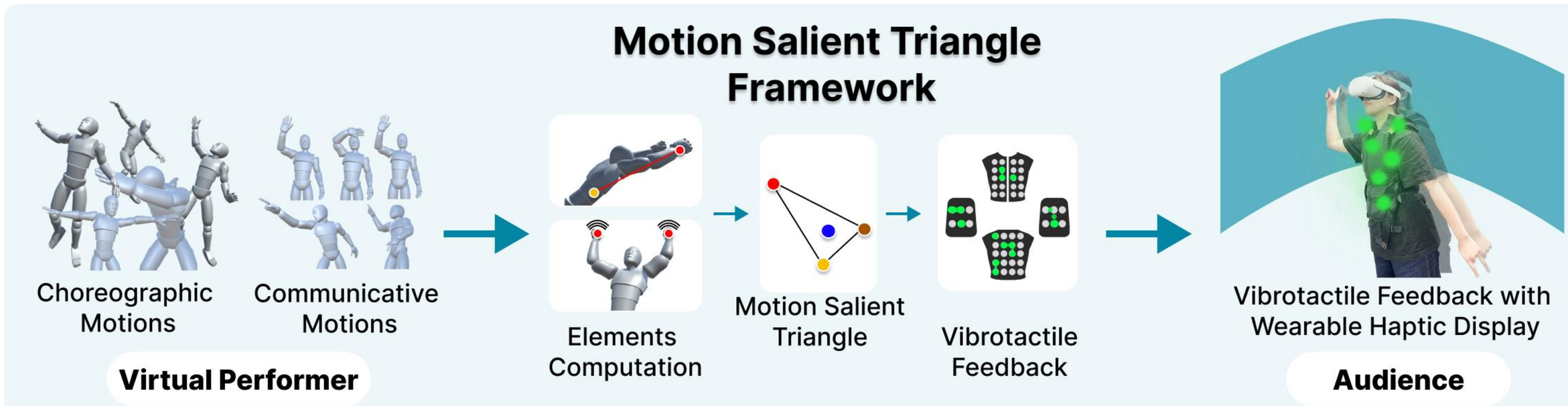
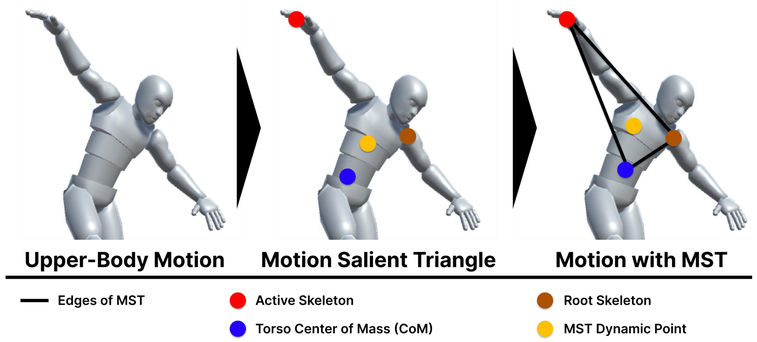
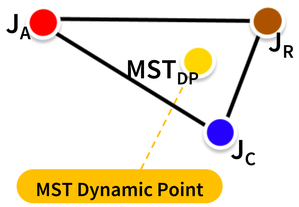
Mo2Hap | Rendering VR Performance Motion Flow to Upper-body Vibrotactile Haptic Feedback



Motion Salient Triangle

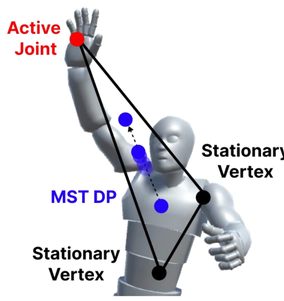




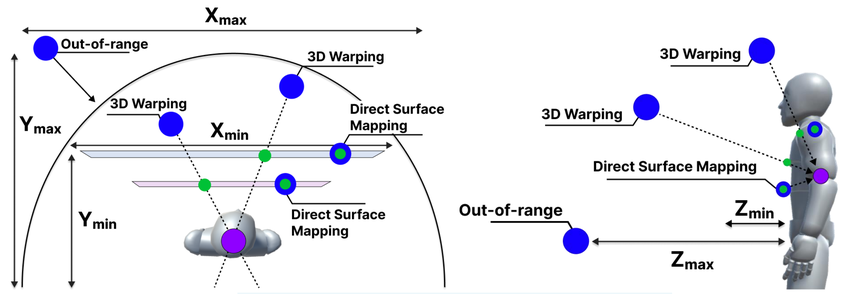
- A **framework** of **rendering a performer's 3D motions with skeletal data into high-quality haptic feedback**
- **Motion Salient Triangle (MST)** is a **3D triangulation** calculated in real-time

$$MST_{DP} = J_C + \frac{(J_A - J_C) \cdot \omega_{Active} + (J_R - J_C) \cdot \omega_{Root} + (J_T - J_C) \cdot \omega_{Torso}}{\omega_{Active} + \omega_{Root} + \omega_{Torso}}, N = \{x,y,z\}$$

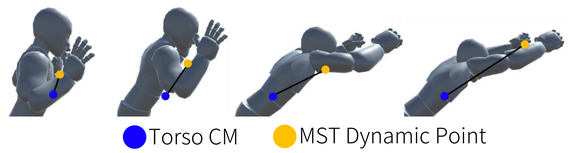
Translating Parameters : Localization / Intensity



- Localization : **3D Warping**, **Direct Surface Mapping**, **Out-of-Range Projection**
- Designating the Target Point, Ray-cast is drawn towards MST Dynamic Point
- Intensity : **Distance value of MST_{DP} to J_T** to the level of tactile intensity is **linearly combined**
- **Acceleration** and **Distance** value of J_A is considered for **Weight Distribution**

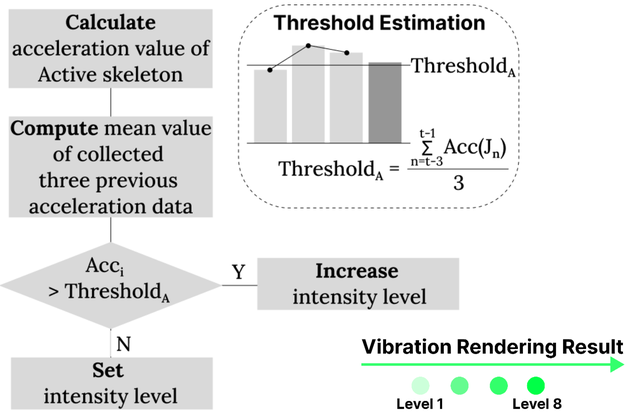


[Warping Methods for Localization]



D_t = Distance ($Torso_{CM}$, MST_{DP}) Distance (A_1, B_1) = $|A_1 - B_1|$

$I_t = (\alpha \cdot D_t \cdot C + (1 - \alpha) \cdot I_{t-1})$



[Flow chart for Intensity]

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