CS6750 Final Project: Redesigning Goodreads

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1 INTRODUCTION

1.1 Description

For my CS6750 final project, I have chosen to redesign Goodreads, a widely used social networking site that I have been using for almost a decade at this point. Goodreads is home to millions of books from around the world, and the platform provides users with the opportunity to interact with other book lovers, make new friends, and discuss literary works. While Goodreads provides a great platform for book enthusiasts to connect, share and review books, I believe there are several aspects of the user experience that can be improved. I have found that several users online and in my friends' circle share the same sentiment. With that in mind, I have decided to tackle this challenge and propose a better interaction design for the website. The figure below is a screenshot of the platform.
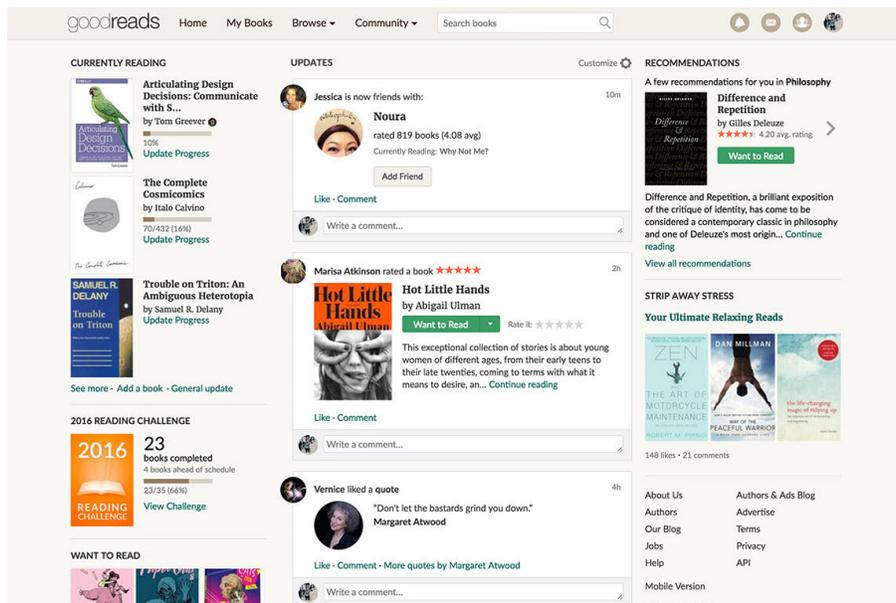

Figure 1—Goodreads UI (Web). Source: Goodreads.

1.2 Access

From a web/mobile browser, Goodreads can be accessed by visiting the website at www.goodreads.com. A user can create an account using a valid email address

or by using existing accounts with sites like Facebook and Google. Additionally, the Goodreads app is also available to access from Google play store and Apple app store. Once logged in, Goodreads allows users to explore books and libraries, build bookshelves, participate in discussions, and write reviews. The homepage provides recommendations based on the various preferences of the user (the). Essentially, it is a social media platform circled around books to discover, review, and connect.

As someone who has grown up and seen the design and interaction trends change on the web, it feels as if Goodreads is still in the past. For a platform that is widely used and liked, fixing some of the parts of the interaction might add significant value to the platform.

2 INITIAL NEEDFINDING

The initial goal is to seek some information about the current weaknesses in the interface. The first needfinding type I chose for this is **interviews**. The second needfinding type I chose is **reading existing product reviews**.

Problem Space: The target domain for which I am interested in building is the platform's search and recommendation features, or its book organization features, though I will expand on this following the needfinding via interviews and analysis of reviews. The redesign can entail refining the user interface, personalizing recommendations, and making searching and organizing books more enjoyable and intuitive. Additionally, I want to study if there is a difference in opinion between the web and mobile versions of Goodreads between their service offering, ease of use, and overall interaction.

User Types: The users I am interested in redesigning the Goodreads UI are:

· **Casual Readers**: These users want to discover new books and track their reading progress. They are not necessarily literary experts and have varying levels of familiarity with Goodreads. They aim to find books that match their interests and explore new authors. This user type can include any age or gender, but I will primarily focus on users aged 30-40 as it is a convenient demographic for me to interview.
· **Avid Readers**: These users utilize Goodreads to track progress, find new books, and interact with other readers. They may be more knowledgeable in literature and familiar with all the functionalities Goodreads has to offer. Their motiva-

tion comes from discovering new genres, discussing books with others, and tracking reading goals. Any age or gender could fit this user type, but my focus will be mainly on users aged 30-40, for the same reason discussed above.

