

## ***CookSmart Source Documentation***

1. **App.js:** The App component is a functional React component that serves as the main container, managing the application's navigation, authentication, and views.
  - State Variables:
    - showLoginModal: Controls the visibility of the login modal.
    - showBookmarks: Determines whether the bookmarked recipes view or the main search view is shown.
  - Functions:
    - toggleLoginModal: Toggles the `showLoginModal` state to open or close the login modal.
    - handleSignup: Asynchronously handles user signup using Firebase, closes the login modal on success, and displays an alert.
    - handleLogin: Asynchronously logs in a user with Firebase, closes the login modal on success and shows an alert.
    - handleLogout: Asynchronously logs out the current user with Firebase and displays an alert.
    - handleShowBookmarks: Sets `showBookmarks` to true to display the bookmarked recipes.
  - Rendered Components:
    - Nav Component: Receives props for handling logout, toggling the login modal, and navigating to the bookmarks view.
    - Conditional components:
      - Login Component: Displayed when `showLoginModal` is true.
      - Content View: Displays `BookMarksRecipeList` if `showBookmarks` is true; otherwise, displays `SearchBlock`.
  - AppWithProvider Wrapper:
    - The `AppWithProvider` component wraps App within `AuthProvider`, providing authentication context across the app.
2. **SearchBlock.js:** The SearchBlock component provides a comprehensive recipe search experience, allowing users to search recipes by name or ingredients, filter by tags, view detailed recipe information, bookmark recipes, and download a shopping list in PDF format.
  - State Variables:
    - searchName: Stores the search query when searching by recipe name.
    - searchIngredients: Array to hold ingredients for the ingredient-based search.
    - items: List of recipes returned from the API.
    - currentPage: Reference to the current pagination page.
    - loading: Indicates whether a search request is in progress.
    - showingDetailed: Index of the selected recipe for detailed view or -1 if no recipe is selected.
    - detailedItem: Holds details of the currently selected recipe.
    - isBookmarked: Tracks the bookmark status of the detailed recipe.
    - tags: All unique tags from search results.

- filteredTags: Tags selected for filtering.
- Functions:
  - onChange: Sets searchName when ingredients are not present.
  - onIngredientAdded: Adds a new ingredient to searchIngredients.
  - onRemoveIngredient: Removes an ingredient from searchIngredients.
  - searchRecipes: Main function for querying recipes based on searchName or searchIngredients.
  - loadMore: Loads additional results for pagination.
  - showDetailedRecipe: Fetches detailed data for a selected recipe.
  - handleBookmark: Adds or removes a recipe from bookmarks.
  - generatePDF: Generates a downloadable PDF shopping list of ingredients.
  - addTagToFilter: Adds or removes tags for filtering.
- Side Effects:
  - useEffect (searchRecipes): Executes searchRecipes when searchName or searchIngredients changes.
  - useEffect (checkBookmarkStatus): Checks if the current detailed recipe is bookmarked.
- Rendered Components:
  - SearchBar Component: Handles user input for recipe search.
  - Tags Display: Shows selected ingredients and filter tags.
  - Recipe Cards: Displays recipe results, with tags and time information.
  - Detailed Recipe View: Shows detailed information, including ingredients, steps, and bookmark/download options.

**3. SearchBar.js:** SearchBar is a functional component that allows users to either search by name or add ingredients to a list. The component has debounced input handling to minimize the number of calls on rapid user input.

- Component Props:
  - props.onChange: Callback triggered with the input value after a debounce delay.
  - props.onIngredientAdded: Callback triggered when an ingredient is added, passing the current ingredient and the list of all ingredients.
- Local Constants, State & References:
  - DEBOUNCE\_TIME: Sets a 1-second delay to debounce the search input.
  - searchRef: Reference to the input field for accessing the current input value.
  - allIngreds: Reference storing the list of ingredients added by the user.
  - lastDebounce: Reference tracking the last debounce time for debounced input handling.
- Event Handlers:
  - onChange: Updates lastDebounce to the current time and sets a timeout. If there's been no recent update in the last second, it triggers props.onChange with the current input value.
  - onIngredientAdded: Retrieves the current input value, resets the input field, adds the ingredient to allIngreds, and triggers props.onIngredientAdded.

- onKeyDown: Calls onIngredientAdded when the Enter key is pressed.

**4. RecipeImage.js:** This is a functional component that fetches images an image by recipe name, using an API call if the image isn't cached. It displays the image, a loading spinner, or an error icon depending on the loading state.

- Component Props:
  - props.name: The recipe name used to fetch the image.
  - props.height and props.width: The dimensions for displaying the image.
  - props.hoverEffects: A boolean determining if a hover effect should be applied (defaults to true).
- State Variables:
  - url: Holds the fetched image URL.
  - loading: Tracks the loading state of the API request.
  - hoverEffects: Determines whether to apply hover effects on the image.
- Effect Hook:
  - When props.name changes, the useEffect hook checks if an image URL is cached.
  - If cached, the URL is set without additional API calls.
  - If not cached, an API call fetches the image URL. Upon successful retrieval, the URL is stored in the url state and also cached.

**5. BookMarksRecipeList.js:** This component displays a list of bookmarked recipes and their ingredients as a shopping list. It also includes a modal view for recipe details.

- State Variables:
  - recipes: Stores all bookmarked recipes.
  - isOpen: Boolean for controlling the modal's visibility.
  - currentRecipe: Stores data for the currently selected recipe to display in the modal.
  - ingredients: Stores a list of unique ingredients from all bookmarked recipes.
- Effect Hook:
  - Fetches bookmarked recipes and ingredients when the component mounts.
  - Calls fetchRecipes to retrieve the recipes, setting them to the recipes state.
  - Calls fetchIngredients to retrieve unique ingredients, setting them to the ingredients state.
- Event Handlers:
  - handleViewRecipe: Opens the modal and sets currentRecipe with data for the clicked recipe.
  - onClose: Closes the modal.