



AHMED REDA AHMED MOGHAZY HADY NAHLA

DALIA RIZK HABIBA AMR RAHMA TAHA NOOR WALEED

DR:MAGDY ZAKARIA ENG: AMANY SHERIF **CS**04

Abstract

In today's world, technology plays a critical role in improving human health and well-being. Our system harnesses the power of artificial intelligence and computer vision to support users in making informed dietary decisions tailored to their individual health conditions and nutritional needs.

By analyzing food images and comparing them with the user's health profile, the application can detect potential dietary risks and provide feedback.

The solution integrates image processing and deep learning models within a scalable backend architecture built using .NET and SQL Server.

Through this intelligent system, we aim to empower individuals to adopt healthier eating habits, reduce diet-related health risks, and promote a more informed and proactive lifestyle.

Background

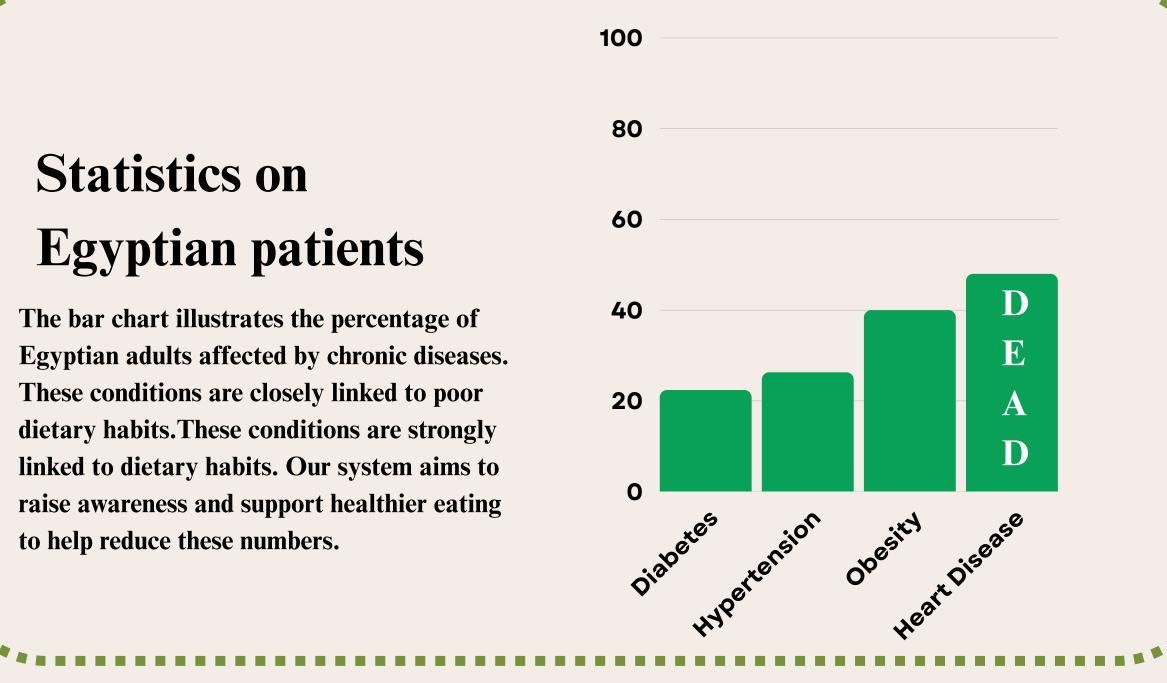
In recent years, unhealthy eating habits have significantly contributed to the rise of chronic diseases such as diabetes, hypertension, and obesity.

