



**SHRI VILEPARLE KELAVANI MANDAL'S  
DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING**  
(Autonomous College Affiliated to the University of Mumbai)  
NAAC ACCREDITED with "A" GRADE (CGPA : 3.18)



**DEPARTMENT OF INFORMATION TECHNOLOGY**

**COURSE CODE:** DJ19ITL801

**DATE:** 14/03/2024

**COURSE NAME:** Semantic Web Technology Laboratory

**CLASS:** I1-2

**EXPERIMENT NO. 8**

**AIM / OBJECTIVE:**

Design of Ontology using RDFS

**THEORY:**

The camera ontology is a well-known ontology in the semantic web community. It is developed for educational purposes by the University of Manchester, which is a leading university in the development of semantic technologies.

**PROCEDURE:**

1. Upload camera Ontology from the URL.

The screenshot shows the Protégé OWL editor interface. The top menu bar includes File, Edit, View, Reasoner, Tools, Refactor, Window, and Help. The address bar shows the URL: [camera \(http://www.xfront.com/owl/ontologies/camera/\)](http://www.xfront.com/owl/ontologies/camera/). The main workspace displays the 'Ontology header' and 'Metrics' panels.

**Ontology header:**

- Ontology IRI: <http://www.xfront.com/owl/ontologies/camera/>
- Ontology Version IRI: e.g. <http://www.xfront.com/owl/ontologies/camera/1.0.0>

**Annotations:**

- rdfs:comment**
- Camera OWL Ontology
- Author: Roger L. Costello
- Acknowledgements: Many thanks to the following people for their invaluable input: Richard McCullough, Yuzhong Qu, Leo Sauermann, Brian McBride and Jim Farrugia.

**Ontology metrics:**

Metrics	
Axiom	75
Logical axiom count	48
Declaration axioms count	27
Class count	13
Object property count	7
Data property count	8
Individual count	2
Annotation Property count	1

**Class axioms:**

Class axioms	
SubClassOf	10
EquivalentClasses	3

The bottom panel shows 'Imported ontologies' with a 'Direct Imports' section.



**SHRI VILEPARLE KELAVANI MANDAL'S  
DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING**  
(Autonomous College Affiliated to the University of Mumbai)  
NAAC ACCREDITED with "A" GRADE (CGPA : 3.18)



2. Explore using various tools in protégé.

Ontology metrics:	
<b>Metrics</b>	
Axiom	75
Logical axiom count	48
Declaration axioms count	27
Class count	13
Object property count	7
Data property count	8
Individual count	2
Annotation Property count	1
<b>Class axioms</b>	
SubClassOf	10
EquivalentClasses	3
DisjointClasses	0
GCI count	0
Hidden GCI Count	0
<b>Object property axioms</b>	
SubObjectPropertyOf	2
EquivalentObjectProperties	0
InverseObjectProperties	0
DisjointObjectProperties	0
FunctionalObjectProperty	1
InverseFunctionalObjectProperty	0
TransitiveObjectProperty	0
SymmetricObjectProperty	0
AsymmetricObjectProperty	0
ReflexiveObjectProperty	0
IrreflexiveObjectProperty	0
ObjectPropertyDomain	6
<input type="checkbox"/> Synchronising	

3. Browse the class hierarchy, the property hierarchies and the individuals and note how the ontology describes the domain of pizzas.

