

Phase 4: Walkthroughs

*Please note that all figures referenced in the following walkthroughs are found in Appendix 1.

Task 1

Step	Step Description	Knowledge?	Motivated?	Comments / Solutions
1	Opens application.	Ok	Ok	N/A
2	Presses on “Search by Ingredients” button. (Figure 1)	Fair Knowledge: The two search bars being adjacent may be confusing.	The ingredients search is clearly labelled which motivates Janice to select it to complete her task.	Possible Solution: The two search bars should be more distinctly separate to enforce the differences between them.
3	Types in each of her ingredients one by one, pressing “Enter” after each one. (Figure 1)	Ok	Moderate Motivation: The user may not be motivated to enter all the ingredients	Possible Solutions: Autofill ingredients as they are typed so users have to do less typing.
4	Presses on “Find Recipes”.	Ok	This is her exact task.	N/A
5	Searches for a recipe.	Ok	Moderate Motivation: By nature, searching can be tedious and the longer it takes the less tolerance the user will have.	Possible Solution: Display results in a dense manner to make searching easier, while still ensuring the appearance and density do not put off the user.
6	Presses on “Fancy Spaghetti”.	Ok	Ok	N/A
7	Presses on “Start” button. (Figure 4)	Ok	Ok	N/A
8	Follows Step 1 provided by the recipe.	Ok	Ok	N/A

9	Presses on the next arrow button. (Figure 5i)	Ok	High Motivation: Hands may be a bit dirty to interact with the interface.	Possible Solution: Make the interaction area larger, or add other ways to progress, such as double tapping rapidly, anywhere on screen.
10	Completes the recipe.	Ok	Ok	N/A
11	Clicks on the stars to rate the recipe. (Figure 9)	Ok	Clearly labelled so if she wishes to rate, it is obvious.	N/A

Walkthrough Analysis:

This walkthrough was performed under the two following assumptions: Janice is a user with average cooking skill, and she has had moderate experience with other digital interfaces.

Janice succeeded in her common task fairly easily, with the areas of greatest concern being constrained to typical searching tedium and doubts about ease of use in regards to entering information and the physical interactions with the interface.

Task 2:

Step	Step Description	Knowledge?	Motivated?	Comments / Solutions
1	Opens Application	OK	OK	N/A
2	Presses on “Seafood” in Categories Bar (Figure 1)	OK	Moderate motivation: May not want to scroll through all categories	Possible solutions: Customizable category bar so user’s most used category floats on top.
3	Presses on “Filter Bar - Difficulty” button (Figure 1)	Moderate Knowledge: Eli may be unfamiliar with this icon	Eli wants a difficult recipe. The icons are appealing and he is motivated to experiment with interface.	Possible solutions: Label for icons or we could just leave it, or add words to icon. If the user wants to search, they would experiment with the icons.
4	Selects “Hard” for difficulty	Labelled	OK	N/A

5	Presses on “Find Recipes”	Labelled, noticeable position	OK	N/A
6	Presses on “Whole Fish Baked in a Salt Crust” recipe	OK	Is the recipe that matches his criteria	N/A
7	User views the food profile page and goes to market (Figure 4)	OK	Does not have have the items and would like to purchase them	N/A
8	Clicks on “Fillet”	The word stands out from the rest, and consistent appearance for all definable keywords.	Highly motivated because word stands out and naturally goes to investigate. Also is unfamiliar with the word.	N/A
9	Popup of the word definition is shown (Figure 7)	OK	OK	Task example describes Eli watching a tutorial video. We decided that thorough description would suffice.
10	User presses on the “x” to exit out of the definition box (Figure 7)	OK	OK	N/A
11	Clicks download (Figure 4)	Labelled, noticeable position	Would like to print the recipe	There is no option to print directly. For some users, this may appear as though a recipe cannot be printed.
12	Prints recipe	OK	OK	Performed outside of our interface.
13	Clicks Favourite (Figure 4)	Labelled, noticeable position	Would like to try it again in the future, he likes the recipe.	Eli chose not to use the interactive step-by-step instructions and used a printed recipe instead. So he is still on the food profile page.

Walkthrough Analysis:

This walkthrough assumes: Eli is a user with above average cooking experience, and that he is a somewhat proficient user of digital interfaces.

