

A5.2: Appendix

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1. Heuristic Evaluation - <https://www.newegg.com/tools/laptop-finder>

<https://www.nngroup.com/articles/ten-usability-heuristics/>

Severity Ratings

- 0 - Usability catastrophe; imperative to fix
- 1 - Major usability problem; important to fix
- 2 - Minor usability problem
- 3 - Cosmetic problem
- 4 - Don't agree that this is a usability problem

Number	<u>#/Heuristic</u>	Location	Description	Severity	Possible Fix
1	H2- Match Between the System and the Real World	Laptop-finder -> filter	Only use the numbers eg. 1920* 1080 to describe the resolution, for amateur users, it's hard to understand the meaning and find which matches their needs. The same thing applies to all other configuration options, such as RAM, CPU, GPU, etc.	1	Provide an explanation for the resolution
2	H2- Match Between the System and the Real World	Laptop-finder -> results display -> laptop specs info -> display type	Inconsistent standards for the display type. Instead of labeling by OLED, IPS, and other display types, they are labeled by WQXGA+, UHD, QHD+, and other brandings. Some listings don't even have a display type, resulting in inconsistent layout.	0	Standardize the display types, or provide an explanation of the different display type differences.
3	H7- Flexibility and efficiency of use	Laptop-finder -> filter	The filtering function makes it difficult to clear the selected options, you need to check and uncheck options one at a time.	1	The editing of filter options can be optimized.
4	H8: Aesthetic & minimalist design	Laptop-finder	There are too many words and pictures on the website, easily get overwhelmed. Hard to seek key functions.	1	Keep the content and visual design of the UI focused on the essentials.
5	H10: Help and Documentation	Homepage-help center	Cannot get the Instant guide, product help, or suggestions.	2	Add a personalized help function

2. Interview

2.1 Interview focus

The interview focuses on understanding the decision-making process of amateur tech users when purchasing laptops. We want to delve into their priorities, challenges, and preferences in terms of specifications and features to identify how we can design a solution that makes it easier for them to choose laptops that best suit their needs and budget.

2.2 Participants

Key characteristics:

1/ 4 participants have great knowledge of computer specs, while 3/4 don't.

We use this specific question to identify the participants as Pro/Amateur:

To help you identify yourself: do you know the difference between 13400 and 4070? If you do, you might be a pro; otherwise, you might be an amateur.

2.3 Questions and Protocol

Context Questions

1. Do you have a laptop? If yes, how do you like it?
2. What was your incentive for buying a new laptop?
 - a. How often do you get a new laptop?
 - b. How long does your laptop last?
3. How did you decide what computer to purchase?
 - a. What computer configurations do you care about?
 - i. Ex. price, CPU & GPU, OS, storage, form factors, display quality, Battery, durability, thermal management, brand, etc.

Activity Specific Questions

4. Walk me through the last time you purchased a laptop and the process.
 - a. How did you learn about the specs and performances and decide what to buy?
5. When configuring the laptop, how do you deal with spec configuration options that you might not be familiar with?
 - a. How did you seek assistance to choose specs, and how helpful was it?
 - b. Does your familiarity with the spec's options influence your choice?

Validation Questions

6. Let's talk more about the laptop you own. What features do you like about it?

7. What are some of your complaints about it?
8. Were you aware of these lower-than-expected performances when you purchased the laptop?
9. Would you reconfigure your laptop specs to solve these issues? Or would you settle with the current laptop given the tradeoffs?
 - a. Ex. If you want a better screen, you need to pay extra or go with a lower CPU config to remain the same price.
10. What instructions are most helpful for amateur tech users to configure their laptops that satisfy their needs without overspending or underperforming?

2.4 Interview Raw Notes

Jingyi - participant 1 (Amateur)

- Yes I have, just soso
- I need it to make slides for presentations (only for presentations)
- 2-3 years to buy a new laptop
- Recommended by my classmates/cohorts, I only use it to make slides for pre, so I care about its durability and os (prevent it from viruses, macos is better than window)
- Okay, the process is I need a laptop other than a PC to make slides, so my friend recommended a Macbook to me. I checked them on the website and chose one that fit my requirements of price.
- I didn't learn anything, because I don't understand the specs, I just choose one I think the price is good for me.
- I will google them. Because my expectations are relatively low, I didn't read too much about specs.
- The suggestions from my friend really helped me a lot.
- I think the familiarity of the specs options will influence my choice because If I know more about them, I can buy a cheaper laptop that can meet my expectations, too.
- I like the touch bar control of the Macbook which really helps me make slides. They are the good points of macOS itself.
- I don't like the keyboard of my laptop, it's fragile and easy to break.
- No, I won't, I think they meet my expectations and needs and I can tolerate the keyboard now.
- I would like to have some instructions such as if I want to buy a laptop only for basic academic use if some info can tell me "Okay, core i9 can just meet my needs, or what screen can meet my need." Something that easy to transfer my needs to the specs level. So I don't need to take a lot of time to research, ask friends, or just buy a big brand laptop I think it meets the price.

