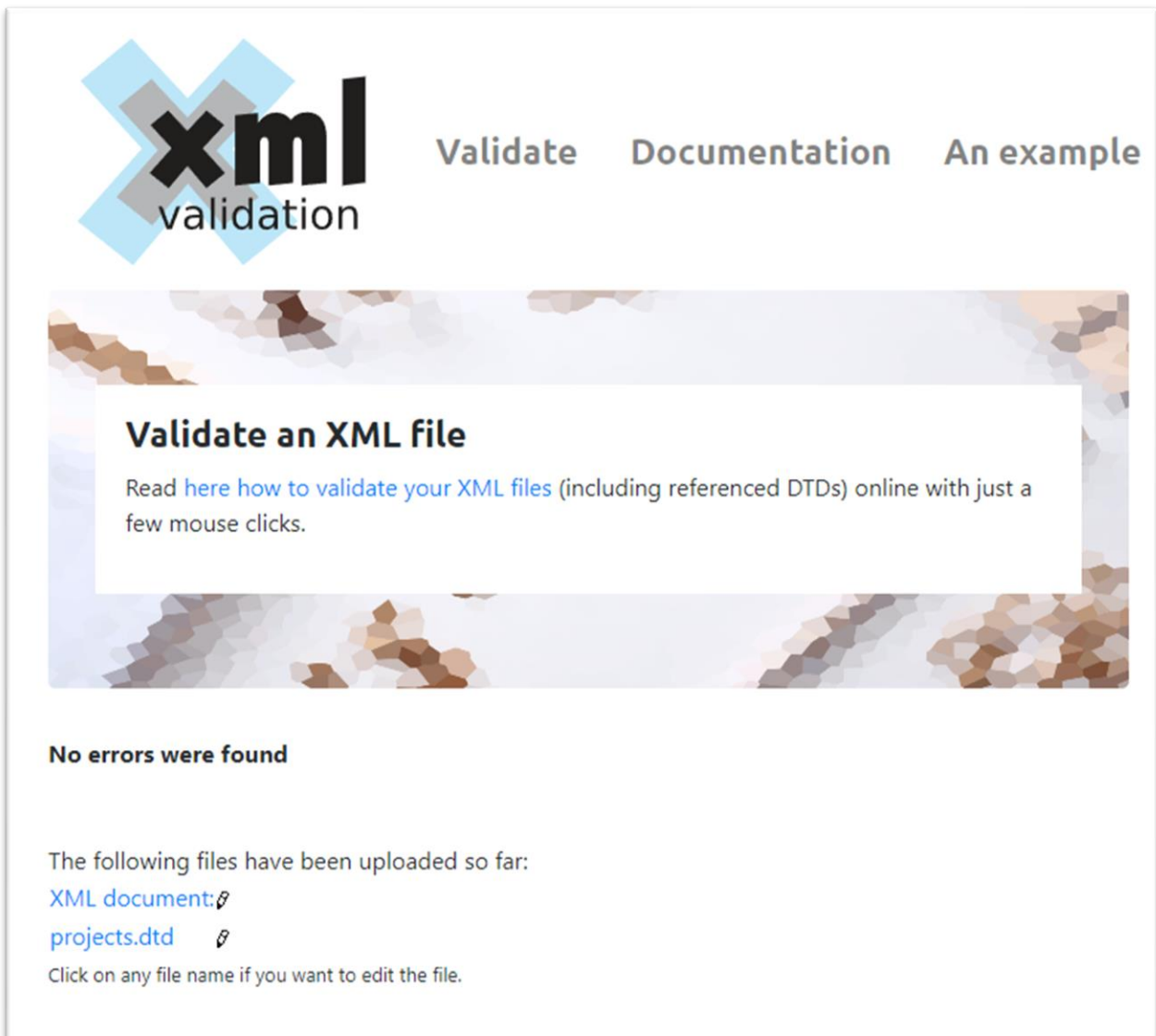
```
                        <clientemail>burns@example.com</clientemail>
                        <clientphone>222-222-2222</clientphone>
                </client>
        </clients>
        <projectdate start="2022-10-12" end="2022-12-12"></projectdate>
        <ProjectComments>Hello, Jack Back</ProjectComments>
</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>P0P1L1</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.

Russell Waring

References:

https://www.xmlvalidation.com