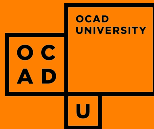


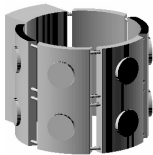
# Haptic Pattern Representation Using Music Technologies

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# What is the problem?

- Pattern authoring for a non- or quasi-musical device
  - For vibrotactile bands with tactor (vibe motor) arrays
  - Make these patterns convey information and seem 'musical'
- Use Standard Musical Notation > Lilypond > MIDI > Arduino
- Align these patterns with the configuration of the device
  - For example, if arrays are 2D, design activation patterns to suit



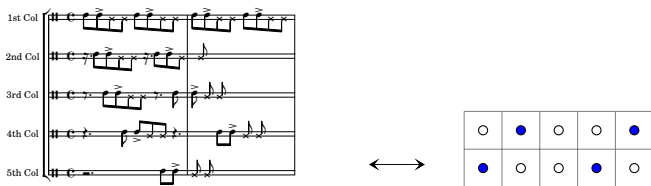
## Why do this?

- Notification and stimulation from such bands could enrich transmedia narratives and gaming experiences
- Touch, vibration and rhythm are important sensual modalities
- Authoring rhythmic patterns using music notation is efficient and has a long history
- Alternatives are not attractive



# Findings

- Music notation typically occupies 2D: time x (pitch, parts)
- Vibrotactile bands are also 2D (physical configuration of array)
- Mapping problem: specify time and pitch, add additional spatial 2D patterns suited to the array



# Conclusion

- Music notation provides a useful, fine-grained graphical representation
- There are mapping issues with musical notation
- Alternatives to music notation seem painful and lack graphical representations
- Connects the world of music notation to the very young domain of rhythmic wrist wearables

Thanks for your attention!

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