Jingyi - participant 2 (Pro)

- Yes, I have. I 80% like it.
- I buy my laptop because I need a laptop while studying aboard. I used to use a PC, but a PC was not available to bring to the UK.
- I usually buy a new laptop every 5 years.
- I will choose it myself. Start from the brands I am familiar with, focusing on CPU & GPU and quality display, and then choose the one with a more affordable price.
- The process is like this: I need a laptop urgently before I go to the UK. And I only have 7k RMB for it. I need it to do some creation work like landscape architecture. I need the laptop to have a great CPU, display card, and display performance. I reviewed some laptop evaluation videos online. I should buy Lenovo, but there's no laptop in stock and I didn't have time to wait for it. Therefore, I chose Dell G15 which was in stock finally.
- I have some knowledge of computer specs, so mostly I know how to choose a laptop by looking at the specs in the store. If I encounter anything I don't know, I will search for it in the community.
- No, I didn't seek help, I can make decisions based on my current knowledge of computer specs. If I need, I will search it on Video platforms and Zhihu.
- Yes, of course. Because I understand the specs, I can get the best laptop for my budget.
- I like the CPU, speed of responsiveness, and display quality of my current laptop. It performs better than any other laptop at the same price. But it is too heavy and has some problems with thermal management. Therefore, it's more like a PC usage.
- Well, I think I noticed this laptop would be heavy when purchased it. But at that time, I didn't think it would have any impact on me. I didn't know the thermal management at that time.
- If I can reconfigure the laptop, I think I won't change my choice if I have the same budget. I won't sacrifice the performance for a lighter laptop. If I have more budget, I will choose a better laptop.
- If you are an amateur tech user, I suggest you'd better not choose a laptop yourself. But I can give some common suggestions like start looking at the price and the type of the laptop(business/game/design.....)
-

Jingyi - participant 3 (Amateur)

- Yes, I really like it.
- I need to update my laptop for rendering and architecture model building.
- My last laptop was bought in college, about 5 years ago.
- I will ask my friends who also studying architecture and get some suggestions from them. I also checked the purchase suggestions from our school and see if there were any discounts. I think I care about the CPU&GPU, and display quality most because it's important in rendering. I also need to commit between school and my studio, so it shouldn't be too heavy to carry. Price is not really a problem for me.
- Okay, it was almost 2 years ago. I realized I needed a new laptop, and then I checked suggestions on the school website, it had some discounts on Apple

MacBook. But MacBook is not friendly for the design process. Then I asked my friends for help, they recommended the updated versions of their laptops like Dell, Lenovo, and so on. Because we have the same requirements, I really believe in their choices.

- Well, I can understand some basic computer specs. But for some, I was not familiar with while customizing my laptop, I asked my friends again for suggestions. I want good performance in rendering software, so I chose the best display card, screen, and GPU for my budget.
- My friends are really helpful in this process.
- I think if I was more familiar with the specs, I would make the decision myself instead of bothering my friends every day..... (feeling sorry)
- Well, my laptop works perfectly! It's really cool! And I love it!
- Although it's somehow a little bit heavy for me, I believe I would not sacrifice any performance for the weight. But if I have more budget next time, I would like to have a larger screen. Or maybe I will choose a PC instead of a laptop.
- I think for the specs, it's hard and time-consuming to understand it. It is just like one-time learning and not sustainable for me... Therefore, I think it's really helpful to mark that these specs are friendly for content creation, this is normal business, and this is good for coding..... Just some clear classification and short instructions can help me better understand what they are and save a lot of time.

Fenglyu - participant 4 (Amateur)

- Yes, I like it. 80%
- Learn office essentials
- 3-4 years
- MacBook looks more advanced
- Consider the CPU, GPU, the size of the data they process, the size of all files stored, 16GB of memory, and 512GB of storage, do not value the graphics video, so do not value the GPU.
- I wanted to replace my laptop, the original was the 2016 MacBook Air, so I also wanted to choose Apple for the new laptop, when Apple's new model was released less than a month ago.
- I read the evaluation of this laptop by many science and technology bloggers on Bilibili, and the information they gave me was whether this laptop ran smoothly and whether there was any hard damage. I did not pay much attention to how much the performance was improved over the previous version, but only to whether there was any hard damage that I could not accept. Later, I would compare the performance and price of different models on the official website. Know that the higher the performance, the better, such as 12-core GPU and 16-core. More willing to trust the quality of big companies, such as Apple, it doesn't matter if it is a little more expensive, don't want to be cheated and buy a bad laptop.
- doesn't go into detail, just focuses on memory and storage.
- I haven't talked to anyone offline.

