

Empowering fishing business using linked data

A visualization of current fish population and fishing
legislation around the world

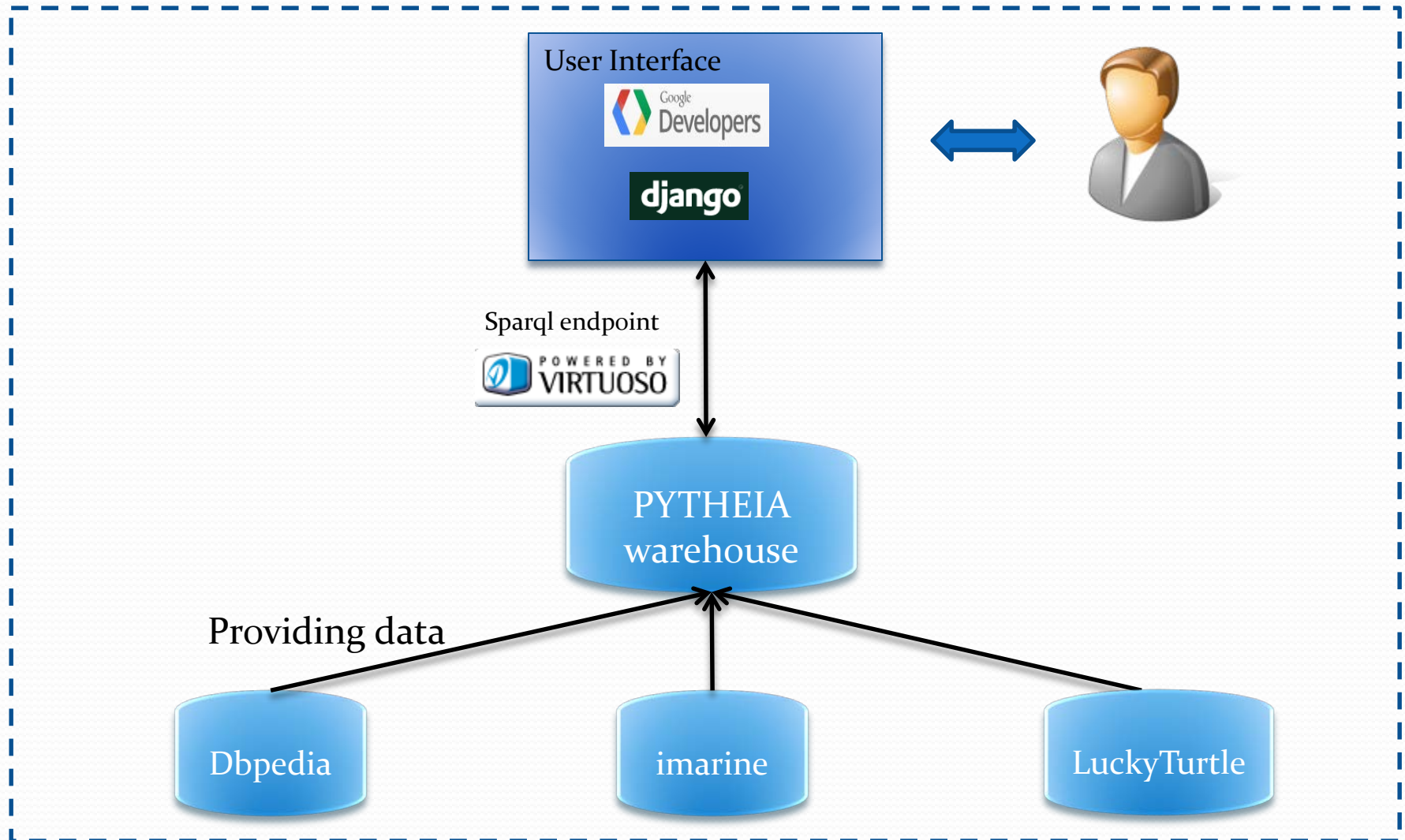
User Scenario

A fishing company is interested in creating new facilities in another place.

- Business is going well, so they are looking to expand
- Fish population is dropping (climate change, pollution, ...)
- Legislation changes
- ...

