Team Febreeze: A Heuristic Evaluation

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Overview of Evaluation

Strengths

Febreeze's overall aesthetic design was clean and neat–it was clear that their buttons and input fields were interactive tools, and they utilized common iconography and mapping to signal how the user can navigate the system. The prototype is generally high-quality, includes a lot of content and gives a great idea of the functionality of the mobile site. We were impressed by the fidelity of the prototype given how well it mimics the experience of using an application on an iPhone already.

Weaknesses

Our team found very few "catastrophic" violations in this team's design, and the majority of our suggestions are relatively quick fixes or quality of life improvements. Below, we have compiled a table with a broad overview of our findings, as well as a more detailed written analysis. The most glaring issue we identified was that there was no indication that a user could swipe up on the Krusty Krab page and see more details about the establishment, which limits the user's ability to access key functionality of the interface. We also found that a user that is signing up for the first time is able to check that they have no mobility issues and that they have a series of mobility issues at the same time. This is bound to prevent users from being properly served by this interface.

Tables of Heuristic Error Encounters in Interface

Name of Heuristic Error Category	# of Errors
#1: Visibility of system status	5
#2: Match between system and the real world	2
#3: User control and freedom	3
#4: Consistency and standards	3
#5: Error prevention	2
#6: Recognition rather than recall	1
#7: Flexibility and efficiency of use	4
#8: Aesthetic and minimalist design	2
#9: Help users recognize, diagnose, and recover from errors	0
#10: Help and documentation	1

Severity Level	# of Errors
0: Don't think this is a usability problem	0
1: Cosmetic problem	8
2: Minor usability problem; you should probably fix this	9
3: Major usability problem; important to fix	4
4: Usability catastrophe; imperative to fix	2

Consolidated Feedback

1. **Unclear rating displays** *[#2 Match between system and the real world] (Severity: 2)*
   Occurrences: 2
   The format of the rating on the Krusty Krab business page doesn't have an indication of what it means; if the 4/5 had a star icon next to it, that would likely make it more clear.

2. **Hidden ratings** *[#4 Consistency and Standards] (Severity: 3)*
   Occurrences: 1
   Highlight the rating a bit more on the page since users will care about rating most after accessibility concerns.

3. **Visibility of ratings** *[#6 Recognition rather than Recall] (Severity: 2)*
   Occurrences: 2
   The overall rating of the restaurant is not currently visible without opening the page and swiping up. Seeing ratings on the search, saved, and other pages would better inform the user.

4. **Organized and visible reviews** *[#8 Aesthetic and minimalist design] (Severity: 2)*
   Occurrences: 4
   Users should be able to view all reviews in a more organized way; this could be accomplished through a filter option or a "view more" button.

5. **Back/Exit Functionality** *[#3 User Control and Freedom] (Severity: 2)*
   Occurrences: 3
   The interface doesn't have a default back or exit function; it would be great to have an option like this on the Krusty Krab details page, the map, or while creating an account.

6. **Save and cancel in settings** *[#4 Consistency and Standards] (Severity: 2)*
   Occurrences: 3
   When editing accessibility settings in the profile, I would have liked the option to save or cancel my changes. This way, I know whether my changes were recognized by the system. Also, when filling out the initial quiz's clearance requirements, I would have liked to enter the number, click save or cancel, see that I had entered the number, then click next.

7. **Navigating to the Business Page from the Photo Carousel** *[#1: Visibility of System Status] (Severity: 4)*
   Occurrences: 5
   After clicking on the Business Page, you are taken to a Photo Carousel. While the indicator on the bottom shows that there are multiple pictures to view, it does not indicate that you should swipe up for more information. Our group got caught up swiping in circles, unsure of how to advance. Adding an indicator to swipe up would make this easier to use.

8. **Potential for conflicting input** *[#5 Error Prevention] (Severity: 4)*
   Occurrences: 3
   When entering information during the sign up process there is the opportunity to enter conflicting information about your requirements (i.e. on the "Do you need to avoid certain surfaces?" page the user can select both "no" and other options. This could confuse the

algorithm on the requirements that need to be met when selecting options. Adding some kind of preventative measure would make logical sense for this process.

9. ~~**Making Review Information more Accessible** *[#7 Flexibility and Efficiency of Use] (Severity: 1)*~~
~~*Occurrences: 2*~~
~~It would be convenient to see more information about reviews and have the opportunity to sort reviews according to a user's selected features.~~

10. **Familiarity to Other Apps** *[#4 Consistency and Standards] (Severity: 1)*
Occurrences: 1
In apps like TikTok, the user need only swipe left or right to change screens instead of having to press arrows in the corner of a user's screen. It would be a quality of life boost to the user experience to have this feature.

