

Local Food AI - Clinician User Manual Presentation

Project Deliverable

Course B1AI

Class:

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Local Food AI - Clinician User Manual Presentation

This presentation slides outline the core features, clinical workflow, and privacy guarantees of the **Local Food AI** system from a clinician's perspective.

Slide 1: Platform Vision & Clinical Core

The **Local Food AI** system is a strictly offline, privacy-first tool designed to assist clinical dietitians and nutritionists.

Core Value Pillars:

- **True HIPAA Compliance:** All patient medical queries, health profile selections, and custom diets remain inside your local facility. No data is sent to external cloud APIs.
 - **Intelligent Clinical Guardrails:** The application adapts to specific patient profiles (e.g., pregnancy, diabetes, kidney disease) and automatically flags risks.
 - **Instant In-House Analytics:** Combines raw database search, a portion calculator, and an AI chat consultation into one simple web dashboard.
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Slide 2: Accessing the App & Sidebar Indicators

Clinicians can log in securely from any workstation inside the facility network.

Accessing the Dashboard:

- Open your web browser (Chrome, Firefox, or Safari).
- Enter the address provided by your IT administrator (e.g., <http://192.168.130.170:8502>).
- Log in with your secure clinician credentials.

Sidebar Controls:

- **Network Status:** Indicates if the app is in *Online/Server* mode or *Offline/Local Fallback* mode.
- **LLM Engine:** Shows the active AI reasoning model (e.g., `llama3.2:3b`).
- **Git Version Header:** Displays the system Git version, date, and commit code for audit logging.

Slide 3: Tab 1: Clinical Data Search (Clinical Search)

This tab enables high-speed lookups against millions of OpenFoodFacts entries.

Key Capabilities:

- **Keyword Filter:** Search for products, brands, or barcodes (e.g., "Greek Yogurt" or "Cheddar").
- **Nutritional Grading:** Displays the Nutri-Score (A through E) and macros per 100g.
- **Dynamic Indicators:** Matches the product attributes against your active client profile:
 - **[Warning] Red Flags:** Highlights high-risk ingredients (e.g., Unpasteurized dairy for pregnancy, high-sodium for hypertension, or high-sugar for diabetes).
 - **[Recommended] Green Flags:** Highlights beneficial components (e.g., High-iron for anemia, high Vitamin C for scurvy).

Slide 4: Tab 2: My Plate Builder (My Plate Builder)

Build custom recipes or track a client's daily meals to calculate cumulative macro and micro-nutrients.

Features:

- **Adding Items:** Click **Add to Plate** on any food item from the search results list.
- **Natural Unit Converter:** Enter quantities using everyday units (e.g., "1.5 cups", "2 tablespoons", "150g"). The system parses the unit and converts it to metric weight based on ingredient density.
- **Intake Metrics:** Calculates and displays total energy (kcal), proteins, fats, carbohydrates, sugars, and sodium.
- **Comparison Graph:** Shows a bar chart of the plate's macros against recommended daily intakes.

Slide 5: Tab 3: Consultation Chat (AI Consultation)

Consult the built-in AI assistant to ask clinical questions, verify recipes, or evaluate specific ingredients.

Workflow:

- **Select Client Profile:** Check specific health profiles (Pregnancy, Anemia, Keto, Vegetarian, etc.) in the sidebar.
- **Consult the AI:** Type questions (e.g., "Is unpasteurized brie cheese safe for this client?" or "Suggest high-iron snacks").
- **Verified RAG Search:** The AI queries the local database and private search engines first to verify nutritional facts before answering.
- **Reasoning Steps:** View the AI's step-by-step reasoning explaining how it checked the

ingredients against the client's medical conditions.

Slide 6: Tab 4: AI Meal Planner (AI Planner)

Generate customized, multi-meal dietary schedules directly from the clinician dashboard.

Features:

- **Enforce Restrictions:** Enter the daily target calorie count (e.g., "2000 kcal") and select dietary constraints (e.g., Kosher, Vegan, Low Fat).
 - **Automated Diet Grid:** The local LLM queries the food database and generates a structured breakfast, lunch, and dinner table.
 - **Printable Output:** Outputs a clean Markdown table summarizing the meals, ingredients, and total daily nutritional values.
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Slide 7: Security & Resetting Credentials

The system protects both patient privacy and clinician accounts.

Authentication Guidelines:

- **Cookie-Based Sessions:** Your session is securely saved in your browser cookie jar. Click **Logout** in the sidebar to terminate it.
 - **Password Resets:**
 - Click **Reset Password** in the sidebar.
 - Input your username.
 - A secure link will be sent to your registered email address.
 - Access the link to set a new password complying with local complexity requirements.
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Slide 8: Privacy Guarantees: Keeping Data Local

Why Local Food AI is safer than general-purpose online chatbots:

- **No Cloud Sharing:** Traditional AI apps send your prompt history to external corporate servers, risking leaks of confidential patient data.
- **Local Processing:** Your LLM engine and databases run entirely inside your facility's firewall.
- **Anonymous Web Queries:** If the AI needs to check the web for a rare ingredient, it routes the query through an anonymous local proxy (SearXNG).
- **IT Verification:** Traffic audits (tcpdump logs) confirm that zero prompt logs or profile details leave the server boundary.

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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