

Driven Design of a Bedside Table: Understanding User Needs, Storage and Everyday Use

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Abstract

A bedside table is an object that probably has the most taken for granted relationships with people among all of our surroundings. People use the furniture to store valuable, fragile, and frequently needed personal belongings in an easily accessible manner. Therefore, a bedside table's design should be multifunctional, ergonomic, comfortable, convenient, and aesthetically pleasing.

Numerous pieces of research regarding bedside tables' and nightstands' usage habits have been done before this one.

According to one study, nightstands' "top surface and the uppermost storage drawer contain the highest concentration of stored items". The researchers have discovered this by observing and recording the 150 + types of objects in nightstands. The majority of the collected data indicates that the tabletop is the most used part of the nightstand, followed by the uppermost storage drawer.

The study also discovered that the drawers are underutilized by users. This paper's proposed bedside table design would fix this issue by offering a larger amount of storage space allocated for the most used items and ensuring that less used but occasionally necessary belongings would still remain within easy reach.

The new bedside table will have a large surface area, open storage compartment, a drawer, rounded edges, and warm wood finish. The study and the proposed design both aimed to impact and improve the users' relationships with their furniture.

1. Introduction

Furniture plays a critical role in our daily lives, yet it is rarely the object of our conscious attention. A bedside table, for instance, is a piece of furniture that sees daily use by most people who have one and is associated with some of the most common rituals in people's lives: going to sleep, waking up, reading, checking the phone, having items within reach.

Historically, bedside tables have been viewed as small storage furniture pieces usually accessed from the side of the bed. However, modern lifestyles call for more varied uses of them: a smartphone, a charging cable for it, a smartwatch, glasses, books, water, medicines, headphones, and many other items can take a significant spot on the bedside table, and the way they are stored and accessed can be crucial.

This raises an interesting question about the relationship between the bedside table and the consumer: does it fulfill the purpose the user needs it for? Research carried out by Brooks et al. suggests that the majority of the items people store in their bedside tables are moved to the top shelf or the top drawer: 75 percent of recorded items were stored in these places, according to the Brook's article.

This implies that the organization of the furniture in terms of accessibility is more important than the mere presence of additional storage space. With this information in mind, this study aims to analyse the potential of bedside tables in terms of human factors and offer innovative ideas.

2. Background of the Study

The bedside table is a piece of furniture that occupies a small space but serves several purposes. It serves as a surface, storage, and the place to keep personal items within the user's reach. During the research process, I discovered that there is a great difference between having storage and knowing what to store in the bedside table.

The table may have multiple drawers, but if the user only needs easy access to their daily necessities, then it is a poor choice. The research conducted by Brooks et al. resulted in the identification of more than 150 items that people store in their nightstands. These items were divided into 25 categories, and the results indicated that the top part of the nightstands was the preferred storage area.

Healy et al. did a similar study at a rehabilitation hospital and discovered that the percentage of stored items on the tabletop was higher than the combined percentage of items found in all three drawers of the nightstand.

These results provided an essential foundation for my design research. 3. Problem Statement The problem that my research discovered is the fact that the conventional bedside tables fail to represent the user's needs.

Some common issues include:

- Insufficient surface area.
- Inadequate organization of frequently used items.
- Inaccessible storage space.
- An excessive number of drawers and/or compartments.
- The accumulation of items on the table.
- A lack of consideration for the user's access and comfort.
- Designs that prioritize aesthetics over functionality.

The research therefore seeks to establish how a bedside table can serve as an appropriate balance between accessibility, storage capacity, comfort and aesthetic appeal.

4. Aim

The aim of the research is to determine how the user's behavior, storage needs, ergonomic considerations and material selection could shape a functional and visually appealing wooden

bedside table.

5. Objectives

The research aims to:

- Establish a user's behavior and patterns with regard to the use of bedside tables.
- Identify the type of items that people tend to store near their beds.
- Determine the storage needs and frequently accessed areas.
- Study the importance of accessibility and ergonomics.
- Explore the materials and finishes available for wooden furniture.
- Study existing bedside table designs and their attributes.
- Apply the results of the research to define requirements for a bedside table design.
- Develop a bedside table that meets the defined requirements.

6. Research Questions

The research will be guided by the following questions: What are the common bedside table items?

