**Content Streaming Website Ontology (CSWO)**

**Contribution**

* CSWO is available in turtle (OWL) format.
* It comprises of 30 classes, 25 data properties, 23 object properties and 41 individuals.
* Developed ontology: github.com/Omais-Rana/Content-Streaming-Website-Ontology

**Introduction**

CSWO is an imitation of famous content streaming platforms i.e Netflix and YouTube but not exactly the same. The website streams video content in the form of Movies, Podcasts, TV Series, Music Videos and Documentaries.

**Explanation**

To watch the content, the user must either get a subscription plan or purchase the desired content individually. Both options require the creation of an user account. Subscribed users have Subscriber Accounts while others have a Guest Accounts. Content Creators also have their Creator Accounts which they use to upload content from. Any content from outside the platform ,such as Hollywood movies, is uploaded by the admin.

**Design Approach**

Following activities were performed for development of CSWO

* Initiation
  + Domain Analysis
  + Research and Plan
* Designing
  + Define Classes, Relations and Properties
  + Populate Ontology
  + Create Use Cases
* Validation
  + Refine Ontology

Data collected from IMDb, Netflix, Youtube and Spotify.

**Evaluation: SPARQL**

**Q: What is the difference between a basic subscription plan and a premium one?**

PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>

PREFIX owl: <http://www.w3.org/2002/07/owl#>

PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>

PREFIX sw: <http://www.semanticweb.org/home/ontologies/2023/9/contentstreamingwebsite/>

SELECT ?subject ?object ?p ?o

WHERE { ?subject sw:hasFeatures ?object.

?subject ?p ?o

filter(?p = sw:premium\_plan\_features || ?p = sw:basic\_plan\_features)

}

**Ontology Metrics**

Metrics

|  |  |
| --- | --- |
| Axiom | 573 |
| Logical axiom count | 454 |
| Declaration axioms count | 119 |
| Class count | 30 |
| Object property count | 23 |
| Data property count | 25 |
| Individual count | 41 |
| Annotation property count | 0 |

**Use Cases**

Three different use cases have been explored

**Use Case 1: Using a subscribed account**

Q1: What subscription plans are available?

Q2: How can the subscription plan be changed?

Q3: What is the difference between a basic subscription plan and a premium one?

Q4: What will happen if a subscribed plan is canceled?

Q5: What are the benefits of a subscribed account?

Q6: How to see only family-friendly content?

**Use Case 2: Using a creator account**

Q1: Who can upload the content?

Q2: How production companies can stream their content on this platform?

Q3: Who can supervise the uploaded content?

Q4: How can the creator track the performance and analytics of the content?

Q5: What are the guidelines/rules for uploading content?

Q6: What will happen if content rules are violated?

**Use Case 3: Getting information about content**

Q1: How revenue can be calculated for the content?

Q2: Which content is uploaded by “Joe Rogan”?

Q3. Is there any audio-only content available?

Q4: What sort of content is available?

Q5: What is the detail of “The Boys”?