11. **Quiz Status/Progress** *[#1 Visibility of System Status] (Severity: 1)*
Occurrences: 3
While answering the introductory quiz questions the user isn't aware of how far they're into the process. So showing progress in some way like displaying question 1/7 somewhere on the page should suffice.

12. **"Saved" page doesn't have direct access to the Map** *[#7 Flexibility and efficiency of use] (Severity: 3)*
Occurrences: 1
Users don't have direct access to the map from the "saved" page which goes against the pattern recognition of the map being easily accessed from any page in the app.

13. **You are here indicator on the Map** *[#1 Visibility of System Status,] (Severity: 3)*
Occurrences: 3
Including a marker for users to know where they are relative to a location on a map would help them have a better understanding of where they are and how to get there

14. **Accessibility standards on the information page are unclear** *[#2 Match Between System and the Real World] (Severity: 1)*
Occurrences: 1
Labeling compatibility with elevation changes as "elevation change" followed by a check mark doesn't clearly convey that the establishment has accommodations for changes in elevation.

15. **Linking between Krusty Krab Back Button and Map Page** *[#1 Visibility of System Status, #3 User Control and Freedom] (Severity: 3)*
Occurrences: 2
After clicking on the Krusty Krab business page from the Home page, we tried to exit using the back button. Instead of being taken back to the Home page as expected, we were taken to the Map page. This design feature made it feel like the interface had imposed an action on the user and had decided that we should continue looking for places in the area.

16. **Bordering around answer choices in the quiz** *[#1 Visibility and System Status, #8 Aesthetic and Minimalist Design] (Severity: 1)*
Occurrences: 2

In the initial quiz some answer choices have solid white lines dividing the first answer from the rest. This could be confusing as it appears as if it is being set apart but it doesn't have any apparent difference from the other choices.
Also some of the answer choices lose their border when clicked but the solid line ones do not.

17. **Accessibility settings are a lot at once** *[#8 Aesthetic and Minimalist Design] (Severity: 1)*
Occurrences: 1
The accessibility settings present the user with a large number of switches, all of which they can interact with. This can be overwhelming on the user, so it might instead be practical to break accessibility settings down into more focused categories or otherwise grouped more effectively.

18. **Making entering wheelchair dimensions simpler** *[#7 Flexibility and efficiency of use] (Severity: 2)*
Occurrences: 5
The user shouldn't be burdened with having to find the dimensions of their wheelchair. It would be easier on them to be able to choose some bucket of widths (e.g. 20-30 cm, 30-40 cm, etc.) and just ask what their preferred unit of measurement is. The field on the quiz also specifies that a wheelchair width must be given in inches, which seems unintuitive for the majority of users in the world. The application gives the opportunity after account creation to change units, but not before taking the quiz.

19. **Logging Out** *[#3 User Control and Freedom] (Severity: 2)*
Occurrences: 2
Currently there is no way for users to log out of the system for either security reasons or just switching accounts.

20. **User Assumptions** *[#5 Error Prevention] (Severity: 1)*
Occurrences: 2
There's a "Sign in with Apple" button on the Log in/Sign up screen and a "Directions" button on the Krusty Krab accessibility features and reviews screen that only shows options for Apple Maps. Google Maps, and Waze. In this way, there are assumptions that the user has an apple device, google maps account, or waze account.

21. **Lack of Zoom In/Out Features** *[#7 Flexibility and efficiency of use] (Severity: 2)*
Occurrences: 3
There is currently no way to zoom in or out on the map screen, just an option to move around. This lack of features takes away from the flexibility of the design and ease with which the user can navigate the map interface.

22. **User Inclusivity and Accessibility** *[#1 Visibility of System Status] (Severity: 2)*
Occurrences: 4
The text and icons on both the Log In/Sign Up and the Map pages is very small. Additionally, the color contrast on both of these pages may not pass Level AA or AAA color accessibility standards. These issues may cause the system to be inaccessible to the visually impaired.

23. **Select all that apply** *[#10 Help and Documentation] (Severity: 1)*
Occurrences: 1

The first two introductory quiz questions have the note to select all that apply but the subsequent ones do not. Some users might think the option to select multiple choices is not available for these subsequent questions.

