

APPLICATION DESCRIPTION

Describe the application you designed and built (Phase D - Step 13)

I have written web application in Java Struts framework. I decided to choose this technology because I needed using Jena library which is wrote in Java. The main features of my application is catalog of all stored fish species and searching publication about some species with some specific attribute.



Figure 1 Species list

Figure 9 presented page with species list. Application download also pictures of current fish from dbpedia, and short abstract. To not stress the server to much I am using LIMIT 10, and divide result for separate pages. Below I have presented SPARQL query to downloading fishes from virtuoso:

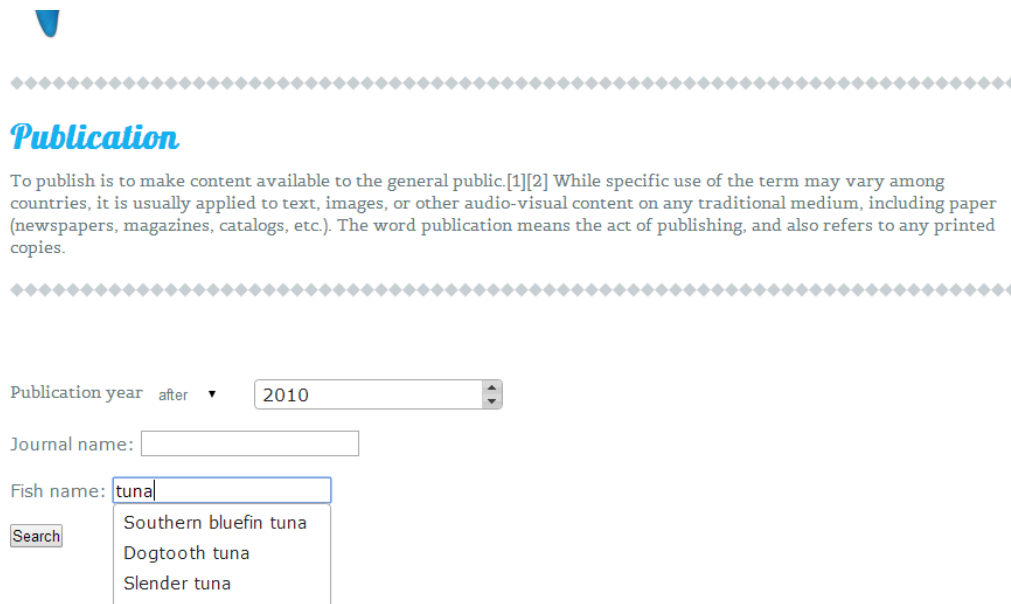
```
select distinct ?a where{?a a <http://www.w3.org/2002/07/owl#Thing>}
```

is the very simple query, but when I receive result which is URI address, I am parsing this html website to extract link to photo and abstract. To do it I am using JSOUP library for Java. Jsoup is a Java library for working with real-world HTML. It provides a very convenient API for extracting and manipulating data, using the best of DOM, CSS, and jquery-like methods.

Using features of java struts I didn't have to create section for each fish. I putted returned fish detail into Vector, and using tag in JSP page (code presented below) I generated result page.

```
<logic:iterate name="publications" id="publicationID">
  <article class="post">
    <header><h1><bean:write name="publicationID" property="publicationName"/></h1></header>
    <p>
      <bean:write name="publicationID" property="publicationAbstract" filter="false"/>
    </p><br>
    <p>
      Publication about: <a href="<bean:write name="publicationID" property="subjectSpecies"/>">
        <bean:write name="publicationID" property="subjectSpecies"/></a>
    </p>
    <aside>
      <div><h5><bean:write name="publicationID" property="journalName"/></h5></div>
      <div><a href="<bean:write name="publicationID" property="publicationURL"/>">www</a></div>
      <div>" alt="post pic"></div>
    </aside>
    <div class="clearfloat"></div>
  </article>
</logic:iterate>
```

The next features of my application is dynamic publication finding. Its dynamic because it using AJAX and autocomplete features. On the figure 10 I presented autocomplete features. When the user starting type fish name for example, application showing him possible fish name.



Publication year after ▼ 2010

Journal name:

Fish name:

Search

- Southern bluefin tuna
- Dogtooth tuna
- Slender tuna

Figure 2 Publication searcher

User can find publication with publication year before or after some year, user can also input journal name or fish name. When the field is empty application find publication without any condition.

Publication year after ▼ 2010

Journal name:

Fish name:



Abstract

One of the main characteristics of biodiversity data is its cross-disciplinary feature and the

Concluding Remarks

To tackle the need for having integrated sets of facts about marine species, and thus to assist

Figure 3 Present result using AJAX

On the figure 12 is presented publication result for fish species Yellowfin tuna which is published after 2010 year. In this case I also used jsoup library to take photo from other site, regarding with journal cover. Below I presented part of code with jsoup function.

```
// need http protocol
doc = Jsoup.connect(url).get();

Elements photos = doc.select("img[class=look-inside-cover]");
for (Element element : photos) {
    publication.setPublicationPhoto("http://link.springer.com/" + element.attr("src"));
}
Elements abstracts = doc.select("div[class=abstract-content formatted]");
for (Element element : abstracts) {
    publication.setPublicationAbstract(element.html());
}

if("".equals(publication.getPublicationPhoto()) || null == publication.getPublicationPhoto())
    publication.setPublicationPhoto("Assets\\noPhoto.jpg");
```

Publication year after ▼ 2010

Journal name:

Fish name:

Search

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Food Science and Biotechnology

www



Effect of processing conditions on functional properties of collagen powder from skate (*Raja kenofel*) skins

Optimum conditions for collagen extraction from skate (*Raja kenofel*) skins with various liming concentrations, extraction solution pH, extraction temperature and time, and functional properties were investigated. The optimum conditions for collagen extraction are as combination of place the skins in a lime solution of 0.15 N of NaOH, extract with 5 volumes water (pH 4.0) for 4 hr at 40°C, filter, centrifuge, and lyophilize to obtain collagen powder. The characteristics of skate skin collagen obtained under optimum extraction conditions were: solubility 82.7%, turbidity 0.28, and Hunter color *L*, *a*, and *b* values were 88.4, 0.92, and 11.2, respectively. On the other hand, the acidic pH values (3.0 and 5.0) of collagen were more resistant to precipitation upon extended heating.

Publication about: http://dx.doi.org/resource/Yellowfin_tuna

Aquaculture International

www



Swimbladder inflation associated with body density change and larval survival in southern bluefin tuna *Thunnus maccoyii*

High mortality of southern bluefin tuna (SBT) *Thunnus maccoyii* larvae in captivity is a major problem hindering culture of this species. The relationships between body density of SBT larvae, swimbladder inflation and survival were investigated in this study. Swimbladder inflation and changes in volume have a direct effect on body density in larval SBT. Swimbladder inflation was first observed at 3 days post hatch, and larvae with successful swimbladder inflation were able to maintain their body density within a narrow range ($7.7 \pm 0.0006 \text{ g cm}^{-3}$). Although swimbladder volume increased with larval growth, it could not compensate for the increase in body density and did not prevent nocturnal sinking. The increase in body density was greater for larvae that did not inflate their swimbladder. Low percentages of swimbladder inflation ($27.5 \pm 3.5 \%$) coupled with negative body buoyancy of SBT might contribute to mortality as larvae sank in the dark phase and made contact

Figure 4 Publication result

During the evaluation I didn't find more bug, I had a problem with pagination but I fixed it. I think the application has modern and nice layout. Application met with requirement. Because I used web framework I decided to not describe all mechanism in java struts, it's a subject for thesis at least.