Heuristic Evaluation of Debias

Evaluator #A: ▮▮▮▮▮▮▮▮▮▮▮▮
Evaluator #B: ▮▮▮▮▮▮▮▮▮▮▮▮
Evaluator #C: ▮▮▮▮▮▮▮▮▮▮▮▮
Evaluator #D: ▮▮▮▮▮▮▮▮▮▮▮▮

1. Problem

DeBias is an app that allows users to track and analyse the type of political news they have read, informing the user of their bias and encourages them to read both sides of the story.

2. Violations Found

[H2-4 Consistency & Standards] [Severity 3] [Found by: A, C, D]
The interface used the string "Save" on the first screen for saving the user's profile, but used the string "Update" on the second screen. Users may be confused by this different terminology for the same function. Fix: Use the same string on each screen.
[..list violations here with a blank line between each -- number from 1 to n, where n is total # of violations]

[H2-6: Recognition rather than recall][Severity: 2][Found by C]
Problem: On the Weekly Goals screen, when changing goals for some articles, the current goal is covered. If you scroll or put the app down and come back to it, you may forget what your original goal was and lose the baseline that you're comparing against. Furthermore, when changing goals for all articles, you can't see the goals for nearby categories. For example, when changing Conservative goals, you can't see the current goals for Neutral and Liberal). As a result, users need to remember their frame of reference when setting goals.
Solution: Add all goal numbers into the scrolling menu. Alternatively, editing could be turned into an in-line feature rather than a separate window, preventing any issue of the modal covering the background.

[H2-3: User control and freedom][Severity: 3][Found by C]
Problem: On the Weekly Goals screen, there is no cancel button on the scrolling goal menu. If users open the menu and scrolls without thinking, they shouldn't be forced to set that new amount or try to remember their old amount.
Solution: Add a cancel button. Or, keep the done button as the only option, but add an "Undo" tooltip pop-up right after the goal is set.

[H2-4: Consistency and standards/H2-7: Flexibility and efficiency of use:][Severity: 2][Found by C, A]
Problem: Clickable items on the homepage, such as the pie chart, look very similar to items that are not clickable, such as the liberal/conservative color legend.
Solution: Have small differences in color, size, or animations to differentiate buttons from images. Another option would be to make the legend clickable as well, making all elements on the home screen interactive. Or, cut the legend altogether (which was an option discussed in class).

Second description: On the home screen, once users have set up an initial goal, it isn't clear or intuitive that clicking the goal within the circle would allow them to modify it. Thus, even though clicking the circle would serve as an accelerator, the accelerator presence is almost impossible to detect, preventing it from achieving efficiency of use. To fix it, add a small icon (perhaps a pencil?) that implies modification.

[H2-7: Flexibility and efficiency of use][Severity: 2][Found by C]
Problem: On the Weekly Goals screen, all goal counts have to be changed individually, since there is no option to change all goal counts at once. For example, users cannot increment or decrement all of their goal counts by a certain number, or set all goal counts equal to the same number.
Solution: Add up and down arrows in the interface (below the bars but above the buttons, for example) to increment and decrement all counts respectively. Maybe also consider adding another count to change all goals to the same number, but this may be unnecessary clutter and rarely used.

[H2-4: Consistency and standards][Severity: 1][Found by A, C]
Problem: On the Weekly Goals screen, the "Very Conservative" text is clickable, but none of the other text is clickable.
Solution: I assume that this was an oversight. Either make all text clickable or none of the text clickable.

[H2-4: Consistency and standards][Severity: 3][Found by A, C]
Problem: In all cases, tapping a friend in the leaderboard, then tapping their breakdown, and then navigating back two levels leads to the Friends screen. However, if users tap themselves in the leaderboard, then tap their breakdown, and attempt to navigate back two levels, they will only be able to navigate back one level and be brought to the home screen. They will not be able to use the back button a second time to navigate back to the leaderboard.
Solution: Make back button behavior consistent on the leaderboard, regardless of whether a user is tapping their own name or the name of a friend.

[H2-7: Flexibility and efficiency of use][Severity: 2][Found by B, C]
Problem: On the Friend's Breakdown screen, if users try to view the articles of a blocked friend, a modal pops up that can only be closed by tapping a small "x". Note that this violation occurs on other modals as well (such as adding a friend).
Solution: Allow the modal to be closed by tapping anywhere on the background (outside of the modal), or by adding "Close" text at the bottom of the screen to keep it consistent with the interaction from the Weekly Goals modal. Making the X bigger will also speed up the interaction, according to Fitt's Law.