Overall Recommendations

We thought it was a relatively seamless experience from signup to active use of the application. It should again be stressed that the more information menu where rating, reviews, and accessibility standards met should have some signifier on the establishment page to indicate swiping up is the appropriate action. We also think that the selecting all that apply form including "no" on the sign up quiz should be fixed as soon as possible, as this is the most glaring bug that the system Team Febreeze is designing could have. There are a series of quality of life features, some of which borderlining on essential, that we suggest adding, including location on map, zooming out on the map, and making establishment information overall more accessible. It was an excellent prototype and Febreeze is on a great trajectory!

Appendix

Miles' Evaluations

Evaluating: Team Febreeze

1. [H6 Recognition rather than Recall] (Severity 2)

   It would be nice to have range options like <20 inches, 20-30 inches, 30-40 inches, etc. so a person doesn't have to look up the dimensions of their wheelchair or other equipment and instead just guess it.

2. [H6 Recognition rather than Recall] (Severity 2)

   Users should not have to convert to inches when entering wheelchair width. It might be better to have a drop-down to list units to choose from.

3. [H1 Visibility of System Status] (Severity 4)

   If I didn't explicitly know to swipe up on the Krusty Krab to see reviews, I wouldn't have guessed it. There are no signifiers of any sort to indicate that's what one is supposed to do there. Maybe add a little up arrow or give tutorials to first time users. I like the actual features on the Krusty Krab info tab.

4. [H4 Consistency and Standards] (Severity 3)

   Highlight the rating a little bit more since users will care about rating most after accessibility concerns and it's unclear if it's even rating that is being measured.

5. [H7 Flexibility and efficiency of use] (Severity 2)

   I don't know how to zoom out on the map and I feel like my field of vision is somewhat limited on the current zoom. It takes away from the flexibility of the design and the ease with which I can navigate the map interface.

6. [H1 Visibility of System Status] (Severity 3)

   There should be a "You Are Here" icon on the map, otherwise it's unclear where we are relative to where we're looking to go.

7. [H8 aesthetic and minimalist design] (Severity 1)

I think the accessibility settings look pretty good, but it's also a lot of fields. If they could be trimmed down, categorized more neatly, or grouped more effectively.

8. [H5 Error Prevention] (Severity 4)

   Clicking no should disallow one from selecting accessibility limitations on one of the questions in the quiz, but does not prevent this. This will cause errors down the line.

9. [H1 Visibility of System Status] (Severity 1)

   Progress bar on quiz would be helpful to tell users how far along in the form they are.

10. [H5 Error Prevention] (Severity 1)

    Assumes users have all of apple maps, google maps, waze, which they might not. In which case, what happens?

11. [H4 Consistency and Standards] (Severity 2)

    Accessibility features being met on the restaurant info page are worded in a confusing way. It would be nice for users to immediately understand their needs being met consistent with how they are used to understanding whether or not those needs are met.

12. [H4 Consistency and Standards] (Severity 1)

    Users should be able to swipe left and right to access different pages in addition to using back buttons and arrows, similar to TikTok or Instagram or social media.

13. [H6 Recognition rather than Recall] (Severity 2)

    Right now ratings only show up on the restaurant page. It would be nice to see ratings on the search, saved, and other pages where restaurant profiles are visible

14. [H8 Aesthetic and minimalist design] (Severity 2)

    There should be a way to view all reviews in case the user wants to see more reviews than the first three. The minimalism of the design detracts from functionality by not having this option.

Cara's Evaluations

Problem 1 [Heuristic 3 User Control and Freedom] (Severity 2)

There is no undo, redo, or exit functionality throughout the process of creating an account, selecting a place, and exploring the map.

Problem 2 [Heuristic 1 Visibility of System Status] (Severity 3)
The AccessiBuddy Log in/Sign up page, in particular, has very small text, which affects the visibility and accessibility of the system.

Problem 3 [Heuristic 1 Visibility of System Status] (Severity 3)
The color contrast on the AccessiBuddy Log in/Sign up page may not pass Level AA or AAA color accessibility standards, so the system might not be accessible for the visually impaired.

Problem 4 [Heuristic 10 Help and Documentation] (Severity 2)
Once I selected "The Krusty Krab" on the home page, I found swiping up unintuitive to view more information. This issue could be easily fixed by placing an up arrow at the bottom of the screen.

Problem 5 [Heuristic 1 Visibility of System Status] (Severity 2)
On the map, the text is really small and there is no zoom option. Additionally, please check to make sure that the colors on the map pass color contrast standards for the visually impaired.

