

Heuristic Evaluation of [ShopKeep]

1. Problem/Prototype

Shopkeep uses a shopping list to allow users to add items and verify if they're in stock, find them in the store using a generated map, and use the expertise of shopkeepers.

2. Violations Found

1. H1: Visibility of System Status / Severity: 2 / Found by: C

A consumer should be able to tell when a shopkeeper is available or not, or whether the list of people that are given as a resource are people that are currently working at the store.

Fix: Add a text that says "people available right now" or put "available" or "not available" in their profile

2. H1: Visibility of System Status / Severity: 1 / Found by: B, C

When the screen appears that says "Shopkeep: Shop with experts" and has the logo underneath, it's unclear what the user should do. Is the page loading? Or, should the user click on something to advance to the next screen?

Fix: Include a loading bar or a "Begin Shopping" button so that the user knows what to do.

3. H1: Visibility of System Status / Severity: 3 / Found by A

When users are adding items, there is an option to speak the items into existence on the grocery list using the mic. However, when a user clicks on the mic to begin speaking items, the previous items they entered go missing and are replaced with the dialog box "Click notepad or mic to add items."

Fix: Users should not be concerned/unaware of where their previous items went and should instead be able to see their items on the list at all times, even when speaking into mic.

4. H1: Visibility of System Status / Severity: 2 / Found by C

The start and finish points on the store maps are pretty thin which make it a bit hard to notice where they are. The compass directions of the store are a little hard to decipher.

Fix: Make the font for the start and finish points bigger.

5. H1: Visibility of System Status / Severity: 4 / Found by A, B

After clicking on the Call Employee screen, the user is presented back to the same screen where they edited their grocery list. It is unclear if the previous grocery list was deleted and also why users are sent back to their list after getting help. Shouldn't users see the previous screen (i.e. the map) again after getting help, so that they can get help with the next items?

Fix: Make it super clear that the list users are being sent back to is their original list by having those same items they entered previously appear again. Or, if you want them to start over, make this clear with a helpful dialog box.

6. H1: Visibility of System Status / Severity: 2 / Found by B, D

The text for an item that says “out of stock” is the the same font/color as the text that says “in stock.” A user who is not paying attention may not realize the difference.

Fix: Change the color for “out of stock” from black to red so that user will be more informed.

7. H1: Visibility of System Status / Severity: 1 / Found by B, D

The rectangles at the front of the map are unlabeled, so the user may not know what they represent.

Fix: Write “Cash registers” on the rectangles (again, as you did to indicate aisle numbers).

8. H2: Match Between System and the Real World / Severity: 3 / Found by C

The beginning screen for choosing a store doesn’t match up with how you would choose a store to go buy items. It is a bit rare for people to know the store that they would like to visit first before knowing what to buy, unless they are an avid shopper with a lot of time.

Fix: Show a list of stores to visit based on category of items needed/switch order of shopping list and finding store.

9. H3: User Control and Freedom / Severity: 4 / Found by B, C, D

General issue: users can’t choose a different store. Specifically, there is no back button on the “Add Items” screen. The user may need to go back if she wants to select a different store. Similarly, clicking “Done” on the screen that says “Thank you for shopping with CVS,” takes the user to the “Add Items” page, but the user may want to shop at a different store this time.

Fix: Include a “Back” button or a “home” button.

10. H3: User Control and Freedom / Severity: 4 / Found by B

There is no way to specify quantity on the “Add Items” screen. Thus, if the user wants to buy two loaves of bread, they have to input “Bread” twice, which is inefficient. It’s important for the user to be able to specify quantity because quantity affects the total price at checkout (and to my understanding it seems that users pay for items through the app).

Fix: Add a button to allow the user to input the quantity of each item.

11. H3: User Control and Freedom / Severity: 4 / Found by B

There is no way to remove items on the “Add Items” screen. The user may want to remove items if she changes her mind about an item.

Fix: Add a button to allow the user to remove items.

