HARMONY & DESIGN :
Representing Music in Architecture

"Music is liquid architecture; architecture is frozen music"
- Johann Wolfgang von Goethe

The ability to play an instrument has been proven through numerous studies to improve executive functions and set students up for academic and future workplace success, however many students find music difficult to understand and drop out of something that benefits them in the long run.

Revamping and purposefully designing a music education and performance center has the opportunity to improve music education and help students understand music. This facility provides students with the opportunity to learn through group and individual instruction, while having the space to practice, compose, record and perform. By turning basic musical elements into architectural elements, the spaces within this facility enhance the interest, excitement, synesthetic experience and interaction with fellow students while helping them learn.

Through the representation of music in architecture using space, light, color, sound, structure, elevation and form, this music performance and education center encourages student learning and fosters their growth.

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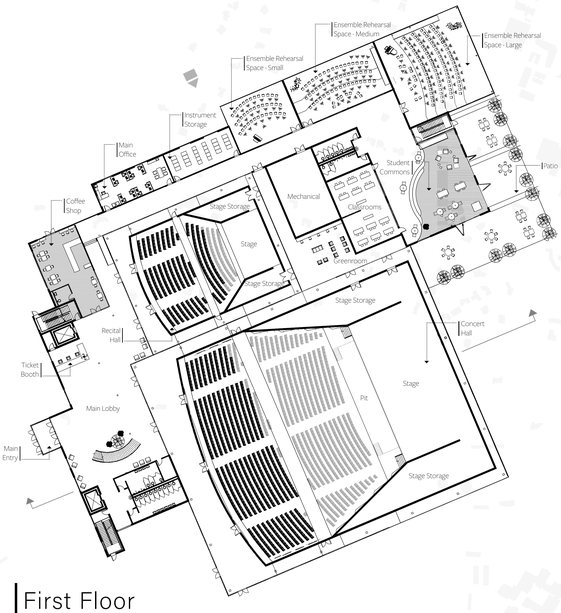
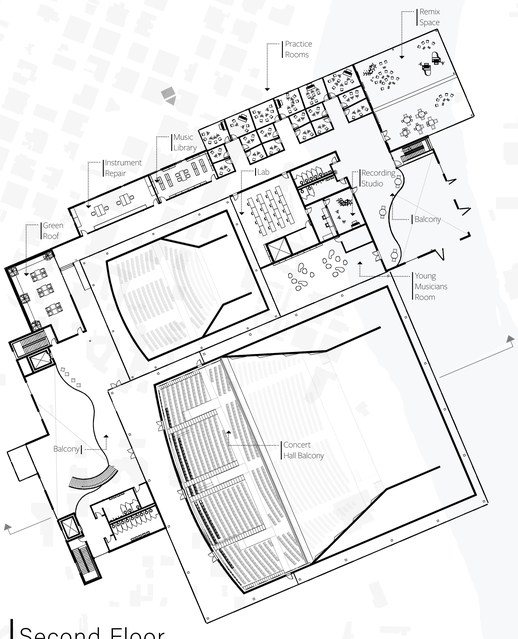
Site Plan
South Waterfront | Portland, Oregon



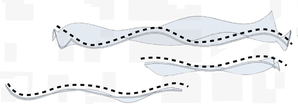
First Floor



Second Floor

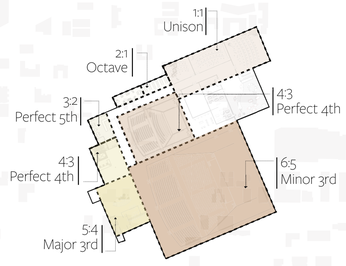
North Elevation

Architectural Representations :



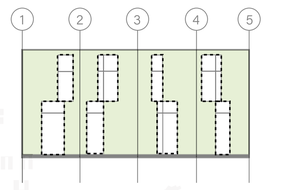
Melody :

Melody combines different musical elements like pitch, tempo, and rhythm to create a musical line. The curved roof represents the melodic line. The height of the curve is determined by the frequency of the pitch and the length between the curves are determined by the tempo.



Intervals :

The length and width of each of the exterior masses correspond to the ratio between musical intervals. When tuned correctly, a musical interval can be translated by small-integer ratios such as 1:1 (unison), 2:1 (octave), 2:3 (perfect 5th), 3:4 (perfect 4th), 5:4 (major 3rd), 6:5 (minor 3rd).

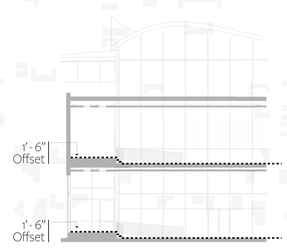


Rhythm :

While tempo is a constant pulse the whole ensemble follows to stay together, rhythm is a differentiating element that sits on top of the tempo and adds depth using notes with various beat lengths. These notes have different values and are played at varying distancesfrom each other, portrayed as the windows on the builing facades.

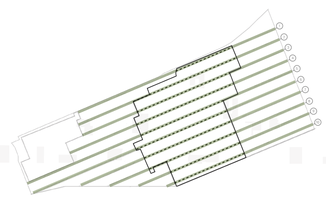
Pitch :

Different pitches each have their own frequency As the notes get higher on the staff, the frequency increases. The differentiation in roof heights represents different frequencies raising and lowering in pitch.



