

## Heuristic Evaluation of [Recipal]

### 1. Problem/Prototype Description

We evaluated the medium-fi prototype of the Recipal app, which is an app that helps users cook recipes in their own ways by personalizing recipes and creating a more welcoming and approachable cooking environment.

### 2. Violations Found

1. H3 User control and freedom / Severity 2 / Found by C
  - a. Task 1
  - b. Problem Description: There is no back button for the Recipe Category page, even though there is one for all other pages. Even though the Home button does the same thing, the user may not know where exactly the home button leads to but intuitively wants to go back to the previous page.
  - c. Suggested Fix: Add a back button for the Recipe Category page, staying consistent to the other pages.
2. H8. Aesthetic and minimalist design / Severity 2 / Found by C
  - a. Task 1
  - b. Problem Description: For the Recipe Category page, the contents in the notepad seem a bit cluttered. Each category outline is bolded and has a shadow backdrop. It might be a little distracting to the text of the categories, which are most important.
  - c. Suggested Fix: You can take out the shadow backdrop for each category, especially since they are supposed to be part of the notepad. I don't think the categories need to have the 3D effect.
3. H11 Accessible / H12. Fairness & Inclusion/ H13. Value alignment / Severity 3 / Found by C
  - a. Task 1
  - b. Problem Description: All pages during this task are purely visual and don't offer text-based alternatives for users with low vision. Such users may feel like this app was not made for them. This conflicts with their value of inclusion for the same reasons.
  - c. Suggested Fix: You can offer a way users can listen to all the recipes and recipe categories and perhaps a speech input option for users to say the recipe or recipe category they want to choose.
4. H4 Consistency and Standards / Severity 3 / Found by C B D A
  - a. Task 2
  - b. Problem Description: For most of the pages, the back button lets the user go back to the previous page. However, during the "recipe process" page, the back button cancels the whole recipe tutorial instead of going back to the ingredients page (going back all the way to choosing a recipe page). However, there is a pencil icon that goes back to the previous ingredient page.
  - c. Suggested Fix: For the recipe page, you can change the back button to maybe

an exit button (i.e., the X icon) so the user understands that button exists out of the recipe tutorial instead of going back to the most previous page.

5. H4 Consistency and Standards / Severity 1 / Found by C
  - a. Task 2
  - b. Problem Description: For the recipe process page, there is a pencil icon that goes back to the ingredients page. Users may be confused whether the pencil icon signifies changing ingredients, dietary restrictions, nutrition restrictions, or even the whole recipe. There are a lot of customization options this pencil icon may be for.
  - c. Suggested Fix: You can add a small label that clearly informs that the pencil icon is for editing the ingredients.
6. H8 Aesthetic and minimalist design / Severity 1 / Found by C D
  - a. Task 2
  - b. Problem Description: For the recipe process page, the spoon seems to take a majority of the page. It somewhat clutters the page and distracts the user from the recipe instructions.
  - c. Suggested Fix: You can add the spoon inside the speech bubble because the spoon is the chef giving the instructions.
7. H8 Aesthetic and minimalist design / Severity 2 / Found by C and B D
  - a. Task 2
  - b. Problem Description: For the recipe process page, there are icons of the ingredients being used. However, they always move in location, along with the speech bubble. This may be distracting to the user.
  - c. Suggested Fix: You can be a little more consistent with how your recipe process pages are structured. The speech bubble with the instructions can be placed in the same position so the users know where to look every time. Same with the icons so they are less distracting.
8. H1 Visibility of system status / Severity 2 / Found by C
  - a. Task 2
  - b. Problem Description: On the success page, there is no feedback on whether the user followed their specified nutritional goals. User may be curious to know whether they fulfilled their goals or not (since that's one of the app's goals).
  - c. Suggested Fix: There can be another line that congratulates the user on fulfilling their goals or encouraging the user to fulfill them next time! There can also be an additional page that outlines why the user didn't fulfill their goals and a few recommendations.
9. H9. Help users recognize, diagnose, and recover from errors / Severity 1 / Found by C D
  - a. Task 2 (subtask)
  - b. Problem Description: On the "Are you sure?" pop-up after modifying an ingredient, the question icon takes up the whole pop-up, while the actual summary of the edit is a lot smaller. The edit should be emphasized more so the user can clearly see what they are changing and identify more easily any mistakes.
  - c. Suggested Fix: The summary of the edit can be placed on top of the pop-up and the largest component so the user sees this first and most clearly.
10. H11. Accessible / H12. Fairness & Inclusion / H13. Value alignment / Severity 3 / Found by C