Data Inventory: For the first needfinding exercise based on interviews, my questions, along with the participant convenience sampling will answer all the questions in the data inventory (Who are the users?, Where are the users? What is the context of the task? What are their goals? What do they need? What are their tasks? What are their subtasks?). Also, when analyzing the existing product reviews, I will make sure to incorporate the answers for all or most of the questions in the data inventory. The answers to these questions are presented in a different **Data Inventory** section below.

Biases: Here are some of the biases associated with my needfinding:

· **Selection bias:** My friends or the individuals who write reviews on the Play Store may not represent the diverse range of Goodreads users. Also, users who usually rate are often on one or the other side of the spectrum.
· **Confirmation bias:** When asking for feedback from my friends or reading online reviews, I may be more biased towards confirming my own beliefs or assumptions about the platform.
· **Social desirability bias:** My friends might be hesitant to provide their true feedback about Goodreads, and try to comply and synchronize with what they believe will make them more desirable.

To mitigate these biases, I will develop non-leading interview questions, communicate the need for unbiased opinions with the interview participants, and finally, analyze reviews that are positive, negative, and neutral.

2.1 Interviews

Listed below are the interview questions I used. The interviews on average lasted about 20 minutes, and the total number of participants was 9. For the selection of participants, I used my Goodreads account to search for my friends who were fairly active on the platform.

· Tell me about yourself and your relationship with books.
· Would you describe yourself as an avid or casual reader? Why?
· Why do you use Goodreads? Could you not do without it?
· What do you like about using Goodreads, and how often do you use it?

- Do you use an app, the web version, or both? Why or why not?
- Have you faced any challenges with the Goodreads platform? If yes, how would you suggest improving upon them?
- What are some of the features on Goodreads that you use the most? What do you like/dislike about them?
- How do you create your shelf? Do you only use the default shelves provided by Goodreads, or do you also have shelves that you have created based on a need that you have identified for yourself?
- How do you currently discover new books on Goodreads and are you happy with the experience?
- Have you tried any other alternatives to Goodreads? What did you like/dislike?
- Have you ever used any of Goodreads' social features such as book clubs or discussion forums? Tell me about your experience.
- Do you feel that the Goodreads search finds the books you are interested in? If not, what could be improved?
- Do you want to add anything else at all?

2.2 Reading existing product reviews

For this part, I mostly focused on the Google Playstore reviews on Goodreads. One example is shown below. I analyzed several positive, negative, and neutral reviews. The findings are presented in the next section.

★☆☆☆☆ March 21, 2023

Love the idea, hate the app. Super glitchy. App won't let me move books from "currently reading" to "read", often when I add a book to my "currently reading" shelf it is instead added to the "read" shelf and I have to repeatedly reshelf it before it sticks. Also constantly signs me out. Very annoying to use this app. The search function is practically useless, reviews don't show up in the app, the list goes on. I doubt any developers have lifted a finger in years to fix any of the many issues.

Figure 2—One example of Goodreads product review. Source: Google Play Store.

2.3 Summary of Needfinding

- One of the most brought up strengths of Goodreads is the vast selection of books available on the platform. From the interviews and online reviews, it can be concluded that the platform offers an unparalleled selection of titles, including obscure books.
- The rating and review system allows users to read detailed reviews of books before deciding whether or not to read them, saving time and money.
- Some of the interviewees mentioned that both the versions (web and app) of

the platform's interface can be difficult to navigate. The problem is not specific to the mobile versions. Some interviewees noted that the search function on both versions can be clunky, making it challenging to find specific titles or authors. There are similar problems listed in the play store reviews as well.

· The user interaction related to managing shelves (moving books, removing books, bulk edits) is terrible. This is also evident in the review screenshot above.

· The web version can be overwhelming or cluttered, with too much information and too many features competing for attention.

· Some of the interviewees mentioned that they have switched to **Storygraph** since it provides better recommendations and statistics.

· Some of the interviewees mentioned the prevalence of fake reviews on the platform. I could not find this in the play store reviews, however.

· Despite these criticisms, many reviews and interviewees mentioned that they find the platform to be a valuable resource.

2.4 Defining Requirements

Based on the needfinding, the primary pain points are listed below.

· a better search/recommendation functionality to find books for novice and expert users(learnability and efficiency)
· a better interaction when managing their bookshelves.

Since it was established that there is dissatisfaction with both the web and app versions, to limit the scope, I will focus on the web version. Additionally, the problem domain I will focus on for this project is better interaction when managing their bookshelves.