[H2-10: Help and documentation][Severity: 0][Found by C]
Problem: The Articles Blocked modal always uses "This user has blocked <u>his</u> friends from viewing <u>his</u> articles" regardless of the gender of the friend.
Solution: Call users by their preferred genders. I assume that this was an oversight or a limitation of proto.io.

[H2-8: Aesthetic and minimalist design][Severity: 2][Found by A, C, D]
Problem: The number and type of articles read on the leaderboard is difficult to read. At a glance, users cannot easily tell what a friend's article breakdown is.
Solution: Make the icons larger, or find a way to add more differentiation between types of articles via color or styling.

[H2-1: Visibility of system status][Severity: 2][Found by A, C, B]
Problem: Changing the order of the list between Quantity and Diversity feels abrupt, and a user can easily miss the most important differences between the two leaderboards.
Solution: Add some sort of animation for the transition to show the user that the leaderboard is changing, ideally one that highlights the differences between the leaderboards.

[H2-2: Match between system and the real world][Severity: 2][Found by C]
Problem: While using first names is more personal when comparing to a small group of friends, this makes it difficult to scale the network. Users may have a lot of friends named Matt, for example, and should not need to check avatar photos (which can change, and therefore are not a good standard) to make sense of the many possible overlaps.
Solution: Use last names in addition to first names. If you want to preserve the personal feel, use a last initial instead of a last name (which improves differentiation but does not seem too formal).

[H2-9: Help users recognize, diagnose, and recover from error codes][Severity: 2][Found by C, B]
Problem: The error message "This user has blocked his friends from viewing his articles" does not provide any potential solutions.
Solution: Include an additional sentence saying something along the lines of, "You can view articles of friends who have not set their pages to private." Or, alternatively, include a "Lock" icon in the title of private breakdowns to prevent users from running into the modal at all. The lock could have an animation to highlight its presence when a user tries to tap for more information on articles.

Second description:
Problem: Users who attempt to view a friend's private articles are presented with an error modal. This is difficult for users who want to use DeBias as an article discovery mechanism, since they will need to cycle through multiple friends to find public profiles.
Solution: Include a lock icon on the leaderboard for private friends, so that users who are looking for articles from friends know which options are and are not useful.

[H2-4: Consistency and standards][Severity: 2][Found by C]
Problem: Trends chart looks visually identical to other data visualizations in the app, but those visualizations are interactive while the Trends chart is not.
Solution: Make the Trends chart interactive, or visually differentiate it from interactive charts.

[H2-8: Aesthetic and minimalist design][Severity: 1][Found by C]
Problem: All items in the list of Articles have a gray background, which typically indicates selecting an item.
Solution: Make the rows of the list consistent with other parts of the app, and consider changing to a background color that is not gray.

[H2-7: Flexibility and efficiency of use][Severity: 1][Found by C]
Problem: "Done" option on the classification tooltip is small. Its alignment to the right is inconsistent with other modals in the app.
Solution: Make the "Done" option in the tooltip larger, so that it is more efficient to use according to Fitt's Law. Also follow other modal suggestions (e.g. making the background clickable) that were mentioned earlier.

[H2-8: Aesthetic and minimalist design][Severity: 0][Found by C]
Problem: Alignment of the author and publication names looks off when compared to the title.
Solution: Make the alignment consistent. Also consider differentiating the author name from the publication name through different placement or styling.

[H2-4: Consistency and standards + H2-10: Help and documentation][Severity: 0][Found by C]
Problem: Publication names are sometimes abbreviated (e.g. HuffPost), and sometimes not. This

could be confusing for users who have not heard of a publication before, and it is unclear why some names are abbreviated.
Solution: Use the full name of every publication

[H2-7: Flexibility and efficiency of use][Severity: 0][Found by C]
Problem: Article counts are not shown, so users can end up tapping empty or sparsely populated Article lists.
Solution: Show article counts next to the categories of articles (e.g. Very Liberal - 3). If that seems like unnecessary information, find some other way to differentiate empty lists from non-empty lists (such as using color).

[H2-10: Help and documentation][Severity: 1][Found by C]
Problem: Empty states do not give guidance to users to encourage them to populate empty states. For example, the Articles list just says "No articles read" when it is empty.
Solution: Make empty states actionable. Say something like "No articles read. May we recommend [Article link that is applicable to category]?"

