

Haptic Experience Inventory (HXI)

The Haptic Experience Inventory (HXI) is the first validated questionnaire designed to assess user experience when interacting with haptic technology.

This questionnaire is structured using a 7-point Likert scale, where participants will indicate their level of agreement with each statement by selecting one of the following options: ***Strongly Disagree, Disagree, Somewhat Disagree, Neither Agree Nor Disagree, Somewhat Agree, Agree, Strongly Agree*** .

The HXI consists of five factors (Autotelics, Involvement, Realism, Discord, and Harmony), each measured by four statements (items). The seven options should be scored from 1(Strongly Disagree) to 7 (Strongly Agree). To calculate a ***factor score*** , each individual's responses to the four items in each factor should be averaged. To calculate the overall ***general score*** : reverse the score for Discord first, then add it with other four factors scores.

Thus, General Score = Autotelics + Involvement + Realism + Harmony + (8 – Discord)

We also recommend explaining what 'haptic sensations' and 'others senses' mean immediately before the HXI items. The HXI items should be shown in randomized order when possible. The following two pages shows an exmaple of HXI adminstration along with our recommended instructions, the final page shows the list of items classified under each factor.

Checkout more instructions and our recommendations on how to best use HXI in haptic design process at <https://hapticexperienceinventory.org/>

You will be shown a series of statements. Please select the option that best reflects your agreement level with each statement with regards to your gaming experience that was just described.

For clarity, please review the following definitions:

Haptic sensations: Anything that you feel with the sense of touch. It could be vibrations, force, temperature, pressure, or any other physical sensation.

Other senses: Sensory modalities beyond touch, such as vision and hearing.

[illegible]

[illegible]

Autotelics

Regardless of function, I found the haptic sensations pleasant.

Experiencing the haptic sensations was enjoyable to me.

I enjoyed the haptic sensations themselves.

The haptic sensations were enjoyable on their own, regardless of their function.

Involvement

I felt absorbed in the task due to the haptic sensations.

I found the haptic sensations strengthened my engagement with the system.

The haptic sensations contributed to my involvement in the task.

The haptic interactions made me more focused.

Realism

The haptic sensations resembled the ones I feel in real life.

The haptic sensations closely mimicked the experiences I would expect in reality.

The haptic sensations felt familiar to real life touch.

The haptic sensations provided a true-to-life representation of real-world sensations.

Discord

The haptic sensations seemed to lack coordination with other senses.

I experienced a sense of mismatch between the haptic sensations and other senses.

The haptic sensations felt out of sync with the other senses.

I experienced a disconnect between the haptic sensations and what I expected.

Harmony

I felt a sense of harmony between the haptic sensations and other senses.

The haptic sensations integrated seamlessly with other senses.

I feel the haptic sensations are well coordinated with the other senses.

The haptic sensations complemented other senses well.