

# Great Moonstone Oxen of the First and Forsaken Oceans

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## INTRODUCTION

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### **What is the problem?**

It's often easy to forget the many crises occurring throughout the world. This site is designed to gather the data on every crisis, and present in a simple format. We gather details about victims, and information on organizations and people that want to help.

### **What are the use cases?**

With the increasing availability of telecommunication access and this site makes use of this to share news and help victims. This site can be a good source for anyone looking to get informed and help. We can provide contact information for people and organizations involved in helping the victims of crises around the world. People who want to help can look to our site for the best ways to get involved, whether it be donating to the right charities or volunteering at a local site.

# DESIGN

## XML Schema

Our class has been divided into separate groups for this project, but most groups have agreed upon a shared schema for XML. The schema as of the latest version is printed here, but the latest version can be found with this [link](#).

Updated schema on Github

```
1 <?xml version="1.0" ?>
2 <!-- XSD for World Crises database -->
3 <xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema">
4   <xsd:element name="WorldCrises">
5     <xsd:complexType>
6       <xsd:sequence>
7         <xsd:element name="Crisis" type="CrisisType" minOccurs="1" maxOccurs="unbounded" />
8         <xsd:element name="Person" type="PersonType" minOccurs="1" maxOccurs="unbounded" />
9         <xsd:element name="Organization" type="OrgType" minOccurs="1" maxOccurs="unbounded" />
10      </xsd:sequence>
11    </xsd:complexType>
12
13    <!-- All keys and keyrefs go here -->
14    <xsd:key name="CrisisKey">
15      <xsd:selector xpath="Crisis" />
16      <xsd:field xpath="@ID" />
17    </xsd:key>
18    <xsd:keyref name="CrisisKeyRef.Person" refer="CrisisKey">
19      <xsd:selector xpath="Person/Crises/Crisis" />
20      <xsd:field xpath="@ID" />
21    </xsd:keyref>
22    <xsd:keyref name="CrisisKeyRef.Org" refer="CrisisKey">
23      <xsd:selector xpath="Organization/Crises/Crisis" />
24      <xsd:field xpath="@ID" />
25    </xsd:keyref>
26
27    <xsd:key name="PersonKey">
28      <xsd:selector xpath="Person" />
29      <xsd:field xpath="@ID" />
30    </xsd:key>
31    <xsd:keyref name="PersonKeyRef.Crisis" refer="PersonKey">
32      <xsd:selector xpath="Crisis/People/Person" />
33      <xsd:field xpath="@ID" />
34    </xsd:keyref>
35    <xsd:keyref name="PersonKeyRef.Org" refer="PersonKey">
36      <xsd:selector xpath="Organization/People/Person" />
37      <xsd:field xpath="@ID" />
38    </xsd:keyref>
39
40    <xsd:key name="OrgKey">
41      <xsd:selector xpath="Organization" />
42      <xsd:field xpath="@ID" />
43    </xsd:key>
44    <xsd:keyref name="OrgKeyRef.Crisis" refer="OrgKey">
45      <xsd:selector xpath="Crisis/Organizations/Org" />
46      <xsd:field xpath="@ID" />
47    </xsd:keyref>
48    <xsd:keyref name="OrgKeyRef.Person" refer="OrgKey">
49      <xsd:selector xpath="Person/Organizations/Org" />
50      <xsd:field xpath="@ID" />
51    </xsd:keyref>
52  </xsd:element>
53
54  <xsd:complexType name="CrisisType">
55    <xsd:sequence>
```

