Interaction Design

1   Icons

All icons must be from the Google "Material" library at:

https://fonts.google.com/icons?selected=Material+Icons

This document currently uses the following icons from this library:

 Calculate

 Close

 New

 Open

 Print

 Reset

 Save

 Save As

# 2 Information Presentation

Information must be presented in a consistent format. Specifically:

Type of Information	Format	Example
Ingredient	*amount units* of *details name*	0.25 teaspoons of ground cinnamon
Step involving an ingredient	*action* the *ingredient* in the *utensil details*	Put the milk in the small bowl
Utensil	*details name*	15x10x1 greased baking pan
Step involving contents when the source and destination utensils are the same	*action* the contents of the *utensil details*	Saute the contents of the medium saucepan until tender but not brown
Step involving contents when the source and destination utensils are different	*action* the contents of the *sourceutensil* in the *destinationutensil details*	Put the contents of the strainer in the 1-quart casserole

where an italic font indicates a description and upright font indicates literal text.

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3   MainWindow

There must be one and only one MainWindow when the program is running. It must have a layout that is similar to the following wireframe diagram:
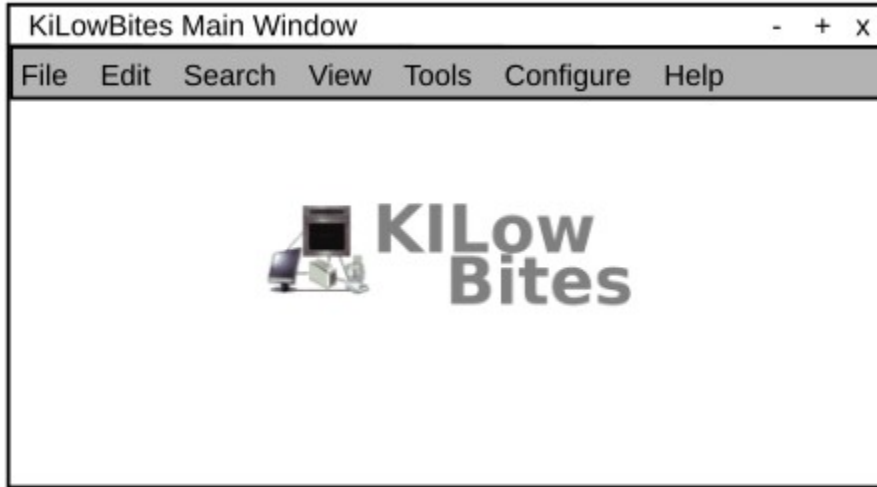
It must have the following menu hierarchy (and associated implications):

File
    Exit   All windows are closed

Edit
    Recipe   A RecipeEditor is opened
    Meal   A MealEditor is opened

Search
    Recipes   The user is prompted for the ingredients of interest
    Meals   The user is prompted for the ingredients of interest

View
    Shopping List   A ShoppingListViewer is opened
    Process   A ProcessViewer is opened

Tools
    Calorie Calculator   The CalorieCalculatorWindow is opened
    Units Converter   The UnitsConverterWindow is opened

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Configure
      Preferences   The PreferencesWindow is opened
      Shortcuts   The ShortcutsWindow is opened

Help
      About   The AboutDialog is opened
      User Guide   A browser containing the user guide is opened

4   Editors

Editors are used to create documents containing new information or edit documents containing existing information. They must contain the following buttons: New, Open, Save, SaveAs, and Close. Documents can be in the `null` state, the `changed` state, or the `unchanged` state. Buttons must be enabled/disabled as follows:

The New button must be enabled if and only if the document is in the `null` state or the `unchanged` state.

The Open button must be enabled if and only if the document is in the `null` state or the `unchanged` state.

The Save button must be enabled if and only if the document is in the `changed` state.

The SaveAs button must be enabled if and only if the document is in the `changed` or `unchanged` state.

The Close button must be enabled if and only if the document is in the `unchanged` state.

The document transitions between states as follows:

The document must enter the `unchanged` state if Save or SaveAs is pressed.

The document must enter the `null` state if Close is pressed.

The document must be empty and in the `unchanged` state if New is pressed.

The document must be loaded from the file system and in the `unchanged` state if Open is pressed.

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Editors often have a component that displays a list of entries. If one or more items in a list is selected the user can then press the associated "Delete" button to delete them. The user can typically add items to the list by entering all of the necessary values and clicking on the "Add" button.