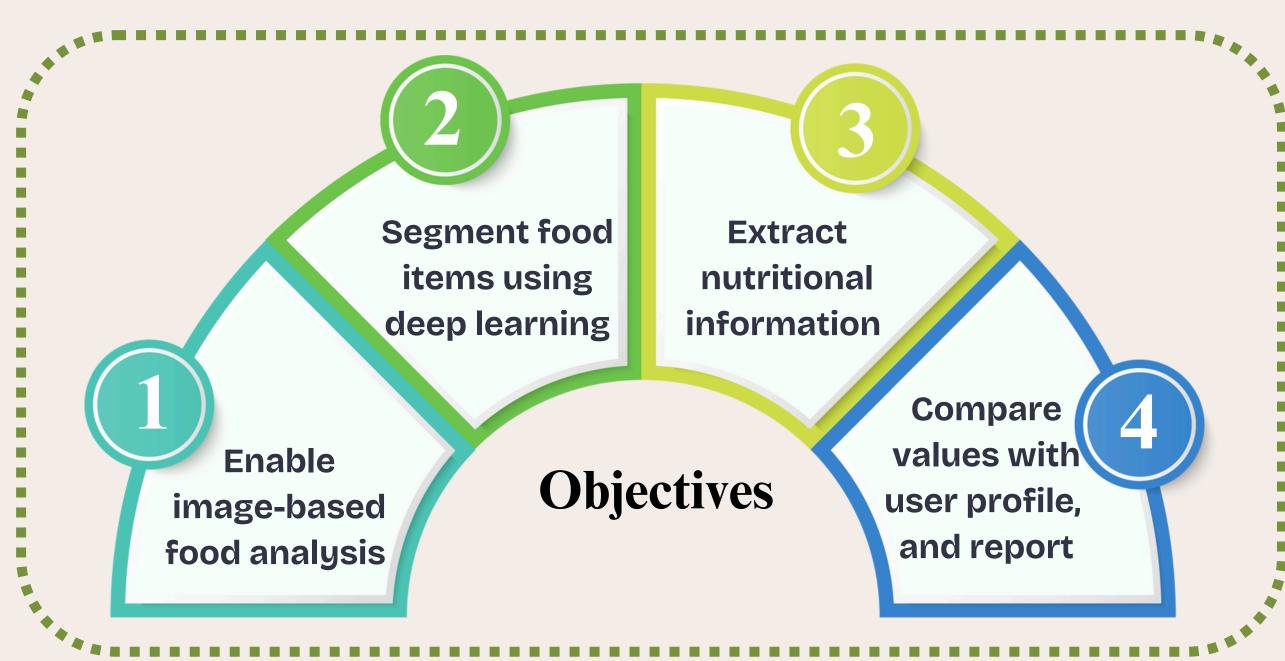
Allergies are also a matter of concern. While many mobile apps provide calorie tracking or basic nutritional facts, they often lack the ability to personalize recommendations based on the user's health condition or analyze real meals from images.

