MEMORY FOAM ON A MOUSE

HP INC
Memory Foam on a Mouse

Abstract:
Customers using a mouse today usually have no thumb rest or some version of a rest for the thumb trying to accommodate and fulfill an ergonomic need. The mouse thumb rest solutions in the market have solutions that have areas which provides some ergonomic designs with grip and resting positions for the thumb in either right, left or an ambidextrous design but not using memory foam. The memory foam solution implemented in the right areas of a thumb rest of a mouse would further the ergonomic requirements for a mouse user.

Advantages:
Overuse of a mouse is known to cause discomfort in users’ hands such as carpal tunnel syndrome or simple cramping. During prolonged mouse usage, resting of the thumb is on hard plastic or non-existent. Adding memory foam cushioning as a wellness solution would help a user as one of the methods to prevent this discomfort or other types of pain in the hand. Implementing the memory foam into the thumb rest portion of the mouse itself would eliminate the need for the user to buy an additional product such as a mousepad or other such accessories to try to aid in possible pain prevention during extended usage.

Since memory foam consists mainly of chemicals to increase its viscosity and density it is more malleable than a traditional hard plastic thumb rest. Because memory foam molds to the hand in response to heat and pressure, the hand weight is evenly distributed when the thumb is resting on a memory foam thumb rest. This allows the weight of the thumb to be evenly distributed instead of putting all the weight of the thumb at a single point. This solution relieves the user from having to carry the full weight of the thumb for a long mouse operation.

These properties of memory foam also allow the mouse surface to return to the original shape once pressure is removed. This allows the surface of the thumb rest to be designed with a certain shape in mind but allow for flexibility of comfort based on different people’s thumb shape.

Solution:
In our proposal, we would implement the memory foam on the mouse thumb rest as follows:

- First use case: add around the thumb root to ease the tiredness after long term usage
- Second use case: add around the palm area to provide some degree of customization to enhance the grip for wide range of gripping posture and hand shape

An illustration of the memory foam on a mouse that is proposed is shown below:
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No thumb rest

Thumb Rest (No memory foam)

without the foam

with the foam

Suggestion:
- Avoid soft material around the finger tip
- Material surface plane angle is critical
Precise movement and easy gripping is the key: Not recommended using soft material and need clear space for thumb tip movement

Thumb rest area: may use soft material (memory foam) to ease the thumb

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