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56     <xsd:element name="People" minOccurs="0" maxOccurs="1">
57         <xsd:complexType>
58             <xsd:sequence>
59                 <xsd:element name="Person" type="PersonWithID" minOccurs="1" maxOccurs="
unbounded" />
60             </xsd:sequence>
61         </xsd:complexType>
62     </xsd:element>
63     <xsd:element name="Organizations" minOccurs="0" maxOccurs="1">
64         <xsd:complexType>
65             <xsd:sequence>
66                 <xsd:element name="Org" type="OrgWithID" minOccurs="1" maxOccurs="
unbounded" />
67             </xsd:sequence>
68         </xsd:complexType>
69     </xsd:element>
70
71     <xsd:element name="Kind" type="xsd:token" minOccurs="0" maxOccurs="1" />
72     <xsd:element name="Date" type="xsd:date" minOccurs="0" maxOccurs="1" />
73     <xsd:element name="Time" type="xsd:time" minOccurs="0" maxOccurs="1" />
74     <xsd:element name="Locations" type="ListType" minOccurs="0" maxOccurs="1" />
75     <xsd:element name="HumanImpact" type="ListType" minOccurs="0" maxOccurs="1" />
76     <xsd:element name="EconomicImpact" type="ListType" minOccurs="0" maxOccurs="1" />
77     <xsd:element name="ResourcesNeeded" type="ListType" minOccurs="0" maxOccurs="1" />
78     <xsd:element name="WaysToHelp" type="ListType" minOccurs="0" maxOccurs="1" />
79     <xsd:element name="Common" type="CommonType" minOccurs="0" maxOccurs="1" />
80     <xsd:any minOccurs="0" />
81 </xsd:sequence>
82 <xsd:attribute name="ID" type="CrisisIDType" use="required" />
83 <xsd:attribute name="Name" type="xsd:token" use="required" />
84 </xsd:complexType>
85
86 <xsd:complexType name="PersonType">
87     <xsd:sequence>
88         <xsd:element name="Crises" minOccurs="0" maxOccurs="1">
89             <xsd:complexType>
90                 <xsd:sequence>
91                     <xsd:element name="Crisis" type="CrisisWithID" minOccurs="1" maxOccurs="
unbounded" />
92                 </xsd:sequence>
93             </xsd:complexType>
94         </xsd:element>
95         <xsd:element name="Organizations" minOccurs="0" maxOccurs="1">
96             <xsd:complexType>
97                 <xsd:sequence>
98                     <xsd:element name="Org" type="OrgWithID" minOccurs="1" maxOccurs="
unbounded" />
99                 </xsd:sequence>
100             </xsd:complexType>
101         </xsd:element>
102
103         <xsd:element name="Kind" type="xsd:token" minOccurs="0" maxOccurs="1" />
104         <xsd:element name="Location" type="xsd:token" minOccurs="0" maxOccurs="1" />
105         <xsd:element name="Common" type="CommonType" minOccurs="0" maxOccurs="1" />
106         <xsd:any minOccurs="0" />
107     </xsd:sequence>
108     <xsd:attribute name="ID" type="PersonIDType" use="required" />
109     <xsd:attribute name="Name" type="xsd:token" use="required" />
110 </xsd:complexType>
111
112 <xsd:complexType name="OrgType">
113     <xsd:sequence>
114         <xsd:element name="Crises" minOccurs="0" maxOccurs="1">
115             <xsd:complexType>
116                 <xsd:sequence>
117                     <xsd:element name="Crisis" type="CrisisWithID" minOccurs="1" maxOccurs="
unbounded" />
118                 </xsd:sequence>
119             </xsd:complexType>
120         </xsd:element>
121         <xsd:element name="People" minOccurs="0" maxOccurs="1">
122             <xsd:complexType>
123                 <xsd:sequence>
124                     <xsd:element name="Person" type="PersonWithID" minOccurs="1" maxOccurs="
unbounded" />
125                 </xsd:sequence>
126             </xsd:complexType>

```

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127         </xsd:element>
128
129         <xsd:element name="Kind" type="xsd:token" minOccurs="0" maxOccurs="1" />
130         <xsd:element name="Location" type="xsd:token" minOccurs="0" maxOccurs="1" />
131         <xsd:element name="History" type="ListType" minOccurs="0" maxOccurs="1" />
132         <xsd:element name="ContactInfo" type="ListType" minOccurs="0" maxOccurs="1" />
133         <xsd:element name="Common" type="CommonType" minOccurs="0" maxOccurs="1" />
134         <xsd:any minOccurs="0" />
135     </xsd:sequence>
136     <xsd:attribute name="ID" type="OrgIDType" use="required" />
137     <xsd:attribute name="Name" type="xsd:token" use="required" />
138 </xsd:complexType>
139
140 <xsd:complexType name="CommonType">
141     <xsd:sequence>
142         <xsd:element name="Citations" type="ListType" minOccurs="0" maxOccurs="1" />
143         <xsd:element name="ExternalLinks" type="ListType" minOccurs="0" maxOccurs="1" />
144         <xsd:element name="Images" type="ListType" minOccurs="0" maxOccurs="1" />
145         <xsd:element name="Videos" type="ListType" minOccurs="0" maxOccurs="1" />
146         <xsd:element name="Maps" type="ListType" minOccurs="0" maxOccurs="1" />
147         <xsd:element name="Feeds" type="ListType" minOccurs="0" maxOccurs="1" />
148         <xsd:element name="Summary" type="xsd:token" minOccurs="0" maxOccurs="1" />
149     </xsd:sequence>
150 </xsd:complexType>
151
152 <xsd:complexType name="ListType">
153     <xsd:sequence>
154         <xsd:element name="li" minOccurs="1" maxOccurs="unbounded">
155             <xsd:complexType mixed="true">
156                 <xsd:attribute name="href" type="xsd:token" />
157                 <xsd:attribute name="embed" type="xsd:token" />
158                 <xsd:attribute name="text" type="xsd:token" />
159             </xsd:complexType>
160         </xsd:element>
161     </xsd:sequence>
162 </xsd:complexType>
163
164 <xsd:complexType name="CrisisWithID">
165     <xsd:attribute name="ID" type="CrisisIDType" use="required" />
166 </xsd:complexType>
167
168 <xsd:complexType name="PersonWithID">
169     <xsd:attribute name="ID" type="PersonIDType" use="required" />
170 </xsd:complexType>
171
172 <xsd:complexType name="OrgWithID">
173     <xsd:attribute name="ID" type="OrgIDType" use="required" />
174 </xsd:complexType>
175
176 <xsd:simpleType name="CrisisIDType">
177     <xsd:restriction base="IDType">
178         <xsd:pattern value="CRI_[A-Z]{6}" />
179     </xsd:restriction>
180 </xsd:simpleType>
181
182 <xsd:simpleType name="PersonIDType">
183     <xsd:restriction base="IDType">
184         <xsd:pattern value="PER_[A-Z]{6}" />
185     </xsd:restriction>
186 </xsd:simpleType>
187
188 <xsd:simpleType name="OrgIDType">
189     <xsd:restriction base="IDType">
190         <xsd:pattern value="ORG_[A-Z]{6}" />
191     </xsd:restriction>
192 </xsd:simpleType>
193
194 <xsd:simpleType name="IDType">
195     <xsd:restriction base="xsd:token">
196         <xsd:length value="10" />
197     </xsd:restriction>
198 </xsd:simpleType>
199 </xsd:schema>

