Summary & Transcript of the interview

Summary:

The number of people interviewed for this project was 8, all of whom were friends of mine and had normal hearing because
1. there were no hearing impaired people around me
2. there would be communication barriers to interviewing Deaf people because I do not know sign language
3. this project was designed to enhance the experience of music in the film, which is something that Deaf people cannot experience, and so it needed to be able to be compared with the experience of being able to hear the music, and therefore it needed to be interviewed and tested by people who are normal/acquired deaf. deaf people to be interviewed and tested.

In order to improve the efficiency of the interviews, I took the form of interviews through telephone calls. The following are the results of the questionnaire:

- 1. Do you believe that haptic feedback can enhance the immersion of movie watching experiences?
    - Yes
    - No

Most of the participants believe that haptic feedback can enhance the immersive and emotional experience of movie viewing. Only one participant mentioned that haptic feedback might lead to irritation when in a negative emotional state.

- 2. How important do you think sound is for understanding and enjoying a movie? (Out of 10)
    - 1-2
    - 3-4
    - 5-6
    - 7-8
    - 9-10

The significance of sound for understanding and enjoying movies has been widely acknowledged, with the majority of respondents assigning high scores (7-10 points). Most scores fall within the range of 8-9 points, while one respondent each provided a score of 7 and 10 points.

- 3. If there was a wearable device that could convey sound effects from movies through haptic feedback, would you be interested in trying it?
    - Yes
    - No

The majority of participants expressed interest in trying wearable devices that convey movie sound effects through haptic feedback. Huiting Mao even highlighted the potential usefulness of such a device in her daily life, providing an example: when on an airplane, she finds wearing noise-canceling headphones uncomfortable for her ears and worries about disturbing others, thus preferring to watch movies with muted sound. Only one participant indicated a lack of interest.

- 4. Do you think haptic feedback can effectively replace sound and help you better understand movies?
    - Yes
    - No

Most of the participants believe that haptic feedback can assist in understanding movies, but it cannot fully replace sound. (Among them, Jing Sun expressed that the experience provided by sound is rated as 10, whereas the experience provided by haptic feedback as a substitute for sound would only be rated as 4-5.)

- 5. In movie watching, do you prefer to receive haptic feedback stimulation in a specific body part or multiple parts?
    - I prefer to receive haptic feedback stimulation in a specific body part.
    - I prefer to receive haptic feedback stimulation in multiple body parts.

Overall, there is a certain degree of variation in participants' preferences regarding receiving haptic feedback while watching movies. Some individuals (three participants) prefer to receive feedback in a specific body location, while others (five participants) favor receiving feedback across multiple body parts.

(If "Multiple parts" is chosen in question 5)

- 6. Do you feel that different body parts elicit different emotional responses to haptic stimulation?
    - Yes
    - No
    - Not sure

All the participants who answered "yes" to question 5 believe that different body parts can elicit varying emotional responses through haptic stimulation.

(If choose Yes in 6)

- I. Which body parts do you think can generate positive emotions through haptic stimulation? (Select multiple)
    - Head
    - Arm
    - Finger
    - Leg
    - Back
    - Others

Finger (3 participants) and back (4 participants) are considered to be capable of eliciting positive emotional responses.
Finger: Participants Huiting Mao, Guozheng Li, and Yue Zhou believe that fingers can generate positive emotional responses, enabling empathy with movie characters.
Back: Participants Huiting Mao, Xueya Liu, Yuxuan Duan, and Jing Sun suggest that the back can induce positive emotional responses, particularly through squeezing to simulate the sensation of a hug.

- II. Which body parts do you think can generate negative emotions through haptic stimulation? (Select multiple)
    - Head
    - Arm
    - Finger
    - Leg
    - Back
    - Others

Most participants expressed that areas associated with more privacy and vulnerability elicited the most negative feelings. For instance, the thighs (mentioned 3 times) and feet (mentioned 2 times) were cited as examples. Both respondents who mentioned the feet indicated that receiving haptic feedback on their feet made them feel restrained and caused sensations reminiscent of insecurity, akin to earthquakes. However, one participant also mentioned that haptic feedback on the feet could evoke positive emotions for her.

- III. Which body parts would you prefer to receive haptic feedback stimulation? Why?
    - Head
    - Arm
    - Finger
    - Leg
    - Back
    - Others

Some participants mentioned that the forearm is a suitable location for receiving haptic feedback (such as Huiting Mao, Chenyu Shan, and Jing Sun). This preference might stem from the forearm being comfortable and easily receptive to haptic feedback. Additionally, this body part might not evoke strong negative or positive emotions when wearing such devices. All participants agreed that the head is the least suitable body part for wearing haptic feedback devices.

- 7. Do you think conveying different sound effects (e.g., dialogues, sound effects, music) through haptic feedback to different body parts would have an impact?
    - Yes
    - No
    - Not sure

There is variation in the responses to Question 7. Most participants believe that conveying different sound effects through haptic feedback to different body parts can have an impact.

However, one participant expressed uncertainty. Some participants emphasized the significance of vibration/squeezing frequency and method for distinguishing different sound effects.