- I don't know, I'm not very familiar with parameter configuration, if I learn the meaning of these parameters, it may change my choice.
- I like laptops that run silky.
- There will be some small problems in operation, sometimes a black screen for no reason, and need to restart but do not know what reason.
- The trackpad is easy to enter the dust, the trackpad is not sensitive, and the mouse has to be used.
- At that time, some bloggers proposed that this dark color is easy to look dirty, and I did not care about this when I bought it, because I did not know that it would have such a big impact on the appearance.
- Not realizing it, I blamed the problem on a quality control issue with the trackpad, blaming myself for not realizing the color problem before.
- I have not considered solving these problems, and I have looked up solutions on the Internet, but there is no good way, and I am not willing to take the laptop to repair, thinking that this problem does not need to be repaired, and my time is precious.

Fenglyu - participant 5 (Amateur)

- Yes, like. 100%
- I'm going to college, so I got a new laptop. My previous laptop didn't have enough memory, and its performance was lagging. It took a long time to start up, and the fan kept turning and it was very noisy.
- The last laptop was 5 years old.
- I heard that the Macbook has a long battery life, no heat, very quiet, and the system runs smoothly, so I want to choose the MacBook.
- I wanted to change to a new laptop at that time, so I compared Apple's MacBook Pro and MacBook Air on the Internet, I thought I might need a certain amount of graphics in the future, so I chose the Pro, its GPU is better. So I chose the Pro, and at the same time, I struggled with the color and weight for a long time, comparing some laptops from other brands.
- At that time, I read a lot of reviews on the Internet, but I did not understand them, because I did not use those advanced rendering and cutting video functions, and its main role was not to cut video. So I don't think it's very helpful.
- For configurations I'm not familiar with, of course, I don't think about these, I feel too complicated, and the laptop is enough for me.
- I don't know. maybe it will.
- Standby time is very long, and quiet, with not much heat, and more interfaces, I like it.
- What I don't like so much is the imprint of the keyboard on the screen, which I didn't realize until I bought the laptop. But I don't think it makes much difference because when the screen lights up, you can't see any flaw on the screen.
- I bought a magnetic film for the screen at that time, feeling that it might protect the coating of the screen from being damaged, which is equivalent to solving this problem at a very low cost.

- I think the most important thing is to know your own needs, if there is obvious dissatisfaction with the previous laptop, you can pay attention to these places when buying a new laptop, such as weight, heat, battery, system and so on.

Fenglyu - participant 6 (Amateur)

- Yes, like. 4.5/5
- Just went to college, learn design, ask seniors what computer is better, recommended the MacBook.
- Replaced it when it broke, and later bought a windows laptop to play games on, and maybe replace it later if you get a better looking laptop.
- I care about brand, storage, appearance, my needs, and if it's office, I'll choose Apple
- I read a lot of recommendations in the Little Red book, focusing on games, notebooks with good game performance and graphics card cores, searched many models, but did not buy these. Later, my classmates recommended one, I checked on BestBuy and recommended many similar notebooks to me.
- If a parameter is more initially seen, I will understand it, if the parameters are different in different notebooks, such as 4070 I will check it, I am most concerned about the graphics card and storage capacity, as well as noise problems, I hope the notebook is quiet.
- Baidu, Google, chatGPT, the most like GPT, because you can directly give the answer, do not have to go to a post in the choice.
- It may not matter if you are completely unfamiliar with the configuration, but if you know a little about the parameter configuration, you will carefully compare the differences between different laptops.
- It's fast, it's quiet, and it looks like a tool for playing games.
- Charging. The batteries are big, heavy, and not easy to take out. Sometimes you can only use the trackpad to operate, keyboard and mouse can not work, I have not checked this reason, because it only triggered 1-2 times.
- In fact, I knew before I bought it, but there was no solution, because gaming laptops are pretty thick.
- Users first have a need, such as office work, drawing, playing games. Users can input their own needs, and the system recommends some brands and models that can meet the needs. The system can also tell users what parameters to focus on in order to meet this function, such as office laptops, users can be advised to focus on weight, CPU and other parameters. You can also give a laptop ranking under this demand, list the advantages and disadvantages of a laptop, and let users see whether they can accept these shortcomings.

YuyangQi - participant 7 (Amateur)

- Yeah, I have a laptop, and it's okay. I've had it for many years, and it's not working that well anymore.

- I mainly use it for studying since my workplace provides a computer. It's been about five years, feels like a long time. I got it when I started college, and I was weighing Apple against non-Apple.
- I thought I needed it for a computer certification that wasn't very Apple-friendly. My usage was pretty basic—just studying and watching videos. I'm not into gaming, so I didn't need anything high-spec. Ended up getting a Lenovo because it was attractive, affordable, and had the features I needed. It's touchscreen, lightweight, and wasn't too expensive. At that price point, most of the laptops seemed similar in performance.
- Right after high school, my parents took me to this place full of computer shops. We compared prices and value for money, then decided on this one, but I did some research on computers beforehand. The salesperson's pitch and some online research were mostly what guided me. I didn't have many questions because it met my basic needs, and I skipped over what I didn't understand.
- I really like its touchscreen feature since the rest is pretty standard. The only downside is that it's gotten old, so the fan gets noisy sometimes.
- If I were to address these issues, I might consider getting a new one.
- Like, the whole RAM and storage space thing was beyond me at the time. They could've explained it in simpler terms, like how many photos a certain amount of gigs could hold, or how RAM affects speed. That would've made more sense to me.