12. H3: User Control and Freedom / Severity: 4 / Found by A, D

When users click “Checkout” on the map, they are presented with a popup that says “Pressing finished will clear your shopping list and map”. Give users the freedom to go back to their shopping list or have their shopping lists saved if they find that they aren’t actually done, even when they are at the check-out screen.

Fix: Don’t clear list, instead redirect users to checkout line. The list and map should not be **completely** cleared until they officially checkout at the registers.

13. H3: User Control and Freedom / Severity: 2 / Found by B, A

During the video call, the only option the user has is to end the call. Users may want to flip the screen in order to show the shopkeeper items in the store.

Fix: Include a button that allows shoppers to flip the screen during a call.

14. H3: User Control and Freedom / Severity: 2 / Found B

After the call ends, the user is taken to the “How was your experience with Ellen today?” screen. The user is unable to continue in the app unless they leave a rating. For services like Uber at Lyft (which I believe this is modeled after), ratings are optional. I think it’s good for them to be optional because the user may not want to give a rating. The user may not want to be responsible for affecting how employees are perceived by other customers and/or bosses.

Fix: Make the rating optional, and add a “Home” button on the “How was your experience with Ellen today?” screen.

15. H4. Consistency and standards / Severity: 1 / Found by C, B

The call feature is accessible at all stages of the interface task flow, but upon accidentally pressing on the icon at a different stage in the task flow from adding items consumer could be confused by the “find item” button.

Fix: Make the item a “back” button.

16. H4. Consistency and standards / Severity: 4 / Found by C, B

The checkout button and checkout receipt is a bit confusing, since the app itself doesn’t set a standard of an in app checkout service for the consumer.

Fix: Make the buttons perform a universal “done” action. Make it clear that you are checking out at the registers.

17. H4. Consistency and standards / Severity: 1 / Found by C

The fonts are not consistent throughout, which makes the first page seem a little out of place and almost extraneous.

Fix: Make the fonts consistent.

18. H4: Consistency and Standards / Severity: 2 / Found by B

There is a location marker that indicates where the ATM is on the “Find Items” screen.

There aren’t any other location markers on the map. In addition, the user did not indicate that she was looking for an ATM, so she may be confused as to why there is a location marker there.

Fix: Remove the location marker and write “ATM” directly (as you did to indicate aisle numbers).

19. H4: Consistency and Standards / Severity: 1 / Found by B

The path on one screen that has “Find Items” on the top (namely, the screen for Eggs), has dotted lines in between items. However, the path for two other screens that have “Find Items” on the top (namely, the screen for Bread and the screen that says “All items done!”) has solid lines in between items. This inconsistency may be confusing for the user.

Fix: Make all of the paths have dotted lines, or all of the paths have solid lines.

