

Table 1: Usability experts evaluation results

Usability Heuristic	Page	Issue	*1
Visibility of System Status	Purchases	Display the <i>number of currently selected products</i> in the “ <i>Create recommendation</i> ” button to further indicate they were selected and can be added to a recommendation.	Yes
	Recommendations	Automatically close the <i>Recommendation drawer</i> to indicate that the recommendation was saved.	Yes
	Progress	Extend the duration of the <i>loading spinner</i> until the chart groups appear to keep the user informed of processing.	Yes
Match Between the System and the Real World	Recommendations	Use more appropriate <i>labels</i> to describe the different <i>recommendation title</i> formats and avoid confusion.	Yes
	Recommendations	Remove the <i>up/down arrows</i> next to the <i>shopping cart indicator</i> since recommendations do <i>not</i> always “ <i>decrease</i> ” current products or “ <i>increase</i> ” alternative products.	Yes
Consistency and Standards	Profile	Clarify self-reported <i>food shopping frequency</i> percentages from different supermarket brands since percentages do not always add up to 100%.	No ²
	Purchases/ Progress	Update mouse to <i>pointer</i> on hover over <i>chart elements</i> to inform users that the chart elements are clickable.	Yes
	Purchases/ Progress	Update <i>pie chart color scheme</i> to be more accessible.	Yes
	Purchases/ Progress	Lower <i>opacity</i> of <i>pie chart elements</i> that are not selected to indicate they are clickable.	No ³

²Not regarded as necessary or critical by study group³Not possible with selected chart library

		Recommendations	Make whole <i>session overview box</i> clickable instead of just the checkbox to make it more intuitive.	Yes
		Progress	Add <i>calendar-based date picker</i> above <i>chart groups</i> instead of unusual checkbox-based interface to make time frame selection more intuitive.	Yes
Error Preven- tion		Purchases	Set default selected <i>chart element</i> to the largest one instead of a random one to make it more intuitive.	Yes
		Purchases	Remove the option of selecting multiple <i>food categories</i> at once to make the selection more simple and intuitive.	Yes
		Purchases/ Progress	Remove the <i>bar chart hover labels</i> to unblock the view when hovering over individual bars.	Yes
		Progress	Add one decimal to the <i>chart labels</i> to avoid confusion regarding the values displayed in the <i>relative numerical difference circle</i> between the charts when chart label values are rounded.	Yes
Recognition Rather than Recall		Purchases	Mark which <i>products</i> were already used in a <i>recommendation</i> in the <i>Groceries</i> column.	No ⁴
		Purchases	Make “ <i>Select latest 8 weeks</i> ” button more easily recognizable as a <i>button</i> that performs an action.	No ⁵
		Progress	Color the <i>circle</i> that displays the difference between the charts according to the selected <i>chart element</i> color to draw a visual connection.	Yes

⁴Not regarded as necessary or critical by study group

⁵Not regarded as necessary or critical by study group

Flexibility and Efficiency of Use	Purchases	Add <i>toggle buttons</i> to optionally hide the <i>Purchases</i> and <i>Groceries</i> columns and maximize the view of <i>chart groups</i> .	Yes
	Purchases	Set the <i>sort option</i> based on the selected macro-/micronutrient automatically via the <i>selection buttons</i> above the <i>bar charts</i> to increase efficiency.	No ⁶
	Purchases/ Recommendations	Make the <i>category selection dropdown menu</i> interactive with <i>keyboard letter input</i> to increase efficiency.	No ⁷
	Recommendations	Set the <i>text input</i> of the <i>recommendation title</i> automatically to increase efficiency.	Yes
	All	Display <i>product nutrients</i> dynamically based on the <i>selected sort option</i> to only present necessary information.	Yes
Aesthetic and Minimalist Design	Purchases	Simplify the <i>nutrient table</i> to make it less overwhelming.	No ⁸
	Purchases	Aggregate <i>products</i> purchased multiple times to save space and make the interface more intuitive and informative.	No ⁹
	Recommendations	Automate the <i>session</i> creation and selection and remove the element from the top to reduce the amount of information displayed.	Yes
	Recommendations	Add <i>navigation steps</i> to the <i>recommendation drawer</i> to reduce the amount of information displayed at once.	No ¹⁰
Help and Documentation	Profile	Add a <i>tooltip</i> to clarify what “ <i>Loyalty Card Usage</i> ” means.	No ¹¹

⁶Not implemented due to time constraints

⁷Not implemented due to time constraints

⁸Not implemented due to time constraints

⁹Not implemented due to time constraints

¹⁰Superseded by another implementation

¹¹Not regarded as necessary or critical by study group

<i>Unclassified</i>	Purchases	Add <i>sugar</i> and <i>salt</i> to sort option dropdown menu in <i>Groceries</i> column header (missing).	Yes
	Recommendations	Add <i>sugar</i> and <i>salt</i> to sort option dropdown menu in <i>Alternative Product Selection</i> popup (missing).	Yes
	Recommendations	Do not display the <i>loading spinner</i> above any active <i>dropdown menu</i> (bug).	Yes