- a. Task 3
  - b. Problem Description: The dietary restriction page is text-heavy and purely visual. It does not offer text-based alternatives for users with low hearing. Such users may feel like this app was not made for them. This conflicts with their value of inclusion for the same reasons.
  - c. Suggested Fix: You can offer a way users can listen to all the dietary restriction options, a speech input option to ask for more information about that restriction, which the users can listen to the text description about that restriction.
11. H11. Accessible / Severity 2 / Found by C
- a. Task 3
  - b. Problem Description: Both of the nutritional and dietary restriction pages are text-heavy, yet the font is a lot smaller compared to the recipe instruction for example. Especially in this area where the content is more complicated and important to get correct, the size of the font should be larger.
  - c. Suggested Fix: Increase the size fonts for these pages.
12. H7. Flexibility and efficiency of use / Severity 1 / Found by C
- a. Task 3
  - b. Problem Description: For the dietary restrictions, the lower bounds are by default empty and only when clicked on becomes 0. It may seem intuitive that an empty lower bound is equivalent to 0.
  - c. Suggested Fix: you can default the lower bounds to be 0 instead of having the user click past the 0 option.
13. H4 Consistency and standards / Severity 1 / Found by B D
- a. Task 3
  - b. Problem Description: After editing the ingredients, the user has to tap the back button to go back to the recipe page and then continue to the instructions page. The user may want to choose to continue to the recipe instructions after making their selections instead of going back to the recipe ingredients page and then continuing. There was a continue button for every other page except this one.
  - c. Suggested Fix: To stay consistent, you can add a continue button for this page as well.
14. H3. User control and freedom / Severity 2 / Found by C, A, B
- a. Task 3:
  - b. Problem Description: There is no undo function for deleting an ingredient in the Modify Ingredients page. The user may have accidentally deleted the ingredient and might want to undo this action
  - c. Suggested Fix: You can add an undo button on this page.
15. H9. Help users recognize, diagnose, and recover from errors / Severity 3 / Found by C, A D
- a. Task 3:
  - b. Problem Description: When a user deletes an important/main ingredient, there is no caution or error message alerting that this ingredient is essential for the recipe and that the user should add this ingredient back.
  - c. Suggested Fix: You can add an error message that alerts the user to add the essential ingredient back. This error message can have the option to go directly to the page where you can add this essential ingredient.
16. H6. Recognition rather than recall / Severity 2 / Found by C, B
- a. Task 3:

- b. Problem Description: When editing the ingredients, there isn't a quick way for users to see a summary of their nutrition goals/dietary restrictions. The user is only reminded of them when they exceed their restrictions. This crucial information should not be remembered but visible throughout their personalization process.
    - c. Suggested Fix: You can add a little summary profile/list in the modification page so they can easily refer to their goals/restrictions (instead of clicking into their profile and potentially losing their process or line of thought)
- 17. H5. Error prevention / Severity 1 / Found by C
  - a. Task 3:
  - b. Problem Description: This is for the same problem as the previous problem. To prevent the user from deleting an important/main ingredient, there should be some sort of note or memo that "essential" means that there must be an ingredient in this category.
  - c. Suggested Fix: There can be a small note next to "Essential" saying that there must be at least one related ingredient in this section.
- 18. H10. Help and documentation / H6. Recognition rather than recall / Severity 2 / Found by C, B
  - a. Task 3
  - b. Problem Description: There might be minor confusion as to how to modify the dietary restriction page, especially with the lower and upper bounds.
  - c. Suggested Fix: You can add a question mark icon button on this page that pops up an explanation for how to modify this page
- 19. H10. Help and documentation / H6. Recognition rather than recall / Severity 2 / Found by C D
  - a. Task 3
  - b. Problem Description: There are a lot of different measurements (grams, milligrams, etc) for each nutritional preference. Users may not know recommended amounts by health professionals.
  - c. Suggested Fix: You can add a pop-up that outlines recommended low/upper bound for each nutritional preference so users can edit off of those recommendations or leave it as those (which would be good because they are measurements recommended by professionals)
- 20. H8 Aesthetic and minimalist design / Severity 1 / Found by C
  - a. Task 3
  - b. Problem Description: The ingredients list is separated by each step. The users do not know each step when modifying the ingredients, so this information might not be necessary. Also, you can only edit the ingredients in the same step, and the users might want to edit all the ingredients at once. Going back and forth each step may be more complicated than needed.
  - c. Suggested Fix: You can take out the step dividers for the ingredients and let users edit the entire ingredient list at once.
- 21. H1: Visibility of System Status / Severity 1 / Found by B
  - a. When viewing your past meals, you cannot see how many times you've made a specific meal. Users may want to know how many times they've cooked a particular meal without cooking it again.
  - b. Fix: Add small text to read "Cooked x times"