4.1 RecipeEditor

There can be multiple (or 0) RecipeEditors open at any point in time. Each one must have a layout that is similar to the following wireframe diagram:

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KiLowBites Recipe Editor   - + x

Name: [_____]   Serves: [_____]

Utensils
  Name: [_____]   Details: [_____]   [Add]

  [△]
  [|]
  [|]
  [▽] [Delete]

Ingredients
  Name: [_____] Details: [_____] Amount [_____] Units: [_____ ▽] [Add]

  [△]
  [|]
  [▽] [Delete]

Steps
  Action: [_____ ▽] On: [_____ ▽] Utensil: [_____ ▽] Details: [_____] [Add]

  [△]
  [|]
  [▽] [Delete]

The "On" field can contain either an ingredient from the ingredient list or the contents of a (source) utensil from the utensils list. The "Utensil" field contains the destination utensil. It may or may not be the same as the source utensil (if the "On" field contains a utensil).

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4.2 MealEditor

There can be multiple (or 0) MealEditors open at any point in time. Each one must have a layout that is similar to the following wireframe diagram:
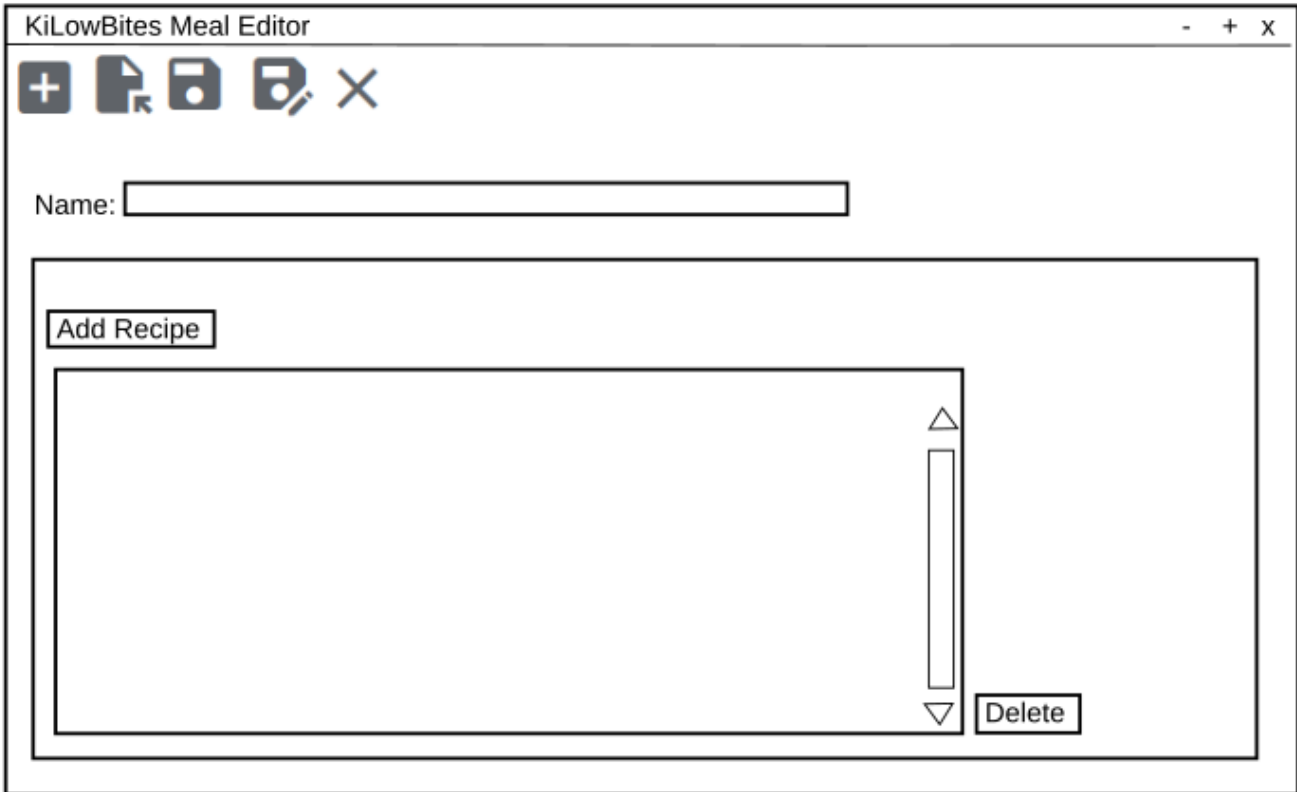
When the user clicks on the the "Add" button, a file dialog must open that allows the user to choose an existing recipe.

