Redesigning the Spiral Notebook

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Abstract

The current design of the "Miliko Hardcover A5 Spiral Notebook" perpetuates an ongoing trend of flawed, one-time use spiral notebooks that have saturated the journal market over the years. With repeated regular use, this notebook has been observed to be rendered unusable due to the low durability of its spiral binding and the nonfunctioning page removal system. In order to address these concerns while also maintaining the cultural values this product aims to fufill, major design changes must be made. In this paper, an alternative rubber ring binding system is proposed in order to maximize the product in accordance to the consumer need for durability, customization, and comfort.

Although the "Miliko Hardcover A5 Spiral Notebook" strives to improve on the common spiral notebook, it is still susceptible to what Tim Brown, IDEO chairman, calls "the oppressive uniformity of so many products on the market today." (2009) The challenge presented in this paper is to understand the original vision and building values while also creating a product that stands out. By examining the physical construction and tactile intricacies of this journal, a better understanding of what aspects can be improved upon will become clear. Once these are examined, a creative design solution can be proposed.

Product Description

The "Miliko Hardcover A5 Spiral Notebook", catogorized as the "Miliko Upgraded Brown Transparent Hardcover A5 Dot Grid Spiral Notebook", is a flexible journal with dot grid pages that "make it an ideal notebook for daily use" ('Dot Grid Spiral Notebook, n.d.). It is available commercially for \$7.99. It is listed as 8.27 inches tall and 5.67 inches wide but runs closer to 5.8 x 8.3 inches. The rectangular cover is constructed of hard, semi-transparent plastic, in a brownish-grey color and indented with the Miliko logo on the exterior bottom left of the journal back. (Figure 1)

The paper inside is 100 grams per square metre and acid-free, presenting as thick, smooth, and slightly off white. Dots are light grey in color and spaced every 0.2 inches (Figure 2). The heavy paper weight reduces bleed-through when using regular markers or pens, and smudging is not common. Art supplies that utilize a higher saturation of water - like alcohol markers, watercolor pencils, or any type of paint - do warp the pages and cause ghosting through to the other side. The paper is fully matte and the corners are very slightly rounded, although the cover corners are not. The notebook comes with 80 sheets, but can be used with each page being double sided resulting in a total of 160 pages.

There are 29 holes for the wire spirals made vertically in each page and in both cover and back cover. Although the product listing identifies it as a spiral notebook, the wire spiral most closely resembles what would be labelled as a spiral-o binding or twin loop wire binding. For each hole through the journal, two wire loops are threaded through. The loops form an upside-down "U" shape on both sides, with the "U" being more open and then more narrow in an alternating pattern. (Figure 3) The wire is designed to be bent closely together along the seam, preventing the paper to come off when not required. For those who would like to fully open the wire binding to add or replace pages, machines exist that are able to hook and then bend the binding open. For this notebook, this is not necessary, as the small openings along the seam of the wire binding are designed to allow for pages to be taken out or added if the wire is rotated properly. Because of the design of the wire seam, the notebook is also designed to be able to open fully and lay flat on a surface. (Figure 4) When opening the notebook, pages that have already been used can be pulled fully to the left, rotated around, and stacked under the rest of the notebook. Because of the heavy paper and somewhat stiff front and back cover, the journal is usable even when not placed on a flat surface. (Figure 5)

Product Flaw

Although the Miliko notebook is designed to be fully opened and have stackable pages, this is prevented by the largest design flaw - the weakness of the wire binding, With regular wear - being carried in a bag with other items, being fully opened repeatedly, and attempting to remove pages - the wire is easily warped or dented to an extent that renders the notebook unable to be opened completely. Because of this, the wire often becomes unhooked from pages or the front/back cover when not required. (Figure 5) The wire is soft enough to be bent by hand, making it easy to accidentally manipulate beyond what it is designed to if the wire becomes caught on string-like materials, hooks, or any other small object that can become entangled in it. Although the notebook is designed to be able to add or remove pages, this process is extremely difficult as the proper rotation of the wire to the desired page causes the wire to, once again, warp and become challenging to put back in place.

Product Solution

To make the design of the spiral notebook more user friendly and long-lasting, the first step is to replace the wire spiral binding with a material that addresses these needs fully - rubber. Thick, high quality rubber loops that hold up to lots of bending. rubbing, and tugging are needed to ensure that continued use does not influence the longevity of the product. The rubber will be designed to be firm enough to hold the circle shape when not being manipulated while also remaining flexible enough to yield to travel in bags or have weight stacked atop it. To increase customer product options, the four rubber hoops can be appear in different color combinations, including options for plain brown, clear, and rainbow. (Figure 6)

The second challenge comes from the promise of a page remove system. To combat this issue, the overall design will be scaled down to more closely resemble a 3-ring binder. The rubber hoops will have a snapping mechanism that allows them to be opened or closed individually, eliminating the need for the traditional opener rod that runs down the spine of a three ring binder. Because of this, a wider array of customization options exist for those who hope to mix and match page types, insert their own custom pages, or remove pages. The cover

and back cover will be attached by a thin strip of durable fabric that allows the notebook to be opened to the full extent the original prodect can, including stacking pages for a single page surface (Figure 7). To increase the strength of the notebook, four rings will be used instead of the traditional three, placed closer to the top and bottom of the pages for better structural support.

Product Culture

From phone backgrounds and water bottle sticks to mix-and-match dolls and build-your-own sets, popular media and product design today focuses heavily on the need for individuality and customization in the products we consume. The spiral journal, empty and waiting to be filled with any type of content imaginable, is a perfect reflection of the consumer and their need for a outlet that gives them full reign creatively. Although this is a key value in what causes the desire for this product, that doesn't mean sacrificing other features.

More and more, we are swapping out old and outdated products for more easy to use and accessible ones. When talking about journals, that means being able to open them fully, easily, and to most importantly, write comfortably. Writing is an important part of daily life, something that is ingrained into our work, school, and even personal life - whether it be a grocery list or an essay. Modern life also means travelling frequently, as many people continue to lead ever increasingly busy lives to keep up with rising demands for high standards of education and employment. Within all of this, it is important to have a product that you can rely on to be durable and trustworthy on the go. For many, journals are a location where important information or memories are stored, meaning longevity and ability to withstand day to day life is a must.

Conclusion

To those who use journals regularly, there are certain qualities that must be represented for a journal to be maximized in both usability and design. While the design team behind the "Miliko Hardcover A5 Spiral Notebook" attempted to address these values in the design of their product, it ultimately did not display the long term durability, comfortable usability, and customization options that consumers strive to find in a spiral notebook today. However, with a few simple changes, creative options increase and longevity skyrockets to create a product that truly can be called unique.

References:

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Figure 1: Notebook cover view.

Figure 2: Notebook interior page view.



Figure 3: Opened wire binding.

Figure 4: Open notebook, face down.



Figure 5: Notebook being used, with pages stacked fully.



Figure 5: Close up of damages to the binding.

Figure 6: Redesign cover view, closed.



Figure 7: Redesign inside view, open.