Harmony on the Trichromatic keyboard
A talk at CCRMA 5/14/2014
Roy Pertchik
RoyPertchik@gmail.com
917 294 6605

1   The instrument
    a. All half steps
    b. Marked in minor thirds (diminished chords)
    c. Isomorphic:
         i. The "shapes" map the sounds intuitively, eg. left is low, right is high, half steps are adjacent, etc.
        ii. The shapes are consistent
2   The scales
    a. 8 note scales built by interlacing a diminished chord with another chord; there are only 5 unique choices:
         i. Maj6th (We'll look in depth at this one)
        ii. Minor6th (Second most important)
       iii. Dom7th
       iv. Half Diminished
        v. AugAug
    b. The construction of these scales facilitates movement within the scales
         i. Movement along the Maj6th/Dim scale oscillates between V and I, the most basic harmonic movement: "Sit-down."
        ii. There is also the relative minor mode (min7th/Dim with "Sit-down, in minor).
       iii. The Maj6th/Dim scale includes a Dominant for the I, and a Dominant for the relative minor.
       iv. Maj6th=min7th, and these take the same diminished
3   Identities
    a. Some chords appear in multiple locations within the scale
         i. Major6th/Dim has a Major6th on the I, IV, and V. One can build Maj6th/Dim scales on the I, IV, and V
        ii. (II, III, VI are minor 7th)
    b. Each of those three Maj6th/Dim scales on I, IV, and V, has a different Diminished.
    c. The above is enough to play a lot of harmony for many songs. Eg "My Romance"
4   Families of Dominants
    a. The three diminished chords each generate a family of four Dominants.
         i. Given a Diminished chord, lower one note at a time, 1 half step, to produce 4 Dominant chords in the family.
    b. Maj6th/Dim scale has Dominant on V and on III
         i. V leads to I
        ii. III leads to relative minor. Also has a use in Major mode (eg. "All Of Me")

             iii. V & III in same family of Dominants, but have different "in between" notes.

             iv. The other two Dominants in the same family are the Tritone substitutes for the V and the III

5   Handles for interface design
   a. Three "buttons" for I, IV, V
   b. Emphasize state 1 vs. state 2 "on the beat"
   c. V to I vs. III to relative minor
   d. V & III vs. Tritone substitutes

6   Additional:
   a. There is a minor analogy for all of this (eg. "Nica's Dream")
   b. The minors can be used as Dominants via "tinker toy" connection. (add another substitution button in the interface.)
   c. There are all of the other remote moves besides I, IV, V (eg. "Triste")