In this walkthrough, the biggest issue was the problem of Eli having to occasionally guess by the appearance of an icon if it supported the task he wished to complete. Unless users are accustomed to standardized icons, this may prove to be a shortcoming of the interface.

Though he was able to complete his task, it may have taken longer than necessary, so greater indication for users as to what an icon means, especially since not all users in our user groups will necessarily have experience with digital interfaces, is important to consider.

Task 3

Step	Step Description	Knowledge?	Motivated?	Comments / Solutions
1	Opens Application	Ok	Ok	User has enough computer literacy to open and operate applications.
2	Clicks on search bar (Figure 1 - #2 field)	Yes, since the search bar will have helping text like “e.g spaghetti”. The search icon is also universal so it should be easily spotted.	User is searching for a recipe with a general idea. His first instinct would be to search.	The interface has food categories that might also include pasta. User can choose it from the category option and hit find recipes. Having two ways of searching for a recipe might be convenient to a broader user group.
3	Types in “Pasta” in the search bar	Yes, the cursor should guide the user to type in as soon as the bar is selected.	Ok	One potential problem could be that he mistypes. The Search bar does not disappear and user can backspace and correct.
4	Presses “Find Recipes” button (Figure 1 - #6 field)	The button is labeled clearly.	User wants to find recipes of pasta.	N/A
5	Clicks filter button with “Difficulty” icon	Poor Knowledge: The user might not have knowledge	Moderate Motivation: The user wants to find	Potential solution could be to provide clear labels for each filter option so

	(Figure 1 - #4)	that the button is for filtering.	all the recipes that are beginner level difficulty. He will need a way to filter the recipes via a filter feature, but might not be motivated if presented with too many options with confusing icons.	that user can easily understand and select the one he needs.
6	Selects “Easy” option from dropdown menu in the difficulty filter option (Figure 1 - #4)	Ok.	Ok	The list is clear with three options (Easy, Medium and Hard) and only one selectable radio button.
7	Clicks sort button (Figure 1 - #5)	Button is labelled and noticeably positioned.	Lots of recipes shown in a list and sorting is a way to organize the chaos. User would like to organize by number of ingredients.	The default order for number of ingredients will be ascending but if user wants to change the order, the upward and downward arrow button will toggle the order. (Figure 2 in button on right side of sort)
8	Selects/clicks on radio button beside the option for sorting by number of ingredients	Clear text option.	Ok	N/A
9	Clicks on the first recipe displayed in the list. (Figure 2)	Ok	Ok	The recipes have number of ingredients mentioned beside them so that it is easy to see and select. User might accidentally click on wrong recipe. A potential solution might be to include a defined box around each item in the list.

10	Checks off checkbox beside the ingredient items in the ingredients list that he has in his stock (Figure 4)	The checkboxes are beside each item and should indicate they are clickable.	Low Motivation: The user might not be aware that he can check the items off from the recipe page. This feature is not intuitive enough.	The system could provide simple instructions to make the user aware they can check off items and download recipes. Another problem is that if there is a lot of ingredients, it could be tedious and time consuming to go through and click each item.
11	Checks off checkboxes beside the items in the equipment list (Figure 4)	Same as step 10	Same as step 10	Same as step 10
12	Clicks on Download button (Figure 4 - #3)	Ok	User wants to get a copy of the ingredients list so that he can go shopping for the missing ones.	The icon for download is well understood, but there might be users who are not familiar and having a label might be helpful.
13	Click on Download Ingredients only (Figure 4 - #3)	Yes, since the options in the dropdown menu are text in English.	Ok	N/A
14	Takes the downloaded ingredient list to grocery store to get the rest of the missing items	Ok	Ok	N/A
15	Reopens application	Ok	Ok	N/A
16	Clicks on “current recipe” tab on home page (Figure 1)	The tab is labeled in left sidebar.	User want to access the recipe again.	N/A
17	Clicks on start to begin the process (Figure 4)	Ok	Ok	The start button is labelled and has a noticeable position.