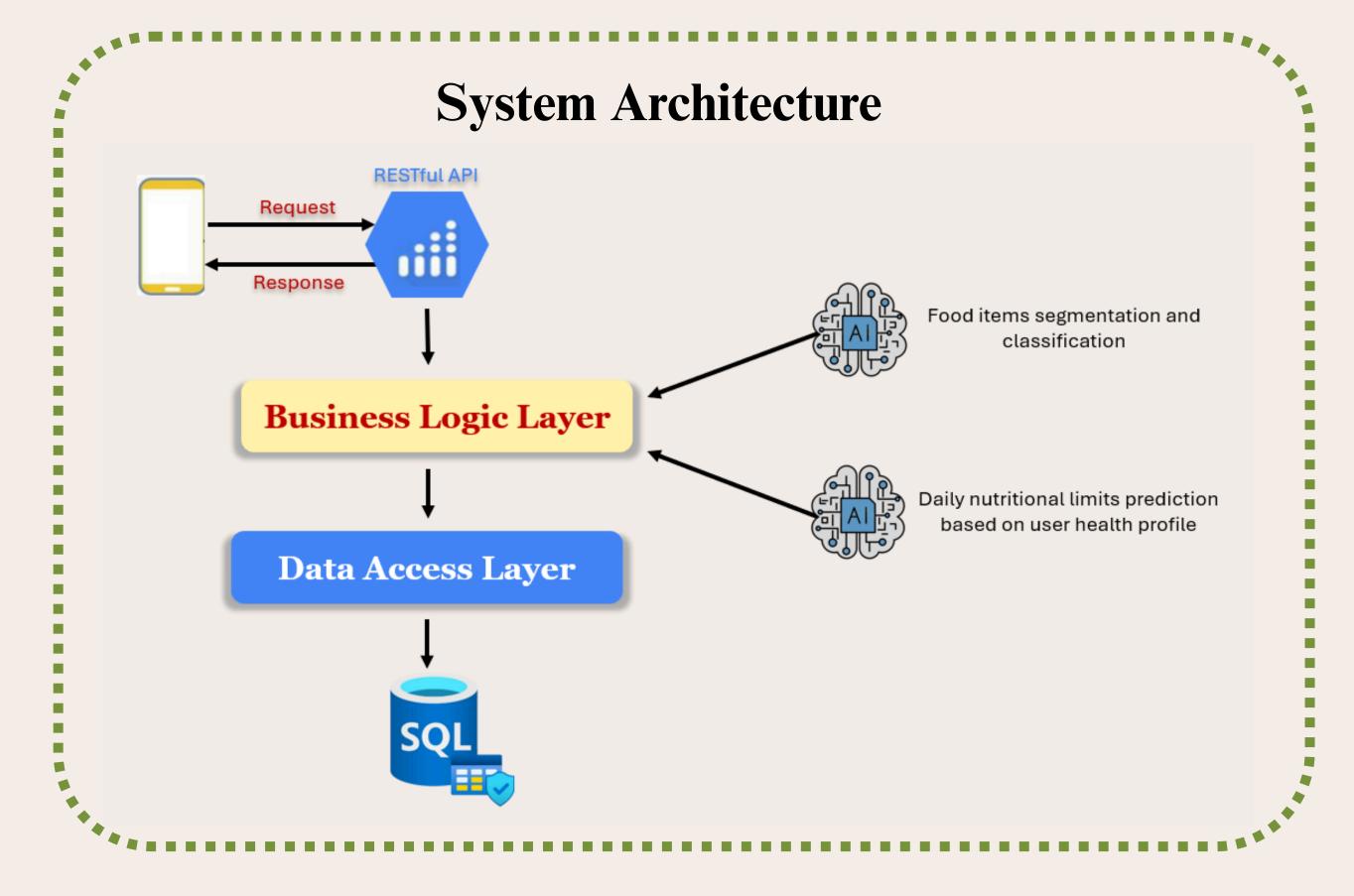
With the growing capabilities of artificial intelligence, especially in computer vision and natural language processing, it's now possible to build systems that understand food content from images, extract nutritional data, and compare it with personalized health limits. This advancement opens the door to smart dietary assistants that support users in real-time, without requiring manual input.