2.5 Data Inventory

The users are avid or casual readers. The users are using their web version of Goodreads (ie, they are accessing Goodreads using a web browser instead of the Goodreads app). The users are usually at home, at their desks, or at any casual location such as a coffee shop. In nearly all cases, there is not anything big competing for users' attention. One of the distractions could be being tempted with book covers as the users are organizing their shelves, making them go off tangent. Also, the users might be multitasking on their computers. Based on my interview, they are primarily focused on organizing their bookshelf since they

only perform this action once in a while (similar to clearing their inboxes). Their goal is to have a clean and organized bookshelf on Goodreads. They need a good interface to be able to not think about the interface but the task at hand. Their task is to organize the bookshelf. Cognitively they are deciding where each book belongs based on different factors. As an example, a book previously put on "To Read" might be removed as the user loses interest in the book. Their subtasks are to select books and navigate them to different shelves, create shelves if necessary, remove some of the books, etc.

3 HEURISTIC EVALUATION
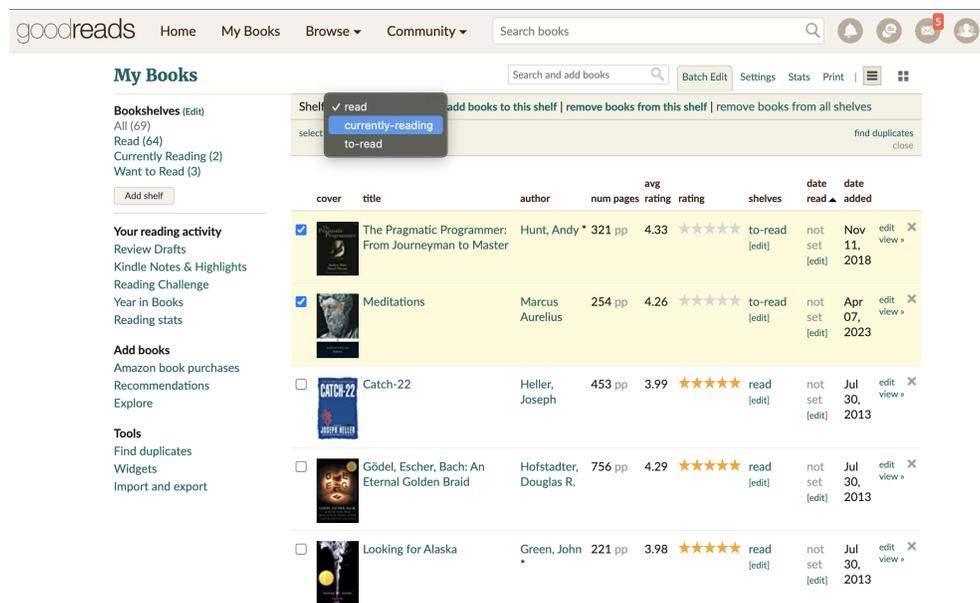
3.1 What works well?

Figure 3—Goodreads Shelf UI.

What works well is listed below:

1. The UI is functional. Moving a single book from one shelf to the other is easy and manageable. The UI allows the user to switch between a list view and a book cover view. Additionally, users can select what columns are visible in the front end via settings. These features allow a user to use recognition over a recall when they are organizing their bookshelves. They are going to recognize when they read the book, what they rated, and the current shelf it is on. This also helps minimize the cognitive load by offloading tasks to the

interface.

2. Additionally, Goodreads provides a feature that allows users to create a new custom bookshelf. This is amazing because users can tailor their shelves for anything that they think is relevant to them. It caters to avid and casual readers as well.

3. From a participant's point of view, the execution time of operators is fast and functional. There are no bugs that would cause learned helplessness when managing the shelves. Visual sensation allows users to track input, processing, and output within the UI. As an example, in the screenshot above, the checkbox shows what books are selected. Additionally, the selected part of the UI is also tinted yellow. The signifiers for affordances are designed well too. Checkboxes to bulk select, star buttons for rating, and colored links for completion of action signify to users what they are for.

4. Allowing users to find and remove duplicate books among different book-shelves is also a great feature. Again, it offloads tasks to the interface making the process of organizing their bookshelves easier.

