



# PERSONALISED NUTRITION FOR HEALTHY LIVING: THE PROTEIN PROJECT

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An unhealthy diet and the lack of physical activity can lead to chronic diseases such as cardiovascular disease (CVD) and type-2 Diabetes Mellitus (T2DM). Furthermore, the promotion of a healthy lifestyle is a priority to encourage general public health and wellbeing. New advances in information computer technology and artificial intelligence (AI) offer the possibility to create a personalized tool and support system for health living and eating, and this is the principal objective of the PROTEIN Project.

Specifically, PROTEIN endeavors to provide an advanced personalization tool at **home**, within the **restaurant** and at the **supermarket**, supporting individuals to meet their evidence-based healthy living 'targets'. The PROTEIN project is currently generating main domain knowledge to provide a novel evidence-based set of dietary and activity 'rules' and 'targets' for the end-user through the AI application on a mobile device. These measured parameters will feed into the AI personalization system, which will define the variable boundaries. The end-user will therefore receive real-time AI recommendations based upon their physiology and the variables measured to advise them on how to meet daily fitness and dietary intake 'goals'.

*The lifestyle and physiological aspects that will be captured are:*

- Fitness/activity tracker
- Smart Belt (bowel sounds)
- Continuous glucose monitor
- Mandometer (to measure food/fluid intake)
- Volatile Organic Compound (VOC) sensor

*User groups that have been isolated within the PROTEIN project include:*

1. Healthy Adolescents, Adults & Older Adults
2. Overweight Adults
3. Obese Adults
4. Adults with CVD
5. Adults with Type 2 Diabetes
6. Iron-deficiency
7. Poor diet (low fruit & vegetable intake)
8. Athletes



**THE GOAL FOR THIS APPLICATION IS TO PROVIDE REAL-TIME DYNAMIC PERSONALIZATION TO CREATE AND UPDATE DIET AND LIFESTYLE GOALS THAT ARE REALISTIC, ACCEPTABLE AND EFFECTIVE FOR THE INDIVIDUAL USER.**