Statistics on Egyptian patients

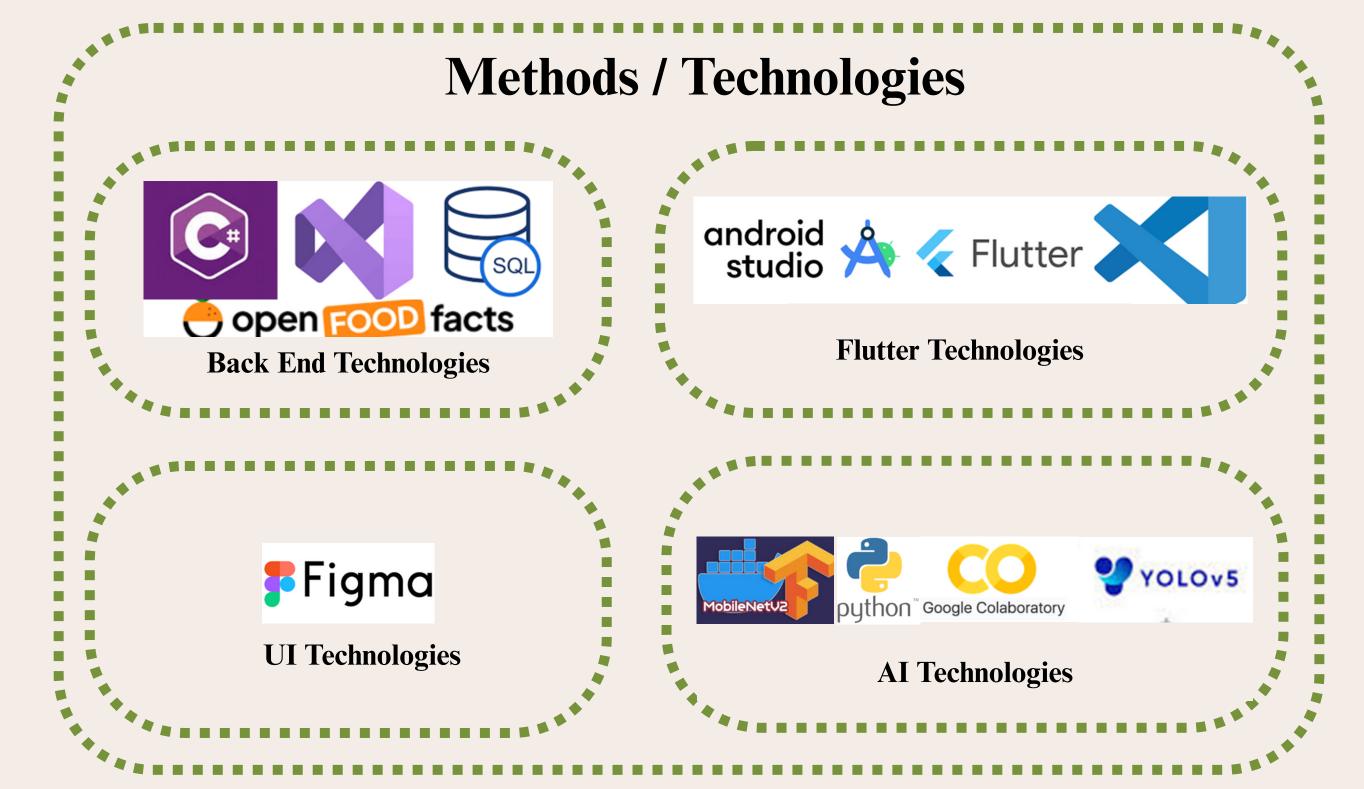
The bar chart illustrates the percentage of Egyptian adults affected by chronic diseases. These conditions are closely linked to poor dietary habits. These conditions are strongly linked to dietary habits. Our system aims to raise awareness and support healthier eating to help reduce these numbers.