YuyangQi - participant 8 (Pro)

- I basically choose my computer based on its quality and what I need. Since I'm a programmer and not too worried about the budget, I usually go for something like a Mac Pro, which is top-notch. It's perfect for coding and also suits my photography hobby.
- The most important thing for me is the operating system. It has to be Unix-based, like Linux or macOS, because they're just easier for programming. Then, I really care about the CPU and battery life, and of course, the stability of the operating system. I mean, I prefer Mac because of its long battery life and powerful processor. Plus, its screen is just stunning—the colors are so vivid. So yeah, that's why I go for it.
- I checked the official website.
- This is my field, I'm pretty familiar with all the specs and options.
- The latest Mac Pro is thicker than its predecessors, making it heavier, which I'm not a fan of. But aside from that, I'm pretty satisfied. The battery life and processor performance are great. It's a well-rounded computer that fits my needs perfectly.
- I expected it to be thicker because you can tell it's much thicker than the previous models. But, there's no way around it since it's the best balance of weight and performance available on the market. So, I'd still choose it because there really isn't a better option out there.
- For the average user, I think the processor's performance and what's called "general condition battery life" are key because a lot of people complain about

their computers being slow. So, for users, the CPU's performance and the SSD's performance are crucial. Many overlook the importance of SSD speed, but it's actually vital for everyday tasks like processing documents, where the response time mostly depends on the SSD, not the CPU. So, manufacturers could maybe focus more on highlighting how important the SSD speed is for overall performance since most users don't really need that much CPU power. That's something to consider when we look at operations that don't require much from the CPU.

YuyangQi - participant 9 (Amateur)

- Yeah, it's pretty good,. Out of 10? I'd give it a solid 7 or 8.
- The main reason I got a new one is because my old computer just wasn't cutting it anymore. Either it was too slow, or it felt like it was about to give up on me. I usually wait until they're practically unusable.
- About every four years or so.
- I'm not a fan of Windows operating systems, so I definitely lean towards MacBooks. With my last computer, I had to use a virtual machine for some software, which was really CPU intensive. Plus, the Mac didn't optimize for that Windows software very well, which meant the fans were always going crazy and it got super hot. Eventually, it just fried the screen. So, getting a new one made sense, especially since the old one was toast.
- When I'm shopping for a computer, I really look at the brand, and I usually go for Apple. I pay attention to the operating system and the price. I also keep an eye on any new updates or changes they make to different models each year, including the ports and stuff. All of that goes into my decision-making.
- Last time was for college. Needed one for class since there were no research labs or anything. Before college, I had a Windows PC, but it got so laggy over time. I don't know why there's such a big difference between Apple and them, but it just got unbearable. Plus, Windows seems to clutter up and get messy with files really easily.
- I checked out all the specs on the official website. Also, it was a good chance to learn a bit about computer hardware and what those specs mean in terms of performance. Found it pretty interesting.
- Usually, it's not too bad. I might skip over the really technical specs. I just focus on what matters to me.
- I watch a lot of tech reviews, especially for new products that come out each year. YouTubers like tech bloggers are a go-to for me. They do all sorts of tech product reviews which can be super helpful.
- Yeah, I care about what's important to me. Not so much the rest.
- What I love about my current laptop? The screen's quality is top-notch, and the operating system is sleek and easy to use. The native software that comes with it is also really well done. The only downsides? I wish it was cheaper. And for my research, I still need to use a Windows PC on the side.
- No surprises here. My expectations were pretty low, so it met them all.
- I'd probably wait a bit longer before buying a new one, to catch a better deal or a newer model that's a better value for the money.

- I'm interested in how much of an improvement it offers over previous models or competitors in terms of performance. Like, how much faster it can run software or how much better its cooling system works.

Haochen - participant 10 (Pro)

- Yes, like laptop very much.
- Liked the new features (specs), reasonably priced, didnt need new laptop. Purchase just because.
 - New laptop every three years
 - Last laptop lasted 2year and a half
- Wanted mac, didn't care much else
 - Most important to least: OS, computing power (thermal), battery & display, RAM.
 - Don't care about audio, storage, and durability.
- Purchased from official website, didn't check out in person before purchasing, took 2 weeks to arrive. Excited and happy.
- Learned about specs and performance at launch event, didnt watch review. Launched in the morning, ordered in the afternoon.
 - Two RAM options: 16 vs 32, went with 16. Storage dont need 1TB, went with 512GB. DEFAULT SETTING.
 - Customized models took longer to arrive. Default models arrive on release date.
- Familiar with specs. No need to seek assistance.
- Loves display and performance the most, especially thermal. Also good battery life.
- No windows on Apple Silicon. No gaming.
- Yes, aware of these lower-than-expected performances when purchased.
- Can't solve these problems from choosing different config. Would settle with current laptop given the tradeoffs.

