



**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:** 28/03/2024

**COURSE NAME:** Semantic Web Technology Laboratory

**CLASS:** Final Year B Tech

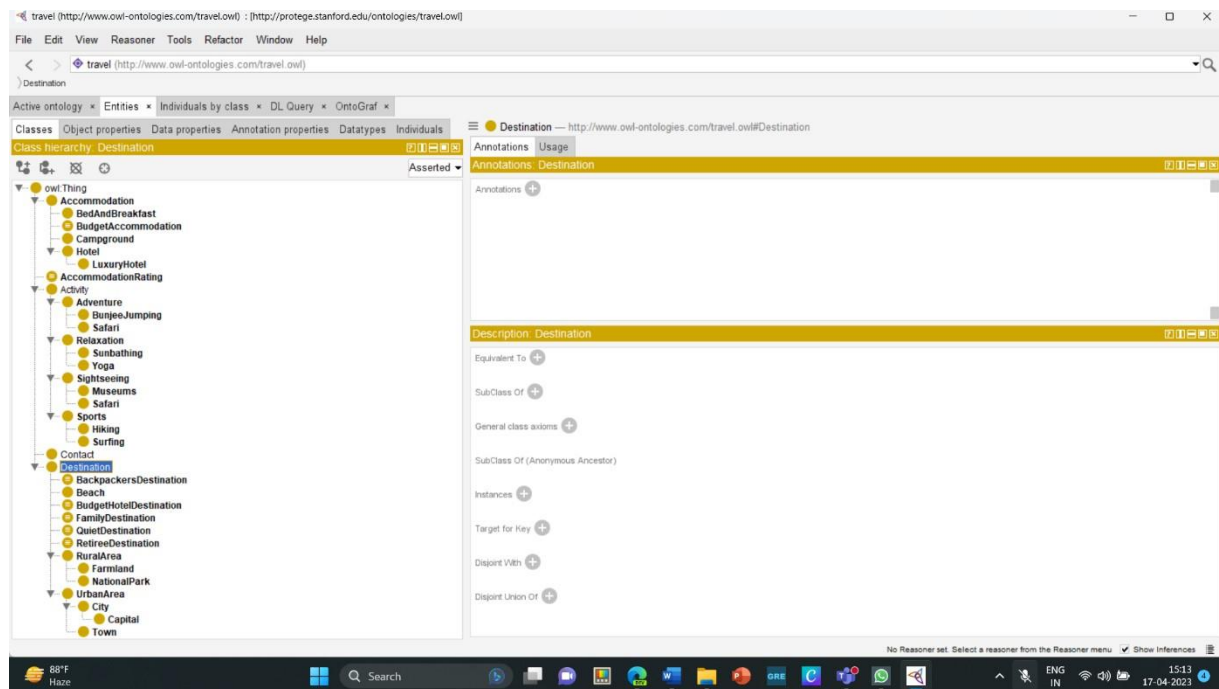
**EXPERIMENT NO. 9**

**AIM / OBJECTIVE:** To explore travel ontology using Protégé.

**CO/LO:** Apply Semantic web technologies in real world applications.

**OUTPUT:**

*Classes*





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## Object Properties

The screenshot shows the Protege software interface with the 'travel' ontology loaded. The 'hasAccommodation' property is selected in the 'Object properties' tab. The 'Description' pane shows the following configuration:

- Equivalent To:** (empty)
- SubProperty Of:** (empty)
- Inverse Of:** (empty)
- Domains (Intersection):** Destination
- Ranges (Intersection):** Accommodation
- Disjoint With:** (empty)
- SuperProperty Of (Chain):** (empty)

The 'Characteristics' pane shows the following options:

- ☐ Functional
- ☐ Inverse functional
- ☐ Transitive
- ☐ Symmetric
- ☐ Asymmetric
- ☐ Reflexive
- ☐ Irreflexive

## Data Properties

The screenshot shows the Protege software interface with the 'travel' ontology loaded. The 'hasZipCode' property is selected in the 'Data properties' tab. The 'Description' pane shows the following configuration:

- Equivalent To:** (empty)
- SubProperty Of:** (empty)
- Domains (Intersection):** Contact
- Ranges:** xsd:int
- Disjoint With:** (empty)

The 'Characteristics' pane shows the following options:

