GammaLib - Change request #689

GXmlNode append method should clone node.

01/11/2013 02:27 PM - Knödlseder Jürgen

Status:	Closed		**Start date:**	01/11/2013
Priority:	Normal		**Due date:**	
Assigned To:	Knödlseder Jürgen		**% Done:**	100%
Category:			**Estimated time:**	0.00 hour
Target version:	00-08-00			

Description

The GXmlNode method actually appends a pointer to a node, hence if the node gets deleted, the result becomes invalid.

The following Python code leads to a segmentation fault:

```
spectrum = GXmlElement()
spectrum.attribute("type", "ExpCutoff")
spectrum.append(prefactor)
spectrum.append(index)
spectrum.append(cutoff)
spectrum.append(scale)
```

but the following code works

```
spectrum = GXmlElement()
spectrum.attribute("type", "ExpCutoff")
spectrum.append(prefactor.clone())
spectrum.append(index.clone())
spectrum.append(cutoff.clone())
spectrum.append(scale.clone())
```

The append method should always clone the node. Instead of passing a pointer, a reference should be passed.

Related issues:

Related to GammaLib - Feature # 692: Perform an extensive interface review of...	**Closed**	**01/12/2013**

History

#1 - 01/12/2013 05:22 PM - Knödlseder Jürgen

- Target version set to 00-08-00

#2 - 02/05/2013 04:24 PM - Knödlseder Jürgen

I'm not really sure about this anymore, at least it requires careful consideration.

For example, the GModelSky::write relies on appending a pointer. The code

```
// If no source with corresponding name was found then append one
if (src == NULL) {
    src = new GXmlElement("source");
    src->attribute("name") = name();
    if (spectral() != NULL) src->append(new GXmlElement("spectrum"));
    if (spatial()  != NULL) src->append(new GXmlElement("spatialModel"));
    xml.append(src); // Appends pointer
}

// Set model attributes
src->attribute("name", name());
src->attribute("type", type());
```

```
    std::string instruments = this->instruments();
    if (instruments.length() > 0) {
        src->attribute("instrument", instruments);
    }
```

assumes that src still handles the object that has been appended to xml.

THIS CHANGE REQUEST NEEDS CAREFUL EVALUATION, AND A GENERAL STRATEGY SHOULD BE DEFINED FOR CONTAINERS OF POINTERS. One consideration is that memory leaks should be avoided. This is not possible if a container simply handles pointers in a dumb way.

#3 - 11/24/2013 10:32 PM - Knödlseder Jürgen

- Status changed from New to Closed

- Assigned To set to Knödlseder Jürgen

GXmlNode now clones.

#4 - 11/24/2013 10:32 PM - Knödlseder Jürgen

- % Done changed from 0 to 100