CalBalance

A SYSTEM TRACK OVERALL WELL-BEING BY ESTIMATING CALORIE INTAKE AND EXPENDITURE
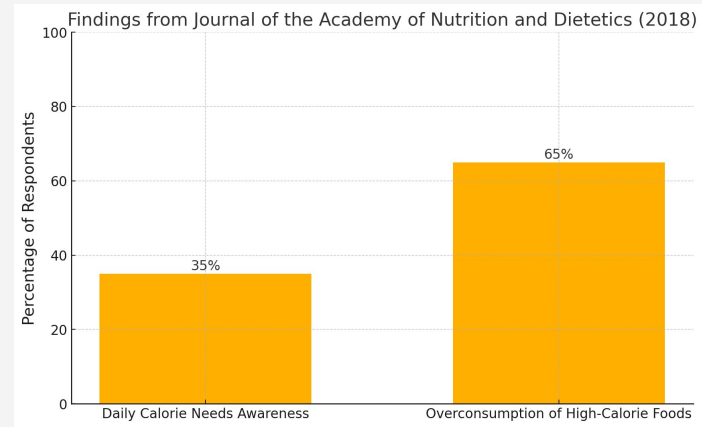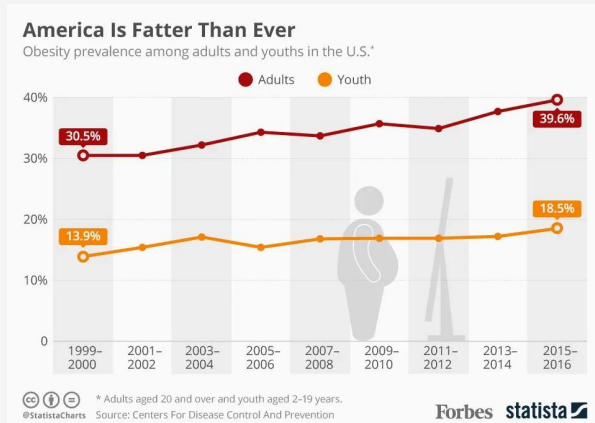
Yicheng Yang

Yang Jiao

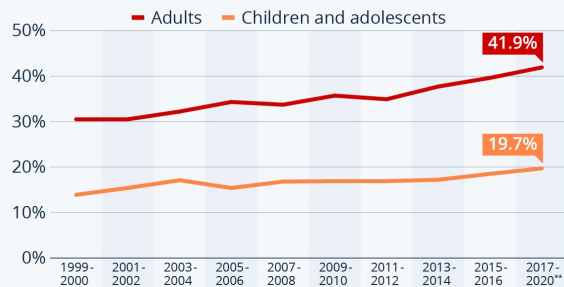Tianyu Peng

Problem statement

Obesity rates in the United States have been climbing at an alarming rate, despite growing awareness about fitness and healthy eating.

A study revealed that many Americans are unaware of their daily calorie needs, with a significant number of over consuming high-calorie foods containing refined grains, added sugars, and fats.

America Is Fatter Than Ever
Obesity prevalence among adults and youths in the U.S.*

● Adults ● Youth

30.5% ... 39.6%
13.9% ... 18.5%

* Adults aged 20 and over and youth aged 2–19 years.
@StatistaCharts Source: Centers For Control And Prevention
Forbes statista

Findings from Journal of the Academy of Nutrition and Dietetics (2018)

Daily Calorie Needs Awareness — 35%
Overconsumption of High-Calorie Foods — 65%

Percentage of Respondents

America's Rising Obesity Problem

Prevalence of obesity among adults and children/adolescents in the United States*

— Adults — Children and adolescents

41.9%

19.7%

50%
40%
30%
20%
10%
0%

1999-2000, 2001-2002, 2003-2004, 2005-2006, 2007-2008, 2009-2010, 2011-2012, 2013-2014, 2015-2016, 2017-2020**

* Adults aged 20 and over, children and adolescents aged 2-19
** Partial data collection in 2019-2020 cycle combined with 2017-2018 data for nationally representative estimates
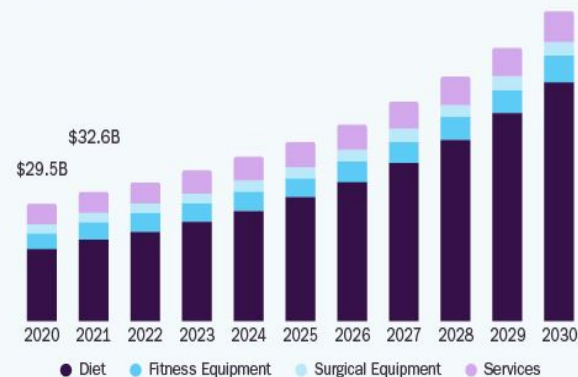Source: Centers For Disease Control and Prevention

statista

HELP!