Haochen - participant 11 (Semi Pro)

- Have laptop. Fairly satisfied with it.
- Laptop purchased for work as a sales representative. Company paid, he decided which model
 - Last work laptop was from 10 years ago. Was using a home Macbook for work.
 - The 10 year old still works fine. Doesn't keep up with new features
- Looked up Business Laptop online
 - Needs professional look, no gaming laptops, no crazy colors
 - Loves thinkpad series
 - No specific requirements for spec, wanted a long lasting laptop with good battery life.

- Spec 1 32+512, Spec 2 16+1tb same price. Went with spec 1. Regret not getting more storage
- Familiar with laptop hardware and spec, not familiar with new cpus and gpus.
- RAM can't be upgraded after purchase, but storage could be solved with extra usb stick.
- More RAM usually means more longevity. But ran low on storage after using for a few months.
- Familiarity with spec def influence the choice, whether good or bad.
- Likes the screen high res, good keyboard, fairly good battery life(not as good as macbook).
- Runs hot, fans on on fairly light workload, annoying fan noise
- Wasn't aware of the thermal issue before purchasing.
- Thermal issue can't be solved with altering RAM and storage, will live with it.
- Online reviews are helpful. Saw a few videos online. But only for the general model, not for specific config.

Haochen - participant 12 (Amateur)

- Yes, have a 2017 macbook pro. It was really nice, but started to get slow.
- Bought when graduated masters. A prize for herself.
 - The last laptop was from 2013. So one laptop lasts 4-5 years.
- Wanted a macbook instead of windows. Liked the touch bar and the silver color. Went with the cheapest model with these features.
 - Care about price, look, unique features.
 - "New laptops are never slow, and apple is famous for computers"
- Last time purchased laptop: watched reviews online, checked for specs on apple website, went to apple store and checked out the laptop in person. Bought with student discount.
- Saw reviews online, not techy videos, mostly unboxing videos, and cases and decorations.
- Macbook was expensive, especially for extra storage. Got the base model with touch bar, thought she will use hard drive when ran out of storage.
- Used cloud for photos and files, bought a usb drive but rarely use it.
- Never thought about buying a more expensive model, since the base model is expensive enough. Buying mainly for the brand and the touch bar.
- Love the look of touch bar. Usability wise not as good as real keys.
- Was decent. Now battery bad, 3 hours now compared to 10 hours before. Gets hot often. Keyboard text gone.
- Didn't run into these problems when first purchased.
- Prob won't buy the touch bar version anymore. Will use same money to buy a macbook air with more storage. Doesn't like everything in the cloud.
- Cared about the look too much. But not asking too much from it now given its a old laptop. Now uses company PC. laptop only for netflix.

2.5 Data Analysis

Key Findings:

Diverse Understanding and Decision-making Process:

- **11 out of 12** Amateur tech users rely on recommendations from friends or trusted sources rather than delving into technical specs. They value simplicity, reliability, and general guidance over detailed technical knowledge.

Primary Purchase Motivations:

- Upgrading for specific needs (e.g., academic work, design software), transitioning from desktop to laptop for mobility, and replacing old or failed laptops are common reasons for purchase among amateurs.

Important Selection Factors:

- Key considerations for amateur tech users include brand reliability, ease of use, operating system stability (to avoid viruses and ensure compatibility), and budget constraints.
- **6 out of 12 participants** expressed a preference for certain brands or operating systems, suggesting that brand reputation and OS familiarity significantly influence purchasing decisions. Offering a way to filter or compare laptops based on these preferences could streamline the decision-making process.

Research and Information Overload:

- **6 out of 12** Amateurs find the laptop selection process overwhelming due to the vast amount of technical information available. They express a need for simplified resources to guide their decisions.
- **5 participants** who were more familiar with technical specifications suggest that providing simple explanations or comparisons of specifications could help less tech-savvy users make informed decisions.

Post-Purchase Satisfaction and Improvements:

- Users appreciate features that enhance usability (e.g., touchscreen, quality display) but encounter dissatisfaction with aspects like weight and durability. There's a desire for more transparent information on how laptop specs relate to user needs.

Recommendations:

Simplified Specification Guides:

- Develop easy-to-understand guides that translate technical specifications into practical outcomes for common user tasks. For example, categorize laptops as best for general use, academic work, creative professionals, etc., with brief explanations of why certain specs are beneficial for these categories.

Interactive Selection Tools:

- Create interactive tools that allow users to input their primary laptop usage scenarios, preferred budget range, and key priorities (e.g., portability,

battery life). The tool could then recommend laptops that match these criteria, explaining why each recommendation is suitable.

Enhanced Transparency in Marketing:

- Market laptops with a focus on real-world benefits and scenarios rather than just listing technical specs. Use customer testimonials or scenario-based marketing to demonstrate how different models meet various user needs.