```

## IMPLEMENTATION

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Most of the code, including the *import* and *export* scripts, are done in Python. The website is delivered using Django and the site is designed using Twitter's Bootstrap. The data is stored to a MySQL server on campus.

### Data Model

The core of our data model starts with the tables *Crisis*, *Organizations*, *Person*. These three tables all have a many to many relation between each other. We have a *Common* table to hold data these three models can all have. *Crisis*, *Organizations*, and *Person* can have 0 or 1 *Common* objects. We have an abstract model, *AbstractListType*. The database will never write an *AbstractListType*, but abstract types are useful when scripting. The types *CommonListType* and *CrisisListType* both inherit from *AbstractListType*. *CrisisListType* will hold data for *Crisis* objects, and *CommonListType* will hold data for *Common*.

### Import

### Export

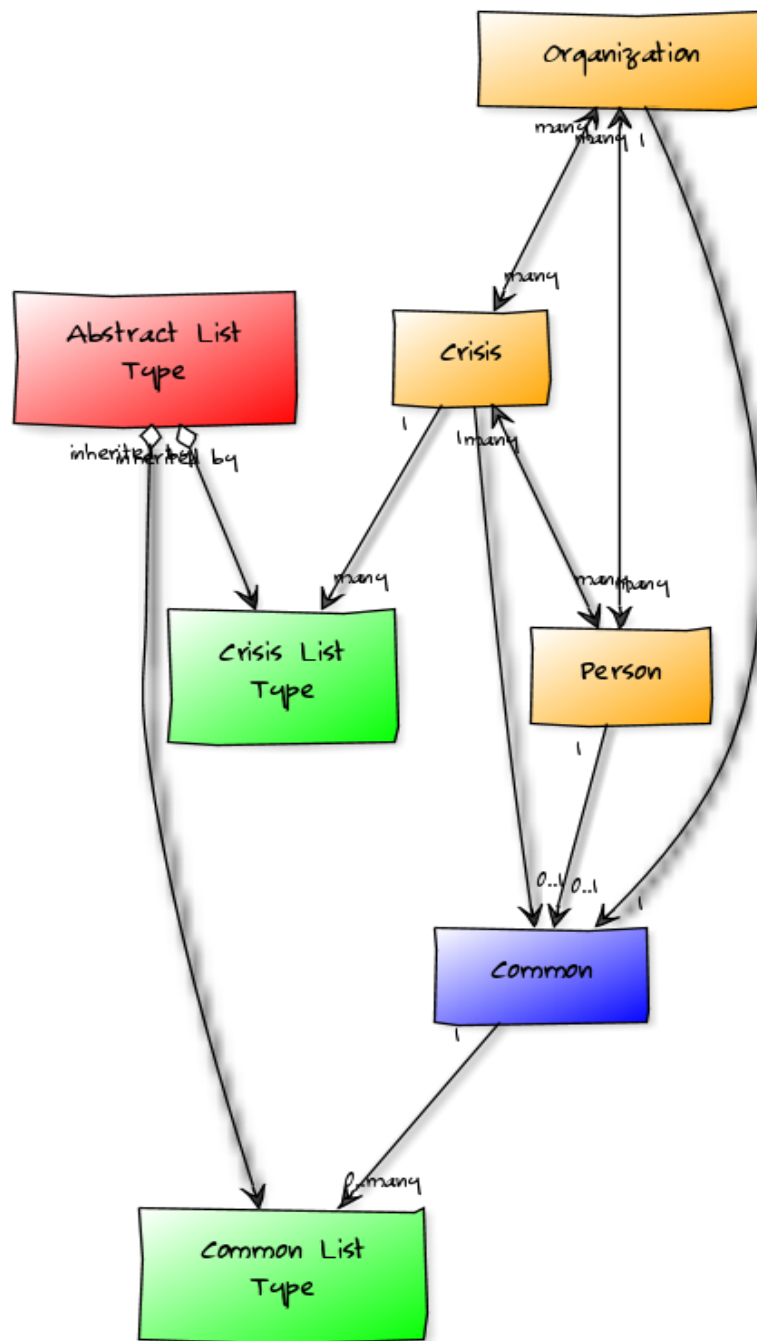


Figure 1. A diagram of our data model

## TESTING

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### **unittest**



## OTHER

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