[H2-10: Help and documentation][Severity: 1][Found by B,C]
Problem: Badges do not show progress toward a goal. On the "My Badges" page, the user may want to know why the badges are important to collect, or what it means to collect certain badges. Clicking on the badge could provide further information about the feature.
Solution: Indicate that a user is making progress towards badges (for example, by slowly filling the badge from grey to a color background depending on the level of completion).

[H2-3: User control and freedom][Severity: 4][Found by C]
Problem: There are no name, gender, or avatar options in the settings, when both of those are used in the interface.
Solution: Add name, gender, and avatar options.

[H2-1. Visibility of System Status]:[Severity: 3][Found by B,D]
No notification of a changed password, and with the hidden display (dots), a user doesn't know if the password was successfully changed — a simple fix could be a quick message pop-up reading "Password Saved".

The same violation on password changes applies to the email change feature (although I suspect in hi-fi the new email will be displayed in settings).

Sometimes the "Friends" tab is activated when it appears that the "Me" tab should be activated, or vice versa. Enter "Friends" flow, then click "Me", and the "Friends" flow is still activated. Enter "Friends" flow, then click "Laura", then click "Liberal", the "Me" tab is activated.

[H2-2. Match Between System and the Real World][Severity: 1][Found by D]

The starting pie chart with it's keys and general arrangement seems to read right to left: liberal to conservative, though when clicking into the bar graph/progress bars, it goes conservative to liberal. It's a very minor violation, but making it the same would create a more natural transition and ease of read for users.

[H2-2. Match Between System and the Real World][Severity: 3][Found by B, D]
Partly aesthetic: For friends' progress bars, I think you should move the completion tick mark to the appropriate place, and allow the bar to continue to grow as they surpass their goal. This seems more intuitive than a maxed out bar, and seems to negate the idea of challenging users. This idea of a standard bar length would also make comparison between category goal progress more consistent.

[H2-4. Consistency and Standards][Severity: 1][Found by D]
Upon clicking on the Conservative key palette on the "Me" page, the user is taken to the bar graph/progress bars breakdown. I think this is a bug, as no other colors lead to the breakdown screen, but just make sure that aspect of navigation is clear and consistent.

[H2-4. Consistency and Standards][Severity: 1][Found by D]
The rankings with friends are sorted by "quantity" and "diversity", though the badges page marks quantity as "#1 in articles read". Minor, but aligning your word choice will create consistency (#1 in Quantity of Articles Read").

[H2-5. Error Prevention][Severity: 2][Found by D]
Many apps have a confirmation window when users turn off push notifications, a feature that is absent in your design. I definitely don't think it's necessary, but given how easy it is to accidentally change the toggle, it may be worth adding this pop-up confirmation window, especially for a feature important to keeping the user updated and interested.

[H2-6. Recognition Rather Than Recall][Severity: 1][Found by D]
The badge award labeled "#1 in Both Rankings" assumed that the reader recalled that there were two rankings. I think the preceding "#1 in Diversity Ranking" and "#1 in Articles Read Ranking" helps, though the a more explicitly matching name may help (i.e. "#1 in Quantity and Diversity Rankings").

[H2-7. Flexibility and Efficiency of Use][Severity: 3][Found by B, C, D]
All screen options are often only a screen away from a key page (Me, Friends, Settings), however, it seems that there are no built-in shortcuts or power-user features. The app in that sense seems fairly static, as the app doesn't allow much room for growth in user experience or speed. Maybe consider adding another feature based on long-term use (i.e. Article suggestions, "zooms" of trends view (by week, month, and year), or more complex graphs/visualizations for long-term users).

[H2-8. Aesthetic and Minimalist Design][Severity: 1][Found by D]
The badges screen seems a bit cramped. I think this could be fixed with smaller icons, or icons that include text in them to get rid of badge description/names underneath.

[H2-8. Aesthetic and Minimalist Design][Severity: 1][Found by D]
On the "Friends" page, I would also move the text and icons a bit further down from the green header.

[H2-8. Aesthetic and Minimalist Design][Severity: 1][Found by D]
I think the app's font could be more aesthetically pleasing in order to match the stellar visualization in the rest of the app.

