

XNML

Code alert and reassurance

XML is

- eXtensible Markup Language
- It is a markup language
- Here is some text marked-up with XML:
 - `<character>`
 - `<firstName>Mickey</firstName>`
 - `<surname>Mouse</surname>`
 - `</character>`

no style please

- **XML** does NOT contain information about style
- rather - it labels the data it contains with meaningful name
- element names are case Sensitive
- **FirstName** is different from **firstname**

Using XML in Publishing means

- Structuring documents and components with meaningful tags
- Structure and semantic tagging are separated from style
- To be sure that the data is well formed we must use a *DTD* or a *Schema* to provide rules for the data and attributes
- A **DTD** is a **D**ocument **T**ype **D**efinition
- A **DTD** is a kind of *SCHEMA* for XML documents
- A **DTD** can be external and shared. It can even be public
- *Namespaces* are used to identify sources of content

What can we do with XML?

- To display XML data we need to transform it into some mark-up that devices like web browsers understand
- To transform XML we *parse* the XML through an **XSLT** document which matches the data and turns it into something else
- **XSL** means Extensible Style Language and **XSLT** is how the transforming part of the format is labelled

What else can we do with XML?

- XML can store data
- XML is effectively a database format and so data can be extracted and manipulated
- We can use computer tools to edit XML
- We can present information from XML

Publishing with XML

- With a logical *taxonomy* for our content we can provide defined elements for the content
- A taxonomy for a book list may be:
 - `books`
 - `book`
 - `title`
 - `author`
 - `ISBN`
- Style (or how we want it to look) is completely separate, so we should use meaningful words rather than words that represent

Here is the XML file books.xml

```
<?xml version="1.0" standalone="no"?>
<?xml-stylesheet type="text/xsl" href="books.xsl"?>
<!DOCTYPE Books SYSTEM "booklist.dtd">
<!-- Here begins the actual XML data -->
<books>
  <book>
    <title>Extra News about XML</title>
    <author>Fred Bloggs</author>
    <isbn>123456</isbn>
  </book>
  <book>
    <title>XML for beginners</title>
    <author>Ray Tommhos</author>
    <isbn>066585</isbn>
  </book>
  <book>
    <title>What is XML?</title>
    <author>Lizzie Smith</author>
    <isbn>155454</isbn>
  </book>
  <book>
    <title>Beyond XML</title>
    <author>Richard Haverling</author>
    <isbn>78484</isbn>
  </book>
  <book>
    <title>XML for Monkeys</title>
    <author>Linda Crew</author>
    <isbn>8665783456</isbn>
  </book>
  <book>
    <title>Overhead with Tags</title>
    <author>Mandy Bluecoat</author>
    <isbn>345345</isbn>
  </book>
</books>
```

Here is the DTD file booklist.dtd

```
<?xml version="1.0" encoding="UTF-8"?>
<!ELEMENT books (book)>
<!ELEMENT book (title,author,isbn)>
<!ELEMENT title (#PCDATA)>
<!ELEMENT author (#PCDATA)>
<!ELEMENT isbn (#PCDATA)>
```

Here is web page:

Title	Author	ISBN
Extra News about XML	Fred Bloggs	123456
XML for beginners	Ray Tommhos	066585
What is XML?	Lizzie Smith	155454
Beyond XML	Richard Haverling	78484
XML for Monkeys	Linda Crew	8665783456
Overhead with Tags	Mandy Bluecoat	345345

Chris Jennings

Here is the XSL file books.xsl

```
<?xml version='1.0'?>
<xsl:stylesheet version="1.0" xmlns:xsl="http://
www.w3.org/1999/XSL/Transform">
  <xsl:template match="/books">
    <html>
      <body>
        <table border="2">
          <tr>
            <td><strong>Title</strong></td>
            <td><strong>Author</strong></td>
            <td><strong>ISBN</strong></td>
          </tr>
          <xsl:for-each select="book">
            <tr>
              <td><xsl:value-of select="title"/></td>
              <td><xsl:value-of select="author"/></td>
              <td><xsl:value-of select="isbn"/></td>
            </tr>
          </xsl:for-each>
        </table>
      </body>
    </html>
  </xsl:template>
</xsl:stylesheet>
```