What are the most common bedside table areas? Do the users really need more than one drawer?

How to organize the most accessible items?

What ergonomic issues need to be addressed?

How to affect the choice of materials and finishes?

How to balance functionality and aesthetics in a bedside table?

7. Research Methodology

The research will be primarily qualitative and design-based. The research will be conducted using the following methods:

Literature review

Existing research papers were evaluated to identify the usage of nightstands, the user behaviour, storage requirements, and furniture design tendencies.

Product Research

Existing bedside tables were analysed to identify the various storage options, size, materials, handles, and design variations.

User Behaviour Research

The research made it possible to determine what items are stored by users alongside personal computers and what parts of the furniture they are likely to use the most.

Ergonomic Research

Reach, accessibility, height, breaking edge, and storage opening size were given special consideration.

Material Research

The properties of wood and wood materials were reviewed to meet the design requirements in accordance with the appearance, manufacturing processes, maintenance, and environmental

impact.

Design Development

The information gathered from the research was processed into design requirements and transformed into a conceptual design of the bedside table.

8. Literature Review

8.1 Nightstand Usage and User Behaviour

One of the most important studies used for this research was conducted by Brooks et al. in 2011. Researchers have analyzed the contents of nightstands to find out what people store there. More than 150 items were divided into 25 categories.

Among the outcomes, the most relevant one seems to be that users tend to place items mostly at the very top part of nightstands.

The majority were found on the tabletop and in the topmost drawer. This could mean that the problem is not in the overall storage but in its accessibility.

The same study also revealed the preferences for future nightstand designs, among which modular storage, contemporary style and multifunctional furniture were the most attractive.

8.2 Importance of the Tabletop

Healy et al. conducted another piece of research that is dedicated exclusively to the nightstand and the over-the-bed table in a rehabilitation hospital.

The results showed that the tabletop was the place where people tended to store the largest amount of their belongings compared to all three drawers.

The researchers concluded that the tabletop was heavily used while drawers remained underused.

For this project, this finding was especially valuable because it supported the idea that a good nightstand should provide a necessary tabletop area rather than a large storage capacity.

8.3 Different User Preferences

Another study conducted by Brooks et al. aimed to investigate the difference in preferences for novel nightstand designs between the target populations, including patients, employees, seniors and university students.

The results of the study demonstrated that while there are several preferences shared by the majority of participants, there are also several preferences unique to each category of users. This finding suggests that there is no perfect bedside table design that would fit all users' needs and requirements.

A successful design should rather be flexible and support a variety of functions.

9. Understanding Storage Requirements

According to the findings derived from the reviewed literature and products, the objects stored in bedside tables may be grouped into three categories.

Firstly, frequently used items that should be within users' reach include:

- Mobile phone
- Glasses

- Water bottle
- Book
- Watch
- Charger
- Earphones

Secondly, there are personal or private items that may also be found in a bedside table, such as

- Medicines
- Jewellery
- Personal documents
- Small personal accessories

These are some examples of items that would be better suited to concealed storage. Occasionally used items.

This might include:

- Extra cables
- Small electronic accessories
- Stationery
- Personal care items

These can be kept in more inaccessible storage spaces. This led to the idea of creating a hybrid storage space as opposed to using purely drawers.

10. Ergonomics

Ergonomics is a key consideration in bedside furniture as people spend significant periods of time sat, lying or standing at the bedside.

Some key considerations are;

Ease of access

Frequently used items that are regularly accessed should not require large movements to reach.

Comfortable height

The height of the bedside table should be appropriate to the height of the mattress as well as the sitting/lying height of the individual.

Rounded Edges

Sharp edges can prove uncomfortable or even hazardous, particularly in a confined space next to the bed. Rounded edges will provide a better and more friendly interaction.

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Stability

The table should be stable and not wobble on attempt to place or remove objects on its surface.

11. Material Research

Wood was chosen as a main material for its durability, warmth and the appealing look it has when used in conjunction with other bedroom furniture.

Possible materials include:

Solid WoodProvides excellent strength, durability and natural appeal.

Wood Veneer

Permits the appearance of the natural wood, while using significantly less material than a solid wood construction.

Plywood

Offers improved structural and dimensional stability.

MDF

Can offer a smooth surface and is suitable for painted or veneered furniture components.