[H2-1: Visibility of Status][Severity: 1][Found by A]
Once you reach the "Weekly Goals" screen, there's almost too much information with both the horizontal bar graphs, and the number of articles on the side. Thus, it becomes difficult to understand the representation of progress in the bars, and the number of articles appears tiny and cluttered. To fix this, consider getting rid of the bars altogether, since they are visible on the "Trends" page anyway, and increasing the size of the numbers.

[H2-4: Consistency and Standards][Severity: 2][Found by A]
On the home page, the pie chart color for Neutral is extremely similar to Very Liberal, and is much more similar to the colors of Liberal & Very Liberal than to Conservative & Very Conservative. Thus, it's difficult to discern the different colors on the chart. To fix it, make neutral a much more distinctive color -- perhaps something like yellow or green.

[H2-6: Recognition Rather Than Recall][Severity: 2][Found by A]
On the "Weekly Goals" page, it's difficult for a user to intuitively know that clicking the title of a category will lead to a page with articles that fall under that category. Thus, it increases the user's load by making a key action almost invisible. Instead, make it clear that the titles are links by putting them in the style of hyperlinks, or maybe even have them be buttons so it's clear to users to click on them.

[H2-1: Visibility of System Status][Severity: 2][Found by A]
On the "Friends" screen, it's unclear that what is being shown is, in fact, a ranking system -- nowhere on the screen is the word "ranking" explicitly stated. This confuses the user about what's currently going on, and should be fixed by adding a header that specifies that what is being displayed is a ranking.

[H2-4: Consistency and Standards][Severity: 1][Found by A]
On the Breakdown page for Matt, there's a star next to goals that he has met, but on the Breakdown page for "Me," there are no stars for goals that are met. This creates confusion within the user -- what does the star actually represent? To fix this, put a star next to every user that has met their goal.

[H2-3: User Control and Freedom][Severity: 2][Found by A]
There are several layers a user can go through on the overview pages for themselves or their friends: overview → goals → articles → article, and it's a hassle to have to keep clicking the back button to get to the overview page from the article page. Instead, implement some sort of button that represents home, or have an "emergency exit" button that gets a user back to the first page that they saw.

[H2-1: Visibility of System Status][Severity: 1][Found by A]
On the "Trends" screen, it's a little tricky to discern exactly what the graph is saying, since both the axes lack labels. Thus, users may be confused about what the numbers and data actually represents. Fix this by appending labels onto the graph, and adding a title to it, as well.

[H2-8: Aesthetic & Minimalist Design][Severity: 2][Found by A,B]
The interface includes a legend on the "My Overview" screen that takes up a lot of space and is not needed after the user learns what each color on the pie chart indicate. Reducing the importance of the legend can lead to a more Aesthetic & Minimal Design.

[H2-4: Consistency & Standards][Severity: 2][Found by B]

On the "Laura's Breakdown" page, the title uses the word "Breakdown". However, the "Me" flow uses the words "Weekly Goals" for similar information. This could confuse the user because it might not be clear that you are looking at the same information.

[H2-4: Consistency & Standards][Severity: 3][Found by A, B]
The settings control at the bottom feed does not match the same user flows as the "Me" and "Friends" flows. Conventional standards place the settings in a secondary position, not with the primary features. Settings unnecessarily clutters the bottom, and can instead become a small gear icon in the top righthand corner of the application.

[H2-8: Aesthetic & Minimalist Design][Severity: 2][Found by A,B]
The interface on the "Articles" page includes two rows of navigation at the top. These rows have small areas to push the right tab. Since the user comes into the page from the "Weekly Goals" page, they do not need to be reminded of all the different themes. Simple icons or dots could replace the crowded interface. The two layers of buttons create a cluttered, chunky bar that conveys too much information. To fix it, change it to a drop down/scroll menu that users can select a category from.

[H2-4: Consistency & Standards][Severity: 1][Found by B]
Under the "Laura's Breakdown" page, the interface provides a dotted line to indicate when a user has made it to their goal. However, this dotted line does not display under "Weekly Goals".