3.2 What does not work well?, and why does not it work well?

I would expect Goodreads to have the aforementioned functionalities, especially given that at present, they are industry leaders for books based social networking. However, there are several things that do not work very well. These are listed below. I will reference how some of these are accounted for later on after I create and evaluate the prototypes.
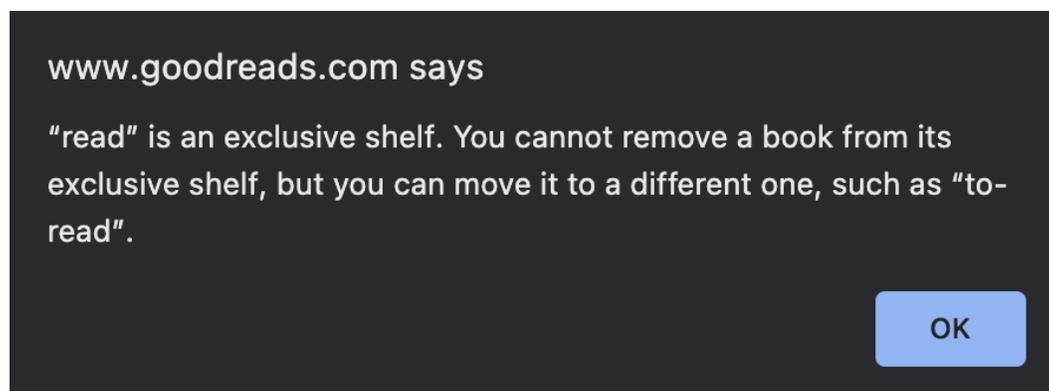
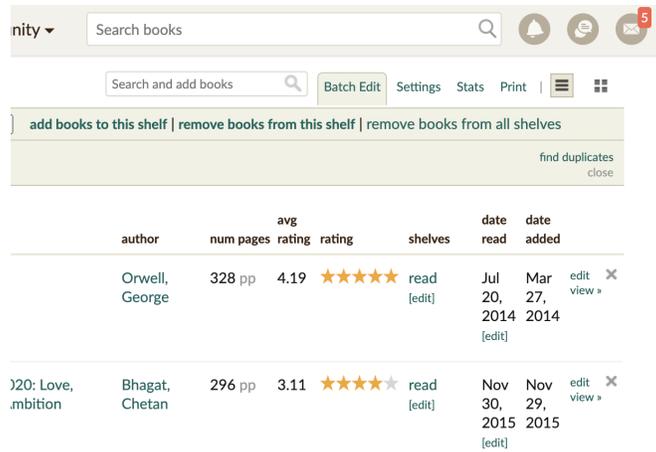

Figure 4—Late warning (see 4)

Figure 5—Two search fields (see 7)

1. While the action of moving a single book from one shelf to the other is fine, bulk movement between the shelves is not intuitive, time-consuming, and difficult.

2. One of the most glaring problem in the design is despite the name of the "bookshelf", the UI does not provide any invisible interface or direct manipulation. Users cannot drag and drop their books to different bookshelves. For someone who is new to the platform, this design pattern seems inconsistent with the norm of today. The inconsistency with analogies and representations results in slower learning curves.

3. The gulf of execution and the gulf of evaluation is large. That is, the gap between what the user wants to do (organize the shelf) and what the user needs to do in the UI is large. Similarly, there is also a huge gap between the effects of the actions and the user's understanding of the results.

4. The design principle of constraint is missing. As an example, an action to bulk remove books from the "Read" section is prohibited. However, a user does not know this until the user clicks on the "Remove books from this shelf". Only then the user gets a traditional-looking pop-up message that this action is not allowed. If the link were greyed out (as an example), the user would know that this action is prohibited without having to go through the entire gulf of execution.

5. The UI provides a help section to describe how the bookshelf is supposed to be used. The documentation here seems to be at an expense of subpar design.

6. Although the cover view described in the **What works well?** section above provides a choice for the user with an alternative view of the bookshelf, it is

almost impossible to organize the bookshelf from this view. The only visible view is the cover of the book, and now the user has to recall all other details regarding the book and the experience associated with it.

7. The search functionality in the bookshelf does not have an auto-complete. Additionally, although the search functionality is part of the bookshelf, there is no difference between using it, and another search field above it. This just seems weird. Similarly, it is easier (and functional) to search a bookshelf using Ctrl+F instead of using the built-in search functionality.

8. Some of the components of the UI do not look like action items, although they are. The visual design does not suggest how it's supposed to be used. As an example, instead of using buttons, the action to "add books to this shelf", "remove books from this shelf", "remove books from all shelves" etc.

9. The UI is not tolerant of a mistake or a slip. For example, if the user makes an error during a bulk edit action, there is no undo action provided by the interface.

