

Design Digital Musical Interfaces with Deformable Materials

Page 1: Participant Information Sheet

Study title

Design digital musical interfaces with deformable materials

Version number and date

Version 0.1, March 20, 2021

Researcher's name

Jianing Zheng, supervised by Prof. Nick Bryan-Kinns

Queen Mary Ethics of Research Committee reference number:

QMERC20.259

You are being invited to participate in a research study where you will be asked to interact and design with some deformable materials in digital musical interfaces. Before you decide whether or not you wish to participate in this study, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us questions if there is anything that is not clear or if you would like more information.

What is the purpose of the study and what would taking part involve?

Due to the COVID-19 situation, the study will be run online. The researcher will make a selection of deformable materials and interfaces into a package and send to you by post. When you receive the tool package, the researcher will arrange the study online. The study includes two parts, which will be described as follow.

This study aims to answer *How do DMI designers understand the material properties and characteristics of deformable materials?* The overall duration will be around 30 minutes. You will be provided some deformable materials and the researcher will ask you to describe your understandings of each material in musical context (e.g., What are the particular properties of this material?). With your permission, the researcher will audio record the interview.

Why am I being invited?

You are being invited to participate in this research study because you have some experience of designing digital musical instruments/interfaces, and are over the age of 18. You should not take part in this study if you do not have any related background.

Do I have to take part?

This participant information sheet has been written to help you decide if you would like to take part. It is up to you whether you wish to take part. If you do decide to take part you will be free to withdraw at any time without needing to provide a reason, and with no penalties or detrimental effects.

What are the possible benefits of taking part?

This research could benefit you with the better understanding of deformable materials in DMI design. This study will support the PhD research that highlight the importance of materiality and gestural interaction for the design of deformable DMIs and user interfaces in general, and suggest ways to further investigate deformable interface design practice.

What are the possible disadvantages and risks of taking part?

One potential risk might be you have to provide your address (personal data) to the researcher which can let the researcher send them the tools and materials. This study does not pose any additional risks beyond this.

Page 2: Participant Information Sheet

What information about me will you be collecting?

Data about your age, gender and occupation, your experience with music, art and design as well as data about your experience with design digital musical interfaces will be collected through surveys. In addition, the interview and the whole process of the design activity will be recorded. Your design output will be photographed and documented.

How will my data be stored and who will have access to it?

Your data will be stored in fully anonymised format on an encrypted MacBook hard drive, the investigator Jianing Zheng and the supervisor Prof. Nick Bryan-Kinns will be able to access it.

When and how will my data be destroyed?

Your data will be stored for up to 5 years, which is in ordinance with Queen Mary's retention schedule. Your data will be destroyed through a complete re-formatting of the MacBook hard drive where the data will be stored.

How will my data be used and shared?

This anonymised data will be analysed with thematic analysis methods and published in peer reviewed journals and conferences, as well as contributing to the overall PhD thesis. Any publications or presentations based on this data will include summary statistics and derived data rather than show the raw data (other than a few examples showing annotation markings on a page). The data will not be open access.

Under what legal basis are you collecting this information?

Queen Mary University of London processes personal data for research purposes in accordance with the lawful basis of 'public task'.

Please read [Queen Mary's privacy notice for research participants](#) containing important information about your personal data and your rights in this respect. If you have any questions relating to data protection, please contact Queen Mary's Data Protection Officer, Queens' Building, Mile End Road, London, E1 4NS or data-protection@qmul.ac.uk or 020 7882 7596.

What will happen if I want to withdraw from this study?

You can withdraw from this study at any time without providing a reason. Withdrawing will have no disadvantage for you, and you will hear no more about this study. If you choose to withdraw during the study, your data will be destroyed if you prefer.

Once you have finished or withdrawn from the study, you may withdraw your data from the

study within 2 months after you have completed the study.

What should I do if I have any concerns about this study?

If you have any concerns about the manner in which the study was conducted, in the first instance, please contact the researcher(s) responsible for the study Prof. Nick Bryan-Kinns (n.bryan-kinns@qmul.ac.uk) or Jianing Zheng (jianing.zheng@qmul.ac.uk). If you have a complaint which you feel you cannot discuss with the researchers then you should contact the Research Ethics Facilitators by e-mail: research-ethics@qmul.ac.uk. When contacting the Research Ethics Facilitators, please provide details of the study title, description of the study and QMERC reference number (where possible), the researcher(s) involved, and details of the complaint you wish to make.