20. H4: Consistency and Standards / Severity: 3 / Found by B

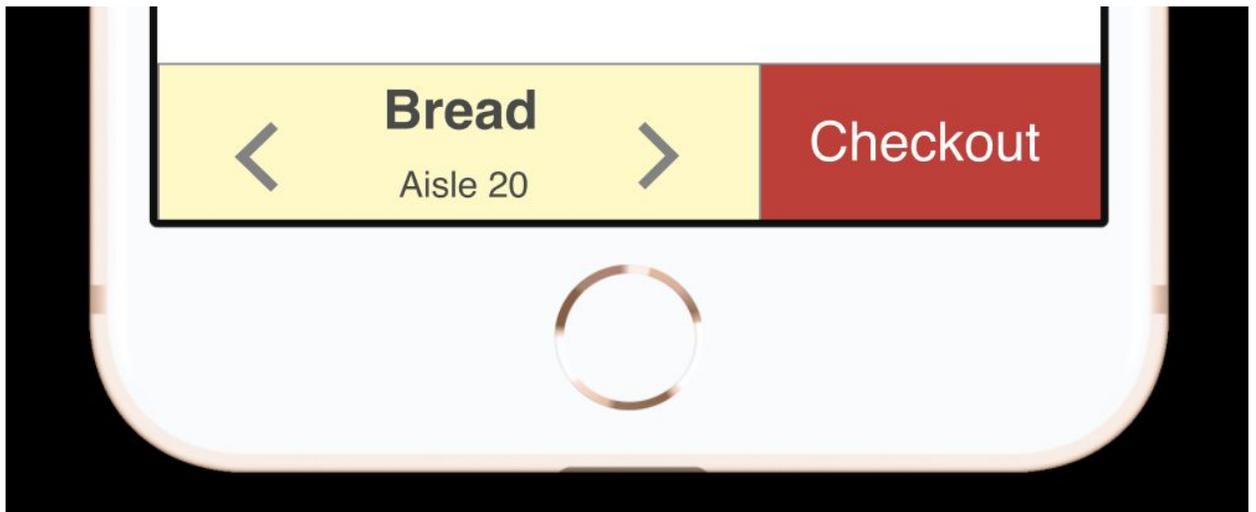
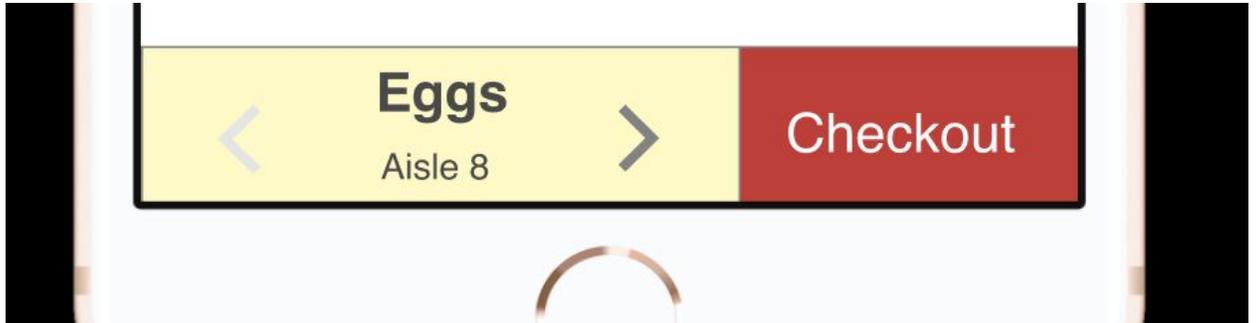
It is unclear whether the total price on the “Checkout” screen is the pre-tax or post-tax price.

Fix: Before the line that includes the total price, include a line that says how much tax the was.

21. H4: Consistency and Standards / Severity: 1 / Found by B

Eggs were the first item on the list, so the left arrow was a lighter shade of grey (to indicate to the user that she can't click that way because there are no previous items). However, both arrows for Bread are dark grey, even though Bread is at the end of the list. The user may get confused and think that there are more items on her list because of this inconsistency.

Please see the pictures for reference.



Fix: Underneath Bread, make the right arrow a lighter shade of grey to indicate that the user is at the end of the list.

22. H4: Consistency and Standards / Severity: 2 / Found by B

The user must press a **telephone icon** (which is typically associated with audio calls) in the top right corner in order to contact an employee. However, when the user presses "Ask Ellen" on the "Get expert help" screen, they are taken to a **video call**.

Fix: Add two options: face call and audio call.

23. H5. Error prevention / Severity: 3 / Found by C

The cancel button for generating map and calling assistant is almost exactly in the same place as the buttons for making generating the map and asking the assistant for help.

This placement choice could be error prone especially since the buttons are the same color and size as well.

Fix: Add a pop up for canceling instead of putting the cancel button in the loading screen

24. H5: Error Prevention / Severity: 2 / Found by A, B, D

On the screen that shows sample items that have been entered into grocery list, there is an entry “Fridhice?” that, instead, of being in stock or out of stock, is unrecognized. Such an entry should have been deleted/prevented from being entered in the first place, with a helpful dialog box informing users if they’ve misspelled an item.

