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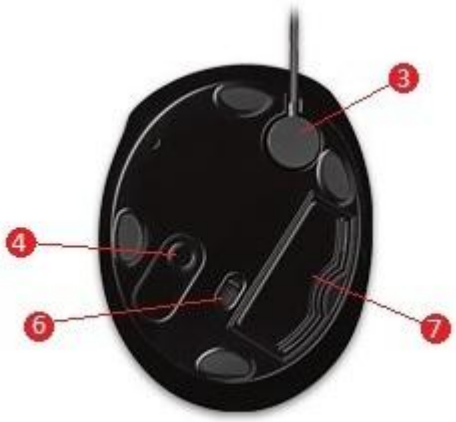
Microsoft Mobile Memory Mouse 8000

Interface Design Problems

A glimpse look of it, the Microsoft Mobile Memory Mouse 8000 comes with several nice features and simple design. Only on further observation, the flaws of the design appear. Some of the features are rarely if not never used at all. Other than the features, the design can be confusing at first and might lead to other problem. As the owner of this product, I am faced with confusion on first time use. The problems started with power switch symbol continued by portability issue that might have lead to defective flash storage.

The Mobile Memory Mouse 8000 is a cordless mouse which communicates via Bluetooth or 2.4 GHz wireless radio frequency (RF). The mouse has 5-button keys and tilt scroll wheel which allows it to scroll horizontally. The mouse comes with a wireless receiver USB and a magnetic recharge cable. The wireless receiver USB is also a flash drive that can store up to 1 GB of data and power source to recharge the mouse battery. In order to recharge the battery, simply connects the mouse to the wireless receiver with the magnetic cable which both ends are easily distinguishable by their shapes. With more than a few components, Microsoft also throws in a carrying case to fit some if not all.



Features:

1. 1 GB USB Flash Drive
2. 2.4 GHz Wireless Receiver
3. Magnetic Recharge Cable Connector
4. High-Definition Laser
5. Battery Life Indicator
6. Power Switch
7. Battery Lid Case & Connection Switch (Bluetooth/2.4)

As the product name suggested, the product is meant to be mobile. It is directed to laptop or netbook users. Compare to generic desktop mouse, the size of the mouse is 40 to 50% smaller. Looking at the shape, clearly the mouse is designed with right-handed users in mind.

Product Requirements and Constraints

In designing the mouse, the developers need to set a certain objective and goal by putting constraints and requirements. Observing the final product gives the idea of set of constraints and requirements of the mouse, such as:

- The mouse has to be able to move the cursor.
- Basic mouse functionality (Min 3 buttons and a scroll wheel)
- The mouse has to be able to work on most surfaces.
- The mouse has to be able to work wirelessly.
- In order for the mouse to work wirelessly, battery is needed.
- Minimize power consumption.
- Battery has to be rechargeable and/or replaceable.
- Mouse need recharge mechanism.
- Extra functionality on the receiver.
- Economical.

Current Problems

In spite of the design requirements, the mouse has a few flaws in the interface department. This is based on personal experience on this product.

1. *Power switch symbol/indicator*

The power switch does not properly indicate whether the device is on or off. On one side of the switch, there is a small green label. There is no indication of whether to

switch towards the label or the opposite direction (so the label is visible) in order to turn on the device. This may cause confusion for first-time user.

2. *Wireless mode switch and button*
   There are two ways to connect the mouse to the computer: Bluetooth or 2.4 GHz wireless RF. The mode can be control by turning the switch towards one or the other indicated by symbols. However, there is also a nearby button which is closer to the 2.4 symbol rather than the Bluetooth symbol. For savvy computer user, the functionality of the button is clear if they dealt enough with other Bluetooth devices. The button is to initiate connection in Bluetooth mode. However, at the hand of non-savvy user, the button does not have enough explanation.
3. *Dual wireless mode*
   By giving the choice of Bluetooth or 2.4, the user can either use the wireless receiver USB or not at all. In Bluetooth mode, the USB dongle become less effective, other than function as portable storage. On the other hand, in 2.4 mode, the functionality of the other components are used more effectively. Either way, user can only operates in one mode at a time, making the other mode unused and possibly become invisible feature.
4. *Portability*
   There are too many components that came with the mouse: USB dongle and magnetic cable. The carrying case that comes with the mouse is barely fit all of the components. It might even push the capacity limit of the case. In the case of the USB dongle, it might bent the USB connector inside the case and possibly break the USB device.

Possible Solutions

1. *Power switch symbol/indicator*
   There should be indicators or symbols near the power that states on or off. It has to be clear to the user the current state of the device.
2. *Wireless mode switch and button*
   If keeping both wireless modes a requirement, then reverse the location of the symbol might lessen the confusion. However, the button needs more than just symbol. It needs to be explained in the manual or by putting short instructions nearby.
3. *Dual wireless mode*
   Two mode exists on one device is not cost effective while only one will be use most of the time. Simply by removing one mode and keeping the other is the best solution. Preferably removing the Bluetooth mode, since the wireless mode use the other components more effectively.
4. *Portability*
   To prevent breaking the USB dongle, a simple USB connector cap can be use to protect it from bending. Furthermore, enlarging the carrying case a little helps keeping all the components safe and intact.