3. Summary of Violations

Category	# Viol. (sev 0)	# Viol. (sev 1)	# Viol. (sev 2)	# Viol. (sev 3)	# Viol. (sev 4)	# Viol. (total)
[H2-1: Visibility of Status]	0	2	2	1	0	**5**
[H2-2: Match Sys & World]	0	1	1	1	0	**3**
[H2-3: User Control]	0	0	1	1	1	**3**
[H2-4: Consistency]	1	5	4	3	0	**13**
[H2-5: Error Prevention]	0	0	1	0	0	**1**
[H2-6: Recognition not Recall]	0	1	2	0	0	**3**
[H2-7: Efficiency of Use]	1	1	3	1	0	**6**
[H2-8: Minimalist Design]	1	4	4	0	0	**9**
[H2-9: Help Users with Errors]	0	0	1	0	0	**1**
[H2-10: Documentation]	2	2	0	0	0	**4**
Total Violations by Severity	**5**	**16**	**19**	**7**	**1**	**48**
Note: check your answer for the green box by making sure the sum of the last column is equal to the sum of the last row (not including the green box)						

4. Evaluation Statistics

Severity / Evaluator	Evaluator A	Evaluator B	Evaluator C	Evaluator D
sev. 0	0	0	4	0
sev. 1	4	2	5	7

sev. 2	9	6	9	2
sev. 3	2	4	4	4
sev. 4	0	0	1	0
total (sev. 3 & 4)	2	4	5	4
total (all severity levels)	15	12	23	13

5. Summary Recommendations
[merge the general recommendations you made here]

Overall, DeBias provides a good user experience and flow with few crucial errors.The main issues for this app, as far as user interface goes, had to do with visibility of status and user control & freedom. There were several instances in which it wasn't intuitive what users should do on screen, and this can be confusing, especially if it's the first issue users have when they open the app. Using icons to make actions that initiate tasks clearer would eradicate this problem. It's important to also be intentional regarding the broadcast of information and titles in the application, considering this application is very focused on data. To fix this, make sure no chart (trends, friend rankings, etc) is displayed without an appropriate title and/or labels, so that users are never confused about the information that they are seeing on screen. Additionally, your trend screen could be better implemented to make it more useful for the user. Adding labels, and zoom out features to view by week, month, and year, could also add a power-user feature. Additionally, having consistency in interactions with other charts (i.e. the connection of article) would make use all the more intuitive. More broadly, the overall user interface of the app could be improved, as the teal, flat bar at the top of the screen and use of bold fonts gave it a "toy" aesthetic. The use of solid colors isn't as visually appealing to the eye as gradients may be, and since this is an app with a heavy visual aspect, making the charts, especially the friend ranking one, more engaging to the user would be key. Perhaps this could entail changing the background color to something other than white, or increasing the size of the friends' profile pictures and getting rid of their names.

Based on the trends in violations that we saw, to prevent new violations from appearing as you make changes, we would recommend watching out for these three items:
1. Ensure that interactive and non-interactive elements are clearly differentiated in terms of styling.
2. Make sure that all help and documentation text is useful, rather than providing basic info. Every line of text is an opportunity to communicate an idea to a user, rather than a message. Go beyond error messages to have a distinct tone, or provide extra info that the user might want.
3. Make sure that buttons are large enough that they are easy to use, and that buttons are placed in consistent locations.

Despite these suggestions, this is a great application with incredible potential, given the ever-increasing importance of unbiased news today -- we can't wait to see how it eventually turns out!

Severity Ratings

0 - don't agree that this is a usability problem
1 - cosmetic problem
2 - minor usability problem
3 - major usability problem; important to fix
4 - usability catastrophe; imperative to fix

Heuristics

[H2-1: Visibility of System Status]
- keep users informed about what is going on

[H2-2: Match Between System & Real World]
- speak the users' language
- follow real world conventions

[H2-3: User Control & Freedom]
- "exits" for mistaken choices, undo, redo
- don't force down fixed paths"exits" for mistaken choices, undo, redo
- don't force down fixed paths

[H2-4: Consistency & Standards]

[H2-5: Error Prevention]

[H2-6: Recognition Rather Than Recall]
- make objects, actions, options, & directions visible or easily retrievable

[H2-7: Flexibility & Efficiency of Use]
- accelerators for experts (e.g., gestures, kb shortcuts)
- allow users to tailor frequent actions (e.g., macros)accelerators for experts (e.g., gestures, kb shortcuts)

[H2-8: Aesthetic & Minimalist Design]
- no irrelevant information in dialogues

[H2-9: Help Users Recognize, Diagnose, & Recover from Errors]
- error messages in plain language
- precisely indicate the problem
- constructively suggest a solution

[H2-10: Help & Documentation]
- easy to search
- focused on the user's task
- list concrete steps to carry out
- not too large