Virtual or In-store Consultations for Amateurs:

- Offer personalized consultation services, either virtually or in physical stores, where amateur users can discuss their needs with knowledgeable staff and receive tailored recommendations.

Educational Content and Workshops:

- Provide educational content (e.g., blog posts, videos) and workshops that demystify laptop specifications and help users understand how to match them to their needs. Topics could include "Understanding CPU and GPU for Non-techies" or "How to Choose Your First Laptop for College."

Feedback Loop for Continuous Improvement:

- Implement a feedback loop where amateur users can share their purchase experiences, including any gaps in information or decision-making difficulties they encountered. Use this feedback to refine the resources and tools provided.

3. Survey

3.1 Survey Design

Configuring Your Laptop - A Survey

As a group of students from the University of Washington, we are interested in learning about how you decide what specifications to get when purchasing a new laptop. Specifically, what features of a laptop matter the most to you and what matter the least, how you decide which configurations you choose based on your needs, and how you engage with information presented to you. This anonymous survey would take less than two minutes to complete.

Do you consider yourself as a pro or amateur tech user when it comes to computer configurations? *

(To help you identify yourself: do you know the difference between 13400 and 4070? If you do, you might be a pro; otherwise, you might be an amateur.)

- ☐ Pro
- ☐ Amateur

Do you own a laptop? If not, you may exit the survey now. *

- ☐ Yes
- ☐ No

If you own a laptop, what is the year, make and model? (ex. 2020 Apple MacBook Pro) *
Please use the "Other..." field to type if you know the answer.

- ☐ I'm not sure.
- ☐ Other...

Are you familiar with the hardware spec of your laptop? (i.e., what is the CPU, GPU?) *

- ☐ Yes, I am familiar
- ☐ No, I am not that familiar

What is the professional purpose of you using your computer? *

- ☐ Engineering and Technical Analysis
- ☐ Design, Creative Arts, and Content Creation
- ☐ Business and Administration
- ☐ Education and Research
- ☐ Other...

Given your professional purpose, select how important the following computer configurations ^{*} are to you.

	Not At All Impo...	Slightly Import...	Important	Fairly Important	Very Important
Price	☐	☐	☐	☐	☐
Computing po...	☐	☐	☐	☐	☐
Operating syst...	☐	☐	☐	☐	☐
Ram & storage	☐	☐	☐	☐	☐
Form factor (th...	☐	☐	☐	☐	☐
Display quality	☐	☐	☐	☐	☐
Battery life	☐	☐	☐	☐	☐
Keyboard & tou...	☐	☐	☐	☐	☐
Ports (USB, HD...	☐	☐	☐	☐	☐
Build quality an...	☐	☐	☐	☐	☐
Thermal mana...	☐	☐	☐	☐	☐
Upgradeability	☐	☐	☐	☐	☐
Audio quality	☐	☐	☐	☐	☐
Brand and warr...	☐	☐	☐	☐	☐

How did you learn about this model of your laptop before purchasing? *

- ☐ Online review and tech websites
- ☐ A friend or relative recommended to me
- ☐ I didn't buy it; it was gifted.
- ☐ I saw its advertisement
- ☐ In-store experience
- ☐ Other...

After you've settled down on the model, how did you decide what specifications to get while configuring your laptop? *

- ☐ I choose specifications with the most popularity.
- ☐ I choose the highest specification available within my budget.
- ☐ I prioritize key specifications (like storage or battery life) that is crucial for my needs.
- ☐ I select a model that offers the best value for money without necessarily being the highest spec or the m...
- ☐ I choose specifications that ensure the laptop remains capable and efficient for future applications and u...
- ☐ Other...

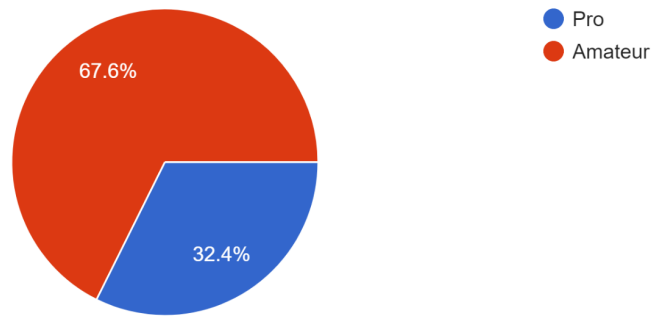
How satisfied are you with your current laptop regarding the specs? *