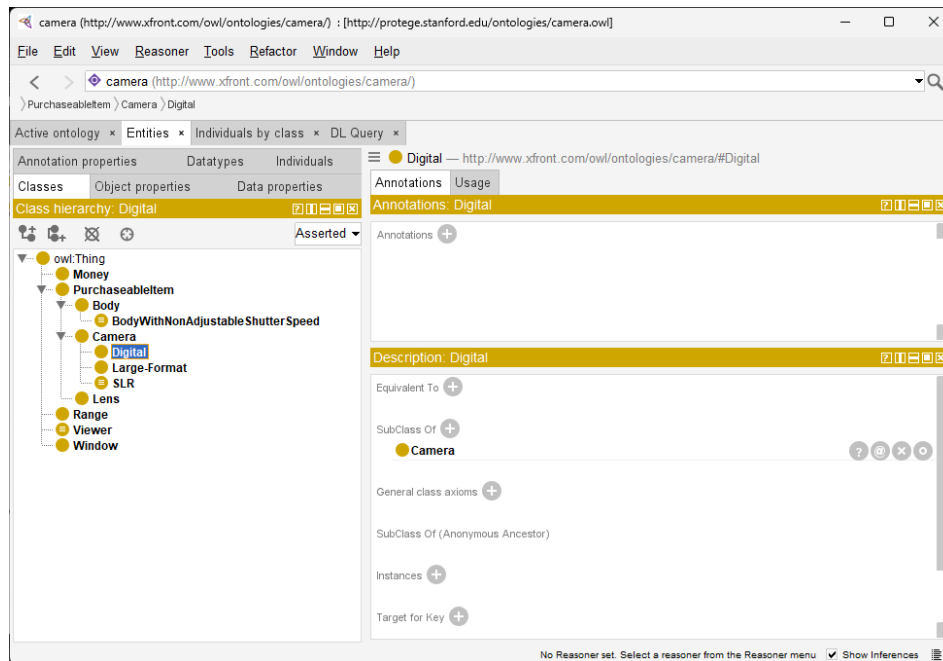


**SHRI VILEPARLE KELAVANI MANDAL'S  
DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING**  
(Autonomous College Affiliated to the University of Mumbai)  
NAAC ACCREDITED with "A" GRADE (CGPA : 3.18)

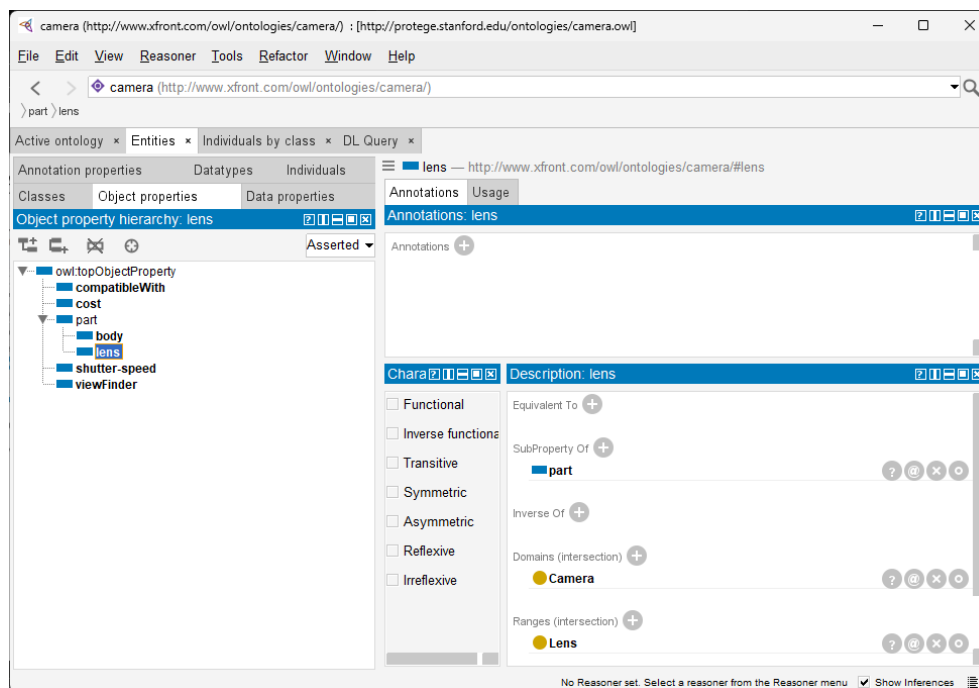


## OUTPUT:

### Classes



### Object Properties





**SHRI VILEPARLE KELAVANI MANDAL'S  
DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING**  
(Autonomous College Affiliated to the University of Mumbai)  
NAAC ACCREDITED with "A" GRADE (CGPA : 3.18)



## Data Properties

The screenshot shows the Protege software interface with the 'camera' ontology loaded. The 'Data properties' tab is selected for the 'f-stop' property. The left pane shows the 'Data property hierarchy' for 'f-stop', listing properties like 'aperture', 'currency', 'focal-length', 'max', 'min', 'size', and 'units'. The right pane shows the 'Description' for 'f-stop', which is 'Equivalent To: aperture'. It also shows 'Domains (Intersection): Lens' and 'Ranges: xsd:string'.