Who can I contact if I have any questions about this study?

Prof. Nick Bryan-Kinns

n.bryan-kinns@qmul.ac.uk

Jianing Zheng

jianing.zheng@qmul.ac.uk

Page 3: Consent Form

If you have any questions arising from the Information Sheet or explanation already given to you, please feel free to contact the researcher. If you are willing to participate in this study, please click on the button labelled "Next" at the end of this page and you will be redirected to begin the survey.

- I confirm that I have read the Participant Information Sheet dated 18/03/2021 version 1.0 for the above study; or it has been read to me. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
- I understand that my participation is voluntary and that I am free to stop taking part in the study at any time without giving any reason and without my rights being affected.
- I understand that my data will be accessed by the investigator Jianing Zheng and the supervisor Prof. Nick Bryan-Kinns.
- I understand that my data will be securely stored in an encrypted hard drive on a Queen Mary MacBook and in accordance with the data protection guidelines of the Queen Mary University of London for up to 5 year (in accordance with Queen Mary University of London's retention schedule) in fully anonymized form.
- I understand that I can access the information I have provided and request destruction of that information at any time prior to anonymisation. I understand that following anonymisation I will not be able to request withdrawal of the information I have provided.
- I agree to the interview being audio and video recorded.
- I understand that the information collected about me will be used to support other research in the future, and it may be shared in anonymised form with other researchers.
- I agree to be contacted about other research studies in the future.
- I agree to take part in the above study.

Page 4: Personal Information

1. Anonymous ID: (please write down the last three letters of your surname, the day you were born (2 digits) and today's day (8 digits). Example: Adam Smith, born 13.02.1982, taken the test 05.03.2011 and Anonymous ID: ith1305032011) * *Required*

2. Your Age: * *Required*

Please enter a whole number (integer).

3. Gender: * *Required*

4. Nationality: * *Required*

Please enter a response that only contains letters.

5. Country in which you spent the formative years of your childhood and youth: * *Required*

6. Country of current residency: * Required

7. Email address (permanent email address):

Please enter a valid email address.

8. Name:

9. Do you want to be contacted about this project again in the future? * Required

Please tick one of the following:

10. Occupational status * Required

- Still at School
- At University
- In Full-time employment
- In Part-time employment
- Self-employed
- Homemaker/full time parent
- Unemployed

Retired

11. What is the musical genre you mainly listen to? * *Required*

Rock/Pop

Jazz

Classical Music

12. What is the Highest educational qualification you have attained? * *Required*

Page 5: Musical and Design Experience

13. Please select the most appropriate category:

Please don't select more than 1 answer(s) per row.

Please select at least 1 answer(s).

	1 Completely Disagree	2 Strongly Disagree	3 Disagree	4 Neither Agree nor Disagree	5 Agree	6 Strongly Agree	7 Completely Agree
1. I spend a lot of my free time doing music-related activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I sometimes choose music that can trigger shivers down my spine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I enjoy writing about music, for example on blogs and forums.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. If somebody starts singing a song I don't know, I can usually join in.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. I am able to judge whether someone is a good singer or not.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I usually know when I'm hearing a song for the first time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I can sing or play music from memory.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I'm intrigued by musical styles I'm not familiar with and want to find out more.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Pieces of music rarely evoke emotions for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I am able to hit the right notes when I sing along with a recording.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Please select the most appropriate category:

Please don't select more than 1 answer(s) per row.

Please select at least 1 answer(s).

	1 Completely Disagree	2 Strongly Disagree	3 Disagree	4 Neither Agree nor Disagree	5 Agree	6 Strongly Agree	7 Completely Agree
11. I find it difficult to spot mistakes in a performance of a song even if I know the tune.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I can compare and discuss differences between two performances or versions of the same piece of music.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I have trouble recognizing a familiar song when played in a different way or by a different performer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I have never been complimented for my talents as a musical performer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. I often read or search the internet for things related to music.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I often pick certain music to motivate or excite me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. I am not able to sing in harmony when somebody is singing a familiar tune.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. I can tell when people sing or play out of time with the beat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. I am able to identify what is special about a given musical piece.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. I am able to talk about the emotions that a piece of music evokes for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. Please select the most appropriate category:

Please don't select more than 1 answer(s) per row.