	Not satisfied at...	Slightly unsatis...	Neutral	Satisfied	Beyond satisfied
Price	☐	☐	☐	☐	☐
Computing po...	☐	☐	☐	☐	☐
Operating syst...	☐	☐	☐	☐	☐
Ram & storage	☐	☐	☐	☐	☐
Form factor (th...	☐	☐	☐	☐	☐
Display quality	☐	☐	☐	☐	☐
Battery life	☐	☐	☐	☐	☐
Keyboard & tou...	☐	☐	☐	☐	☐
Ports (USB, HD...	☐	☐	☐	☐	☐
Build quality an...	☐	☐	☐	☐	☐
Thermal mana...	☐	☐	☐	☐	☐
Upgradeability	☐	☐	☐	☐	☐
Audio quality	☐	☐	☐	☐	☐
Brand and warr...	☐	☐	☐	☐	☐

3.2 Survey Results

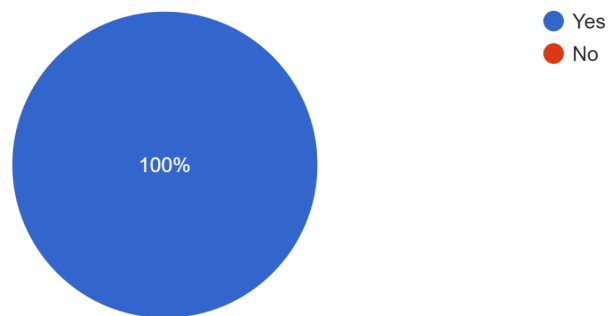
Do you consider yourself as a pro or amateur tech user when it comes to computer configurations? (To help you identify yourself: d...might be a pro; otherwise, you might be an amateur.)

34 responses



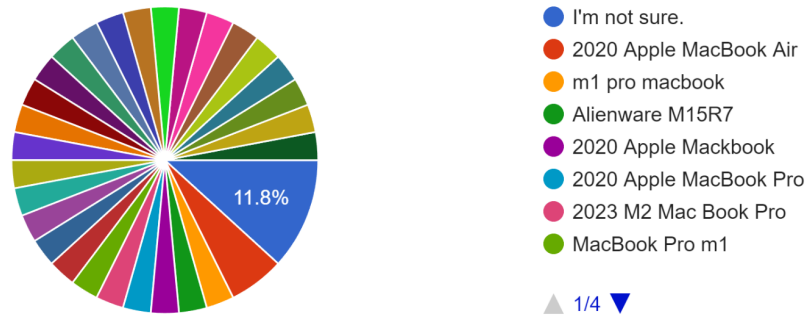
Do you own a laptop? If not, you may exit the survey now.

34 responses



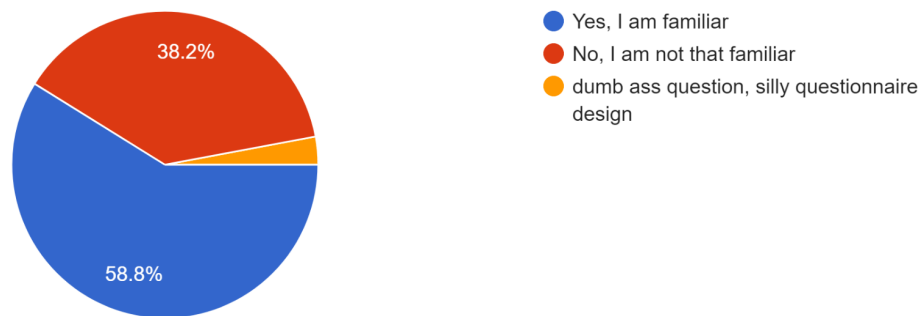
If you own a laptop, what is the year, make and model? (ex. 2020 Apple MacBook Pro) Please use the "Other..." field to type if you know the answer.

34 responses



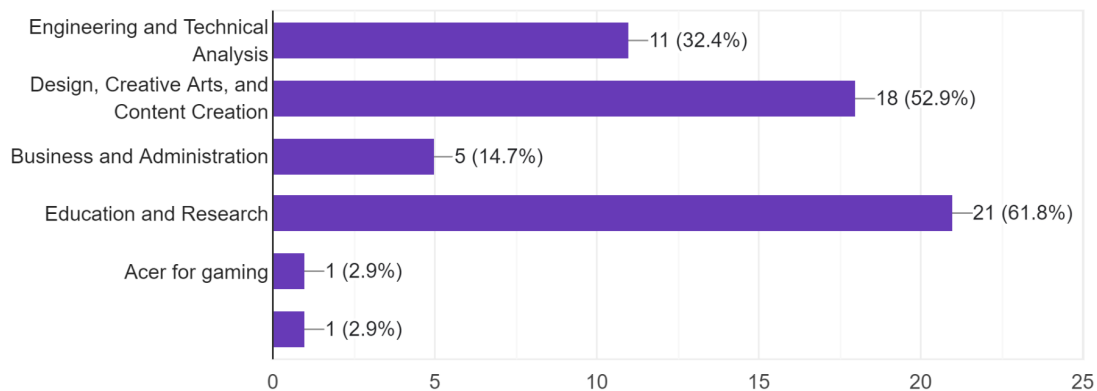
Are you familiar with the hardware spec of your laptop? (i.e., what is the CPU, GPU?)