22. H2: Match b/w System & World / Severity 1 / Found by B
  - a. The wording of restore defaults could be confusing. Users may not understand that default refers to the original recipe. In addition, the wording of restore defaults does not map to the real world.
  - b. Fix: Change to "Revert to original recipe"
23. H3: User Control and Freedom / Severity 3 / Found by B, A, D
  - a. When following a recipe, a user may want to quit out of the recipe and check other statuses and processes in the app. However, there is no indicator that their progress is saved.
  - b. Fix: Add "save progress" button when prompting for exit
24. H3: User Control and Freedom/H1 Visibility of System Status / Severity 2 / Found by B, D
  - a. When selecting allergies, there is no indicator that the preferences will be saved. It is unclear that going back automatically saves these preferences and users may be confused or looking for a save button.
  - b. Fix: Add exit prompt when going back from allergies page confirming that preferences are saved
25. H3: User Control and Freedom/H1 Visibility of System Status / Severity 2 / Found by B, D
  - a. When selecting nutritional preferences, there is no indicator that the preferences will be saved. It is unclear that going back automatically saves these preferences and users may be confused or looking for a save button.
  - b. Fix: Add exit prompt when going back from nutritional preferences page confirming that preferences are saved
26. H3: User Control and Freedom // Severity 2// Found by B
  - a. When adjusting for nutritional preferences such as vitamins and potassium, you can only add in increments of 5. Users may want to set a unique cap that is based on their personal choice or health choices.
  - b. Fix: Allow users to type in a grams or calorie count
27. H3: User Control and Freedom // Severity 2// Found by B
  - a. After clicking a recipe and continuing, users cannot go back to the landing page for ingredients. Instead if a user wanted to access the information presented, they would have to restart the recipe, potentially disrupting their progress. Users may start the recipe and then want to double check they have ingredients or go back to the landing page for the recipe for some reason
  - b. Fix: Allow the back button to redirect to the landing page in the first stage of recipe as opposed to redirecting to overall recipes.
28. H3: User Control and Freedom // Severity 2 // Found by B
  - a. Users can only add preselected/preapproved dietary restrictions. Some users may have more specific allergies that are not present in the list and may wonder where to put them.
  - b. Fix: Add option to input allergens