## Individuals

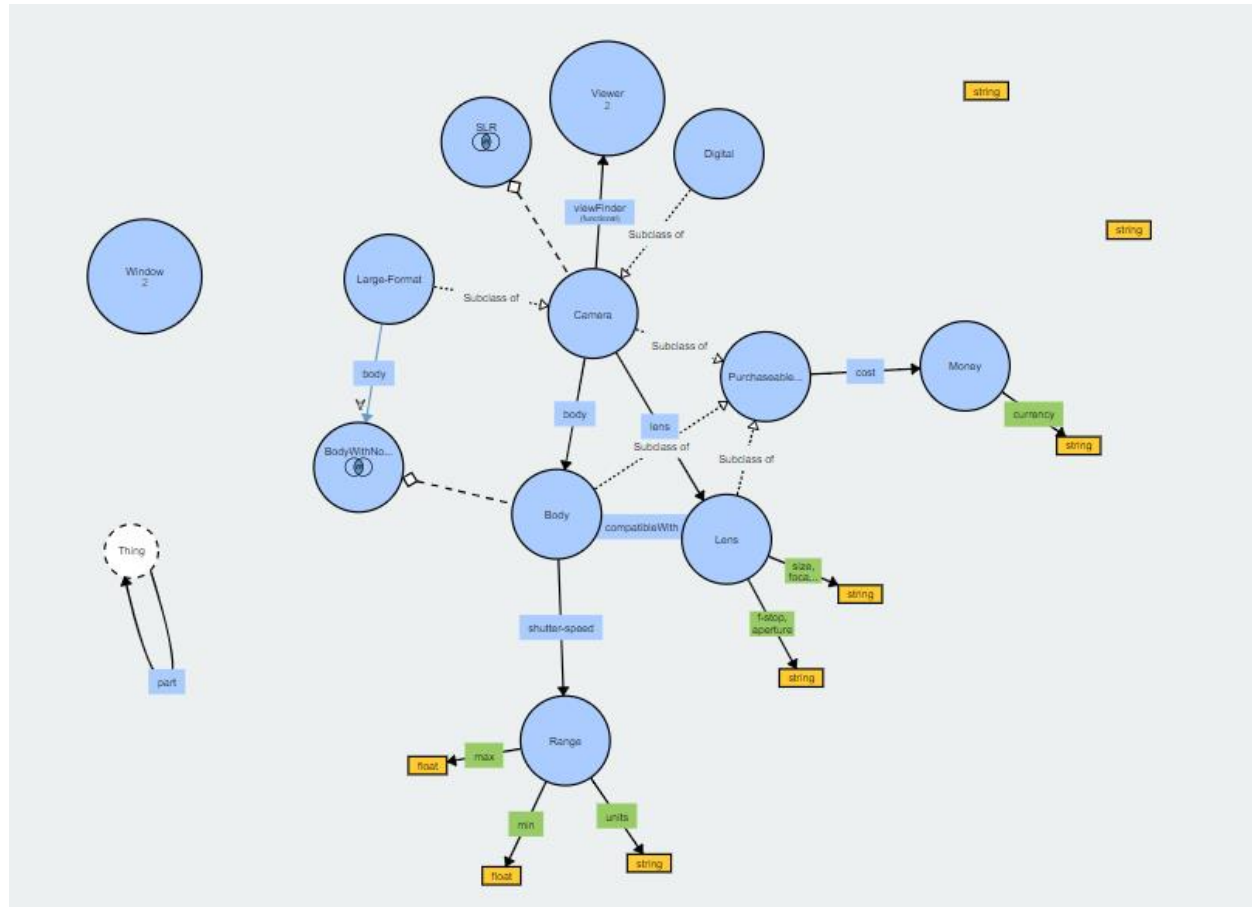
The screenshot shows the Protege software interface with the 'camera' ontology loaded. The 'Individuals' tab is selected for the 'ThroughTheLens' property. The left pane shows the 'Individuals' list, which includes 'ThroughTheLens' and 'WindowOnTopOfCamera'. The right pane shows the 'Description' for 'ThroughTheLens', which is 'Types: Window'. It also shows 'Property assertions' for 'ThroughTheLens'.



**SHRI VILEPARLE KELAVANI MANDAL'S  
DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING**  
(Autonomous College Affiliated to the University of Mumbai)  
NAAC ACCREDITED with "A" GRADE (CGPA : 3.18)



Graph:



**CONCLUSION:** Thus, we have successfully imported the camera ontology from the web into protégé and have explored the ontology.

**BOOKS AND WEB RESOURCES:**

- [1] <https://cambridgesemantics.com/blog/semantic-university/learn-owl-rdfs/>
- [2] <https://medium.com/@vindulajayawardana/ontology-generation-and-visualization-withprot%C3%A9g%C3%A9-6df0af9955e0>
- [3] <https://service.tib.eu/webvowl/#iri=http://protege.stanford.edu/ontologies/camera.owl>