Web Technologies Assignment 1

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**Description of the elements and their attributes (attributes are italicized)**

* Root
  + Root is the just the root level node that contains all the other information in the XML document
* Band
  + A band represents a group of performers.
    - The "*name*" attribute represents this group's band name.
    - The "*size*" is a default attribute and this default value is 1. As you can see, the first band modifies this value to be 2 - reflecting that there are two artists in the group.
* Member
  + Member is a sub-element of the Band element.
  + A member has a "*name*" - the name of the performer.
  + A member also has an "*instrument*" and this represents the instrument they play.
* Album
  + Albums are sub-elements of bands.
  + Albums have a "*name*" attribute that represents the name of the album.
* Song
  + Song is a sub-element of album.
  + Songs have no attributes.
* Name
  + Name is a sub-element of both the Song element and the Reviewer Element
  + The data between the name tags represents the element's name.
* TrackLength
  + TrackLength is a sub-element of the song element and contains the length of the track in minutes.
* Reviewer
  + The reviewer element represents a member of the press or other individual who reviews the music of a band.
  + Reviewer has an attribute of “*id*”. This is a unique id.
  + Reviewers can also be sub-elements of albums, in this case the data they contain is a review on the album. These instances reference the unique ids presen*t* in the reviewer class.
  + Reviewer also has an optional attribute “*ref*”. This reference allows you to refer to a reviewer (using the id) to an album, without having to recreate the reviewer element again.
* Company
  + Company is an optional sub-element of the reviewer - and it represents the company that a reviewer works for, if they are employed.
* Show
  + A show is a concert that a band puts on.
* Date
  + Date is a sub-element of the show element. It has to be formatted as a date.
* Venue
  + Venue is a sub-element of the show element. it describes the location where the show is taking place.

**Conditions and Restrictions**

* Band
  + Band must have a size attribute, and the default value for this attribute is 1. (Default attribute)
  + Band must have a name attribute.
  + Band must have at least 1 member and 1 album.
  + Therefore, "Shows" are optional elements in bands.
* Member
  + Member must have both the name and instrument attributes completed.
* Album
  + Album must have the name attribute completed. (Required attribute)
  + Album must have at least one song child element. (Required Element)
  + Album may or may not have a reviewer as a child element. (Optional Element)
* Song
  + Songs must have a name. (Required Element)
  + Songs can only have one name.
    - Songs have a default "name" element with the value of "Track1" (Default element)
  + Songs must have a trackLength. (Required Element)
  + Songs can only have one tracklength.
* TrackLength
  + TrackLength must be formatted a length in minutes.
* Show
  + Show must have date and venue children elements
  + Shows can have multiple dates and venue.
  + The order matters here, each tuple of a date and venue should be listed next to each other, with the date first.
* Date
  + Date must be formatted in a proper date format
* Reviewer
  + Reviewer must have a unique ID in the id attribute.
    - This id can be referenced in an album.
  + Reviewer must have one and only sub-element.
  + Company is an optional element under reviewer. (Optional Element)