29. H4: Consistency and Standards/ H2: Match b/w System & World / Severity 1 / Found by B
  - a. On the dietary restrictions page, there is both a gluten free and celiac restriction. While these two may be different, people commonly associate these two as the same restriction. Users may be confused on the difference between the two
  - b. Fix: Change gluten free to gluten intolerance.
30. H4: Consistency and Standards / Severity 1 / Found by B
  - a. On screen 14, the recipe title is not capitalized. However, in the previous screen, these words are, showing an inconsistency
  - b. Fix: Capitalize Fettuccine Alfredo on screen 14
31. H6: Recognition not Recall // Found by B
  - a. The user must recall the amount of time for each recipe. When going through the steps of the recipe, users must recall the first page where they saw the number of steps. Users may want to know how much time overall the recipe will take or how much time left without going back to the landing page of the recipe.
  - b. Fix: Add estimated time left in each step of recipe
32. H7: Flexibility and Efficiency of Use / Severity 2 / Found by B
  - a. Users have to go through the “Let’s Cook” flow to access favorites. In order to access what recipes they have favorited, they must start the process of cooking. However, they may want to access the recipe directly as they may not want the step by step instructions required for newer recipes.
  - b. Fix: Add favorites button to “Me” page
33. H8: Aesthetic and Minimalist Design / Severity 3 / Found by B, A
  - a. There is some inconsistency in fonts, particularly going through the cooking steps with the “add” and other directives being in a different font. It can be a little jarring at first.
  - b. Fix: Rely on one or two default fonts
34. H8: Aesthetic and Minimalist Design / Severity 1 / Found by B
  - a. The spoon logo maintains a static expression throughout the progression of the recipe and it is not clear that the spoon is directing
  - b. Fix: Add eyebrows or expressions to spoon logo
35. H8: Aesthetic and Minimalist Design / Severity 1 / Found by B
  - a. In some instruction screens, the placement of the volume button is too close to the text making the text appear a bit cramped. It looks as though the text box may be too small for the text and volume button in a few places.
  - b. Fix: Add constraints to the text box and volume to place the volume button within the same margins of the text box
36. H8: Aesthetic and Minimalist Design / Severity 1 / Found by B
  - a. In the recipe category page, a few of the icons appear a bit too tall or big for the text box. It looks like the icon is hitting the top of the button whereas other icons appear normally sized.
  - b. Fix: Reduce the size of the Boba icon
37. H8: Aesthetic and Minimalist Design // Found by B

- a. In a few of the screens, the green edit icon covers the logo or disrupts the screen. It also contrasts the rest of the screen as it does not fit with the color schematic. It would be helpful to reduce the size to make sure no other assets are hidden.
  - b. Fix: Reduce size of green edit icon and change color
38. H10: Help and Documentation / Severity 2 / Found by B
- a. It would be helpful to have some type of onboarding or tutorial process explaining how to use the app and how to navigate between screens. In addition, this could help users set preliminary dietary restrictions and nutritional preferences without searching for it.
  - b. Fix: Add high level help page
39. H10: Help and Documentation / Severity 2 / Found by B
- a. Users may be confused at first on why to modify ingredients or whether they can access these changes later. It would be helpful if users knew what the app was doing with this information they added.
  - b. Fix: Add information icon near modification of ingredients to explain intentions
40. H2: Match Between System and the Real World / Severity 2 / Found by A
- a. Some choices of icons, such as those accompanying recipe categories or representing recipe ingredients, are often very culturally specific, and may not carry the same meaning across a wide range of users. For example, meals eaten at breakfast can vary wildly around the world, and while eggs on toast might match many American expectations of breakfast, it won't have the same meaning everywhere.
  - b. Fix: make food icons more culturally universal, or rethink the way you represent food categories/ingredients
41. H7: Flexibility & Efficiency of Use / Severity 3 / Found by A
- a. When searching through the recipe database (e.g. Italian Recipes) and on primary the recipe page, it could be highly time-saving for many users to display high-level information about the recipe, such as expected calories, difficulty of recipe, recipe yield, or anything else that typically plays a role in people's choice of recipe. Otherwise, users have to, at best, click on each recipe to learn more or, at worst, search through all the ingredients and estimate on their own.
  - b. Fix: including high-level nutritional facts and information about the recipe
42. H6: Recognition Rather Than Recall / Severity 1/ Found by A
- a. On a recipe's primary screen that lists ingredients by step, one must click through the whole recipe to understand what is involved at the cooking level of each step, then backtrack to the first screen and make desired substitutions. Knowing what's involved in each step can influence your decisions about making substitutions at the start of a recipe (e.g. substituting margarine for butter as a garnish but not as a batter ingredient).
  - b. Fix: include high-level information about each step of the recipe on the primary recipe screen
43. H2: Match Between System and the Real World / Severity 2 / Found by A