Fix: Ask users if they’ve misspelled the item, and/or tell them that the item doesn’t exist. Perhaps you could include a pop-up to make this clear.

25. H5: Error Prevention / Severity: 4 / Found by B

When the user clicks on the information icon in the top right of the screen, it shows the user how to add items to the shopping list. The only option on that screen is “Generate Map.” However, the user may not have chosen a store yet (i.e., if they accessed the info button from the loading screen without selecting a store first).

Fix: Include error checking to make sure that the user has chosen a store before allowing the “Generate Map” button to appear, and inform the user if she did not choose a store. Alternatively, you include a help page as the app loads.

26. H5: Error Prevention / Severity: 4 / Found by B, C, A

If the user selects “Generate Map” before adding any items, it generates a blank map, which is essentially useless for the user.

Fix: Include error checking to make sure that the user has added at least one item, and inform the user if she did not add any items. Alternatively, the “Generate Map” button could only appear once the user adds at least one item.

27. H5: Error Prevention / Severity: 2 / Found by B

There was a Buy One, Get One Free sale for Eggland’s eggs, but the user only got one.

Fix: Use a popup to alert the user that they did not take advantage of the sale.

28. H8: Aesthetic and minimalist design / Severity: 1/ Found by C

The page for generating maps page is visually a little confusing because of the differing font sizes, the big icon, and the big cancel button. It seems like a page where the consumers must press on something, but the page does not do anything.

Fix: Make the fonts the same size and make the icon smaller (ei, for the “generating maps” page, make the font for generating maps smaller to match the question at the bottom, and make the icon smaller. Might help the loading page look less eclectic)

29. H8: Aesthetic and minimalist design / Severity: 1/ Found by C

Adding the icon of the shopkeeper at the end of the shopping experience could be a little confusing for people who did not need the assistance of a shopkeeper that day.

Fix: Get rid of the icon of the shopkeeper, could replace with a different icon if relatable.

30. H8: Aesthetic and minimalist design / Severity: 1 / Found by A

When users click “Finished”, they are brought to a screen showing subtotals and the total price. However, the column that says “Subtotal” appears over the name of the item instead of the price of the item, which is confusing.

Fix: Move the subtotal heading to appear above prices, or get rid of it entirely as it is evident those are the prices of the items.

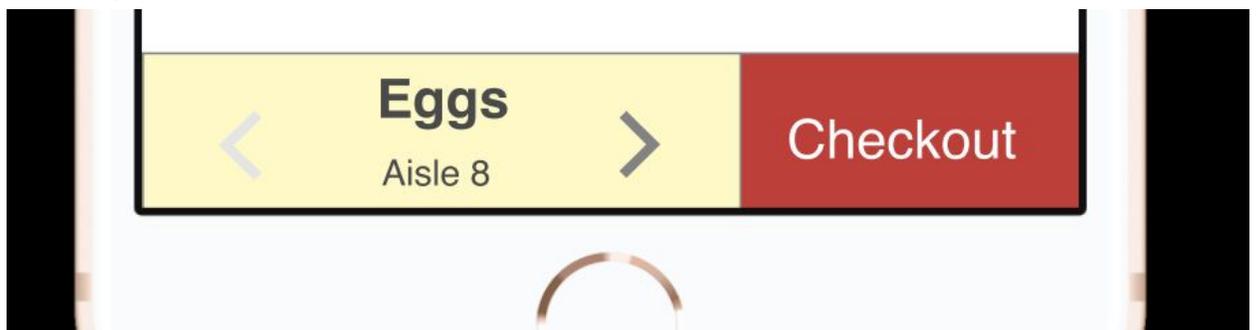
31. H8: Aesthetic and minimalist design / Severity: 2 / Found by B

The grey background for the text box that says “Choose a store” is hard on the eyes and doesn’t match the rest of the red/yellow/white color scheme that is found in the rest of the app.

Fix: Get rid of the colored background but leave the border around the text box. The border could be yellow to match the color scheme.

