

CLAIMS

WHAT IS CLAIMED IS:

1. A method of customizing an input device, comprising:
 - setting a set of parameters associated with actuating a button of the input device, the set of parameters comprising at least one of a threshold force for actuating the button or a threshold displacement for actuating the button, wherein actuating the button occurs when an actuation point on a force curve is reached;
 - registering a pressing of the button using a force sensor located below a top surface of the input device for actuating the button;
 - providing a tactile feedback using a haptic actuator located below the force sensor, based on the set of parameters in response to the pressing of the button;
 - setting a rebound point on the force curve for resetting the button;
 - storing the tactile feedback as tactile feedback profiles of a user; and
 - automatically switching tactile feedback profiles when the user launches a game or application.
2. The method of claim 1, wherein the providing the tactile feedback based on the set of parameters comprises triggering the tactile feedback when the press of the button satisfies at least one of the threshold force or the threshold displacement.
3. The method of claim 2, wherein the threshold force is satisfied when a force applied by the press of the button is greater than or equal to the threshold force.
4. The method of claim 3, further comprising detecting the force applied by the press of the button using a sensor configured to measure force applied to the button.
5. The method of claim 2, wherein the threshold displacement is satisfied when a displacement of a surface of the button caused by the press of the button is greater than or equal to the threshold displacement.

6. The method of claim 2, wherein the threshold displacement is a threshold of perceived displacement, wherein the threshold of perceived displacement is satisfied when a duration of the press of the button is greater than or equal to a threshold duration.
7. The method of claim 6, further comprising determining the duration of the press of the button using a sensor or a circuit.
8. The method of claim 1, wherein the providing the tactile feedback comprises generating an audio feedback through a speaker of the input device, wherein the tactile feedback is generated from the audio feedback.
9. An apparatus for customization, the apparatus being an input device with a button, comprising:
- a force sensor located below a top surface of the input device to register a pressing of the button for actuating the button;
 - a haptic actuator located below the force sensor;
 - a memory; and
 - at least one processor coupled to the memory and configured to:
 - set a set of parameters associated with actuating the button of the input device, the set of parameters comprising at least one of a threshold force for actuating the button or a threshold displacement for actuating the button, wherein actuating the button occurs when an actuation point on a force curve is reached;
 - set a rebound point on the force curve for resetting the button;
 - provide a tactile feedback by the haptic actuator, based on the set of parameters in response to the pressing of the button;
 - storing the tactile feedback as tactile feedback profiles of a user; and
 - automatically switching tactile feedback profiles when the user launches a game or application.
10. The apparatus of claim 9, wherein, to provide the tactile feedback based on the set of parameters, the at least one processor is configured to trigger the tactile feedback when the press of the button satisfies at least one of the threshold force or the threshold displacement.

11. The apparatus of claim 10, wherein the threshold force is satisfied when a force applied by the press of the button is greater than or equal to the threshold force.
12. The apparatus of claim 11, wherein the at least one processor is further configured to detect the force applied by the press of the button using a sensor configured to measure force applied to the button.
13. The apparatus of claim 10, wherein the threshold displacement is satisfied when a displacement of a surface of the button caused by the press of the button is greater than or equal to the threshold displacement.
14. The apparatus of claim 10, wherein the threshold displacement is a threshold of perceived displacement, wherein the threshold of perceived displacement is satisfied when a duration of the press of the button is greater than or equal to a threshold duration.
15. The apparatus of claim 14, wherein the at least one processor is further configured to determine the duration of the press of the button using a sensor or a circuit.
16. The apparatus of claim 9, wherein, to provide the tactile feedback, the at least one processor is configured to generate an audio feedback through a speaker of the input device, wherein the tactile feedback is generated from the audio feedback.
17. A non-transitory computer-readable medium storing computer executable code, comprising instructions for:
 - setting a set of parameters associated with actuating a button of an input device, the set of parameters comprising at least one of a threshold force for actuating the button or a threshold displacement for actuating the button, wherein actuating the button occurs when an actuation point on a force curve is reached;
 - registering a pressing of the button using a force sensor located below a top surface of the input device for actuating the button;
 - providing a tactile feedback using a haptic actuator located below the force sensor, based on the set of parameters in response to the pressing of the button;
 - setting a rebound point on the force curve for resetting the button;

storing the tactile feedback as tactile feedback profiles of a user; and
automatically switching tactile feedback profiles when the user launches a game or application.

18. The non-transitory computer-readable medium of claim 17, wherein the instructions for providing the tactile feedback based on the set of parameters comprises instructions for triggering the tactile feedback when the press of the button satisfies at least one of the threshold force or the threshold displacement.