18	Follows Step 1 displayed on screen (Figure 5)	Ok	Ok	N/A
19	Clicks the arrow pointing to right to go to next step (Figure 5)	Ok	OK	N/A
20	Comes across the word “dice” in the instruction (Figure 7)	User does not understand the term.	OK	N/A
21	Clicks on the word (Figure 7)	Yes, the word is highlighted in a different coloured font, underlined and has a “?” icon superscript to the word to indicate the user that it is lookable.	User wants to look up the meaning of dicing before he can move on to the next step.	N/A
22	Reads the definition in a pop up that appeared (Figure 7)	Ok	Ok	N/A
23	Clicks on the “x” button to close the pop up. (Figure 7)	Ok	Ok	X might be too small. Instruction of “Press anywhere to exit” might be more helpful
24	Clicks on next step and follows through all the steps	Ok	Ok	N/A
25	Sees the options to rate the recipe, save the recipe or share the recipe (Figure 9)	The options are clearly labelled with icons.	Ok	N/A

26	Clicks on the save button (Figure 9)	The option is labelled and has colour feedback for the heart icon.	Wants to save the recipe for future reference.	The user might accidentally click save. Potential Solution would be clicking the button again to undo the save action.
27	User sees a message that the recipe has been saved	Ok	Ok	The recipes are saved in local storage and user does not have the option of cloud storage, so if the user loses the device, the saved recipes will be lost as well.
28	User sees cook book page with the new saved recipe (Figure 3)	Ok	Ok	One potential problem would be rating a recipe after adding to cookbook favourites. Potential Solution would be to add that option in the cookbook or ability to return to completion page after instead of “cook book”.

Walkthrough Analysis:

This walkthrough assumes that Stephan is a user with beginner level cooking experience and has enough previous knowledge of other recipe websites and applications.

Stephan was able to complete his task without direct violations, but there are several areas of the design that could be improved. The main area that could be improved is increasing user knowledge by providing instructions whenever possible and labelling buttons and tabs. Some of the features like the ability to check mark and download the ingredient list are not intuitive and providing instruction or a note to inform the user about the features would potentially solve this issue. Also relying on user knowledge to recognize icons should be avoided since not all users in our user groups will necessarily have experience with digital interfaces.

Task 4

Step	Step Description	Knowledge?	Motivated?	Comments / Solutions
1	Opens the application on smartphone.	OK	OK	N/A

2	Search is already defaulted to searching in “ALL CATEGORIES” (Figure 1)	“ALL CATEGORIES” is already selected. Bob understands that this will retrieve all the recipes in any category.	Bob does not want a specific dish, he just wants to search for one that is easy and quick.	N/A
3	Taps on the Difficulty Filter option and presses “Easy” (Figure 1)	Moderate knowledge: Filter option buttons are not clearly labelled.	Bob wants to search for easy to cook recipes.	Potential solutions: Can add labels to each of the Filter options.
4	Taps on Duration Filter option and adjusts the slider to 20 minutes. (Figure 1)	Duration contains intervals to move the slider to.	Bob wants to find recipes that can be cooked within 20 minutes.	N/A
5	Presses on “Find Recipes”.	Button is clearly labelled.	Bob wants to search for recipes and just needs to press one button.	N/A
6	Taps on the “Fried Rice” Recipe. (Figure 2)	Recipe is clear and presents all information, including the difficulty and duration.	He is motivated to click on the recipe that fits his constraints.	N/A
7	Presses “Start” to begin cooking. (Figure 4)	Button is clearly labelled.	Bob wants to start cooking and just needs to press one button to begin.	N/A
8	Completes the first step of the recipe and taps on the “--->” button with “Next” underneath. (Figure 5i)	“--->” usually indicates next.	Bob wants to move to the next step and just needs to press one button to move on.	N/A
9	Completes the rest of the steps of the recipe.	Uses knowledge from previous step to finish the recipe.	Only one button is pressed to move on to the next step until the end of the recipe.	N/A
10	Taps on the heart icon to favourite the recipe. (Figure 9)	The heart icon usually indicates “like” or “love” actions which promotes the	He is motivated since he wants a quick way to refer back to this recipe without having to search for it	N/A

		“favourite” meaning.	again.	
--	--	----------------------	--------	--

Walkthrough Analysis:

This walkthrough assumes: Bob is considered an expert with technology, and Bob is a user who has advanced cooking skills.

Bob has enough knowledge of technology to be able to work his way through the application. Using his knowledge, he can quickly narrow down a recipe according to his preferences using the application’s filter function. With clearly labelled buttons and a simplistic interface, users like Bob, who are proficient in technology can quickly navigate through the application given with or without time constraints.

