**Ontology of Significant Jazz History Writeup**

Implementation Project

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For my final project, I decided to do an implementation project and my topic is an ontology of significant jazz history. The purpose of my ontology is to link knowledge from hundreds of different sources and to help users understand the relationships between people and music. In this writeup, I will explain the process I took to produce my ontology, the technical specifications, and lastly the incorporated concepts from class that are found in my project.

The goal of my ontology was to outline significant pieces in jazz history which I determined can include significant musicians, albums, songs, subgenres, places, and instrumentation. I decided the most important part of jazz history are the actual musicians since they are the ones that are at the center of all jazz albums, songs, creation of subgenres and the jazz scene in different places around the world. From my pre-existing knowledge of the history of jazz and from online resources, I created a timeline of the most significant eras in jazz. I started with the creation of music in the early 1900s to the current state of jazz. I filled in the rest with the progression of subgenres from Blues to Hip-Hop Jazz and everything in between. Now that I had a basic outline, I began to fill in each subgenre/era of jazz with relevant information which mostly revolved around the significant musicians that defined that era. I had a significant amount of information already but using the UC Berkely Library was not effective as most of the information about jazz is either in video or told through stories. Finding relevant material was difficult, so searching the internet and YouTube was beneficial. Once I had my information and a general idea of the relationships between the data, I turned to Protégé by Stanford.

Once I downloaded Protégé, I watched a few videos and read a few instruction manuals to get started on Protégé. I started by organizing my data in classes. I created the classes based on my significant pieces of jazz history which includes significant musicians, albums, songs, subgenres, places, and instrumentation. Within instrumentation, I created subclasses to better organize instruments by their qualities. For example, I created a subclass for all rhythm section instruments. In a traditional jazz big band, there is a rhythm section which consists of drums, piano, bass, and possibly guitar, vibraphone, or other chordal or percussion instruments. I was considering object properties next but decided to add all the individuals by class first. After adding all my individuals, I took some time to think of useful object properties. I then created the object properties and then spent many many hours using the object properties to connect individuals. I then downloaded OWLViz and activated the OWLViz and OntoGraf tabs to view my data.

Next, I was able to incorporate many of the concepts from class into this project. When I was brainstorming the main eras and subgenres of jazz, I was faced with the question of: “what can be considered jazz?” I thought the classical view of categories was not sufficient for this vast topic of jazz. Therefore, I used the concepts related by family resemblance. Qualities of the music had a large influence in whether something was jazz or not. I put heavy emphasis on instrumentation, music structure (chords, chord progressions), use of improvisation, and music style (articulation, syncopation, rhythms, patterns). After creating this general idea of jazz, I then decided to include Hip-Hop/Rap Jazz into the eras of jazz. Although some people would claim that is closer to Hip-Hop/Rap than jazz, I believe Hip-Hop/Rap Jazz can be considered a borderline case in the realm of jazz since Hip-Hop/Rap Jazz has many elements of jazz such as instrumentation, chords, and music structure. This challenge in categorizing certain subgenres of music reminded me of the reading from class about music genre. I think my ontology shows the influence of jazz music throughout history and how each new era of jazz music has different concepts and influences. When genres such as rock, Indian classical, or Hip-Hop are incorporated into jazz, the lines become more blurred as classification becomes more complex.

In terms of faceted search, I was able to implement elements of faceted categories into my ontology. Within the Data Properties tab on Protégé, I added Year of Birth and Year of Release. I then added this information to the respective individuals. This helps the user search for attributes they are curious about. For example, when I search “1926”, I am provided with Miles Davis, John Coltrane, and Tony Bennett since they were all born in 1926. Similarly, faceted categories are somewhat built in after connecting different individuals with object properties. For example, when I search “Alto\_saxophone”, I am presented with Kenny Garrett, Charlie Parker, and Ornette Coleman since all these men played alto saxophone.

Although you cannot listen to this music through my ontology, I had to listen to the albums and use grounded coding to best categorize the qualitative data. After identifying and compiling the different qualities in albums and songs, I then performed axial coding and found higher level phenomena among the albums. I then compared my findings with other people online regarding how to categorize an album by subgenre. For example, after listening to Kind of Blue by Miles Davis, Trilogy by Chick Corea, and Canvas by Robert Glasper, I noticed that Trilogy and Canvas were more similar and can be categorized as Modern Jazz.

Similar to the reading in class about music genre and the organization behind it, this project has shown me that the idea of genre is even more fluid than I originally thought it to be. I started to question whether an album is closer to jazz or closer to another genre such as rock or hip-hop. Without the familial model of categorization, I am not sure how such diverse forms of art can be categorized.

Lastly, I believe in the space of music and especially jazz, each subgenre can be considered a culturally/cognitively-created category. Whether a person was exposed to a live jazz performance or in an elevator, these perceptions of what jazz is have developed slowly and these days are changing slowly. While these subgenre defining albums were being created, they were simply innovating new music without specifically defining what subgenre it was in. Therefore, these subgenres were created intentionally on behalf of creating theory.

In conclusion, the ontology I created incorporates many of the concepts from class, most notably facets and ontologies. I learned a great deal about the complexity of organization as well as the intricate workings of an ontology. Users will find this ontology not only fascinating to look at but revealing in that it shows many of the relationships that may not be well known or even well documented.

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