Problem 6 [Heuristic 3 User Control and Freedom] (Severity 2)
Once I finish creating an account or logging into my already-existing account, there is no option to log out or switch accounts. I think this feature would be helpful to provide the user with more options to enhance the security of their account.

Problem 7 [Heuristic 1 Visibility of System Status] (Severity 2)
The icons on the navigation bar are small, which may lead the user to accidentally miss a button or click on the wrong one.

Problem 8 [Heuristic 3 User Control and Freedom] (Severity 2)
When I clicked on "The Krusty Krab" from the Home screen and clicked the back arrow icon in the top left, I was brought to the Map screen. I felt as though this design feature imposed an action on the user and made a decision for them to continue looking for places in the area.

Problem 9 [Heuristic 1 Visibility of System Status] (Severity 2)
While setting up my account, I would have liked to see a progress bar detailing how many quiz questions I have left to answer to complete my profile.

Problem 10 [Heuristic 5 Error Prevention] (Severity 1)
There's a "Sign in with Apple" button on the Log in/ Sign up screen, which assumes that I have an iPhone or Apple product. Also, as I was viewing the accessibility features and reviews of The Krusty Krab and I clicked on the "Directions" button, I was presenting with the options to use Apple Maps, Google Maps, or Waze, which assumes that I have an account with any of those systems.

Problem 11 [Heuristic 4 Consistency & Standards] (Severity 2)
When I edited my accessibility settings, I would have liked the option to save or cancel my changes. This way, I know for certain whether my changes were recognized by the system.

Problem 12 [Heuristic 8 Aesthetic and Minimalist Design] (Severity 1)
I liked that I was able to view some reviews from the information detailed on The Krusty Krab's information page. I would've liked, however, to sort the reviews according to filters, such as star rating, accessibility, newest first, etc.

Arla's Evaluations

1. H4: Consistency & Standards (Severity 2)
   When entering clearance requirements in the sign up section, I got confused about where I was at in the interface when I had to enter a new screen to enter a number in inches. Rather than entering the number and then clicking next to move on, I would like to click a save button, go back to the main clearance requirement input page, and then click next.

2. H5: Error Prevention (Severity 2)
   When entering information on the "do you need to avoid certain surfaces" page, I would like for the system to keep me from selecting the "no" option on top of a variety of other options, because logically that selection wouldn't make sense.

3. H1: Visibility of system status (Severity 3)
   I felt lost in the system when I clicked back on the Krusty Krab picture and ended up in the map function. I would have liked to instead have been sent back to the main home page.

4. H1: Visibility of system status (Severity 3)
   There were no indicators that I was able to swipe up on the Krusty Krab picture, so I didn't see that feature until rereading the instructions. Would love to have some arrows that indicate more information with a swipe.

5. H3: User control and freedom (Severity 2)
   When editing my profile and the accessibility settings, I would like some way to click "save" or "cancel" in order for me to confirm that my settings have been saved or discarded, rather than just turn settings on and off.

Keanu's Evaluations

Problem #1 [Heuristic #1 Visibility of System Status] (1)
After clicking "sign up" and answering the introductory quiz questions because the questions aren't all displayed on the same page, the user doesn't have any idea where they are in the process although the quiz is rather quick.
So maybe showing progress on the bottom of the screen like question 1/7 or something should suffice

Problem #2 [Heurisitc #10 Help and Documentation] / [Heuristic #4 Consistency and Standards] (1)
For some of the introductory quiz questions there's the note to "Select all that apply" for the first two multiple choice questions but the subsequent ones do not have this note. Maybe some users will not think the option to click multiple choices is available for these subsequent questions and might operate your platform under this assumption.

Problem #3 [Heurisitc #10 Help and Documentation] (2)
I probably would've ended up swiping up on the "The Krusty Krab" page but I'm not confident this would've been my initial instinct, especially since theres an indicator implying that there's more pages to the left or right. I think having some indication that you are to swipe up would be a great remedy

Problem #4 [Heuristic #1 Visibility and System Status] (1)
When manually inputting your clearance for a wheelchair if applicable, there isn't the option to save just the option to click next so users might get paranoid about whether the values they might put in would be saved or not.

Problem #5 [Heuristic #6 Recognition rather than Recall] (1)
Similarly when inputting these values manually it would be nice to have different clearances for wheelchairs fall into buckets so that users wouldn't have to specifically look up their dimensions but instead give close approximations.

Problem #6 [Heuristic #7 Flexibility and efficiency of use] (2)
Additionally users should be able to input their wheelchair dimensions in whatever metric is most comfortable for them instead of being restricted to provide this measurement in inches. Although the option is there to change the metric to centimeters from the accessibility settings later on having a dropdown menu or something else would be beneficial.