Task 5

Step	Step Description	Knowledge?	Motivated?	Comments/Solutions
1	Frank has gotten to the recipe profile screen for “Beef and Onions”. (Figure 4)	Yes. Since Frank has intermediate cooking experience, he has enough knowledge to find a recipe that he wants to follow.	Yes. He wants to cook by following a recipe and the first step is finding one, regardless of the search method.	N/A
2	He presses the “Start” button to begin following the recipe. (Figure 4)	Yes. The button is clearly labeled with an appropriate term in English.	Yes. The action is simple since it consists of tapping one button.	N/A
3	He completes step #1 of the recipe. (Figure 5)	Yes. He has experience with cooking, so he should be able to complete some steps without help.	Yes. This step is necessary in order to progress through the recipe.	N/A
4	He presses the “--->” button to mark step #1 as completed and to move onto step #2. (Figure 5)	Likely. The arrow is a universal symbol whose purpose can be inferred from the context of the window.	Yes. The action is simple and it is essential to the step-focused design that Frank cares about.	The arrow label could be changed to “Next Step” to add more clarity to its purpose.

5	He reads the instruction to “Chop the onions”, but he has forgotten what quantity of onions he needs. He presses the drop-down ingredients menu button. (Figure 5)	He may not have the knowledge that he can tap at the top to bring down the ingredients list. He may try swiping the menu down and wonder why the button doesn’t do anything.	Yes. The action is simple and the transition from the current step window to the ingredients list is immediate. He doesn’t have to search for the ingredients in a long list of text. They are simply presented to him right away and he can easily identify the onions in the list.	Add the ability to either tap on the button or swipe it down to view the ingredients list.
6	He presses on the measurement units preceding “onions” in the ingredients list. (Figure 8)	Yes, since the units are displayed inside an identifiable button.	He is motivated since he doesn’t know what 4 oz. looks like and he doesn’t have any equipment to measure ounces.	N/A
7	He presses on the “cups” option in the drop-down menu that has appeared in order to convert from ounces to cups. (Figure 8)	Yes, since he understands that this menu is displaying different measurement units.	He is motivated since he is more familiar with measurements in “cups” and has equipment to measure volume in “cups”. He also wouldn’t be able to continue cooking without this conversion.	N/A
8	He now sees that he needs ½ cup of onions. He presses the pull-up steps menu button to return to step #2 in the recipe. (Figure 8)	Yes, since he realizes that this button acts similar to the ingredients drop-down button that he pressed earlier.	He is motivated since he wants to continue following the recipe.	N/A
9	He completes step #2 of the recipe. (Figure 5)	Yes. He is now able to complete this step using the tools and knowledge acquired in the previous steps of this walkthrough.	Yes. This step is necessary in order to continue making progress through the recipe.	N/A
10	He presses the “--->” button to mark step #2 as completed and	Yes. He already performed this action to transition from step #1 to	Yes. Once again, the action is simple and it is essential to the step-focused design	N/A

	to move onto step #3. (Figure 5)	step #2 of the recipe.	that Frank cares about.	
11	He completes all the remaining recipe steps and gets to the “recipe completed” screen. (Figure 9)	He is able to finish preparing his recipe. If any similar challenges occurred during the remaining recipe steps, he would be able to use the tools in the application and his knowledge of how to use them to overcome them.	Yes. He has overcome any obstacles in previous steps by using simple tools provided by our interface. He should be able to complete the remaining steps of the recipe in a similar manner.	N/A

Walkthrough Analysis:

This walkthrough assumes: Frank is a user with intermediate cooking experience, and Frank has enough previous knowledge of our application to find a recipe and get to its info screen.

For the most part, the prototype enables Frank to complete his tasks without difficulty due to intuitive button interaction coupled with helpful text, however there are several areas of the design that could be improved. First off, the arrow buttons could be labelled with a more appropriate English term to provide further clarity. Second, the drop-down ingredients page button and the pull-up step page button could both accommodate for tapping and swiping. This would allow users with different intuitions to perform the same action.