- a. Throughout the entire recipe taskflow and some screens in user settings, there's the simultaneous use of the colors red and green for different buttons on the same screen. Many cultures interpret red as the result of error and green as a sign of confirmation or correctness, though that doesn't appear to be the intended purpose of this design choice, and might confuse the actions of users.
  - b. Fix: use complementary colors in places besides buttons for clarity of function across all cultures
44. H3: User Control & Freedom / Severity 3 / Found by A
  - a. In the recipe taskflow, a series of dots visually represents where you are in the recipe, but isn't functional as a way of navigating through each step. In long recipes, the limitation of tapping through recipes only linearly may become tedious for users referencing past/future steps.
  - b. Fix: make dot bar functional to scrub through recipe steps
45. H8: Aesthetic & Minimalist Design / Severity 2 / Found by A
  - a. Many screens throughout the prototype use the backdrop of a kitchen counter/butcher's block. At times, this can make text/icons more difficult to understand without solid colored containers behind them, and is generally pretty visually noisy when used as the backdrop for screens with dense clusters of information, as in the recipe task flow.
  - b. Fix: find or design a more simple butcher's block backdrop, or choose a simpler backdrop idea
46. H3: User Control & Freedom / Severity 4 / Found by A
  - a. When modifying the quantity of ingredients in a recipe, the user is given no visual prompt of how to change it. Additionally, there is currently no way to decrease the quantity.
  - b. Fix: the inclusion of either a scroll menu or increment/decrement arrows to modify quantity
47. H9: Help Users Recognize, Diagnose, and Recover From Errors / Severity 3 / Found by A
  - a. The error message that appears when modifying an ingredient quantity violates a dietary restriction or nutritional preference doesn't state the exact nature of the violation (i.e. what the sodium limit is) which may become a bigger problem when involving more complex restrictions or restrictions measured in daily consumption rather than meal-by-meal.
  - b. Fix: more specific error message relevant to user preferences
48. H11: Accessible / Severity 2 / Found by A
  - a. The occasional use of drop shadow on plain text can make it difficult to read, especially for low vision individuals, as with the "My Latest Meals" category description in the "About Me" page.
  - b. Fix: redesign text shadows or eliminate them
49. H8: Consistency & Standards / Severity 2 / Found by A
  - a. Attempting to navigate backwards from a recipe flow brings up a prompt asking the user if they're sure they want to leave, but attempting to navigate to the home

screen or About Me screen doesn't bring up that prompt, though both actions pose the same problem to the user.

- b. Fix: standardize whether you include the error warning for all navigation possibilities
50. H12: Fairness & Inclusion / Severity 0 / Found by A
- a. Some users with medically constrained diets sometimes must consume a certain *minimum* amount of an ingredient per day (e.g. those with POTS must consume higher-than-average sodium if they don't take a supplement), so the ability to indicate that type of preference in nutritional preferences would be allow more flexibility for specialty users. Resolved!
  - b. Fix: make restrictions/preferences more customizable
51. H10: Help & Documentation / Severity 2 / Found by A
- a. The majority of error messages or confirmation prompts in the prototype come in the form of a pop-up window that requires a user response to proceed. This model works for some cases better than others, since a user response isn't always needed in cases where an 'error' isn't dangerous for the user, but rather simply uncommon behavior.
  - b. Fix: make error messages smaller and less invasive to user flow
52. H7: Flexibility & Efficiency of Use / Severity 3 / Found by A
- a. In the current iteration, the home page has only the purpose of reading the daily "fun fact" and taking you to the recipes search menu. A screen that's seemingly so important (has its own dedicated button) ought to either take you to the more useful page (the recipe menu) or to a home page with more functionality. There may be a way to eliminate the user preferences button in the bottom bar by moving it to the home screen, which would save screen space and legitimize the home screen.
  - b. Fix: legitimize home screen or redirect to a more useful screen
53. H1: Visibility of System Status / Severity 3/ Found by A
- a. When searching for recipes, it is currently unclear whether search results are filtered based on user dietary restrictions and/or nutritional preferences, or if the app will show you all available recipes and expect the user to make their own decisions.
  - b. Fix: either indicate that results are filtered, or show indications of whether a recipe follows user preferences
54. H2: Match between System and World / Severity 3/ Found by D
- a. Task 1
  - b. Problem Description: Cannot change the units into what I am familiar with.
  - c. Rationale: There are many different units for volume and weight around the world. It's inconvenient to read a recipe with units I am unfamiliar with.
  - d. Suggested Fix: Let users set their preferred units at the very beginning.
55. H2: Match between System and World / Severity 2 / Found by D
- a. Task 1/3