10. Synthesizability is another issue with the UI. The links between different components of the UI are so convoluted that it is pretty difficult for the user to comprehend how the user reached the current state.
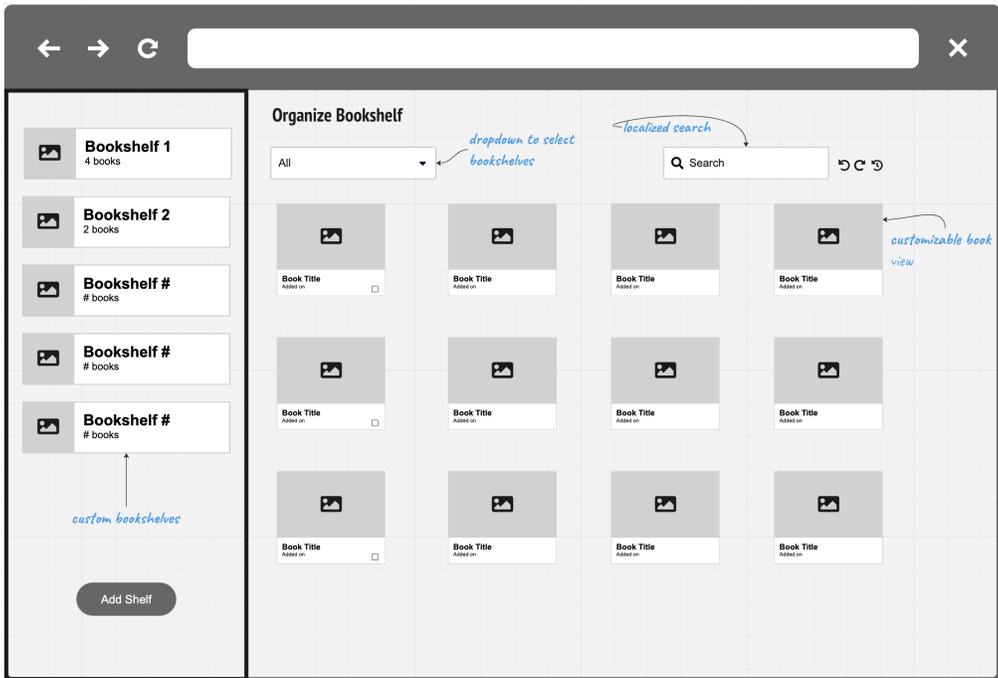
4 INTERFACE REDESIGN
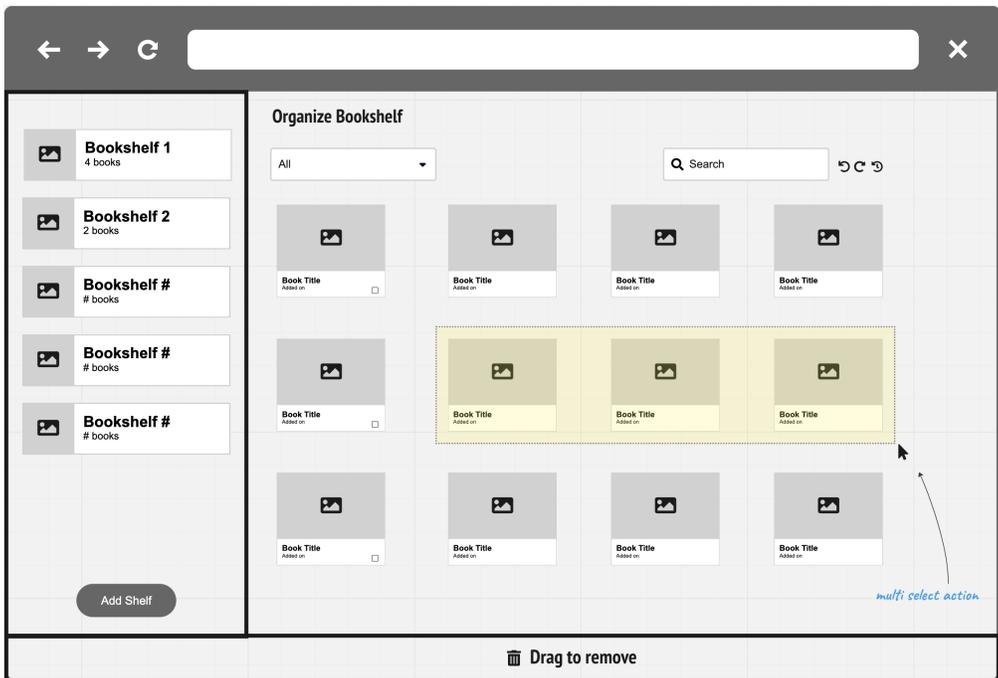
Figure 6—Default view of bookshelf