32. H8: Aesthetic and Minimalist Design / Severity: 1 / Found by B

On the bottom of the “Find Items” screen, the item and item number are stacked on top of each other, and the “Checkout button” is next to them. This means that overall the text is not aligned. Please see the picture for reference:



Fix: Put all of the text on the left on the same line so that it is aligned with “Checkout” on the right (E.g., “Eggs--Aisle 8”).

33. H8: Aesthetic and Minimalist Design: Severity: 3 / Found by B

It’s not obvious that you can click on the CVS icon in the “Choose a store” box on the home screen, so users may get confused as to what they’re supposed to do.

Fix: Add a border around the CVS logo to make it clear that it’s a button/users can click on it.

34. H8: Aesthetic and Minimalist Design / Severity: 1 / Found by B

The word “Checkout” shifts positions slightly when the user clicks on the arrows to get to the next item in the list. It can be disorienting for the user to look at the shifting text, when she expects the option to checkout to remain constant.

Fix: Make sure that the word “Checkout” appears in exactly the same place on all the screens that say “Find Items” at the top.

35. H10: Help and Documentation / Severity: 2 / Found by A

Once the user generates map and clicks on an item, they are presented with a “Call an employee” screen. On this screen, the message “Click the phone icon on any page to get specialized help” appears even though the user is already on such a page. The user has already traversed too far into the app to have this help message appear.

Fix: Bring this helpful message to the beginning of the app where the other help messages are located.

36. H10: Help and Documentation / Severity: 1 / Found by A

On the item adding screen, users are presented the helpful dialog box to “Click notepad or mic to add items” even though they have already clicked the mic/notepad.

Fix: This dialog box should appear before users do so and disappear once users begin the task.

37. H10. Help and documentation / Severity: 2 / Found by D

The information walkthrough is very helpful, but disappears after the first few screens.

Fix: Once users are interacting with the map etc, it might be useful to still be able to access the tutorial without exiting the store and list they created.

38. H7. Flexibility and efficiency of use / Severity: 1 / Found by D

It isn't clear if exiting CVS to choose another shop will delete the shopping list to retain the memory. People might create shopping list way in advance of shopping and over a few days, so there should be a save so they won't lose it if they exit the app/don't generate a map.

Fix: Having a save/discard button on the list may give the users a better idea and more peace of mind, and give them more flexibility when creating a shopping list for a trip (which might include several shops).

39. H8. Aesthetic and minimalist design / Severity: 2 / Found by D

User might want to a delete option for items not recognised so it doesn't clutter the list. User may want the out of stock items removed from the list and saved elsewhere so a list of what they WILL be able to buy is easy to view without distractions as the unstocked items are basically just clutter once they generate the map.

Fix: have more editing options in list

40. H1. Visibility of system status / Severity: 2 / Found by D

Once items have been added to cart, the path is shown as dotted, but what if they walked past it without adding it to their cart? It feels like the “checking items” part of the task is not concretely carried through.

Fix: A “Finish item” button would make this very clear and capture cases like looking at wine and then deciding to come back to it after buying the food.

41. H6. Recognition rather than recall / Severity: 4 / Found by D

When carrying out the task of speaking to a store employee, where would the information given over the call be stored (brand names, directions etc) be stored by the caller?

Fix: A notepad in the app to store information/notes or the employee could send these as a message after the call.

42. H3. User control and freedom / Severity: 3 / Found by D

When checking out, a user may want to buy the items without clearing the list. What if a user has to cut a shopping trip short and would like to retain the list and map for the next trip? What if they want to check the total of the items they've picked up before continuing their shopping?

Fix: A save and continue option would be helpful.

43. H10. Help and documentation / Severity: 2 / Found by D

In the help tutorial it would be helpful to have audio as well that demonstrates what keywords the voice control reacts to so users have a template for how to frame their requests to add items.

44. H7. Flexibility and efficiency of use / Severity: 2 / Found by D

When users have already talked to a store worker before it seems like they should be able to skip the review part as they have already given their review. This may become annoying if they call the same store worker often and have to review with text input each time.