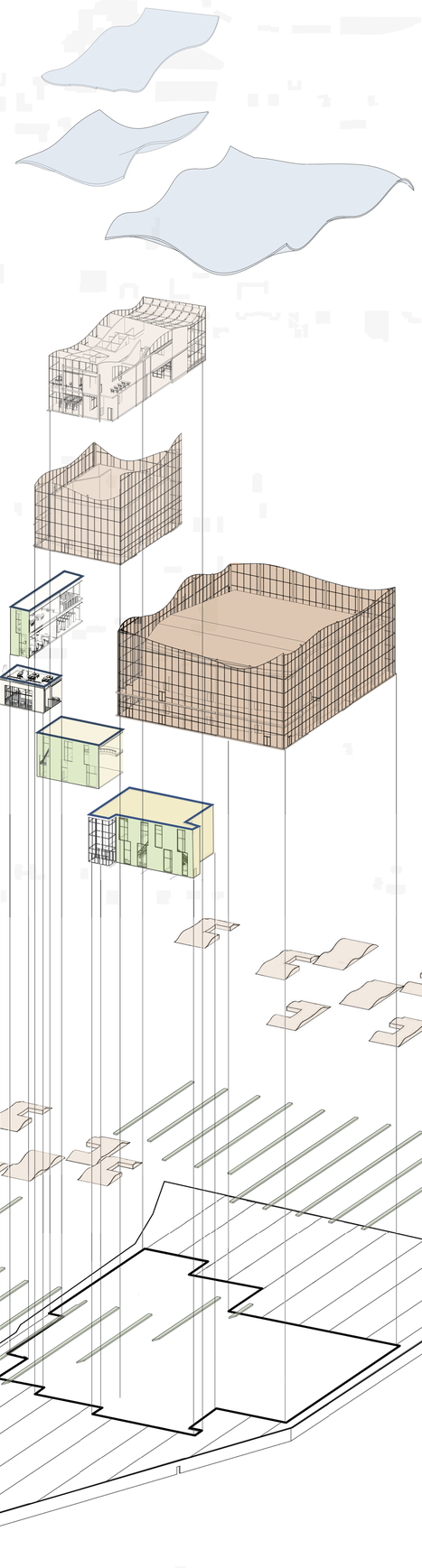
Dynamics :

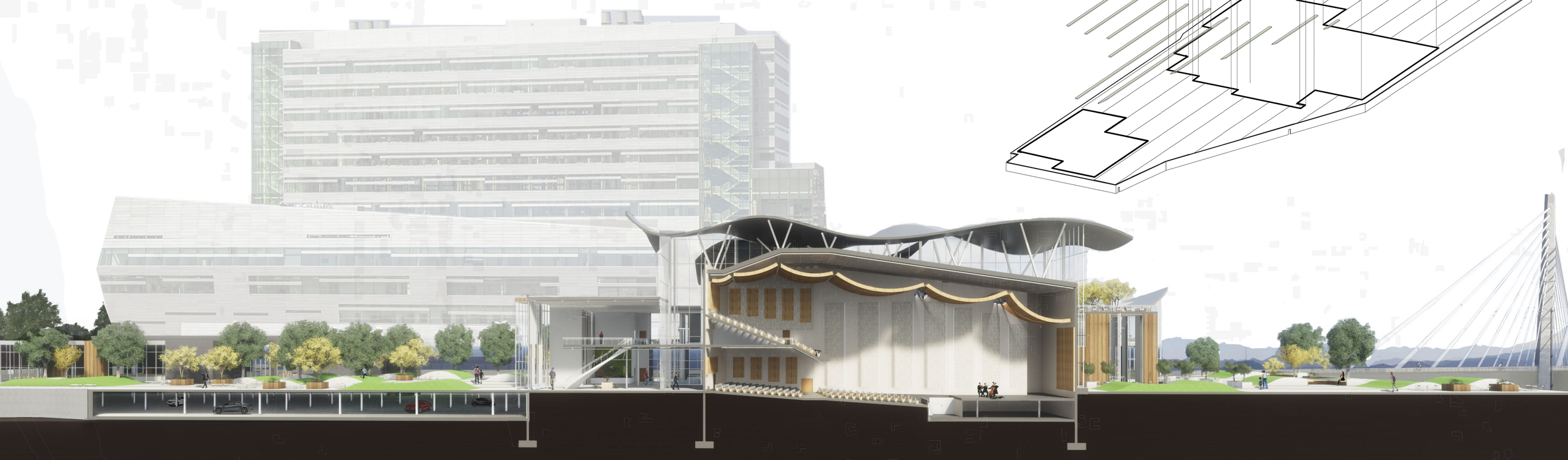
Dynamics are a change in volume. In this building, a change in dynamics are shown as a change in slope, with a slight elevation change between the public space and the more private, student oriented spaces.



Tempo :

Tempo is a constant beat the whole ensemble follows to stay together. This is represented as the spacing between the lines in the site that extend further into the structural grid of the building.





Student Commons

Remix Room

Entry Perspective & Site

Lobby