Task 6

Step	Step Description	Knowledge?	Motivated?	Comments / Solutions
1	Opens application	Ok	Ok	N/A
2	Clicks on cookbook tab on left side menu bar (Figure 1)	Poor Knowledge: The user wants to add a new recipe to her personal recipes. First time user of the system will not be aware that cookbook	Low motivation	User is motivated to add a new recipe and share it with her friend but might not be motivated to click on cookbook since it does not indicate to user that the feature for adding a new personal recipe is in this

		has this feature.		tab.
3	Selects Personal Recipe section (Figure 12i)	Personal recipes indicates recipes that only user can see.	Motivated to keep all her new recipes stored in one place.	N/A
4	Clicks on “+” recipes button (Figure 12i)	“+” should indicate to add a new recipe.	Ok	N/A
5	Sees a form with details needed for the recipe (Figure 12ii)	Ok	Ok	N/A
6	Types in a recipe title (Figure 12ii)	Ok	Ok	The text box takes in any input format and user has the freedom to type in as many characters as possible to save in standard database table. We might want to restrict format.
7	Chooses a difficulty level. Chooses a category (Figure 12ii)	Yes, on clicking the bar, a drop down menu will appear with the options for both the fields. Both fields are required as indicated by asterisks.	User wants to add a recipe for herself and for sharing. Difficulty level and category of food should be of importance.	User might not know that asterisks mean that these fields are required. One solution would be to indicate the usage of asterisks so that the user is aware.
8	Types in one ingredient (Figure 12ii)	Yes, since the instruction on the field states only one ingredient per row.	Adding one ingredient per row might get too tedious and produce low motivation for user.	With increased items in the list, motivation will be low to keep adding a row to add another item. A potential alternative can be adding the items as a comma separated list.
9	Clicks “Add another row” button (Figure 12ii)	Button labeled.	User wants to add the second ingredient.	N/A
10	Types in next ingredient	Ok	Ok	N/A
11	Types in	Same as Step 7-10	Same as Step	Same as Step

	cookware. User types in directions (Figure 12ii)		7-10	7-10
12	Clicks on '+' icon beside duration field (Figure 12ii)	The '+' and '-' button should be enough to indicate to the user to increase or decrease the duration.	User wants to enter the duration. Pressing + incrementally could be tedious.	The user might not know that the duration is in minutes. There should be a way user can enter the duration directly as well.
13	Clicks on '+' icon beside servings field (Figure 12ii)	same as step 12	same as step 12	The default of 1 makes more sense. Also same as step 12.
14	Does not have a photo so, skips the option (Figure 12ii)	The missing asterisk indicates the field is optional.	Ok	N/A
15	Presses submit button	Ok	Ok	N/A
16	Sees the newly added recipe in Personal Recipes Section (Figure 12i)	Ok	Ok	N/A
17	Selects share option beside recipe title (Figure 12i)	The button is labelled.	Ok	N/A
18	Chooses email	The share option presented includes email and other social media options.	User want to share the recipe with her friend.	N/A
19	Types in her friend's email in 'to' field and her own in 'from' field	Ok	Ok	N/A

20	Clicks share	Ok	Ok	N/A
----	--------------	----	----	-----

Walkthrough Analysis:

This walkthrough assumes that Alice has medium to advanced cooking skills, and does not prefer to use a computer to follow a recipe since she has limited computer literacy. The first step to go to cookbook to add a new recipe was a difficult step in this task because there is low motivation to navigate to that tab. There is no instruction or indication that the cookbook tab has the feature of adding new personal recipes and sharing them. Another shortcoming in the design was failure to provide format instructions. For example, when the user is not knowledgeable that duration is measured in minutes in the form. Some of the steps like adding ingredients one at a time might be too tedious when there are a lot of items to add.

Task 7

Step	Step Description	Knowledge?	Motivated?	Comments / Solutions
1	Opens application	OK	OK	N/A
2	Opens cookbook (Figure 3)	OK	Anne wants to access her favourite recipe.	N/A
3	Click on Tuna Casserole	List of their favourite items presented.	Strongly motivated. Wants this recipe specifically.	Favourite tab is automatically selected in the cookbook.
4	Change portion size to one (Figure 4)	Modest knowledge: Serving size is pressable, may not be noticeable even though it's covered in a box.	Anne is only cooking for herself, and not for a group of people.	Possible solution: We can highlight it more by giving it some color or a slight hue.
5	Substitute eggs and milk	Modest knowledge: Same as above.	Anne doesn't have default ingredients.	Possible solution: Same thing as above.
6	Press start	Button is labelled,	OK	N/A