Wearable Technology
Healthcare

Marketing

U.S. Weight Management Market
Size, by Function, 2020 - 2030 (USD Billion)

GRAND VIEW RESEARCH

$29.5B
$32.6B

10.6%
U.S. Market CAGR,
2023 - 2030

2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030

● Diet ● Fitness Equipment ● Surgical Equipment ● Services

Source:
www.grandviewresearch.com

Exercise & Weight Loss Apps Market Size
by Platform, 2020 - 2030 (USD Million)

GRAND VIEW RESEARCH

$838.3M
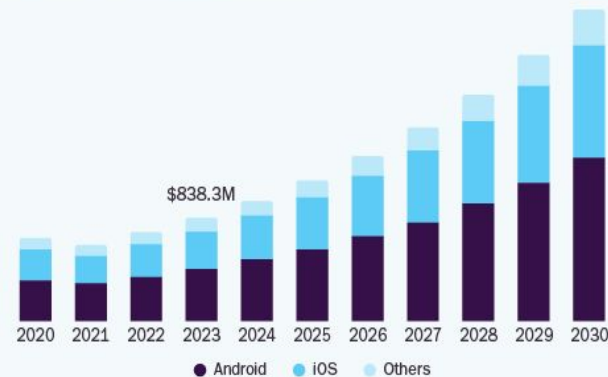
17.3%
Global Market CAGR,
2024 - 2030

2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030

● Android ● iOS ● Others
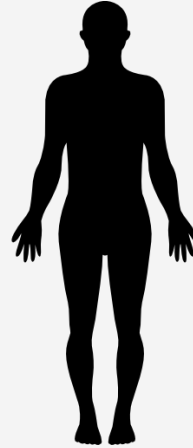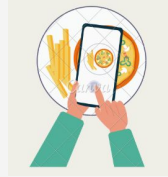
Source:
www.grandviewresearch.com

Purpose of ideal

Simplifying calorie tracking for individuals who find it challenging
Developing a user-friendly platform to:

- Calculate daily calorie intake and consumption.
- Assist users in managing their diet and exercise track effectively
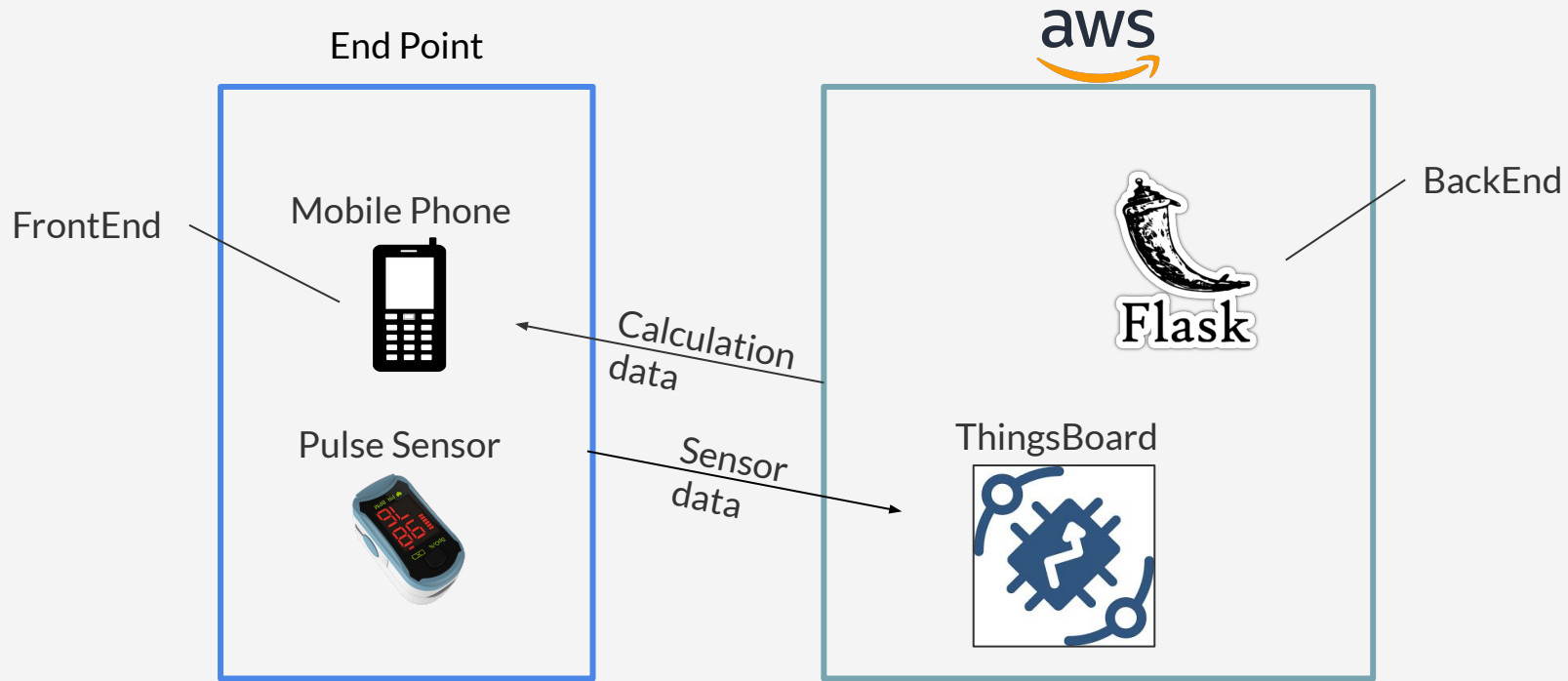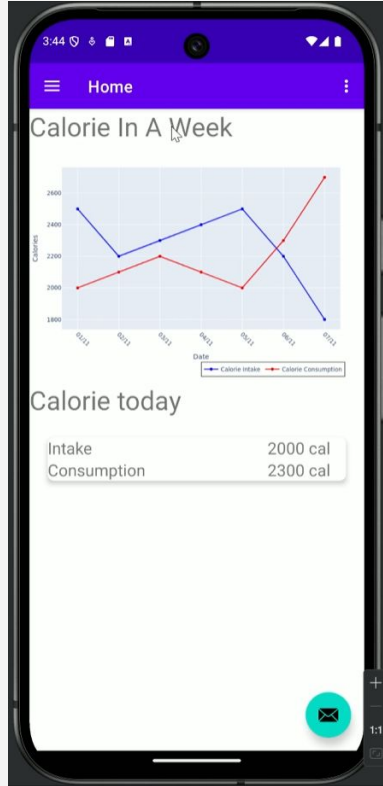
How it works

