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Case Study – Indian Classical vs. Western Jazz
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Indian Classical music and Western Jazz are two Organizing Systems that have similar characteristics but differ in terms of how each categorizes the musicality of a song. I will hereafter refer to Indian Classical music as "Carnatic music," which is the style of Indian Classical music practiced in South India. I will focus the scope of my analysis on the structure of each song as a series of musical notes and rhythms. This will address the various scales and other music theory that go along with Carnatic and Western Jazz music. I will refer to the creator of these songs as an abstract or an institutional entity. Any member of this institution will be referred to as a musician as long as he or she follows the musical tradition. At the most granular level of my analysis will be a single example of a song that is classified as either jazz or Carnatic. Using this scope, I will address the 6 design questions and the categorization principles. In my artifact, I will address the classification schemes.

What: Both Organizing Systems give structure to musical notes as well as rhythms. In Western Jazz these notes are annotated as scales on a sheet of specially lined paper. This "sheet music" is a resource description that affords interactions of music performance. It introduces a controlled vocabulary of pitch, note, beat, tempo, scales, and chords so musicians can share and preserve their works of art. Each key on a piano denotes a musical pitch, which is given a label of "A" through "G". A sequence of pitches makes up a scale, such as the "C minor" scale. If pitches are played at the same time, the resulting structure is called a chord. The rhythm, or beat, is arranged in a two-part process. First, the exact time for one whole beat is given (called tempo). Then the whole beat is subdivided into different lengths and each length is an element in a set of possible beats. The beats are then sequenced according to the musician's desire. Carnatic music uses a different controlled vocabulary to define pitch, beat, and scales, and the resulting resource descriptions enable unique interactions. For example, scales are called 'ragas' and there are no chords in Carnatic music. The musician interacts with notes only through these ragas, thus creating single-lined melodies but no chordal sounds.

Why:
Music is organized to express oneself through music and to uphold a musical tradition. This latter requirement is important, especially when considering category design. Jazz and Carnatic music are both institutionally-skewed categories that are shaped by academic institutions in each field. Jazz music is defined, practiced, and innovated in music schools around the world, but primarily in the United States. Carnatic music is a tradition that is learned through a guru and student relationship. There is an urgency in this tradition to follow the guru's musical teachings. There is also a religious undertone for much of Carnatic music. In both systems, compositions written on sheet music enable the preservation of the musical tradition.

How Much:
Jazz music into categorized into 4 categories while Carnatic music has 3 categories. The granularity goes from top level categories to single notes. The categories are enumerative and

subcategories are based on single properties of music. Music has two properties at is very core; these intrinsic static properties are rhythm and pitch. For Jazz, the enumerative categories are "time signature", "key signature", "chords and scales", and "rhythmic cycles". Each category is defined by extension. For example, a key signature is deemed a correct key in jazz if and only if it exists in a list of institutionally-accepted key signatures. The subcategory of "notes within a key signature" is based on the single property of "pitch" and takes values "A" through "G". For Carnatic music, enumerative categories are "tala" and "raga". Again, tala and raga each have a finite set of resources that are approved by Carnatic institutions. Tala is a rhythmic cycle that outlines certain beats in a cycle. Unlike western music, the rhythms and time signature can be varied between each of the beats. This fluidity affords a novel interaction of improvising the rhythm between each main beat. Raga is a set of notes that determine the main melody and any improvisation in the song. It is similar to a scale in Western music. The difference is that notes in a raga always have the same intervals but may not necessary start from the same pitch. "Shruti" is the third category that is defined from the single property of pitch. It is the first note in the raga and can be chosen arbitrarily by the musician. It can take a range of values, depending on the vocal range of the instrument.

Where:
Academic institutions organize the features of Jazz and Carnatic music. Originally, Jazz and Carnatic music began as cultural categories of their parent category and hypernym, "Music". Over time, Academic institutions formalized the subcategories of each genres. Thus, in the Categorization Continuum, the two genres exist as cultural and skewed towards institutional categories. Academic institutions maintain these two Organizing Systems. The primary issue with maintenance of the system is how to classify innovations within each genre. Do these innovations fit in the same classification scheme or do they cause new categories to be created?

When:
Music composition and music performance are affordances and interactions of both systems. When composing a song and writing sheet music as the song's resource description, organizing occurs "on the way in". Then, when the song is retrieved and improvised during a performance, organizing occurs "on the way out". The notes and scales are changed during improvisation. While pitch is static, scales are dynamic extrinsic properties. How much can a song be improvised until it no longer is part of the genre?

How/By whom:
Institutions organize the music of each genre into subcategories. Musicians just play; they do not organize the music's categories.