For the suggested design, the use of a natural or dark wood finish was considered suitable as it provides the product with a warm and premium appearance.

12. Sustainability Considerations

The choice of wood does not guarantee sustainability, and this aspect must be considered throughout the entire lifecycle of the product, from material sourcing and manufacturing, through finishing and transportation, to the use and disposal.

Therefore, the design should focus on:

efficient use of materials,eliminating superfluous parts, long-term use, durable finishes, avoiding using different materials that may lead to complex recycling processes, replaceable hardware, repairable part sand reduced waste during manufacturing.

A durable piece of furniture that will be used for decades can ensure a longer product lifecycle and reduce the impact on the environment due to frequent replacements.

13. Existing Product Analysis

The existing bedside tables can generally be categorised into several types:

Type	Advantage	Limitation
Open bedside table	Easy access	Less privacy
Drawer nightstand	Concealed storage	Slower access

Cabinet nightstand	More storage	Can feel bulky
Floating nightstand	Saves floor space	Limited storage
Minimal nightstand	Simple and clean	Less functionality
Multifunctional nightstand	More functions	Can become complicated

From this comparison, an opportunity was identified to create a design that is simple but not basic and functional without bulkiness.

14. Design Opportunity

The research has revealed an opportunity for a bedside table which:

- Prioritizes the placement of frequently used objects
- Offers a practical tabletop
- Balances the use of open and closed storage
- Keeps personal belongings hidden when required
- Requires a small footprintIs comfortable to interact with
- Uses rounded and softer formsHas a warm and premium appearance
- Uses wood as the primary visual and structural material

The aim was not to create as many features as possible, but to enhance the ones already included.

15. Design Concept

“Accessible Everyday Storage”

The concept behind the bedside table is based on the very simple principle that the most frequently used objects should be the easiest to reach for.

Hence, the design of the bedside table allows the user to store items in different places according to their frequency of use – creating an ‘accessible everyday storage’.

The top shelf is meant to hold everyday objects like the phone, book, glasses and lamp.

The open compartment can accommodate regularly used items which do not necessarily require being on the desk surface.

And finally, the drawer is the safest place for storing more personal possessions.

This way, the objects are prioritized in terms of accessibility – as opposed to having a single storage space.

16. Design Development

The design directly followed from the research findings.

Research Finding	Design Response
Top surface is heavily used	Spacious tabletop
Frequently used items need quick access	Open lower compartment

Personal items require privacy	Concealed drawer
Sharp corners can be uncomfortable	Rounded edges
Users want useful rather than excessive storage	Limited but purposeful storage
Bedroom furniture should feel warm and comfortable	Natural wood finish
Compact furniture is suitable for bedrooms	Compact overall footprint
Aesthetic appeal influences furniture selection	Curved and fluted detailing

This process ensured that the final design was not only inspired by aesthetic consideration but incorporated research.

17. Product Description

The proposed bedside table is a small wooden furniture piece intended for everyday bedroom use.

The product comprises a spacious tabletop, one drawer and an open storage compartment. The drawer enables having items out of sight, while the open compartment allows for a better access to frequently used objects.

The design features rounded edges and curved detailing, giving it a less severe look.

The table also has vertical/fluted detailing, which adds texture, without making it feel cluttered.

The table's warm dark wood finish gives it a classy look.

18. Key Design Features

1. Spacious Tabletop

Offers more space to place your day-to-day items and your bedside lamp.

2. Open Storage

It allows you quick access to your everyday things.

3. Concealed Drawer

Offers privacy to your valuables.

4. Rounded Edges Creates a nice soft look for the product.

5. Curved Detailing

Adds character to it while giving it a modern look.

6. Vertical Detailing

Adds texture to the sides of the cabinet.

7. Wooden Construction

Warmth and classiness appeal with its durability.

8. Compact Form

Allows the table to fit comfortably beside a bed without taking too much space on the floor.

19. User Profile

The target users for this design are

- College students
- Young professionals
- Homeowners
- People with small bedrooms
- Individuals who like items that are well-organized and offer good storage
- People who appreciate furniture made of wood and other elegant materials

The design can easily be modified to fit the needs of older people or individuals who need more access to the furniture.