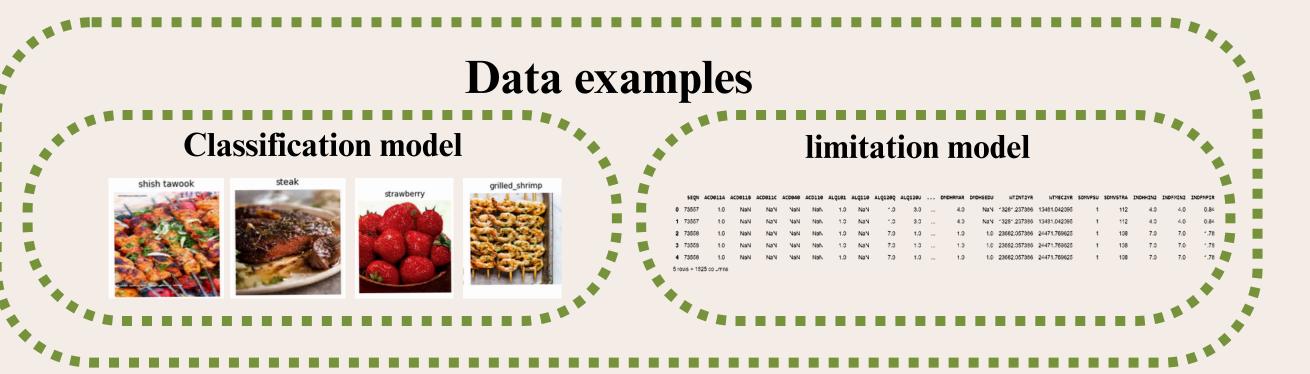


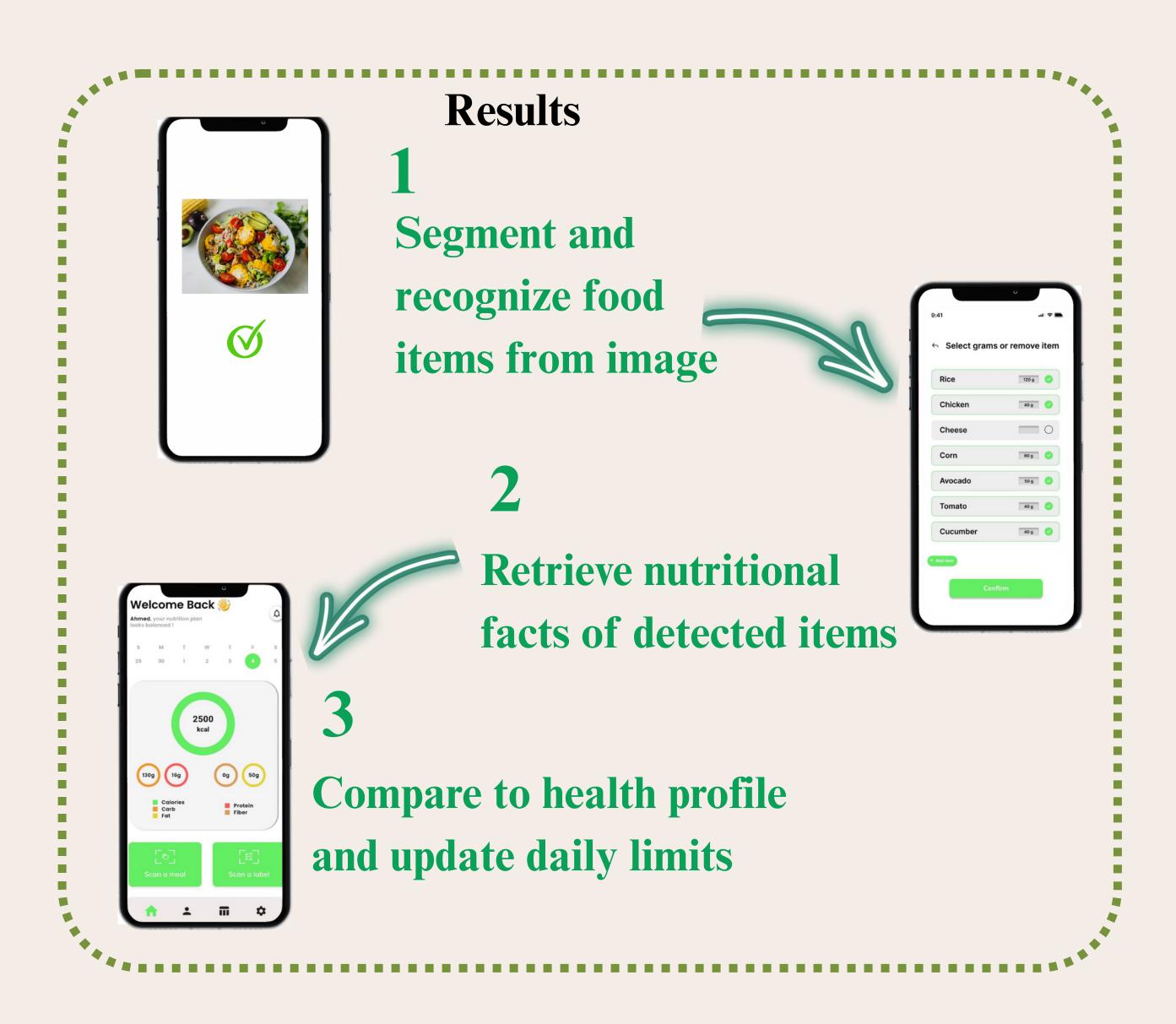




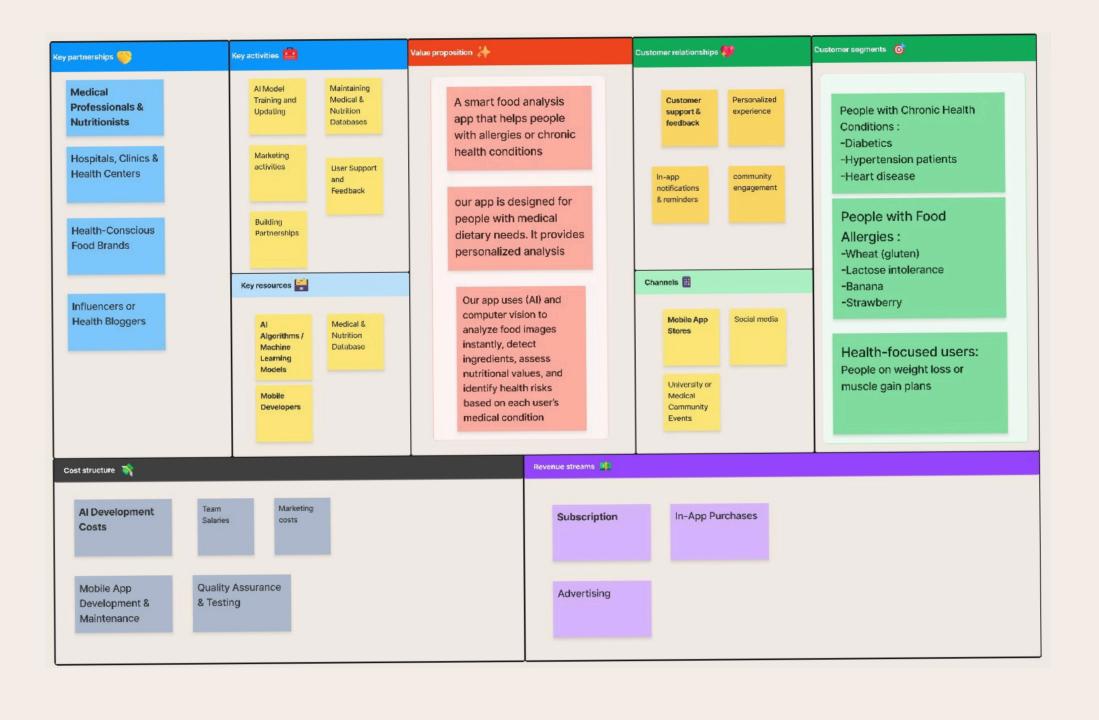












Conclusion and Future work

We developed an intelligent system that helps users make healthier food choices by analyzing meals from images and comparing them to personal health limits. Our goal is to reduce the risk of chronic diseases and allergies and to promote health awareness through accessible, AI-powered nutrition guidance.

For future work we aim to continuously increase the number of food categories. In addition to incorporate user medication data to assess potential food-drug interactions and provide safer dietary recommendations. Also, Integrate depth estimation or reference objects to quantify food amounts.