XML is everywhere

- **DocBook** is a SCHEMA that is in use by a lot of publishers. It includes a public DTD that defines a taxonomy.
- **RSS** (Real Simple Syndication) is a web feed technology that is specified in XML format.
- XML is also used to keep user data and configuration information. eg, **plist**
- DTDs can be Open Source and enhanced through time
- XHTML versions (held by **w3.org**) are public DTDs
- ONIX is XML to store metadata about books

Editing XML

- XML is human readable text and can be edited with any raw text editor
- However this isn't something you want to do
- XML is usually generated through some kind of web interface so that the mark-up / code is hidden to the editor
- There are XML editors such as Oxygen

InDesign - Style and Structure?

- with **InDesign** you can build a *taxonomy* for the publication by using the **tag** window and the **structure** pane
- tags can be mapped to style names to build the structure
- content will be tagged and can be customised
- InDesign can **import** XML and use a DTD to check conformity
- InDesign can **export** XML >>>

InDesign can Import valid XML

- But it only makes logical sense if the tagged content can be attached to their equivalent style labels
- The InDesign template must be ready to accept the tagged XML

DTD - Document Type Definition

- rules that control the structure of a document
- a structure can be set out using an outline
- XML will be formed using these element labels

Let's have a
look at some
play text

A MIDSUMMER-
of me !
your love and might
her knight ! [Exit.
Lysander, help me ! do

nt from my breast !
am was here !
ke with fear :
heart away,
rueful prey.
Lysander ! lord !
? no sound, no word ?
k, an if you hear ;
almost with fear.
u are not nigh :
immediately. [Exit.

NIGHT'S DREAM

[ACT III, SCENE I

ACT III

SCENE I

The wood. TITANIA lying asleep.

[Enter QUINCE, SNUG, BOTTOM, FLUTE, SNOUT, and
STARVELING.]

Bot. Are we all met ?

Quin. Pat, pat ; and here's a marvellous con-
venient place for our rehearsal. This green plot shall
be our stage, this hawthorn-brake our tiring-house ;
and we will do it in action as we will do it before the
duke.

Bot. Peter Quince,—

Quin. What sayest thou, bully Bottom ?

Bot. There are things in this comedy of Pyramus
and Thisbe that will never please. First, Pyramus
must draw a sword to kill himself ; which the ladies
cannot abide. How answer you that ?

Snout. By'r lakin, a parlous fear.

Star. I believe we must leave the killing out, when
all is done.

Bot. Not a whit : I have a device to make all well.

2. *Pat*, Exactly at the right moment.

4. *Tiring-house*, Green-room, actors' attiring-room.

8. *Bully*, Fine fellow ; used as a term of endearment.

13. *By'r lakin*, By our ladykin, an oath, like "marry" by the
Virgin Mary ; *Parlous*, Perilous, dreadful.

ACT THREE SCENE II

Helena

Good Hermia, do not be so bitter with me.

I evermore did love you, Hermia,

Did ever keep your counsels, never wrong'd you ;

Save that, in love unto Demetrius,

I told him of your stealth unto this wood. 310

He followed you ; for love I followed him ;

But he hath chid me hence, and threaten'd me

To strike me, spurn me, nay, to kill me too ;

And now, so you will let me quiet go,

To Athens will I bear my folly back, 315

And follow you no further. Let me go.

You see how simple and how fond I am.

Hermia

Why, get you gone ! Who is't that hinders you ?

Helena

A foolish heart that I leave here behind.

Hermia

What ! with Lysander ?

Helena

With Demetrius. 320

Lysander

Be not afraid ; she shall not harm thee, Helena.

Demetrius

No, sir, she shall not, though you take her part.

Helena

O, when she is angry, she is keen and shrewd ;

She was a vixen when she went to school ;

And, though she be but little, she is fierce. 325

Hermia

'Little' again ! Nothing but 'low' and 'little' !

