

Local Food AI - Clinician User Manual

Project Deliverable

Course B1AI

Class:

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Local Food AI - Clinician User Manual

Welcome to the **Local Food AI** clinical dietitian explorer. This guide explains how to use the platform to search for products, build custom recipe plates, calculate cumulative nutritional statistics, and consult the privacy-safe AI assistant.

1. Accessing the Application

To access the platform on your local network:

- Open your web browser (Chrome, Firefox, or Safari).
- Enter the host address provided by your IT administrator (e.g., <http://192.168.130.170:8502/> or <http://localhost:8502/>).
- You will be greeted by the secure login screen.

2. Account Login & Security

To protect patient information, the system requires credentials:

- **Login:** Enter your standard clinician username and password.
- **Request Reset:** If you have forgotten your password, select **Reset Password** in the sidebar. Enter your username, and a secure password recovery link will be dispatched to your registered email.
- **Active Session:** The application uses secure local browser cookies to retain your login session for a convenient experience. Select **Logout** in the sidebar at any time to terminate your session.

3. Sidebar Features & Controls

The left-hand sidebar houses several global settings:

- **Network Status:** Visual indicator of whether you are in *Online/Server* mode or *Offline/Local Fallback* mode.
- **LLM Engine Status:** Displays the active local AI model being queried (e.g., `llama3.2:3b`).
- **Active User Info:** Shows the logged-in clinician profile.
- **Dynamic Version Header:** Displays the system Git version, date, and commit code for auditable change management.

4. Feature Guides

The application dashboard is split into three interactive workspace tabs:

4.1. Clinical Data Search Tab

Use this tab to browse the local OpenFoodFacts food database.

- **Keyword Input:** Type a product name, brand, or barcode (e.g., "whole wheat bread" or "unpasteurized cheese").
- **Dynamic Results:** The database performs a rapid search, displaying the top 10 matched products.
- **Nutritional Score:** Shows the Nutri-Score grade (A to E) and details (Proteins, Carbs, Fats, Energy in kcal) per 100g.
- **Allergen Warnings:** Shows highlight flags if the product contains common allergens matching your client's needs.

4.2. My Plate Builder Tab

Build custom meals or recipe portions to calculate total client nutritional intake.

- **Adding Items:** When browsing foods in the Search Tab, click **Add to Plate**.
- **Specifying Portions:** Input the quantity using either decimal weights (in grams) or common volume descriptors (e.g., "1.5 cups", "2 tablespoons"). The converter translates volume to metric weight based on the product density.
- **Cumulative Intake Table:** The tab renders a table summarizing individual macros and total energy.
- **Visual Metrics:** Renders a dynamic bar chart comparing Carbs, Proteins, and Fats against recommended clinical intake thresholds.
- **Editing the Plate:** Use the trash bin icon (Delete) to instantly remove any item from the calculation.

4.3. Consultation Chat Tab

Consult the built-in clinical AI dietitian assistant for recipe validation, medical profile warnings, and meal plans.

- **Client Profile Selection:** Select active dietary constraints (e.g., pregnancy, diabetes, kidney disease, vegetarian) in the dropdown.
- **Asking Questions:** Type your prompt (e.g., "Is unpasteurized brie cheese safe for a pregnant client?" or "Design a low-sodium, high-protein menu").
- **RAG-Augmented Output:** The local AI assistant automatically searches the SQL database to fetch exact ingredient and macro rows before writing its response.
- **Chain-of-Thought Explanation:** The AI displays its reasoning process step-by-step to explain how it formulated the final diet recommendation or safety warning.

5. Privacy and Offline Support

Because patient privacy is critical:

- **No Cloud Overhead:** All search strings, chat prompts, and plate records are processed locally inside the host node.
- **Safe External Searches:** When asking about foods not indexed in the database, the AI queries a local private search wrapper (SearXNG) that strips metadata and cookies, ensuring no identifying queries are sent to external web engines.

References

- **OpenFoodFacts Dataset & API Catalog:** Detailed food ingredients database. (<https://world.openfoodfacts.org/>)
- **Ollama Local LLM Inference Engine:** Lightweight instruction-following llama3.2 runtimes. (<https://ollama.com/>)
- **Zabbix Enterprise Telemetry and Monitoring:** System health and performance logging. (<https://www.zabbix.com/>)

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