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COMPUTER SCIENCE DEPARTMENT

Computer Science - Curriculum Artificial Intelligence

Project Assignment

Foundamentals of Artificial Intelligence

GraphBrain

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Academic Year 2024/2025

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1.1 Exercise 1

1.1.1 Brief description

In this exercise, I've uploaded the following to retrocomputing:

- **Metal Slug Series - Main games:** about 10 games from the Metal Slug series, which are the main games in the series.
- **Flight Simulator Series:** about 10 games
- **Street Fighter Series:** about 8 games
- **Dragon Ball Games:** about 15 games
- About 5 console games
- About 5 company
- For each videogame, which is a software, I've added information with the relationship *producedBy* to the company that produced it
- For each console the producer (I also add the produced for already existing consoles)
- I've added my city Matera and nearby cities (about 30)
- Update the name for existing Internet protocols (8) and add new ones (about 70)

to food:

- **Crapiata:** a dish from Matera, which is a soup made with legumes and vegetables (and also some missing ingredients)
- Relationships about the previous plate

1.1.2 Improvements to the ontology

I suggest to add the following updates to the ontology:

- **First Person Shooter:** I suggest to add the class *First Person Shooter* to the ontology as subclass of *Videogame*
- **Fighting Game:** I suggest to add the class *Fighting Game* to the ontology as subclass of *Videogame*

- **Action Game:** I suggest to add the class *Action Game* to the ontology as subclass of *Videogame*
- **Sandbox Game:** I suggest to add the class *Sandbox Game* to the ontology as subclass of *Videogame*
- For software the relationship *developedBy* involves software and Person. However, in many cases (e.g. videogames) the software is developed by an Organization. I suggest to add this update to the ontology as well.
- I would add a relationship *runOn* between the class *Software* and the class **Operating System** to indicate the operating system on which the software runs.
- I'd add also *executedOn* between the class *Videogame* and the class **Console** to indicate the console on which the videogame runs.
-

1.1.3 Bugs and improvements in the interface

I was linking together the videogames and the companies that produced them. I clicked on Entity on the object and an exception page appeared. Even after restarting my computer and deleting the cache, the problem persists (here's a screenshot of the error) but changing the browser solved the problem.

HTTP Status 500 -

type Exception report

message

description The server encountered an internal error that prevented it from fulfilling this request.

exception

```
javax.servlet.ServletException
    javax.faces.webapp.FacesServlet.service(Unknown Source)
    org.primefaces.webapp.filter.FileUploadFilter.doFilter(FileUploadFilter.java:100)
    org.apache.tomcat.websocket.server.WsFilter.doFilter(WsFilter.java:52)
```

root cause

```
java.lang.NullPointerException
    dominus.web.common.bean.RelationBean.getClassPathObj(RelationBean.java:1132)
    sun.reflect.GeneratedMethodAccessor428.invoke(Unknown Source)
    sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43)
    java.lang.reflect.Method.invoke(Method.java:498)
    javax.el.BeanELResolver.invoke(BeanELResolver.java:165)
    javax.el.CompositeELResolver.invoke(CompositeELResolver.java:84)
    org.apache.el.parser.AstValue.getValue(AstValue.java:159)
    org.apache.el.ValueExpressionImpl.getValue(ValueExpressionImpl.java:184)
    com.sun.faces.facelets.el.TagValueExpression.getValue(Unknown Source)
    javax.faces.component.ComponentStateHelper.eval(Unknown Source)
    javax.faces.component.ComponentStateHelper.eval(Unknown Source)
    javax.faces.component.UIData.getValue(Unknown Source)
    org.primefaces.component.api.UIData.getDataModel(UIData.java:764)
    javax.faces.component.UIData.getRowCount(Unknown Source)
    org.primefaces.component.datatable.DataTableRenderer.encodeTbody(DataTableRenderer.java:832)
    org.primefaces.component.datatable.DataTableRenderer.encodeTbody(DataTableRenderer.java:814)
    org.primefaces.component.datatable.DataTableRenderer.encodeRegularTable(DataTableRenderer.java:290)
    org.primefaces.component.datatable.DataTableRenderer.encodeMarkup(DataTableRenderer.java:252)
    org.primefaces.component.datatable.DataTableRenderer.encodeEnd(DataTableRenderer.java:87)
    javax.faces.component.UIComponentBase.encodeEnd(Unknown Source)
    javax.faces.component.UIComponent.encodeAll(Unknown Source)
    javax.faces.render.Renderer.encodeChildren(Unknown Source)
    javax.faces.component.UIComponentBase.encodeChildren(Unknown Source)
    org.primefaces.renderkit.CoreRenderer.renderChild(CoreRenderer.java:85)
    org.primefaces.renderkit.CoreRenderer.renderChildren(CoreRenderer.java:72)
    org.primefaces.component.layout.LayoutUnitRenderer.encodeEnd(LayoutUnitRenderer.java:49)
    javax.faces.component.UIComponentBase.encodeEnd(Unknown Source)
    javax.faces.component.UIComponent.encodeAll(Unknown Source)
    javax.faces.component.UIComponent.encodeAll(Unknown Source)
    javax.faces.component.UIComponent.encodeAll(Unknown Source)
    javax.faces.component.UIComponent.encodeAll(Unknown Source)
    com.sun.faces.application.view.FaceletViewHandlingStrategy.renderView(Unknown Source)
    com.sun.faces.application.view.MultiViewHandler.renderView(Unknown Source)
    com.sun.faces.lifecycle.RenderResponsePhase.execute(Unknown Source)
    com.sun.faces.lifecycle.Phase.doPhase(Unknown Source)
    com.sun.faces.lifecycle.LifecycleImpl.render(Unknown Source)
    javax.faces.webapp.FacesServlet.service(Unknown Source)
    org.primefaces.webapp.filter.FileUploadFilter.doFilter(FileUploadFilter.java:100)
    org.apache.tomcat.websocket.server.WsFilter.doFilter(WsFilter.java:52)
```

note The full stack trace of the root cause is available in the Apache Tomcat/8.0.32 (Debian) logs.

When I want to add a new relationship, I can't start from the Object but only from the Subject.