Why will you suffer her to flout me thus ?

Let me come to her.

Lysander

Get you gone, you dwarf

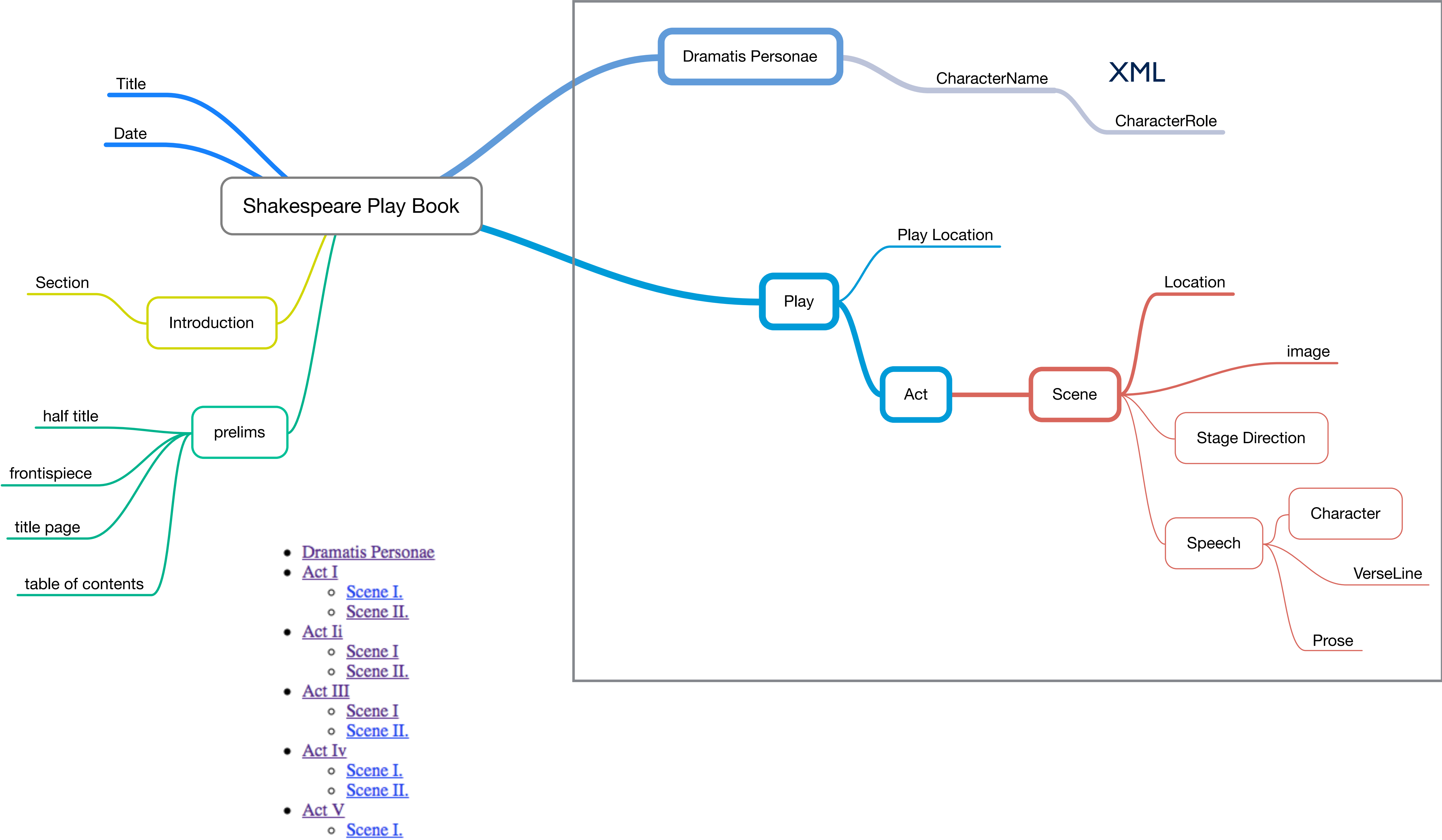
You minimus, of hind'ring knot-grass made ;

You bead, you acorn.