3. Summary of Violations

Category	# Viol. (sev 1)	# Viol. (sev 2)	# Viol. (sev 3)	# Viol. (sev 4)	# Viol. (total)
H1: Visibility of Status	1	5	1	1	8
H2: Match Sys & World	0	0	1	0	1
H3: User Control	0	2	1	4	7
H4: Consistency	4	2	1	1	8
H5: Error Prevention	0	2	1	2	5
H6: Recognition not Recall	0	0	0	4	1
H7: Efficiency of Use	1	1	0	0	2
H8: Minimalist Design	5	2	1	0	8
H9: Help Users with Errors	0	0	0	0	0
H10: Documentation	1	3	0	0	4
Total Violations by Severity	12	17	6	9	44
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. 1	2/12 = 16%	7/12 = 58%	5/12 = 42%	3/12 = 25%
sev. 2	3/17 = 18 %	8/17 = 47%	2/17 = 12%	6/ 17 = 35%
sev. 3	1/6 = 17%	2/6 = 33%	2/6 = 33%	1/6 = 17%
sev. 4	3/9= 33%	7/9= 78%	3/9= 33%	3/9= 33%
total (sev. 3 & 4)	4/15= 27%	9 / 15= 60%	5/15= 33%	4/15= 27%
total (all severity levels)	9/44 = 20%	24 /44 = 54%	12/44 = 27%	8/44 = 18%

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

5. Summary Recommendations

We really enjoyed the nice flow of the interface and how easy it was to look for the different items and prices. However, we think that there could be some improvements made.

First off, we would like to suggest a different way of selection of stores. The interface's way of finding a store based on a list of store brands has a big disconnect with the way people normally shop. We would suggest that ShopKeep switched around the adding items and finding store task flow. Some things that could happen would be that you allow for the consumers to select what category of items they are looking for that day and find stores according to the preferences with locations and distance of the stores, or the interface could have the consumer type in their items and look for which stores have the most of the items in stock. Another big suggestion that we would like to make has to do with the second task that the ShopKeep prototype interface is trying to achieve. The second task is to navigate the store efficiently while checking off the items on the list. There is no way of being able to physically check off the items on the shopping list. We would suggest that instead of a checkout list at the end and the side scrolling button at the bottom of the map, there should be a button to access the shopping list on which the consumers can check off the items that have been obtained. This would get rid of the extraneous checkout list and side scrolling list which both seemed a bit confusing and out of place.

Some more minor details that could be fixed are some aesthetic and wording disconnects. First off, we would really like to suggest that the fonts are made uniform to really create an aesthetic for the interface as a whole. Also, the "Cancel" buttons on the loading pages could be differentiated a bit more to avoid errors. We suggest that these be a pop-up upon pressing a button rather than being a large button on the loading pages. Lastly, the texts and icons on the loading pages could be more minimal. For instance, the font sizes could be a bit smaller and aligned right above or below each other. The icons could also be a bit smaller. We decided to put this as my last comment as this is a minor detail compared to the rest of the suggestions and could possibly just be [Evaluator C]'s aesthetic preference. One last recommendation is to get rid of the "Ready for an adventure?" text when users generate the map. We believe your purpose is to streamline the shopping experience as much as possible for your users so that **it isn't an adventure** (if that makes sense). Despite the few consistency/documentation issues spotted above, we really enjoyed how practical and to the point the task flow of the prototype was, especially the map, and we believe these edits could really add to his interface for easier use and interaction.

Severity Ratings

- 1 - cosmetic problem
- 2 - minor usability problem
- 3 - major usability problem; important to fix
- 4 - usability catastrophe; imperative to fix

CS 147 Autumn 2018: Assignment 9 (Heuristic Evaluation Group Template)

Instructor: James Landay

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

H5: Error Prevention

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, kb shortcuts)
- Allow users to tailor frequent actions (e.g., macros)

H8: Aesthetic & Minimalist Design

- No irrelevant information in dialogues

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