5 Tool Windows

Tool windows are used to perform calculations of various kinds.

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5.1 UnitConverterWindow

There must not be more than one UnitConverterWindow. It must have a layout that is similar to the following wireframe diagram:

If the current conversion does not involve both a mass and a volume then the ingredient entry field must be disabled (since such conversions does not require information about the density of the ingredient).

5.2 CalorieCalculatorWindow

There must not be more than one CalorieCalculatorWindow. It must have a layout that is similar to the following wireframe diagram:
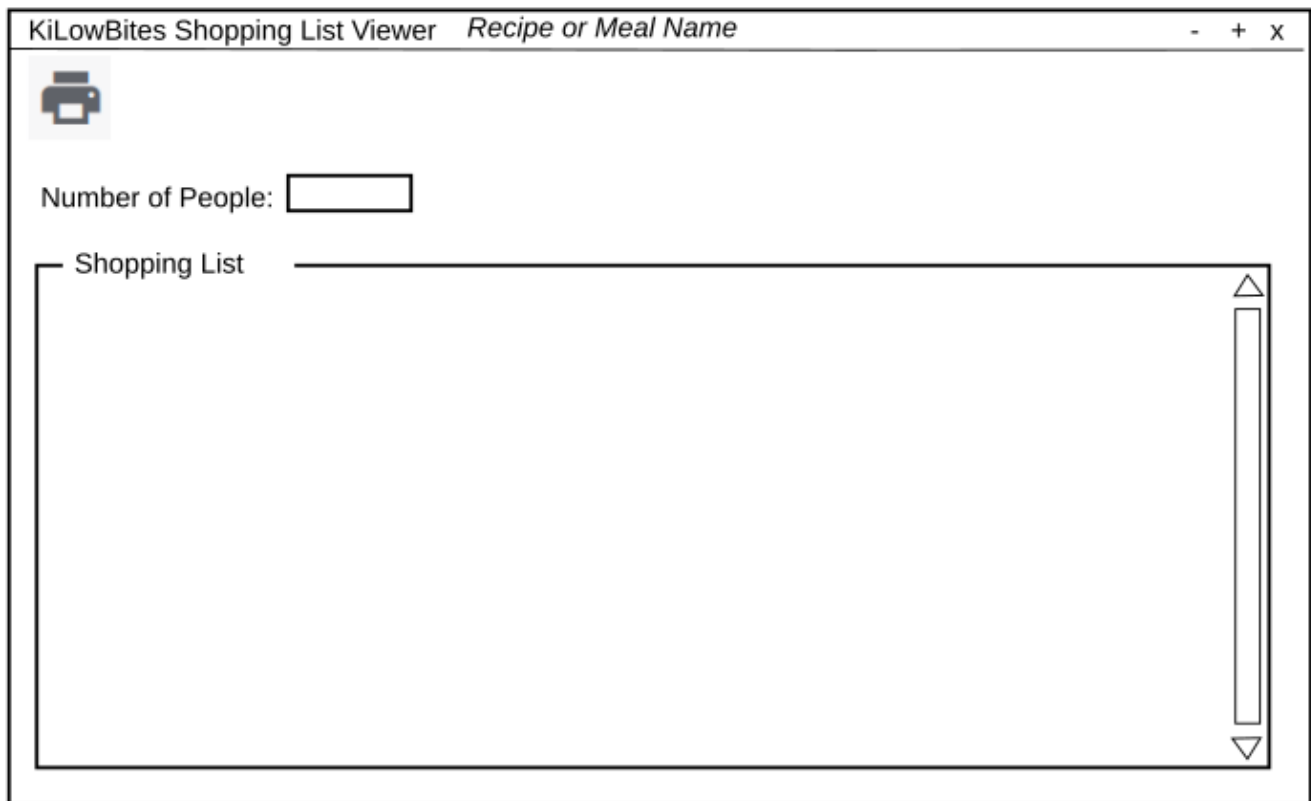
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6   Viewers

Viewers are used to display (and print) information of various kinds.