Demetrius

You are too officious 330

In her behalf that scorns your services.



- [Dramatis Personae](#)
- [Act I](#)
 - [Scene I.](#)
 - [Scene II.](#)
- [Act II](#)
 - [Scene I](#)
 - [Scene II.](#)
- [Act III](#)
 - [Scene I](#)
 - [Scene II.](#)
- [Act IV](#)
 - [Scene I.](#)
 - [Scene II.](#)
- [Act V](#)
 - [Scene I.](#)

```
nov2015.xml
~/Google Drive/teaching/Digital Media Publishing/2016/Shakespeare_Dream_for_Design_Production 2015/xml/nov2015.xml (functions) #
1 <?xml version="1.0" encoding="UTF-8" standalone="no"?>-
2 <shakespeareplay>-
3 <act>Act·I</act>-
4 <firstscene>Scene·I.</firstscene>-
5 <location>·Athens··The·palace·of·Theseus</location>-
6 <stage_directions>Enter·Theseus,·Hippolyta,·Philostrate,·and·Attendants</stage_directions>-
7 <character>Theseus</character>-
8 <verseline>Now,·fair·Hippolyta,·our·nuptial·hour</verseline>-
9 <verseline>Draws·on·apace;·four·happy·days·bring·in</verseline>-
10 <verseline>Another·moon;·but,·O,·methinks,·how·slow</verseline>-
11 <verseline>This·old·moon·waned!·She·lingers·my·desires,</verseline>-
12 <verseline>Like·to·a·step-dame·or·a·dowager,</verseline>-
13 <verseline>Long·withering·out·a·young·man's·revenue.</verseline>-
14 <character>Hippolyta</character>-
15 <verseline>Four·days·will·quickly·steep·themselves·in·night;</verseline>-
16 <verseline>Four·nights·will·quickly·dream·away·the·time;</verseline>-
17 <verseline>And·then·the·moon,·like·to·a·silver·bow</verseline>-
18 <verseline>New-bent·in·heaven,·shall·behold·the·night</verseline>-
19 <verseline>Of·our·solemnities.</verseline>-
20 <character>Theseus</character>-
21 <verseline>Go,·Philostrate,</verseline>-
22 <verseline>Stir·up·the·Athenian·youth·to·merriments;</verseline>-
23 <verseline>Awake·the·pert·and·nimble·spirit·of·mirth;</verseline>-
24 <verseline>Turn·melancholy·forth·to·funerals;</verseline>-
25 <verseline>The·pale·companion·is·not·for·our·pomp.·Exit·Philostrate</verseline>-
26 <verseline>Hippolyta,·I·woo'd·thee·with·my·sword,</verseline>-
27 <verseline>And·won·thy·love·doing·thee·injuries;</verseline>-
28 <verseline>But·I·will·wed·thee·in·another·key,</verseline>-
29 <verseline>With·pomp,·with·triumph,·and·with·revelling.</verseline>-
30 <verseline>Enter·Egeus,·and·his·daughter·Hermia,·Lysander,</verseline>-
31 <verseline>·and·Demetrius</verseline>-
32 <character>Egeus</character>-
33 <verseline>Happy·be·Theseus,·our·renowned·Duke!</verseline>-
34 <character>Theseus</character>-
35 <verseline>Thanks,·good·Egeus;·what's·the·news·with·thee?</verseline>-
36 <character>Egeus</character>-
```



```
macbeth.xml
Users > chrisjennings > Creative Cloud Files > designandproduction_work > shakespeare_repo-master > text_of_plays > macbeth.xml > shakespeareplay > play > verseline
555 <character>Duncan</character>
556 <verseline>True, worthy Banquo! He is full so valiant,</verseline>
557 <verseline>And in his commendations I am fed;</verseline>
558 <verseline>It is a banquet to me. Let&#8217;s after him,</verseline>
559 <verseline>Whose care is gone before to bid us welcome</verseline>
560 <verseline>It is a peerless kinsman.</verseline>
561 <stage_directions>Flourish. Exeunt</stage_directions>
562 <scene>Scene V</scene>
563 <location>Inverness. Macbeth&#8217;s castle</location>