Please select at least 1 answer(s).

	1 Completely Disagree	2 Strongly Disagree	3 Disagree	4 Neither Agree nor Disagree	5 Agree	6 Strongly Agree	7 Completely Agree
21. I don't spend much of my disposable income on music.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. I can tell when people sing or play out of tune.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. When I sing, I have no idea whether I'm in tune or not.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Music is kind of an addiction for me - I couldn't live without it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. I don't like singing in public because I'm afraid that I would sing wrong notes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

26. When I hear a piece of music I can usually identify its genre.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. I would not consider myself a musician.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. I keep track of new music that I come across (e.g. new artists or recordings).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. After hearing a new song two or three times, I can usually sing it by myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. I only need to hear a new tune once and I can sing it back hours later.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. Music can evoke my memories of past people and places.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Page 6: Musical and Design Experience

16. I engaged in regular, daily practice of a musical instrument (including voice) for ____ years. * *Required*

Please enter a number.

17. At the peak of my interest, I practiced ____ hours per day on my primary instrument. * *Required*

Please enter a number.

18. I have attended ____ live music events as an audience member in the past twelve months. * *Required*

Please enter a number.

19. I have had formal training in music theory for ____ years. * *Required*

Please enter a number.

20. I have had ____ years of formal training on a musical instrument (including voice) during my lifetime. * *Required*

Please enter a number.

21. I can play ____ musical instruments. * Required

Please enter a number.

22. I listen attentively to music for (0-15 min / 15-30 min / 30-60 min / 60-90 min / 2 hrs / 2-3 hrs / 4 hrs or more) ____ per day. * Required

23. The instrument I play best (including voice) is _____. * Required

24. How often are you actively engaged in musical activity (e.g. playing and instrument, DJing or producing music in a DAW)? * Required

- Never
- Once a year or less
- Multiple times a year
- Once a month
- Multiple times per month
- Once a week
- Multiple times per week
- Every day

25. How many years of formal training in a musical discipline (musical instrument including voice or music theory including music informatics) did you have during your lifetime? *

Required

- 0-0.5 years
- 1 year
- 2 years
- 3-5 years
- 6-9 years
- 10 or more years

26. How many years have you played an electronic or digital musical instrument during your lifetime? * *Required*

- 0-0.5 years
- 1 year
- 2 years
- 3-5 years
- 6-9 years
- 10 or more years

27. How many years have you played an acoustic musical instrument during your lifetime?

* *Required*

- 0-0.5 years
- 1 year
- 2 years
- 3-5 years
- 6-9 years
- 10 or more years

28. How many years have you built or designed any kind of musical instrument or interface?

* Required

- 0-0.5 years
- 1 year
- 2 years
- 3-5 years
- 6-9 years
- 10 or more years

29. How many musical instrument or interface have you designed/built before? Also, please describe a bit what kind of DMI you have built. * Required

Page 7: Technical Experience

30. How many years have you used a computer programming language? * *Required*

- 0-0.5 years
- 1 year
- 2 years
- 3-5 years
- 6-9 years
- 10 or more years

31. Do you have any other form of engineering or technical background? Please clarify what kind of experience you have.

31.a. Please clarify how long you have been learnt it. *Optional*

- 0-0.5 years
- 1 year
- 2 years
- 3-5 years
- 6-9 years
- 10 or more years

32. How often do you participate any forms of design activities or workshops that related to digital musical interfaces design? * *Required*

- Never
- Once a year or less
- Multiple times a year

- Once a month
- Multiple times per month
- Once a week
- Multiple times per week
- Every day

33. Please tell us about your experience of any the design activities you have taken part in before. It could be any other forms of design activities, workshops, or hackathons. * *Required*

Page 8: Final Page

Thanks for your time!

If you have any questions about the study, please contact Jianing Zheng at jianing.zheng@qmul.ac.uk

Key for selection options

3 - Gender:

Female

Male

Prefer not to say

9 - Do you want to be contacted about this project again in the future?

Yes

No

12 - What is the Highest educational qualification you have attained?

High School

Undergraduate degree/professional qualification

Postgraduate degree

Doctoral degree

I am still in education