20. User Needs and Design Response

User Need	Design Response
Easy access	Open storage
Space for daily objects	Spacious tabletop
Privacy	Concealed drawer
Comfortable interaction	Rounded edges
Organised storage	Separate storage zones
Compact furniture	Small footprint
Aesthetic appeal	Wood finish and detailing
Durability	Wooden construction

21. Key Research Findings

The research revealed several key points

the first one being that more space does not equal better storage, as proven by the user testing which showed the tendency for the majority of the participants to use the table top and easily accessible parts of the drawers the most.

The second point was that the storage needed to be accessible in accordance with the frequency of use, and the third was that the storage should be prioritized depending on how often the objects are used, being separated into often-used, private and seldom-used categories.

The fourth point was that the appeal of the bedside table should not have been sacrificed for the sake of extra storage, as the furniture has to blend in with the bedroom environment.

And the final point was that form and function were not mutually exclusive.

22. Discussion

One of the key takeaways from this research is that even such a simple piece of furniture as a bedside table greatly benefits from being user tested.

Prior to completing this research, one may assume that adding more storage to a bedside table will make it more appealing, but the literature review has shown that users tend to value the ability to have items on the top surface of the table, as opposed to the amount of storage that the piece has.

This, among other factors, led to the creation of the proposed design, which prioritizes open storage (the open drawer) and the tabletop, as well as a single hidden drawer for less frequently used items.

The resulting design is minimalist in its approach and prioritizes usability, though it still manages to have visual appeal.

23. Design Implications

Based on the findings of this research, the following advice is proposed to designers who wish to create a bedside table that will appeal to the users:

- Conduct research into the patterns and behaviours of the prospective users.
- Focus on the items that will be stored in the piece (and how one will access them).
- Do not design bedside tables around their storage capabilities.
- Make sure that the open storage areas are easily accessible.
- Design the piece around its aesthetics and usability.
- Select materials based on their qualities and the intended use of the piece.
- Prioritize sustainability from the earliest stages of design, rather than retrofitting existing furniture pieces.

24. Limitations

The main source of data for this research was literature and product analysis. There were no extensive primary investigations carried out among the target users.

Thus, the requirements identified for the prototype need further validation through:

- User interviews
- Questionnaires
- Observation studies
- Anthropometric surveys
- Prototyping at full scale
- Usability testing
- Material testing
- Comparative product analysis

To ensure that the intended function will perform to the desired level.

25. Future Scope

The product concept can be further developed by incorporating features such as:

- Wireless charging

- USB-C charging
- Cable storage
- Motion-activated lighting
- Hidden storage
- Height adjustable solutions
- Modular storage
- Replaceable parts
- Sustainable finishes
- Bio-based materials
- Want a second

However, these features should only be incorporated if they solve an existing user problem, the research shows. The research indicates that technology should complement the furniture pieces and not make the product overly complex.

26. Future Recommendations

For future recommendations, I would suggest conducting a primary user study with people across different age groups and lifestyles.

The users could keep a log of what items they usually store besides their bedside for a week, for instance. This will provide a more specific understanding of objects' types, frequency of use and storage patterns.

A full version prototype can be tested by the users to assess such qualities as:

- Reachability
- Storage capacities
- Drawer accessibility
- Table usability
- Stability
- Comfortability
- Aesthetic appeal

The design could be adjusted based on users' feedback.

27. Conclusion

This research shows that designing a bedside table is not only about creating a beautiful piece of furniture, but it also entails understanding the user experience of interacting with the product in everyday life.

Firstly, the study confirms that users tend to make more frequent use of the tabletop and easily accessible storage, while the bottom drawers appear to be under-utilized. This was one of the key factors affecting the final design of the proposed bedside table.

The new design is focused on providing everyday storage within the reach of the user. Thus, it is

equipped with a large tabletop, open compartment, and a hidden drawer. The design also features rounded corners, decorative curves, and a wooden finish, which add to the comfort and beauty of the product.

The study highlights the importance of being aware of the user's expectations when designing furniture, as well as the possibility of using the acquired knowledge to affect the final product's characteristics, storage capabilities, and overall appearance. The bedside table presented above was not designed with the user's behavior in mind at first, which negatively affected the initial proposition's success. However, the acquired insights allowed for altering the design priorities and coming up with a more appealing bedside table with an improved set of functions.

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