- b. Problem Description: Some names of ingredients might not be very common to everyone.
  - c. Rationale: People with less cooking experiences might be less familiar with the names of ingredients. They might not be able to buy the right ingredients or understand why they need that particular ingredient.
  - d. Suggested Fix: Add information about ingredients.
56. H3: User control and freedom / Severity 3 / Found by D
- a. Task 2
  - b. Problem Description: Cannot go back to the recipe from “Me”
  - c. Rationale: I cannot go to “Me” to modify dietary restrictions and nutritional preferences while doing task 1 and task 3 in the recipe because I cannot return to where I left.
  - d. Suggested Fix: Record where users left to help them get back.
57. H3: User control and freedom / Severity 1 / Found by D
- a. Task 3
  - b. Problem Description: The back button on the modification page for cream milk brings me back to default instead of a modified recipe.
  - c. Suggested Fix: Adjust the flow of the back button.
58. H6: Recognition rather than recall / Severity 2 / Found by D
- a. Task 1
  - b. Problem Description: Cannot check dietary restrictions and nutritional preferences while cooking.
  - c. Rationale: This violation is related to problem 5. Because there’s no return button on the “Me” page, I cannot check dietary restrictions and nutritional preferences in the middle of cooking.
  - d. Suggested Fix: Fix the 5th problem
59. H7: Flexibility and efficiency of use / Severity 3 / Found by D
- a. Task 3
  - b. Problem Description: Cannot save the modified recipe.
  - c. Rationale: Because I cannot save the modification, I need to enter the modification every time I want to cook the same recipe. It’s inefficient to do the same thing again and again.
  - d. Suggested Fix: Let users save their modified recipes in the app.
60. H7: Flexibility and efficiency of use / Severity 2 / Found by D
- a. Task 3
  - b. Problem Description: Can only modify the existing ingredients.
  - c. Rationale: Some advanced users might want to add new ingredients not shown in the recipe or want to modify the variables apart from the amount of existing ingredients.

- d. Suggested Fix: Add more options in recipes.

61. H8: Aesthetic and minimalist design / Severity 1 / Found by D

- a. Task 1
- b. Problem Description: Some non-essential ingredients do not be used in the recipe.
- c. Rationale: All ingredients shown in the list should be also shown on the recipe. Otherwise users don't know when or how much of those ingredients should be added.
- d. Suggested Fix: Delete useless ingredients or add them onto the recipe.

62. H8: Aesthetic and minimalist design / Severity 1 / Found by D

- a. Task 1/3
- b. Problem Description: The default font size is a little bit too big.
- c. Rationale: The font size is too big to see enough information on screens without scrolling. Additionally, it looks unprofessional with the font size

63. H11: Accessible / Severity 2 / Found by D

- a. Task 1
- b. Problem Description: The font size on recipes should be larger.
- c. Rationale: On the recipe pages, pictures are much bigger than texts, which is not convenient for people with both low vision and low hearing.
- d. Suggested Fix: Adjust the proportion of texts and pictures.

64. H13: Value alignment / Severity 2/ Found by D

- a. Task 2
- b. Problem Description: The conflict between health and wellness is not very well-solved.
- c. Rationale: Because the health standard is set by users themselves, the standard might not be suitable to users even though they think it is.
- d. Suggested Fix: Add the suggestions from nutritionists to help users get the correct and professional information.

