# Converting Elders System to Support Diet Plans

This report explores the feasibility of converting the existing Elders System to support a diet plan feature using a Streamlit user interface (UI). While some limitations exist in the current data, a basic diet plan based on available information (BMI, weight, height) can be developed.

### Concerns and Limitations

Missing Data:

* Critical health data like body fat, cholesterol, and glucose levels are currently not stored in the Elders System. This hinders personalized diet plans for specific health conditions.

### Possible Solutions

Basic Diet Plans:

* Utilize existing data (BMI, weight, height) to calculate calorie and protein etc. needs and propose a general diet plan.

Health Condition Inferences:

* Analyze existing health conditions in the data to make limited inferences about potential dietary needs. However, this is not a substitute for precise health data.

Data Expansion:

* Expand the Elders System data model to include the missing health data points (body fat, cholesterol, glucose) and potentially link individuals to appropriate diet plans based on conditions.

KG and RAG Implementation:

* Develop a KG containing relevant diet data, including specific food items, nutritional information, and dietary recommendations for various health conditions.
* Implement a RAG system to retrieve relevant information from the KG based on user data and health conditions. This retrieved information can then be used to personalize diet plans beyond basic calculations (<https://www.quora.com/How-many-calories-should-I-eat-per-day-when-I-go-to-the-gym> ).

### Implementation with Streamlit UI

User Input:

* Develop a Streamlit UI to collect user information (weight, height, etc.).

Diet Plan Generation:

* Based on user input and available data, generate a basic diet plan with suggested calorie and protein etc. intake.
* If health condition data is available, consider incorporating limited inferences.
* Design the system to provide a rotating diet plan for a set period (4 days with 4 different plans)