

A. Patentability Assessment:

We believe that our design and manufacturing process for a customized computer mouse based on 3D printing technology is a unique and innovative process that includes below key steps. Our preliminary patentability assessment and research of similar processes suggest it would be a good idea to patent our product.

Key Patentable Steps:

1. Taking a clay impression of customer's hand at the most comfortable position of holding
2. 3D scanning the clay impression into editable files
3. Refining the 3D model in Solidworks and 3D printing the model
4. Polish and apply customer selected paint and decoration and assemble the final product

Purpose of Invention:

1. Allow the mouse to fit any gripping preference of the user
2. Allow the mouse to fit any hand size of the user
3. Give the customers opportunities to configure the mouse according to their preference and to be part of design process
4. Prevent wrist and arm pain due to usage of computer mouse

Apparatus Comprising:

1. A circular 3D printed plastic topshell
 - a. Attaches to tabs underneath for clicking button
 - b. Includes a hollow for scroll wheel
2. A circular second plastic cover
 - a. Includes several hollows for clicking button and scroll wheel
 - b. Comprised of mechanism to connect the top shell and the base
3. A circular plastic mouse base
 - a. Includes a convex area for space to hold battery
4. A mushroom-shaped plastic battery cover
5. A plastic scroll wheel
6. A mouse circuit board
7. A mouse USB receiver
8. A plastic on/off switch
9. An Optical reflector for wireless connection

Related Patents:

Ergonomic computer mouse based on hand size and preference

Publication no. US6031522A

URL: <https://patents.google.com/patent/US6031522A/en?q=+US6031522A>

Summary:

This product is a computer mouse with shells that can be switched easily to fit different hand sizes and preferences. User needs to purchase a base mouse and difference shells to accommodate different users. The shell can also change the number of buttons available on the mouse.

Customized earphone based on 3D printing technology and manufacturing method thereof

Publication no. CN103974183A

URL: <https://patents.google.com/patent/CN103974183A/en?q=3d+print&q=customized>

Summary: This product utilizes both 3D scanning and 3D printing technique to make customized earbuds to fit users ears. Impressions of ear hollows are taken by liquid silicon. Then, the company will 3D scan the mold into computer for processing before 3D printing the customized part. After printing and polishing, the earphone will be assembled and ready to use.

B. Naming exploration and selection

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| 1. FlexMouse, flexmouse.us | 6. ErgoScroll, ergoscroll.com |
| 2. Customiced, customiced.com | 7. ErgoNav, ergonav.com |
| 3. TailorPoint, tailorpoint.com | 8. UniqueClick, uniqueclick.com |
| 4. Custom Click, customclick.com | 9. Formy, formy.us |
| 5. Scrollee, scrollee.us | 10. Squirrel, squirrel.us |

We explored ten names for our product, largely using the Igor Naming Guide. Ultimately, we decided to name our product Customiced as a play on the word “customized” and the fact that we make *custom mice*. This idea was originally “Customice”, but we decided that adding a ‘d’ to the end made the wordplay more straightforward after noting that one of our group members had not picked up on it before getting an explanation. Most of the names we explored would be described as functional or experiential, focusing on different actions for a computer mouse, such as pointing, clicking, and scrolling as well as emphasizing customizability and ergonomics through words like “custom,” “ergo,” “form,” and “unique.” We also considered “Squirrel” as an evocative name, because, like a mouse, it is a small rodent, and it is a [large part](#) of Penn’s campus. However, in the end, we decided Customiced is both fun and practical.