Requirement Gathering Process Report

"Dietaide" - A Smart Diet-Building Platform for Hospital Health Professionals and Patients

Introduction

This report serves as a compliment material to the SRS for Dietaide and documents the requirement gathering process of the system. The system is designed to provide health professionals and patients in a select hospital with an intuitive platform to provide and access appropriate diets based on diagnosis.

Scope

Since the target users are both health professionals and patients, the scope of this requirements gathering process is to elicit requirements from both sides. The requirements will focus on the functional and non-functional requirements of the system to ensure that it meets the needs of its users from two sides.

Methodology

The main objective of this requirement gathering process is to better understand users' experience on either giving dietary recommendations or following them. To do this, our project team prepared a list of questions and topics to cover during the interview or survey targeted health professionals and patients. We create different sets of questions for the two sides since they will be using different modes of the system, and by doing so we can tailor the system to better suit their needs. The first few questions are related to their experience and the difficulties they face when providing or receiving dietary recommendations, which can provide a general guideline of what our system should provide. The later questions are meant to collect opinions on more specific features that our system should include. Interviewees are selected from the friends and family members of the project team members.

The selected interviewees include both health professionals and patients, and they all come from different age levels. We have the interviewees' consent to use their answers as part of our requirement gathering process, while their name and original answer will remain confidential. Our team then organized their answers and only highlighted the key points from their answer in this report. The followings show the background of our interviewees:

Patients	Health Professions
Woman, 81 years old with a history of diabetes.	Woman, clinical dietician.
Man, 52 years old requiring regular liver check-ups.	Man, 59 years old doctor from the Rheumatology and Immunology department.
Man, 20 years old with allergies and urticaria condition.	Woman, 21 years old physical therapy intern student.

The following is the list of questions the project team prepare to cover during the interview or survey:

For patients:

1. What challenges have you faced when trying to follow dietary recommendations from your doctor or healthcare professional?
2. How do you currently track your progress and compliance with your dietary plan?

3. What specific features or functionalities would be most helpful to you when trying to follow a dietary plan?
4. How do you think a system like Dietaide could help you better manage your dietary needs?

5. What concerns or challenges do you have regarding using a system like Dietaide to manage your dietary needs?

For healthcare professionals:

1. What challenges have you faced when providing dietary recommendations to patients?

2. How do you currently track and monitor patient compliance with their dietary plans?

3. What criteria do you typically use to determine the appropriate dietary plan for a patient with a specific diagnosis?

4. What role do you envision the system playing in your current clinical workflows?

5. What specific features or functionalities would be most useful to you when creating and managing patient dietary plans?

6. How do you see the system improving patient outcomes and promoting healthier dietary habits?

The set of questions is covered either by interviews or questionnaires, depending on the availability of the interviewees. The project team then gathered the answers from the interviews and questionnaires, and organized them to formulate more specific requirements. The project team will also identify any conflicts or inconsistencies in the requirements gathered from the interview or questionnaires. Finally, the set of requirements will be integrated into the SRS document, which will include the functional and non-functional requirements of the system, as well as any assumptions, constraints, or risks associated with the requirements.

Results
In this section we summarize the answers from our interviewees to each question and then distill specific requirements from their response.

For Patients:

1. **What challenges have you faced when trying to follow dietary recommendations from your doctor or healthcare professional?**

Summary:
As patients, some of the main challenges our interviewees faced when trying to follow dietary recommendations include finding foods that fit within the recommended plan, feeling limited or restricted in their food choices, and lacking motivation or support to maintain the recommended plan over time.

   Related features and requirement:
   - Automatically find accessible food options based on the diagnosis.
   - Gamification features, such as rewards and challenges.
   - Chat channel with doctor to see if alternative food choices are allowed.

2. **How do you currently track your progress and compliance with your dietary plan?**

Summary:
All our interviewees use their own memory and notes to track their progress and compliance with their dietary plan. They may also consult with their healthcare professional during follow-up appointments to discuss any challenges or concerns I am facing.

   Related features and requirements:
   - Users can log their progress to the system and their healthcare professional can review the progress on their side.

3. **What specific features or functionalities would be most helpful to you when trying to follow a dietary plan?**

Summary:
Some specific features that our interviewees think would be helpful include an easy-to-use interface for tracking progress and compliance, access to recipes and meal planning tools that fit within the recommended plan, and personalized feedback and support from a healthcare professional or nutritionist.

   Related features and requirements:
   - User friendly interface. Tutorials to use the system.
   - Progress tracking features.
   - The system allows doctors to give personalized feedback and support to their patients.