Our approach: PYTHEIA provides information to fishing businesses for choosing the most suitable areas using linked data

Workflow



LuckyTurtle Ontology extension

- owl:Class *lt:Population*

| Property | Domain | Range |
|-----------------------|---------------|--------------------|
| <i>lt:atTime</i> | lt:Population | int (1-12) |
| <i>lt:hasValue</i> | lt:Population | int |
| <i>lt:inCountry</i> | lt:Population | fish:BC4_2_Country |
| <i>lt:relatedFish</i> | lt:Population | fish:BT27_Species |

- owl:Class *lt:Law*

| Property | Domain | Range |
|------------------------|--------|--------------------|
| <i>lt:appliedFor</i> | lt:Law | fish:BC4_2_Country |
| <i>lt:startTime</i> | lt:Law | int (1-12) |
| <i>lt:endTime</i> | lt:Law | int (1-12) |
| <i>lt:fishingLimit</i> | lt:Law | int |
| <i>lt:isAbout</i> | lt:Law | fish:BT27_Species |

User Interface I

File Edit View History Bookmarks Tools Help

file:///...html x Εισερχόμε... Σε κοινή ... LuckyTur... file:///...t2.html Visualizat... Html Co > +

http://127.0.0.1:8000/pages/welcome-page Google

Marine life explorer

Please select for which marine species you are interested

Primary Fish

This type of species must live in the selected area

Select Name

None

Optional Fish

It is desired but not mandatory for this type of species to live in the selected area

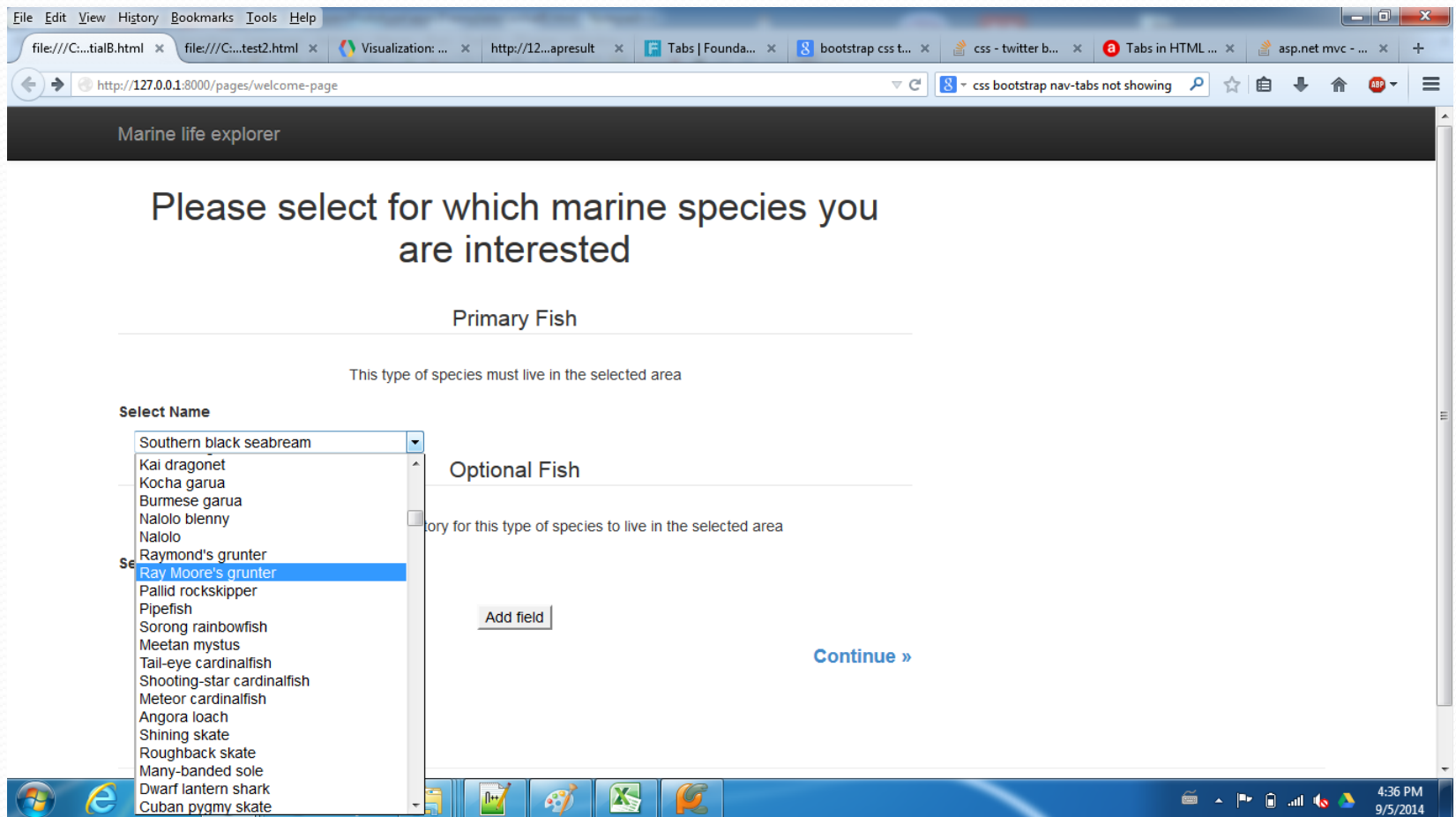
Select Name

None

Add field

Continue »