Intake

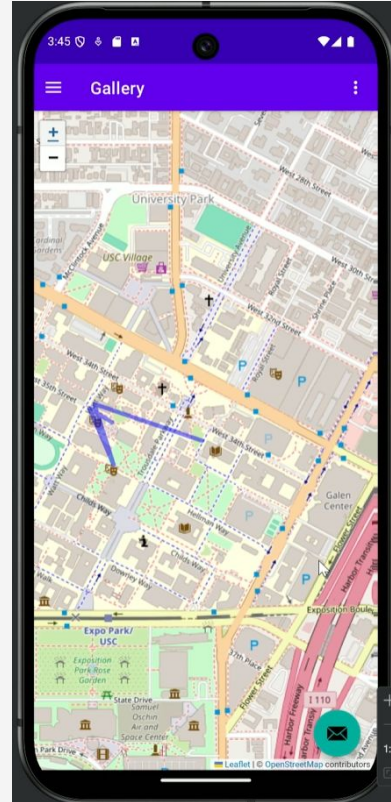Consumption

System Architecture

End Point

FrontEnd

Mobile Phone

Pulse Sensor

aws

BackEnd

Flask

ThingsBoard

Calculation data

Sensor data

Implementation

Weekly Calorie Balance

Daily Intake & Consumption

Daily Commuting Route

Comparison

MyFitnessPal

MyNetDiary

WeightWatcher

Fitbit

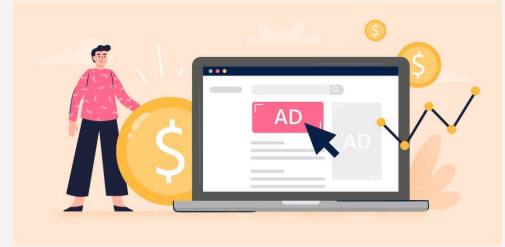| feature	CalBalance	MyFitnessPal	FatSecret
Food Image Calorie Computation	Yes. AI-powered image recognition model.	No. Manual entry	No. Manual entry
Calorie Consumption Calculation from Biometrics	Yes. Heart rate, blood oxygen levels.	No.	No.
Continuous Data Storage	Yes. Real-time, persistent data and logs.	Partially.	Partially.

Profit Point

Wearable Industry

Gym

Restaurant

Advertisement

Thank you !!!

Team-6