4. **How do you think a system like Dietaide could help you better manage your dietary needs?**

   Summary:

Our interviewees are positive that a system like Dietaide could help them better manage their dietary needs by providing personalized recommendations that take into account their specific diagnosis, severity, and dietary preferences. The system could also help them stay on track and motivated by providing tools for tracking their progress and compliance, and direct communication channels with their healthcare professionals to address any challenges or questions.

Related features and requirements:
- Progress tracking.
- Direct communication channels with healthcare professionals.

5. **What concerns or challenges do you have regarding using a system like Dietaide to manage your dietary needs?**

Summary:
Patients' main concern with using a system like Dietaide would be the ease of use and accessibility. They would like to make sure that the system is easy to navigate and use, and that they have access to the necessary technology to use it effectively. They would also want to make sure that their privacy and security are protected when using the system.

Related features and requirements:
- User friendly interface and tutorials.
- Data security and privacy.

For Health Professionals:

1. **What challenges have you faced when providing dietary recommendations to patients?**

Summary:
According to our interviewees, some challenges that are faced when providing dietary recommendations to patients include patients' willingness/motivation for change, compliance to dietary recommendations and lack of consistency to sticking to the plan. Moreover, cultural beliefs/preferences always needs to be taken into consideration when providing dietary recommendations

Related features and requirements:
- Diet logging and tracking features of the system.
- Direct communication channel with patients.

2. **How do you currently track and monitor patient compliance with their dietary plans?**

Summary:

It depends from patient to patient but some ways are: (1) Food diaries, (2) Patients taking pictures of foods/drinks consumed, (3) Discussion during consultations We also note that not all patients receive a specific diet plan to follow but rather have nutrition goals that they aim to achieve over a set period of time

Related features and requirements:
- Diet logging and tracking features of the system.
- Direct communication channel with patients.
- Automated diet recommendations based on the nutrition goals.

3. **What criteria do you typically use to determine the appropriate dietary plan for a patient with a specific diagnosis?**

Summary:
The criteria they use to determine an appropriate dietary plan includes:
- Anthropometry (weight, height, BMI, waist-to-hip ratio)
- Body composition
- Physical activity
- Medical diagnosis
- Patient medical history (including past/current medications and supplements)
- Current dietary pattern and food intake
- Experience with food/relationship with food past and present
- Biochemical markers (e.g. bloodwork)

Related features and requirements:
The system should be able to contain a database storing diagnosis-dietary correlations, automatically generate diet recommendations based on the patient's selected diagnoses as well as any specific conditions/severity, and attach them to the patient's profile.

4. **What role do you envision the system playing in your current clinical workflows?**

Summary:
Our interviewees believe the system can play a key role in streamlining the dietary recommendation process, making it easier to create and manage dietary plans for patients with specific diagnoses. The system could help ensure that recommendations are evidence-based, personalized, and easily accessible to both patients and healthcare professionals.

Related features and requirements:
The system should be able to contain a database storing diagnosis-dietary correlations, automatically generate diet recommendations based on the patient's selected diagnoses as well as any specific conditions/severity, and attach them to the patient's profile. The healthcare professions should also be able to review the generated recommendations and modify them.

5. **What specific features or functionalities would be most useful to you when creating and managing patient dietary plans?**

   Summary:
   A specific feature that could be useful is a diet recommendations algorithm that can automate recommendations based on the patient's specific condition, severity, and dietary preferences. They also wish the system can have features that help track patient compliance and progress, and direct communication channels with patients to address any challenges or questions.

   Related features and requirements:
   - Automatically generate diet recommendations based on the patient's selected diagnoses
   - Direct communication channel.
   - Progress tracking features.

6. **How do you see the system improving patient outcomes and promoting healthier dietary habits?**

   Summary:
   They believe that as long as the system has easy-to-use interface, it could significantly improve patient outcomes by making it easier for patients to follow appropriate dietary plans, reducing the risk of complications, and promoting healthy habits that can improve overall health and wellbeing. By providing patients with personalized diet recommendations and tools for tracking progress and staying motivated, the system could help promote long-term dietary changes that support better health outcomes.

   Related features and requirements:
   - User friendly interface

Conclusion
The interviews conducted as part of our requirements gathering process provided valuable insights into the needs and expectations of our users. Based on the feedback and suggestions provided by our interviewees, we were able to identify specific features and requirements that are essential for the success of our system. These include a user-friendly interface, direct communication channels, progress tracking, and automated diet recommendations based on patient records. Our team carefully considered these perspectives and incorporated them into a detailed and comprehensive Software Requirements Specification (SRS) document, which will serve as the foundation for the development of our system. By taking into account the needs and expectations of our users, we envision that our system will effectively meet the needs of both patients and health professionals.