Figure 7—Action: Select books using mouse cursor
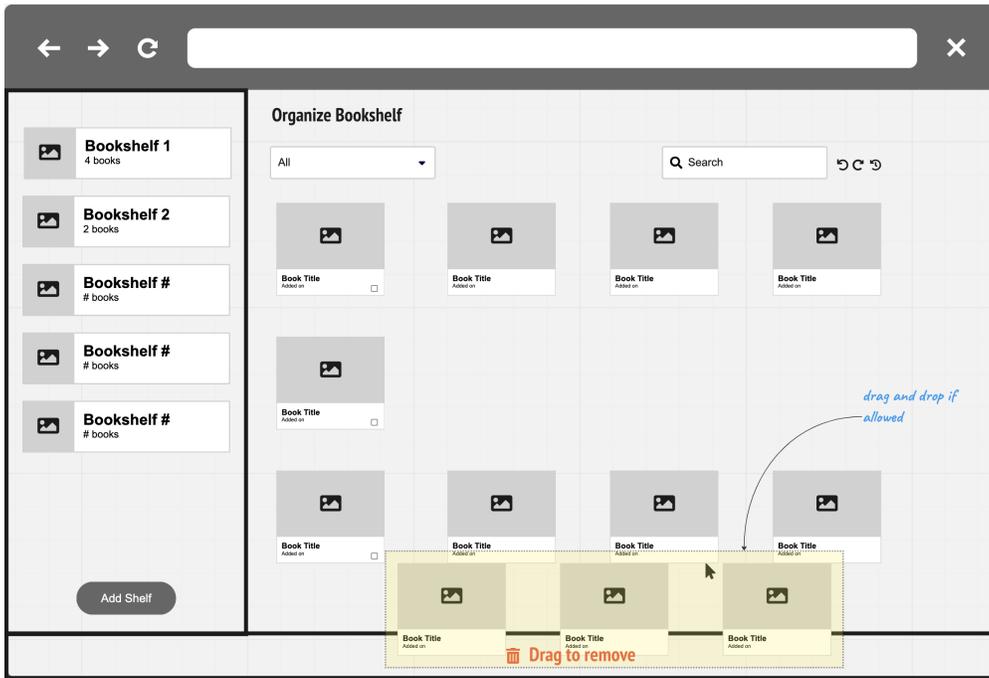
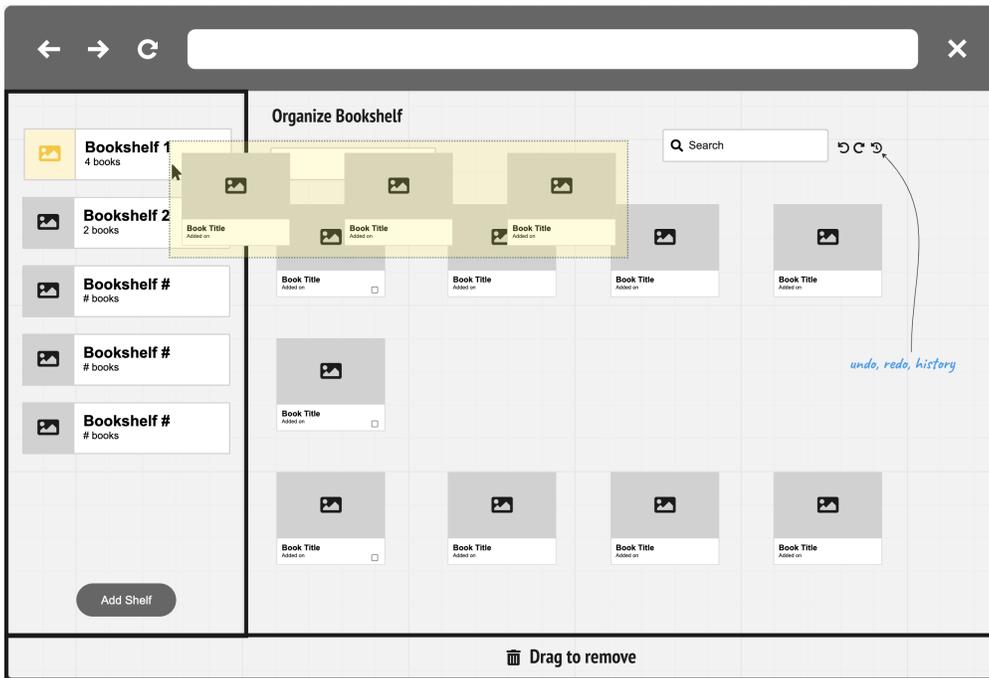*Figure 8*—Action: Drag to remove books

Figure 9—Action: Drag to move books to another bookshelf

5 INTERFACE JUSTIFICATION

Several of the components of the UI that works well are kept intact. The interface justification for the card prototype above for which the components are kept intact is explained below:

1. The UI is expected to be functional, and the execution time for each operator is still small (if not smaller). From a processor point of view, the UI has all the best components from the previous UI.
2. Similarly (although not directly visible in the prototype above), from settings, a user can customize the information that the card cover view contains (ratings, description, author, etc.), which helps with recognition instead of recall.
3. The card can also be toggled into the list view as before. Similarly, the feature to remove duplicates is still available.
4. The proposed UI does not compromise on any of the functionalities offered by the original UI.

