MusiCursor

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1. PROJECT DESCRIPTION

MusiCursor is an interactive multimedia performance/interface that reimagines consumer-facing technologies as sites for creative expression. The piece draws inspiration from established UI/UX design paradigms and the role of the user in relation to these technologies.

The performer assumes the role of a user installing a musically-driven navigation interface on their computer. After an installation prompt, they are guided through a series of demos, in which a software assistant instructs the performer to accomplish several tasks. Through their playing, the performer controls the cursor's navigation and clicking behavior.

In lieu of a traditional score, the performer relies on text instructions and visual indicators from a software assistant. The software tracks the progress of the user throughout the piece and moves onto the next section only once a task has been completed. Each of the main tasks takes place on the web, where the user navigates across YouTube, Wikipedia, and Google Maps.

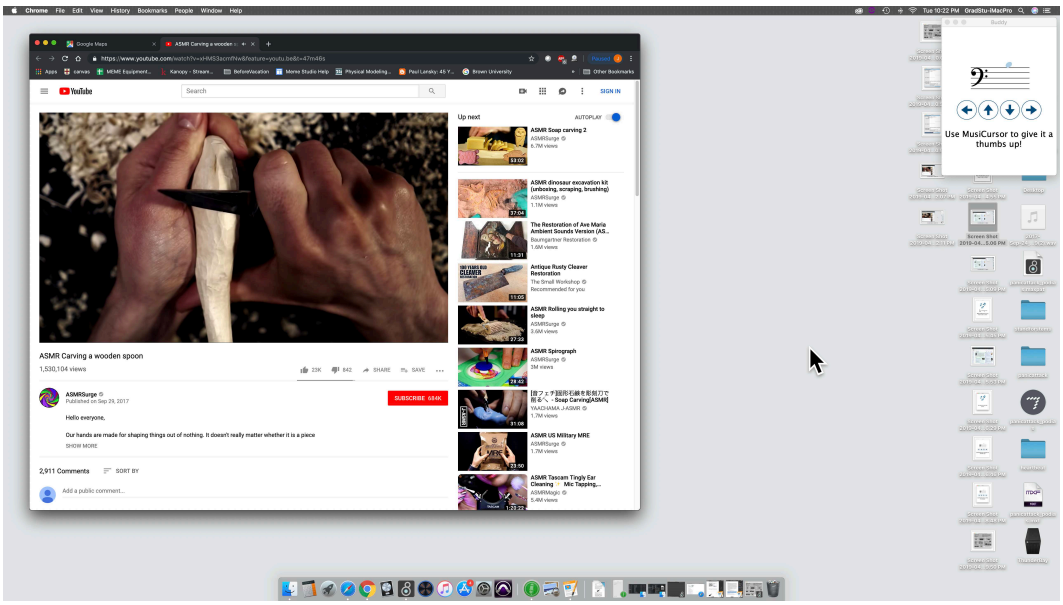

Fig. 1. Screen Shot of Desktop During Performance.

2. TECHNICAL NOTES

The system relies on pitch and amplitude tracking to convert musical gestures into cursor actions, with each section employing unique mappings.

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In the first section — during which the user moves there cursor across the screen to click the 'thumbs up' button on a YouTube video — the system tracks the pitch played, interval between consecutive pitches, pitch direction (higher or lower than previous pitch), and range. Consecutive ascending pitches in the high range of the instrument move the cursor right, with number of pixels moved determined by the interval between consecutive pitches. Consecutive descending pitches in the low range of the instrument move the cursor down, again with the number of pixels moved determined by the interval. The section ends when the 'thumbs up' button is clicked.

In the second section, which takes place on Wikipedia, two oscillators (for X and Y position) move the cursor around the page. The performer triggers cursor clicks by playing above an amplitude threshold. The orbit of the cursor becomes faster as the user triggers more clicks, making it more difficult to accurately click on links embedded in the text. After 50 clicks, the system slows the cursor's orbit to a halt.

In the third section, the user's playing controls navigation in Google Maps. As in the first section, pitch tracking is used to determine direction of motion and translated into left and right movements in Google Maps. Forward movement is triggered by repetitions of the note D in any register.

The end of third section (and the piece overall) is marked by a pop-up window that displays an analysis of the data collected from the user (notes played, trends, etc..) over the course or the performance.

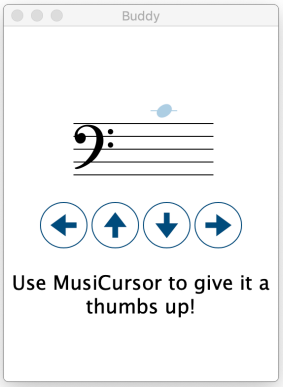

Fig. 2. System Interface During First Section.

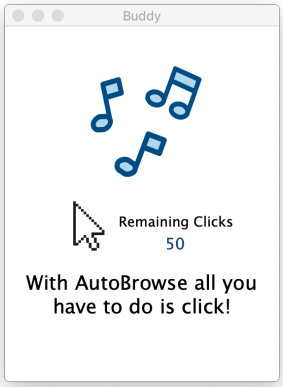

Fig. 3. System Interface During Second Section.

3. PROGRAM NOTES

MusiCursor is an interactive multimedia performance/interface that reimagines consumer-facing technologies as sites for creative expression. The performer assumes the role of a user learning to navigate a musically-driven interface on their computer. Prompted by text and visual instructions from a software assistant, the performer learns the different functionalities of the interface as they progress through a series of web-based tasks. Through their playing, the performer controls the cursor's navigation and clicking behavior; adapting as the mapping parameters change from section to section.

4. MEDIA LINK(S)

- Video: https://www.youtube.com/watch?v=z9C1W5_5YSQ

ACKNOWLEDGMENTS

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REFERENCES

[1] Galvão, Martim. “On/Off.” In Proceedings of the Live Coding Music Seminar, 35-36. Rio de Janeiro, Brasil: IMPA, 2019.