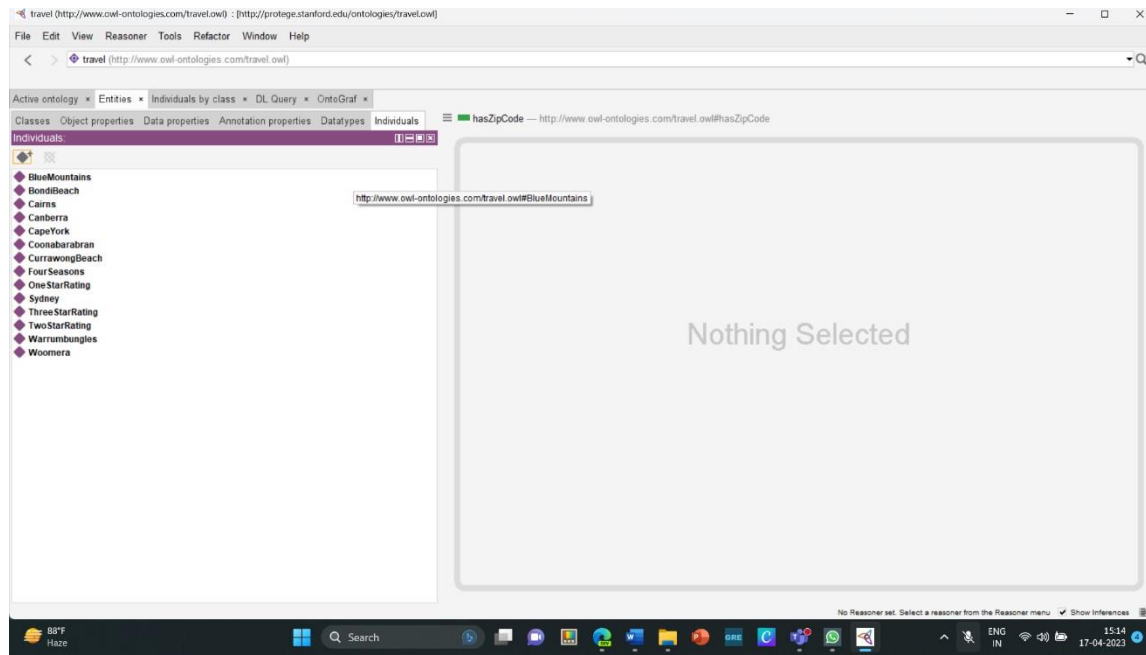
- ☒ Functional



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## *Individuals*

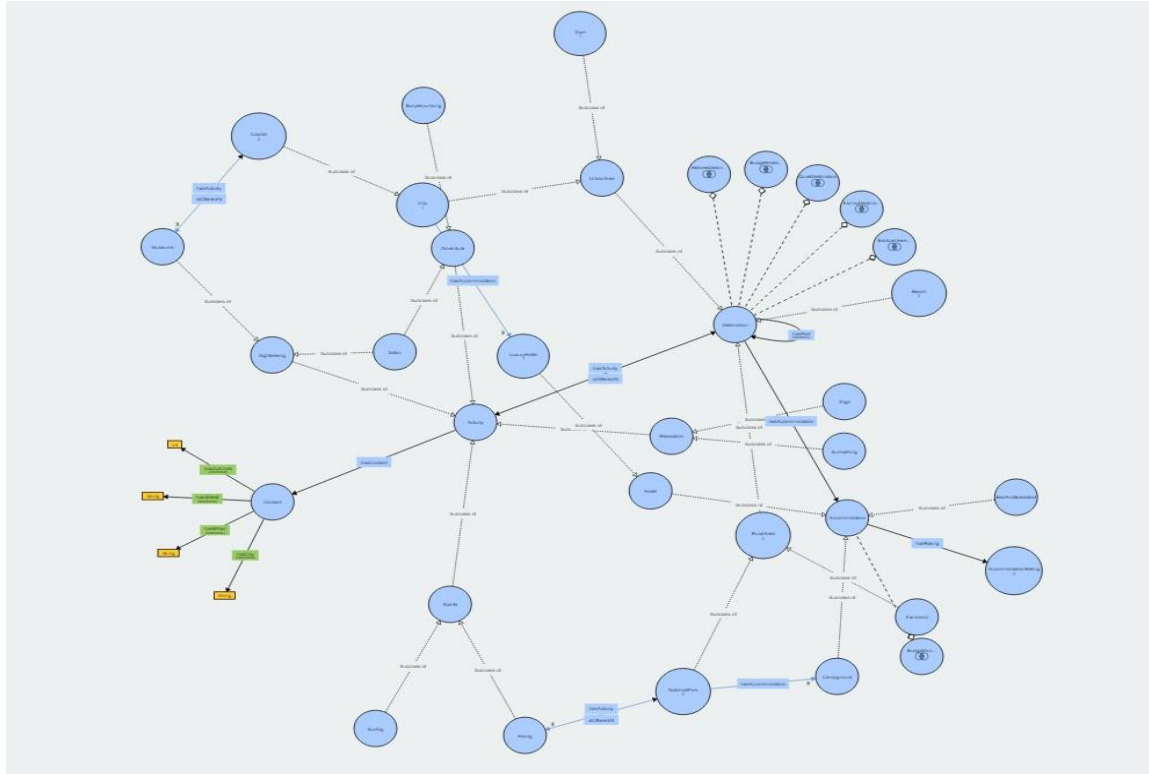




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*Graph*





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**Add a new class to the ontology and add some properties to the same.**

The screenshot shows the Protege ontology editor interface. The left pane displays the class hierarchy under 'owl:Thing', including 'Accommodation', 'BedAndBreakfast', 'BudgetAccommodation', 'Campground', 'Hotel', 'AverageHotel', 'LuxuryHotel', 'AccommodationRating', 'Activity', 'Contact', and 'Destination'. The right pane shows the 'AverageHotel' class with its 'Description' and various property slots like 'Equivalent To', 'SubClass Of', 'General class axioms', 'SubClass Of (Anonymous Ancestor)', 'Instances', 'Target for Key', 'Disjoint With', and 'Disjoint Union Of'.

The screenshot shows the Protege ontology editor interface. The left pane displays the data property hierarchy under 'owl:topDataProperty', including 'hasCity', 'hasEmail', 'hasStreet', 'hasZipCode', and 'hasBranch'. The right pane shows the 'hasBranch' data property with its 'Characteristics' (Functional) and 'Description'. The 'Domains (Intersection)' section lists 'hasZipCode' and 'AverageHotel'.



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**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%A9%C3%A9-6df0af9955e0>