### 3. Summary of Violations

Category	# Viol. (sev 0)	# Viol. (sev 1)	# Viol. (sev 2)	# Viol. (sev 3)	# Viol. (sev 4)	# Viol. (total)
H1: Visibility of Status	0	1	3	1	0	<b>5</b>
H2: Match Sys & World	0	3	2	1	0	<b>6</b>
H3: User Control	0	1	5	3	1	<b>9</b>
H4: Consistency & Standards	0	3	0	1	0	<b>4</b>
H5: Error Prevention	0	0	1	0	0	<b>1</b>

H6: Recognition not Recall	0	2	2	0	0	<b>4</b>
H7: Efficiency of Use	0	1	2	3	0	<b>6</b>
H8: Minimalist Design	0	7	5	1	0	<b>13</b>
H9: Help Users with Errors	0	1	0	2	0	<b>3</b>
H10: Help & Documentation	0	0	5	0	0	<b>5</b>
H11: Accessible	0	0	3	2	0	<b>5</b>
H12: Fairness & Inclusion	1	0	0	0	0	<b>1</b>
H13: Value Alignment	0	0	1	0	0	<b>1</b>
<b>Total Violations by Severity</b>	<b>1</b>	<b>19</b>	<b>29</b>	<b>14</b>	<b>1</b>	<b>64</b>

**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	100%	0	0	0%
Sev. 1	5%	42%	31%	16%
Sev. 2	20%	27%	31%	17%
Sev. 3	35%	14%	35%	29%
Sev. 4	100%	0%	0	0%
<b>Total (sevs. 3 &amp; 4)</b>	40%	11%	33%	27%
<b>Total (all severity levels)</b>	21%	28%	44%	17%

\*Note that the bottom rows are *not* calculated by adding the numbers above it.

#### 5. Summary Recommendations

##### *Severity Ratings*

- 0 - not a usability problem
- 1 - cosmetic problem
- 2 - minor usability problem
- 3 - major usability problem; important to fix
- 4 - usability catastrophe; imperative to fix

Overall, we loved testing Recipal! The idea is clearly communicated and navigating through the app is very intuitive. We loved the ability to personalize recipes and the many options available to the user.

Many of our violations were in H8; there are some design changes that would make navigating through the task flow more aesthetically pleasing and a little less confusing.

Many of the violations we found for H3, H7, and H10 highlighted a need for thorough user testing in this stage of your prototyping. By considering more extreme users and those who need to use the app very quickly and finish tasks efficiently, you'll find that you can trim down your task flows by at least a few screens input prompts, which can improve the user experience considerably. In general, showing more empathy for all kinds of users is essential when moving onto the hi-fi stages.

There were also a few problems that demanded consideration of users of different cultures and nationalities. For instance, allowing users to use the right measurement system, or choosing more universally understandable icons for recipe categories will make Recipal more sensitive to those using the app internationally.

## ***Heuristics***

### **H1: Visibility of System Status**

- Keep users informed about what is going on

### **H2: Match Between System & Real World**

- Speak the users' language
- Follow real world conventions

### **H3: User Control & Freedom**

- "Exits" for mistaken choices, undo, redo
- Don't force down fixed paths

### **H4: Consistency & Standards**

- Words, actions, and UI elements should be consistent across the entire platform
- Follow platform and industry conventions

### **H5: Error Prevention**

- Minimize error-prone conditions
- Remove memory burdens, support undoing, and warn your users when necessary

### **H6: Recognition Rather Than Recall**

- Make objects, actions, options, & directions visible or easily retrievable

### **H7: Flexibility & Efficiency of Use**

- Accelerators for experts (e.g., gestures, keyboard shortcuts)
- Allow users to tailor frequent actions (e.g., macros)

### **H8: Aesthetic & Minimalist Design**

- No irrelevant information. Focus on the essentials.

### **H9: Help Users Recognize, Diagnose, & Recover from Errors**

- Error messages in plain language
- Precisely indicate the problem
- Constructively suggest a solution

### **H10: Help & Documentation**

- Easy to search
- Focused on the user's task
- List concrete steps to carry out
- Not too large

### **H11: Accessible**

- Users can interact with the system using alternative input methods.
- Content is legible with distinguishable contrast and text size.
- Key information is upfront and not nested for screen readers.

- Purely visual or auditory content has text-based alternatives for users with low vision and low hearing.

**H12: Fairness and Inclusion**

- Users shouldn't feel that the design is not made for them.
- The design should meet all users' needs equally and prevent the reproduction of pre-existing inequities.
- It should not create additional burdens for members of disadvantaged populations.

**H13: Value Alignment**

- The design should encode values that users can understand and relate to.
- Conflicting collateral values should not emerge when the user interacts with the product.
- Encoded values should match users' values in a broad set of use-contexts.