(If choose Yes in 7)

- I. How would you differentiate the haptic feedback's location for conveying different sound effects?
    - By music type (music, sound effects)
    - By music emotion (happy, sad, etc.)
    - By sound spatial positioning (sounds within the frame, sounds outside the frame)

Most participants believe that music emotion is the most important factor and needs distinct differentiation. However, Guozheng Li suggests that while music emotion is important, different tactile methods can be used to differentiate between music genres. Different tactile types/frequencies can be employed to distinguish music emotions.

- 8. Do you have any other ideas or suggestions regarding the application of haptic feedback devices in movie watching experiences?

Participants provided several suggestions, including maintaining hygiene, ensuring device cleanliness and proper functioning, offering diverse tactile experiences (such as temperature sensations and interactions with other viewers), ensuring device comfort and safety, and considering user needs and preferences.

Transcript:

Xiangxin Yu:

1. No: It depends on the situation, if you are in a good mood, the vibration will be enhanced. In a bad mood, the vibration will be very irritating to the mood.
2. 10
3. Yes
4. Yes: because you can use more senses.
5. One: I don't like other parts of the body, too much equipment is like being electrocuted, wear the equipment on the arm, big arm and small arm are all OK.
6. （She doesn’t choose Yes in Q5, so this question has no answer）
7. Yes
    I. Mood, music genre, space (if vr: mood, space, genre)
8. Pay attention to hygiene, don't delay, ensure proper functioning, set the degree of tolerance, ensure comfort under the premise of user participation

Huiting Maoj:

1. Yes
2. 8
3. Yes: Sometimes mute a drama and read the subtitles directly, e.g. on an aeroplane. If it's noisy outside, headphone noise cancellation can be uncomfortable for your ears.

4. yes: For example, many gamepads have vibration alerts, eyes can be deceiving sometimes, and the sense of touch can help people feel. With or without sound, the sense of touch can help people to better understand
5. Multiple parts
6. Yes
   对于电影体验来说，震动/挤压频次、方式比身体部位更重要
   I. 正面：脖子，手指（**fav**），膝盖，（背部也可以，但是感受的不多）
      中性：手臂
   II. 负面：肩膀（有压力），脚（像地震），脚踝
   III. 都可以，但不喜欢头，手肘（会触碰到麻筋），
7. Yes
   I. 电影院：情绪、空间、类型。　VR：空间、情绪、类型

Xueya Liu：

1. Yes
2. 7
3. Yes
4. Yes (answered with some hesitation)
5. Multiple areas (respondents mentioned the sensation of the massage chair)
6. Yes
   Comfortable: except for the head
   I. Positive: (back, embracing the movement gives warmth, squeezing with the waistcoat), feet
      Neutral: arms (biased towards negative), legs (lifestyle related), neutral
   II. Negative: back of neck, hands
   III. All, except the head
7. Yes
   I. Space, mood, type
8. Would like it to be cleaner and more hygienic, antibacterial. Breathable. Environmentally friendly, sustainable. Easy to handle, wear, adjustable size for experience, comfort. Colours don't get reflective, something normal

Chenyu Shan：

1. Yes
2. 8
3. Yes
4. Yes
5. Multiple body parts
6. Yes
   I. Positive: wrists, shoulders
   II. Negative: thighs
   III. Prefer arms, legs. Dislikes head
7. Yes
   I. Mood, type, space
8. Clean, hygienic, not too heavy, weight issues, as compact as possible. Could be more genres, all slow music not so good in one way, change of pace.

Guozheng LI：

1. Yes
2. 9.8/9
3. No (Respondent indicated that the current mode of watching films was satisfactory to him)
4. No
5. Multiple body parts
6. Yes
    I. Positive: fingers (ten fingers), calves
    Neutral: arms
    II. Negative: thighs, feet
    III. Fingers, arms, chest. Dislikes: head, neck
7. Yes
    I. Vibratory squeezing to differentiate between musical genres, programming musical moods with frequency magnitude, musical space
8. Add some more: temperature, interacting with other people, deaf people can have some connection with each other during film viewing.

Yue Zhou:

1. Yes
2. 8
3. Yes
4. No (respondents said it was optional, the device only adds to the experience)
5. One: more than one can lead to distraction
6. Yes
    I. Positive: fingers
    II. Negative: Dangerous places, fear of not being able to take it off, need to feel safe
    III. Anything else is fine, but not the head, thighs, or intimate parts of the neck.
7. Yes
    I. Emotion, type, space.
8. Cleanliness and hygiene, desire to use it. Desire for curiosity, some will be too lazy to bring it (interesting film/animation clips)

Yuxuan Duan:

1. Yes
2. 9
3. Yes
4. Not a substitute, only an aid
5. Multiple
6. Yes
    I. Positive: calves, back/back
    II. Negative: no
    III. Likes: hands, head, dislikes: private parts
7. Music mood, music genre, space
8. Clean, comfortable. Some people have bad hearts, haptic devices are in visual blind spots, easy to be startled by sudden startup/operation. There should be a need for safety testing to evaluate.

Jing Sun:

1. Yes
2. 9-10
3. Yes
4. Yes
5. Multiple Locations
6. Yes
    I. Positive: shoulders, arms (upper arms), back
       Neutral: chest
    II. Negative: head, neck, hands, lower legs, lower arms
    III. Dislikes wearing devices: bum, stomach, head, neck
7. Yes
    I. Mood, type, space
8. Clean, hygienic, comfortable