564 <stage_directions>Enter Lady Macbeth, reading a letter</stage_directions>
565 <character>Lady Macbeth</character>
566 <prose>&#8220;They met me in the day of success, and I have learned by the perfectest report they have more
in them than mortal knowledge. When I burned in desire to question them further, they made themselves air,
into which they vanished. Whiles I stood rapt in the wonder of it, came missives from the King, who
all-hailed me &#8216;Thane of Cawdor&#8217;; by which title, before, these weird sisters saluted me and
referred me to the coming on of time with &#8216;Hail, King that shalt be!&#8217; This have I thought good
to deliver thee, my dearest partner of greatness, that thou mightst not lose the dues of rejoicing, by
being ignorant of what greatness is promised thee. Lay it to thy heart, and farewell.&#8221;</prose>
567 </prose>
568 <verseline>Glamis thou art, and Cawdor, and shalt be</verseline>
569 <verseline>What thou art promised. Yet do I fear thy nature</verseline>
570 <verseline>It is too full o&#8217; the milk of human kindness</verseline>
571 <verseline>To catch the nearest way. Thou wouldst be great;</verseline>
572 <verseline>Art not without ambition, but without</verseline>
573 <verseline>The illness should attend it. What thou wouldst highly,</verseline>
574 <verseline>That wouldst thou holily; wouldst not play false,</verseline>
575 <verseline>And yet wouldst wrongly win. Thou&#8217;ldst have, great Glamis,</verseline>
576 <verseline>That which cries, &#8220;Thus thou must do, if thou have it;</verseline>
577 <verseline>And that which rather thou dost fear to do</verseline>
578 <verseline>Than wishest should be undone.&#8221; Hie thee hither,</verseline>
579 <verseline>That I may pour my spirits in thine ear,</verseline>
580 <verseline>And chastise with the valor of my tongue</verseline>
581 <verseline>All that impedes thee from the golden round,</verseline>
582 <verseline>Which fate and metaphysical aid doth seem</verseline>
583 <verseline>To have thee crown&#8217;d withal</verseline>
584 <stage_directions>Enter a Messenger</stage_directions>
585 <verseline>What is your tidings?</verseline>
586 <character>Messenger</character>
587 <verseline>The King comes here tonight</verseline>
```



```
shakespeare_play.dtd x
1 <!ELEMENT shakespeareplay (dramatis,play)>
2 <!ELEMENT dramatis (dramatis_head,dramatis_personae,play_location)>
3 <!ELEMENT dramatis_personae ((charactername+,character_role+)*)>
4 <!ELEMENT charactername (#PCDATA)>
5 <!ELEMENT character_role (#PCDATA)>
6 <!ELEMENT play ((act,(((firstscene|scene)+,location?,(stage_directions|character|prose|verseline)+)))*)*>
7 <!ELEMENT location (#PCDATA | scene_image)*>
8 <!ELEMENT dramatis_head (#PCDATA)>
9 <!ELEMENT play_location (#PCDATA)>
10 <!ELEMENT act (#PCDATA)>
11 <!ELEMENT firstscene (#PCDATA)>
12 <!ELEMENT scene (#PCDATA)>
13 <!ELEMENT stage_directions (#PCDATA)>
14 <!ELEMENT character (#PCDATA)>
15 <!ELEMENT prose (#PCDATA)>
16 <!ELEMENT verseline (#PCDATA)>
17 <!ELEMENT scene_image (#PCDATA)>
18 <!ATTLIST scene_image href CDATA #REQUIRED>
19 <!ATTLIST shakespeareplay title CDATA #REQUIRED>
```

Only one allowed

One or more

either or

optional

DTD