6.1 ShoppingListViewer

A ShoppingListViewer is used to display a shopping list for a recipe or meal. There can be multiple (or 0) ShoppingListViewers at any point in time. Each one must have a layout that is similar to the following wireframe diagram:

6.2 ProcessViewer

A ProcessViewer is used to display the utensils required by and the steps involved in the preparation of a recipe or meal. There can be multiple (or 0) ProcessViewers at any point in time. Each one must have a layout that is similar to the following wireframe diagram:
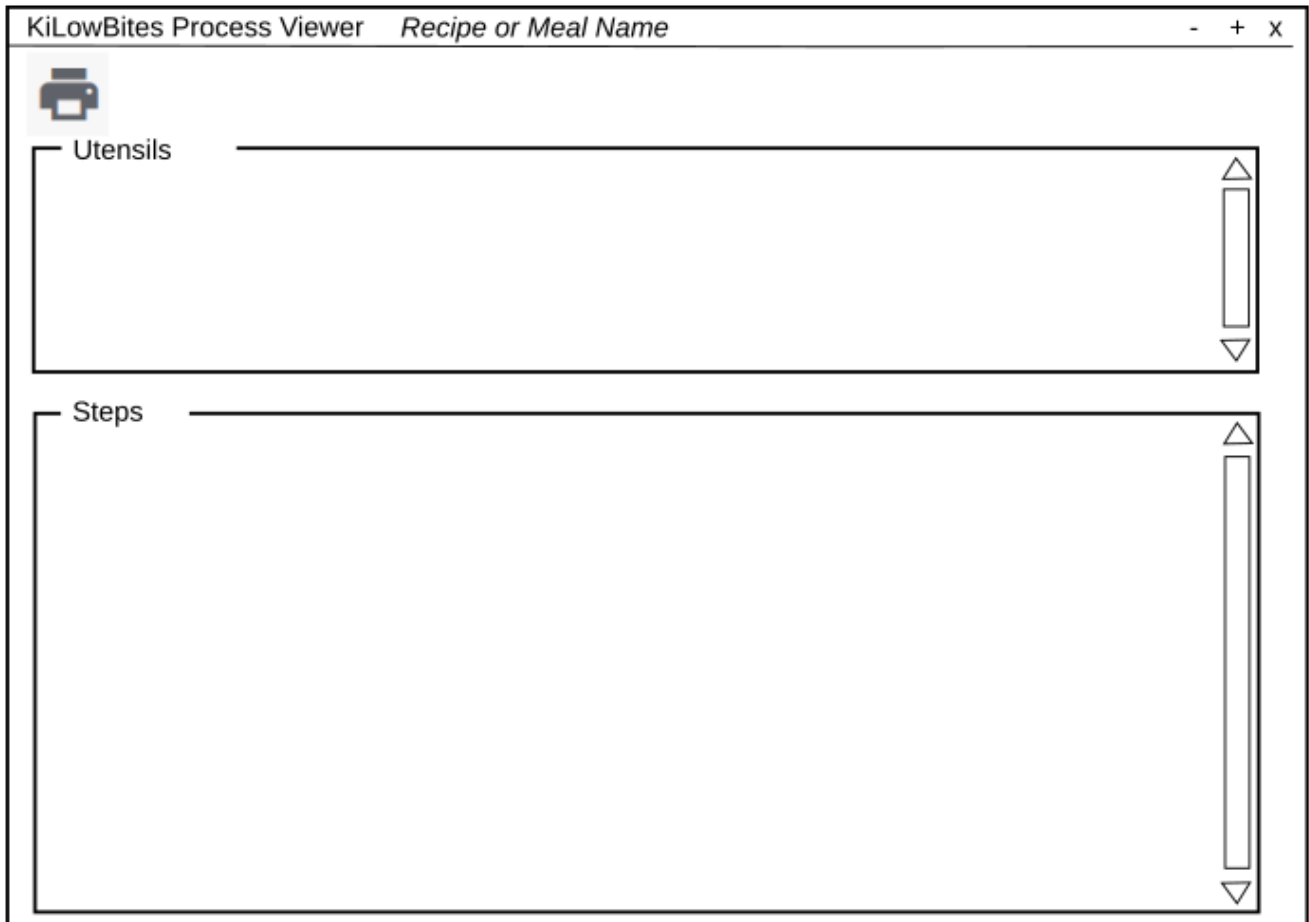
6.3 Dialog Boxes

All printing tasks must use the standard print dialog.

All tasks that involve reading/writing files must use the standard file dialog.

All tasks that involve color selection must use a standard color dialog.

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