		noticeable position.		
7	Use timer (Figure 5i)	OK	Most people have their own timer but she'd be encouraged to use ours since it's right there.	Timer is presented on the screen on the following steps that require the timer.
8	Clicks next	Button is labelled, noticeable position.	OK	N/A
9	During one of the steps, she decides to bake with cheese	OK	She does this as she has has some left over cheese from last night, she would like to put them to use.	This is not with our interface. She decides to do this on her own, which she has every right to, it's her food after all.
10	Clicks done	Button is labelled, noticeable position.	OK	This is after a series of steps, she would have pressed next many times.
11	Eats meal/tastes dish	OK	OK	N/A
12	She presses the "modify recipe" button (Figure 9)	Shown with other options such as share, rate and save.	Her dish tastes even better with the changes made and would like to make note of these changes.	In this case, she stayed on this page after she eats her meal, so this is no problem. However, if the user decided to close the app or skip this step then getting to this step would take a few extra navigational steps in which the user might not have adequate knowledge to do so.
13	Clicks on change ingredient (Figure 11i)	Anne should have enough knowledge to do this: Only 3 options to choose from.	OK	Limited the amount of options to Anne to just 3 things. Our goal here is to allow anyone, not just someone who is familiar with our system to be able to modify recipes. Even if you never used this feature before, you'd be able to do it.
14	Types cheese (Figure 11iii)	Modest knowledge: Typing is no problem. Anne may run into some	OK	Possible solution: We could just allow the user to type down an invalid ingredient. This modified

		formatting issues though. The field doesn't limit the user and doesn't provide any restraints. What if Anne doesn't type down a valid ingredient?		recipe will only be available to the user for their own personal use. Or we could also pull a list of actual valid ingredients from some database to define what ingredients are actually valid.
15	Select amount field and types in amount	Modest knowledge: This is the same as before, although this is less of a problem as measurements are in numbers and so formatting issues are not hard to fix.	OK	Possible solution: Add a constraint so that only numbers are entered with decimals up to a certain degree.
16	Select measuring unit	Modest knowledge: Anne is familiar with measuring units as she is a novice cook but does not remember amount of cheese used.	OK	Possible solution: this is not a problem with the system and she figures that there is nothing wrong with approximating. We can just leave this as there is the option to edit between steps.
17	Clicks done	Button is labelled, noticeable position.	OK	N/A
18	Clicks on change steps	Button is labelled, noticeable position.	OK	N/A
19	Clicks add instruction (Figure 11iv)	Button is labelled, noticeable position.	OK	N/A
20	Select add after step 7	Moderate knowledge: Labelled, drop down menu. She does not remember which step she made the changes on.	OK	Possible solution: Make it so that the steps are presented alongside on this screen or add an option to view the list of instructions. Or we can also just leave it, as going one screen before will give you the list of steps, which is not much navigation.
21	Types down instruction	Moderate knowledge: Knowledgeable to type down the step but again, she runs into formatting	OK	Possible solution: We could just leave it, as said before, this is for the user's own personal use and it would not be in their favor to add steps that

		concerns. Also one line of text may not be enough.		are not beneficial to them. We can also add a text box instead to provide more room for text.
22	Clicks done	Button is labelled, noticeable position.	OK	N/A
23	Clicks saves	Button is labelled, noticeable position.	OK	System provides feedback that it is saved in her cookbook.

Walkthrough Analysis:

This walkthrough assumes: Anne has used this app before enough to know where her favourite recipe is and Anne is a novice cook (self-proclaimed). What we don't assume is that she has ever modified a recipe before.

Anne is able to navigate to her favourite recipes with relative ease, being someone who has used this app before. Ingredients and serving sizes, are pressable buttons, but there really is no indication saying that you can change them aside from them being boxed. They were implemented this way with simple and streamlined design in mind, although they may blend too well with the environment. However, there is motivation for users to experiment with the interface so they could potentially find that out themselves. Modification of a recipe is an option on the completion page. We will implement this design so that anyone, even if they have never used this feature before, can do it with not too much trouble. To do this, the modification page has limited options. Anne is able to do this with relative ease although she comes up with formatting issues. At large, this doesn't affect her too much as she does not input anything invalid as it would not be to her benefit to do so as it is for her own personal use.