

2D Touch Input for Musical Expression Survey

You are about to participate in a short survey for the collaborative scientific research project ELEMENT (Enabling Learnability in Embodied Movement Interaction, ANR-18-CE33-0002, <http://element-project.ircam.fr>).

The aim of this study is to find out if and how musicians and music producers use continuous 2D touch input to produce or trigger sound. As a participant you have the right to decline participation and withdraw from the study at any time without further consequences.

Data recorded will be analysed and used for developmental and publication purposes, with complete respect for confidentiality. Please do not hesitate to ask questions before or after the study.

By clicking on the “NEXT” button you hereby confirm your consent to participate in this study.

Demographics and Background

All the data will be handled anonymously

1. What is your age?

2. What gender do you identify with?

Mark only one oval.

☐

Female

☐

Male

☐

Prefer not to say

☐

Other:

3. What country do you live in?

4. What is your main occupation?

5. What is your background?

6. How many years of formal training do you have in music (instrument practice, composition, improvisation)?

7. How many years of experience do you have with digital sound/audio/music?

8. What is/are the primary genre(s) of music that you perform/produce? (Choose up to 3)

Tick all that apply.

- ☐ Avant-garde/Experimental/Contemporary
- ☐ Blues
- ☐ Classical
- ☐ Country
- ☐ Electronic Dance Music (EDM)
- ☐ Electro-Acoustic
- ☐ Folk
- ☐ Jazz
- ☐ Latin
- ☐ Pop/Rock
- ☐ R&B
- ☐ Rap
- ☐ Stage/Theater

9. If there are there specific sub-genres or styles of music that you play, what are they?

10. How many times per year do you perform in public?

Mark only one oval.

- ☐ 0 to 10 times
- ☐ 11 - 20 times
- ☐ 21 - 50 times
- ☐ 51 - 100 times
- ☐ More than 100 times

11. What size and type of venues do you usually play in?

12. Do you play solo or in a group or ensemble?

Mark only one oval.

- ☐ Solo
- ☐ Group/Ensemble
- ☐ Both

13. Which instruments are used overall? Can you describe your setups?

Information about your input device(s)

The 2D touch input device you use/plan to use can be commercially available (like Sensel Morph, ROLI Lightpad Block, Korg KAOSSpad, Linnstrument, Soundplane, computer touchpads, or others) or not (prototypes, self-built, repurposing of other devices).

If you use several touch input devices, name or number them and list responses for all of them. If you don't use or plan to use a device, jump to the next section.

14. Are you using/planning to use a commercially available device?

Tick all that apply.

- ☐ I'm using a commercially available device
- ☐ I'm planning to use a commercially available device
- ☐ I'm using a not commercially available device
- ☐ I'm planning to use a not commercially available device

15. What kind/model of input device do you use/plan to use for 2D touch input?

16. What is the shape of the touch surface(s)?

Tick all that apply.

- ☐ Square
- ☐ Rectangular

Other: ☐ _____

17. What is the physical size of the touch surface(s) in cm (approximately)?

18. Do you use/plan to use only one (which?) or both hands? Do you use fingertips or other parts of the hand/body?

19. If it is not one of the commercially available devices, and if you know it, what type of sensing technology does it use, and what connection/protocol/resolution to transmit data?

20. What do you like the most about the device(s)?

21. What do you like the least about the device(s)?

Synthesis Software/Hardware

If you use several synthesis software or hardware elements, please name or number them and list responses for all of them.

22. What type of synthesis software or hardware are you controlling/planning to use with your (desired) touch device(s)? (select all that apply)

Tick all that apply.

- ☐ Analog hardware synth
- ☐ Modular hardware synth
- ☐ Digital hardware synth
- ☐ Software synth
- ☐ Programmable environments (Max, PD, Supercollider, Faust, etc.)

Other: ☐ _____

23. Please list all product names and vendors of the synthesis software/hardware you are using/planning to use?

24. What types of sounds do you find interesting to use with your device(s)?

25. Which kind(s) of sound synthesis method/generator you do use?

26. Which parameters do you control/plan to control?

27. Do you use sound descriptors (audio features) to control the synthesis ?

Mark only one oval.

- ☐ Never
- ☐ Rarely
- ☐ Sometimes
- ☐ Often
- ☐ Always

28. If yes, which descriptors do you find the most useful ? (choose up to 3)

Tick all that apply.

- ☐ Loudness / Energy
- ☐ Pitch
- ☐ Periodicity / Roughness
- ☐ Noisiness
- ☐ Spectral Flatness
- ☐ Spectral Centroid
- ☐ Spectral Spread
- ☐ ZCR (zero crossing rate)

Other: ☐ _____

29. What do you suggest as additional descriptors/controls that could be useful ?

Layout

In this section, we ask about the layout (positioning) of sounds/parameters on the devices' 2D touch surface.

30. Are you using one 2D space or is the control surface divided into subspaces?

Tick all that apply.

- ☐ One space
☐ Two spaces
☐ Three spaces
☐ Four spaces

Other: ☐ _____

31. How are the sounds/parameters positioned and arranged on the 2D touch space(s).

32. Is the layout based on continuous axes or discrete areas?

Tick all that apply.

- ☐ Continuous
☐ Discrete
☐ Mix of both

33. Is the layout determined manually or automatically?

Tick all that apply.

- ☐ Manual
☐ Automatic

34. What manual method/automatic algorithm is used?

Gestures for control of audio synthesis

Here we ask about the type and character of gestures or movements you use on your touch device(s), e.g. point, press, wiggle, swipe, caress, launch, etc.

35. How do you feel about using gestural interaction to control audio synthesis parameters in real time?

Mark only one oval.

	1	2	3	4	5	
Not useful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very useful

36. How would you describe the gestures or movements that you use to produce sound? (list all different types)

37. How do these gestures choose and/or influence the sound?

38. Please rate the following aspects of using gestures for realtime control of audio synthesis

Mark only one oval per row.

	1 - Disagree	2	3 - Neutral	4	5 - Agree
makes the creative loop more immediate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
eases the control of multiple parameters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
provides an efficient workflow	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
enables more expressive results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
enables faster results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
adequate for certain sound design tasks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
useful for prototyping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
enables easier exploration of the sound space	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
are easy to learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
are easy to transmit to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
can lead to expert/virtuoso playing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

39. Are you using any type of machine learning techniques to control sound? What are they?

40. How could you further imagine using machine learning, for instance to train custom gestures for controlling synthesis?

Desired Device and Gestures

In this section we ask about your imagined ideal 2d touch input device and how you'd like to use it for control of sound synthesis or transformation. If you can't think of any, you can skip to the next section.

41. What would your dream device for 2D touch interaction look like? (size, shape, technology, etc.)

42. What gestures would you use on it and what results would they produce? (one or two handed, point, swipe, caress, launch)

43. What would be the desired synthesis software/hardware to go with this device?

Conclusion

44. If you wish to be kept informed about the results of this survey and research, please provide your e-mail here.

45. Is it ok if we contact you with further questions or invite you to a more detailed study via your e-mail above?

Tick all that apply.

☐ Yes

46. Any comments on this survey?

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