User Interface II



User Interface III

Marine life explorer

Please select for which marine species you are interested

Primary Fish

This type of species must live in the selected area

Select Name

Southern black seabream

Optional Fish

It is desired but not mandatory for this type of species to live in the selected area

Select Name

pagrus auriga

Add field

Continue »

User Interface IV

Marine life explorer

Please select for which marine species you are interested

Primary Fish

This type of species must live in the selected area

Select Name

Southern black seabream

Optional Fish

It is desired but not mandatory for this type of species to live in the selected area

Select Name

pagrus auriga

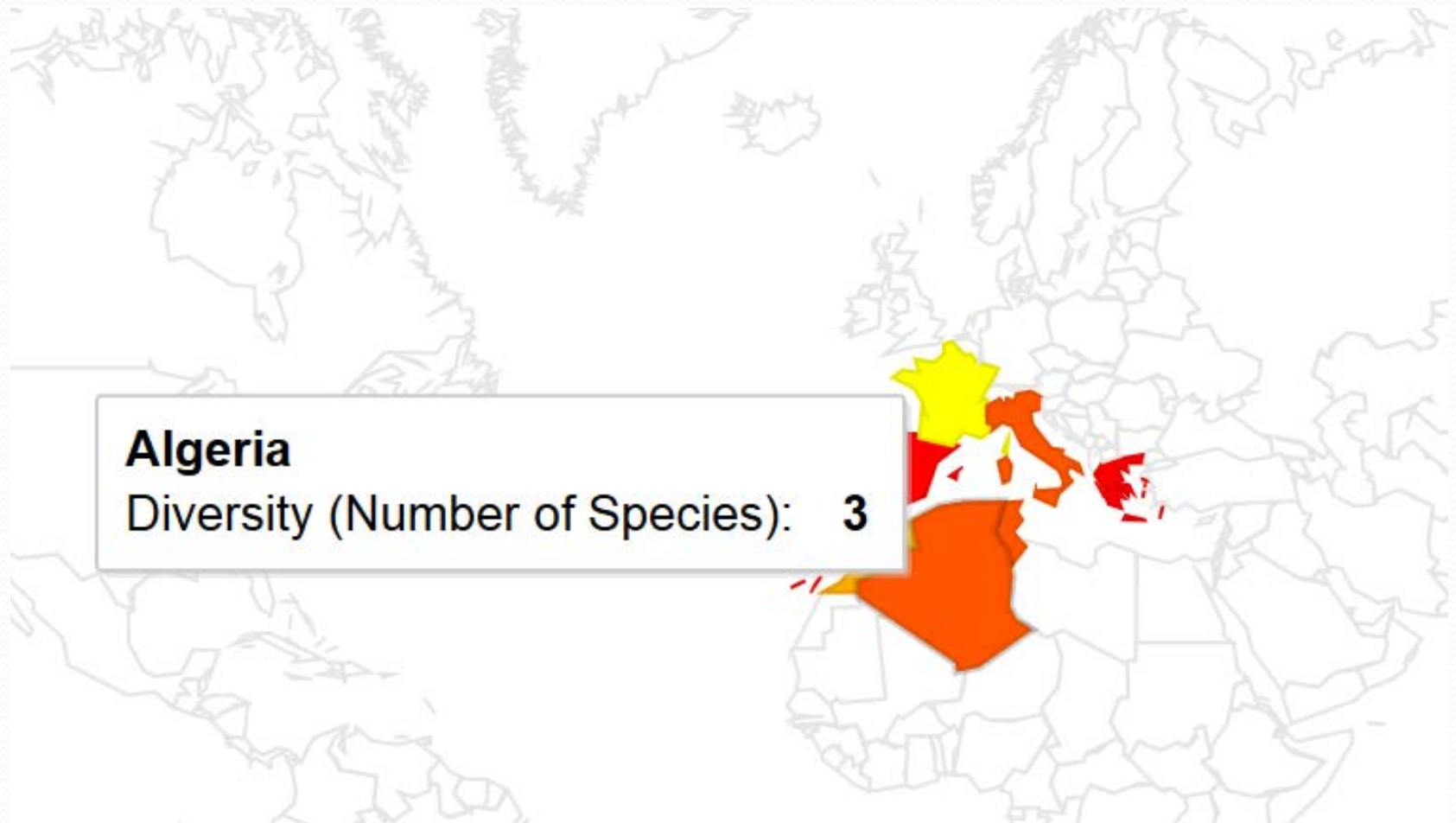
None

None

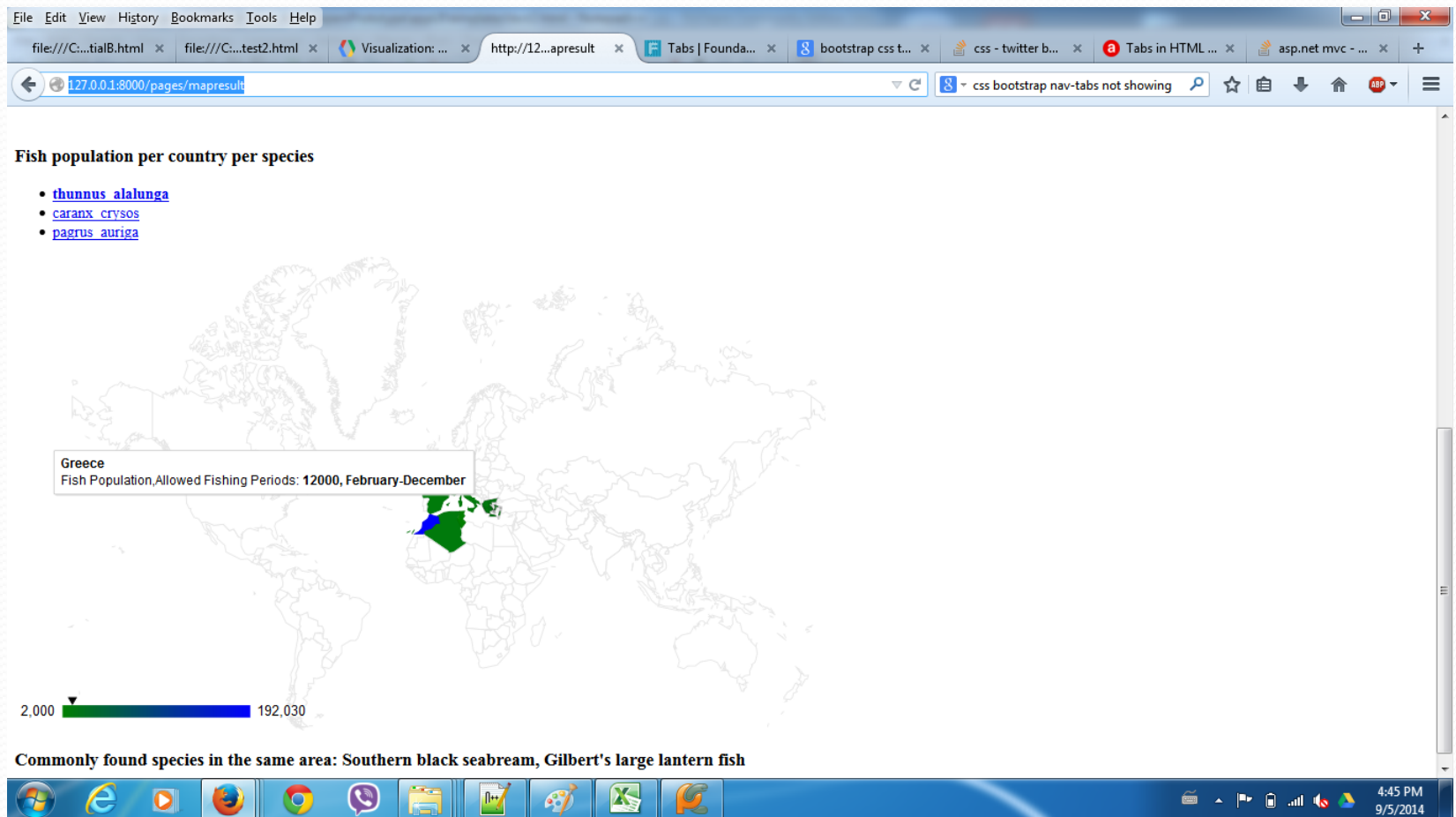
Add field

Continue »

User Interface V



User Interface VI



Future steps

- Include information about fishing management
 - Massive overfishing effects...
- Store and provide historical data
 - Enhance our services
- Enrich the PYTHEIA warehouse using crowdsourcing
- Provide insights on possible competitors in an area
- Develop a demo to present to WWW conference



Thank you!