The interface justification for the prototype is explained below:

1. As previously discussed, even though Goodreads uses the term "bookshelf", it has a very obtuse organizational feature for books (especially when it comes to bulk editing). If we were to imagine a person trying to manage their physical bookshelf, they would be able to select multiple books and put them on one of their shelves (by carrying them and putting them on the respective shelf). The prototype above mimics this approach for direct manipulation to make the gulf of execution very narrow.
2. The proposed UI is consistent with several industry-accepted service providers such as Google Drive, Dropbox, etc. Being consistent narrows the gulf of execution. The user's knowledge of one of these UIs should generalize to the proposed UI making the learning curve very rapid, even with limited experience.
3. Instead of text and links disguised as action items, the proposed UI has buttons and icons to signify the purpose of the actions. The new UI uses affordances where ever possible.
4. The proposed UI also incorporates feedforward. As an example, when users select a few books, the users can easily see the "Drag to remove" part of the UI is activated.
5. There are several constraints added to the new design. For example, the "Drag

to remove" part of the UI is only activated when books are selected. In the current UI, a user can delete a book without selecting one and the UI will then provide a dialog informing the user that this action is prohibited. The previous UI could have prevented the user from putting in an input that was not going to work anyway. The new UI incorporates this.

6. Additionally, users are not at risk of causing too much trouble accidentally. This is because the UI also introduces Undo and Redo actions. The signifiers for actions in the form of icons are also industry standards.

7. For advanced users, an action history is also provided. This is similar to a Google Doc or Overleaf History which allows users to see what action was performed at a previous checkpoint and revert back to it if necessary. At this point, I am not entirely certain if this will be extremely useful, but I will be updating this after the evaluation step. This feature also helps with synthesizability (the user can process how they reached this state of organization)

8. The search bar is localized only for the bookshelf. This avoids any potential slips or mistakes.

9. The UI has introduced some new actions such as Undo and Redo. For expert users, it will also support completing these actions using hotkeys using key mapping that is consistent (for example, Ctrl/Cmd+Z for undo). Similarly, Ctrl/Cmd+A to select all books, Shift+drag to select multiple books, and Ctrl/Cmd+drag to select books spread apart are also supported.

10. The users can predict what happens before an action is performed. As an example, when the user is dragging the selected books to one of the bookshelves, the bookshelf that the book will go to will be tinted differently as shown in the card prototype above.

11. The UI is simple and the use of design is easy to understand regardless of knowledge, language skills, or concentration levels. There is no difference between performing a single edit and performing a bulk edit.

12. The user is also only given exactly what is needed. The UI emphasizes essential content and avoids all the clutter.

13. In the previous design, it is very difficult for the user to comprehend that the default shelves of "Read", "Currently Reading" and "Want To Read" are to be associated with every book. Any additional custom bookshelf created by the user is merely like a tag that the user is adding to the book. This new proposed design is also successful in clarifying this functional design constraint to the user. While the proposed design might also be used to circumnavigate the

functional constraint, it adheres to the current Goodreads functional design philosophy that each book, regardless of the association with a custom bookshelf created by the user, is part of one of the three default bookshelves (As a designer, I also wanted to stick to this, and simply redesign the interaction. In technical language, only the front-end will be impacted and the back-end will remain the same). This adaptive nature of change will not cognitively load the users as well.

Overall, the proposed design uses direct manipulation, constraints, tolerance, feedback, simplicity, affordances, perceptibility, consistency, flexibility, and ease among other design principles to narrow the gulf of execution and the gulf of evaluation. The primary issue of the current UI for the bulk organization of bookshelves was learned helplessness, and the proposed UI should help avoid it.

6 EVALUATION PLAN

6.1 Selection

For evaluation, I will be using surveys. One of the primary reasons for this is that surveys allow for asynchronous participation. I am interested in this because I want the prototype to speak for itself, instead of possibly biasing the participants in a synchronous format of evaluation (such as in interviews).

6.2 Description

6.2.1 *Survey Previews*

The survey questions that I intend to ask my survey participants are listed below. I have tried to keep them short, and there is a mix of single select and descriptive questions. I have avoided questions that segregate Goodreads users from non-Goodreads users. This is because I have a clear understanding of the survey participants and they are all Goodreads users.

1. On a scale of 1-5, how easy was it to understand the Goodreads bookshelf design changes based on the card prototype?

 a) 1
 b) 2
 c) 3

d) 4

e) 5

2. Do you think the new UI will make it easier to move books between book-shelves?

a) Yes

b) No

c) I can't say based on the low-fidelity design

3. Do you think the new UI will make it easier to move multiple books from one bookshelf to the other?

a) Yes

b) No

c) I can't say based on the low-fidelity design

4. Do you anticipate any difficulties or challenges while using the new Goodreads Bookshelf UI?

...