Problem #7 [Heuristic #8Aesthetic and minimalist design] or [Heuristic #1 Visibility and system status] (1)

For the introductory quiz some answer choices are separated by solid white lines and others are separated by slightly faint lines. This is definitely not a big problem at all but it could lead to some confusion among users.

Problem #8 [Heuristic #7 Flexibility and efficiency of use] (2)
The review page when you swipe up from the Krusty Krab, there isn't a way currently to close this page out without first scrolling to the top and then swiping down. So adding a way to close this page out could be beneficial especially when users aren't just dealing with three reviews but potentially dozens.

Problem #9 [Heuristic #7 Flexibility and efficiency of use] / [Heuristic #3 User control and freedom] (2)
There's no way to currently zoom out while looking at the map just the option to move around.

Problem #10 [Heuristic #Visibility of system status] (2)
Currently there's no indicator letting users know where they are on the map just an indication of how far they are from the business and where the business is located.

Problem #11[Heuristic #5 Error Prevention] (3)
Users are currently able to select all options as well as the no option for the introductory quiz questions which could really the user's experience.

Problem #12 [Heuristic #3 User Control and Freedom] (2)
Users should be able to view all reviews or filter through reviews in some way may be seeing all the reviews under a certain level or all the reviews above a certain threshold.

Problem #13 [Heuristic #10 Help and Documentation] (1)
Under the review section for the Krusty Krab there's no indication of what the ⅘ means so maybe having a star to show that it corresponds to the average review rating would be beneficial.

Katie's Evaluations

Problem #1 [#1 Visibility of system status] (Severity 3)

An indicator to swipe up on the business page would be helpful. The indicator for where in the photo slideshow show users fell into was helpful, but it took a little more guesswork when figuring out how to access the reviews and additional information.

Problem #2 [#2: Match between system and the real world] (Severity 1)

The green check mark makes it seem like there *is* an elevation change, which the user is presumably trying to avoid, rather than meeting the requirement that there is no elevation change.

Problem #3 [#3: User control and freedom] (Severity 2)

Having to swipe back up when trying to leave the review page could become slightly frustrating, implementing a more easily accessible back button could be helpful

Problem #3 [#3: User control and freedom] (Severity 1)

There is currently no way for the user to log out of the system (for security reasons or to log into a different account).

Problem #4 [#7: Flexibility and efficiency of use] (Severity 3)

The "saved" page doesn't have direct access to map the way that the other pages does, which goes against the pattern recognition (that you can easily access the map from any page by clicking the button at the bottom) built into the other pages.

Problem #5 [#7: Flexibility and efficiency of use] (Severity 3)

The overall rating of the place is not visible without opening their page and swiping down. Having access to the ratings would better inform my decision making process when using the interface.

Problem #6 [#1: Visibility of system status] (Severity 2)

It would be helpful to hit a save button while progressing through the initial set up quiz, and including a progress bar would be helpful!

Problem #7 [#1: Visibility of system status] (Severity 1=2)

While taking the initial quiz there is a solid white line dividing first option from the rest. This is a little confusing because it looks like it is being set apart from the rest, but there is no apparent difference from the others. Also, when clicked, the other buttons lose their border, but the solid line ones do not.

Problem #8 [#2: Match between system and the real world] (Severity 2)

The formatting of the rating on the business page "4/5" doesn't have much meaning. Including an icon here might improve the user's understanding that it is a ranking.

Problem #9 [#7: Flexibility and efficiency of use] (Severity 2)

Making selecting the user's wheelchair clearance a multiple choice option would accomplish a similar goal while lowering the user's activation energy.

Problem #10 [#7: Flexibility and efficiency of use] (Severity 3)

Including a marker for where the user is relative to a location on the map feature would help inform their decision on whether or not to go to a place and give them a better understanding of where they are.

Problem #11 [#8: Error Prevention] (Severity 4)

It is currently possible to indicate that you have no accessibility limitations and other additional limitations at the same time. This could confuse any algorithm that is trying to accommodate both of these standards

Problem #12 [#7: Flexibility and efficiency of use] (Severity 1)

Including some of the information from the review page on the initial slide carousel could streamline the process of selecting where to go, as the images provide limited information.

Other Notes
"Elevator" is misspelled on the sign up page
The color palette of the app might make it difficult for people with color blindness to use.
The small text size might make it hard for people with vision impairments to use
It might be nice to access the menu from the cite