34 responses

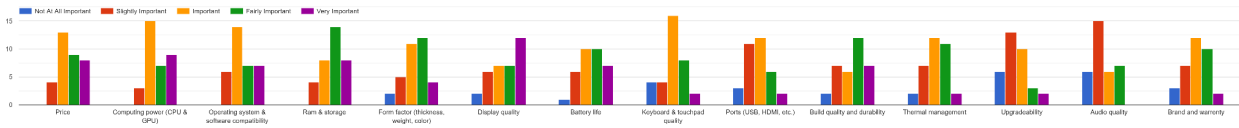


What is the professional purpose of you using your computer?

34 responses

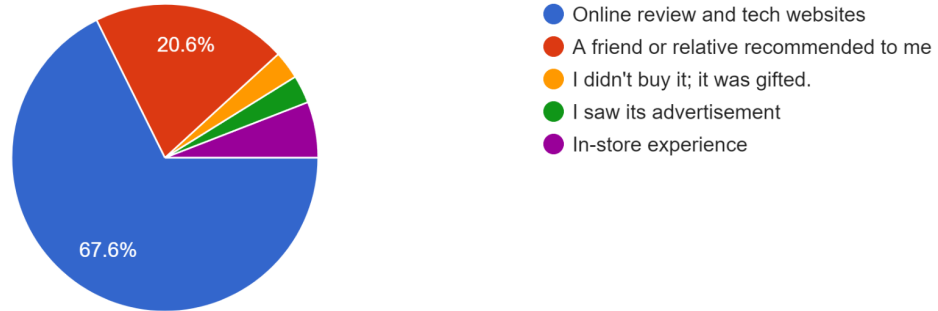


Given your professional purpose, select how important the following computer configurations are to you.



How did you learn about this model of your laptop before purchasing?

34 responses

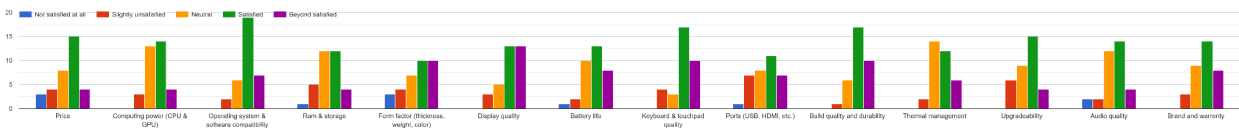


After you've settled down on the model, how did you decide what specifications to get while configuring your laptop?

34 responses



How satisfied are you with your current laptop regarding the specs?



3.3 Data Analysis

Survey Findings

1. Tech User Classification:

- 67.6% of respondents consider themselves amateur tech users, while 32.4% consider themselves pros.

2. Laptop Ownership:

- 100% of respondents own a laptop.

3. Laptop Make and Model:

- A variety of models are reported, with a significant number being Apple MacBook models from various years.

4. Familiarity with Hardware Specs:

- 38.2% are familiar with their laptop's hardware specs, while 58.8% are not.

5. Professional Purpose of Computer Use:

- The most common purposes are Education and Research (61.8%), Design, Creative Arts, and Content Creation (52.9%), Engineering and Technical Analysis (32.4%), and Business and Administration (14.7%).

6. Importance of Computer Configurations:

- Price, computing power (CPU & GPU), and RAM & storage are considered important or very important by a majority of respondents.
- Form factor, display quality, and battery life are also considered fairly important.
- Upgradeability and audio quality are less important to most respondents.

7. Learning About the Laptop Model:

- 67.6% learned about their laptop model through online reviews and tech websites.
- Friends or relatives recommended the model to 20.6% of respondents.

8. Decision-Making for Specifications:

- 35.3% choose specifications based on the highest available within their budget.
- 29.4% prioritize key specifications crucial for their needs.

Recommendations

1. Simplify Technical Specifications:

- Provide clear, simplified explanations of technical specifications (e.g., CPU, GPU, RAM) so amateur tech users can understand their relevance to their needs.

2. User-Friendly Comparison Tools:

- Develop tools that allow users to compare laptops based on key specifications, price, and user ratings, helping them make informed decisions.

3. Guided Selection Process:

- Implement a guided selection process that asks users about their primary use cases (e.g., education, research, creative work) and budget, then recommends laptops that meet their criteria.

4. Budget-Based Recommendations:

- Offer a range of laptop options for different budget categories, emphasizing the best value for money within each range.

5. Educational Content:

- Create educational content (e.g., articles, videos) that explains how different specifications impact performance for various tasks, helping users prioritize their needs.

6. User Reviews and Testimonials:

- Highlight user reviews and testimonials that focus on real-world usage scenarios, providing insights into how different laptops perform for specific tasks.

7. Personalization Options:

- Allow users to personalize their search by selecting key specifications that are crucial for their needs (e.g., storage, battery life).

8. Post-Purchase Support:

- Offer post-purchase support to help users set up their laptops and provide guidance on how to optimize performance based on their usage.