5. If implemented, would you recommend the new UI to other Goodreads users?

a) Yes

b) No

c) I'm not sure

6. How likely are you to use the new UI compared to the old one given that you could toggle between the two from settings?

a) Much more likely

b) Slightly more likely

c) No difference

d) Slightly less likely

e) Much less likely

7. Do you have any suggestions for further improvements or additional features for the new Goodreads Bookshelf UI?

...

8. How do you rate the overall card design prototype of the new Goodreads

bookshelf?

a) Excellent

b) Good

c) Average

d) Poor

e) Very poor

9. Will you use features such as undo and redo?

a) Yes

b) No

c) Maybe

d) It is unclear from the prototype

10. Will you use the history feature that shows you a log of all the actions you have performed while organizing your shelf?

a) Yes

b) No

c) Maybe

d) It is unclear from the prototype

6.2.2 *Participant Recruitment*

As mentioned above, all of my participants are already Goodreads users and they are familiar with the problem space. This user type can include any age or gender, but I will primarily focus on users aged 30-40 as it is a convenient demographic for me to survey. All of them were part of the needfinding exercise that was previously conducted as well. These are my Goodreads connections who are still active on the platform (I know this because of my Goodreads timeline activity).

The number of participants for surveys is still 9. Ideally, surveys would benefit from a larger number of participants, but I wanted to be consistent with the same population I conducted by needfinding exercise with.

6.2.3 *Biases and mitigation*

Some of the biases are:

· **Sampling bias**: The sampling bias is probable here as a result of selecting the same population for needfinding and evaluation. At some level, this makes

sense because the problem domain was also identified because of the interview with the population. Asking them if the redesign of the UI would address some of their previous concern is not entirely incorrect. However, to mitigate the bias, I avoided leading questions and requested honest feedback. Additionally, I made an effort to not explain the card prototype at all.

· **Social desirability bias**: My connection from Goodreads might be hesitant to provide their true feedback about Goodreads, and try to comply and synchronize with what they believe will make them more desirable. They know that I am doing this research as a part of a course and they might be biased in "helping" me out. Again, to circumnavigate this, I have asked them to be honest with their answers and made sure not to have leading questions. I also have a few open questions which do not restrict them with only the options I provide.

6.3 Execution

The results of the surveys along with the analysis are detailed below:

· When asked how easy it was to understand the design changes, the majority response was a 5. Only three surveyors responded 4, and nobody responded to 1, 2, or 3. The prototype seemed to be clear enough to convey the interaction.
· All the participants responded "Yes", when asked if the new UI will make it easier to move books between the shelves.
· All but two participants did not respond "Yes", when asked if the new UI will make it easier to move multiple books from one shelf to the other.
· When asked if they anticipated any difficulties or challenges while using the new Goodreads bookshelf UI, most of the survey responders said "No". One of them pointed out if the buttons for redo/undo/history was necessary at all given that bookshelf management is not something they do on a regular basis. Similarly, another participant pointed out that they were not clear about what would happen to the gap (created by dragging action) once the books are moved to another bookshelf.
· Almost all of them responded "Yes" when asked if they would recommend the new UI to other Goodreads users. I added this question because my assumption was if they responded positively to the question, it implied that they liked the prototype.
· All participants responded Slightly more likely and Much more likely when asked how likely they were to use the new UI given they could toggle it from

settings.

· When asked if they had any suggestions for further improvements, one surveyor mentioned the prototype was missing star ratings that they are familiar with. I realized that the card prototype failed to encapsulate this despite thinking about allowing users to choose the various details of the book within the card view. Similarly, another respondent mentioned a confirmation prompt for deletion action. I thought this was an amazing feedback.

· Everyone responded "Good" or "Excellent" when asked how they rate the card design prototype.

· When asked if they would use features such as undo and redo, 5 responded "Maybe", 2 responded "Yes", 1 responded "No", and 1 responded "It is unclear from the prototype"

· When asked if they would use the history feature, 6 responded "It is unclear from the prototype", 1 responded "Maybe", 1 responded "Yes", and 1 responded "No". I could have done a better job of clarifying this in the card prototype. For now, I will conclude that this feature is not required at this point.

6.4 Next Steps

Here are a few changes I would make in another round of design.

· I thought the number of participants for my prototype evaluation surveys was fairly low. I would definitely ramp up on this.

· Some of the features (such as history) did not come across well. I would detail it more but still evaluate if users think it is a necessary feature.

· I was unable to communicate hotkey features (That the users could use key bindings to perform common operations such as undo, select all etc.). I would also detail this in future designs.

· While I am quite satisfied with the medium fidelity prototype, it might also make sense to simulate the new design using a web-based (simple webapp with Javascript, HTML, and CSS with Goodreads branding) high fidelity prototype to give the user full context of what is to be expected. This will be especially useful for the user to assess the gulf of evaluation.