NAME: Boris Manzi
ID: 24473

Body Mass Index (BMI) Feature Documentation

1. Introduction

The Body Mass Index (BMI) feature is a module within the spring application that allows users to calculate and track their BMI. It provides a simple and convenient way for individuals to assess their body composition and monitor their health status based on BMI measurements.

2. Purpose

The purpose of the BMI feature is to assist users in understanding their body composition and making informed decisions regarding their health and fitness goals. By providing a BMI calculation and tracking functionality, the feature aims to promote awareness of healthy weight management and facilitate the monitoring of progress over time.

3. Functionality

3.1 BMI Calculation

The BMI feature allows users to calculate their BMI based on their height and weight inputs. It utilizes a standardized formula to determine the BMI value and categorizes it into different ranges, such as underweight, normal weight, overweight, and obesity, according to established guidelines.

3.2 Tracking and History

Users can track their BMI over time using the BMI feature. The system stores historical BMI measurements, allowing users to view their progress through visual representations, such as charts or graphs. This tracking functionality helps users assess their long-term trends and make adjustments to their lifestyle choices, if needed.

3.3 User Profile Integration

The BMI feature integrates with the user profile module of the spring application. Users can input and update their height and weight values in their profiles, and

these values are utilized for BMI calculations. Seamless integration ensures accurate and up-to-date BMI calculations for each user.

3.4 Health Recommendations

Based on the calculated BMI value, the feature can provide general health recommendations and guidelines to users. These recommendations may include information on maintaining a healthy weight, suggestions for physical activity or exercise, and guidance on healthy eating habits. It aims to educate users about maintaining a balanced lifestyle and making healthy choices.

4. Technology Stack

The BMI feature is implemented using the following technologies and frameworks:

- Spring Framework: Provides the core structure and components for building the application.
- Spring security to secure your website from unauthorized users
- Spring cash helps to increase data retrieval performance by reducing the need to access the underlying slower storage layer.
- Data GPA helps store data in relational database.
- Java: Programming language for developing the BMI calculation and tracking logic.
- Spring mail sender helps admin to send email to clients.
- Thymeleaf is a modern server-side Java template engine for both web and standalone environments, capable of processing HTML, XML, JavaScript, CSS and even plain text. The main goal of Thymeleaf is to provide an elegant and highly-maintainable way of creating templates.
- Postgressql jdbc Driver allows Java programs to connect to a PostgreSQL database using standard, database independent Java code.

5. Security Considerations

The BMI feature prioritizes the privacy and security of user data. It ensures that BMI calculations and related information are securely stored and accessible only to

authorized users. Proper authentication and access control mechanisms are implemented to protect user data from unauthorized access or modification.

6. Deployment and Scaling

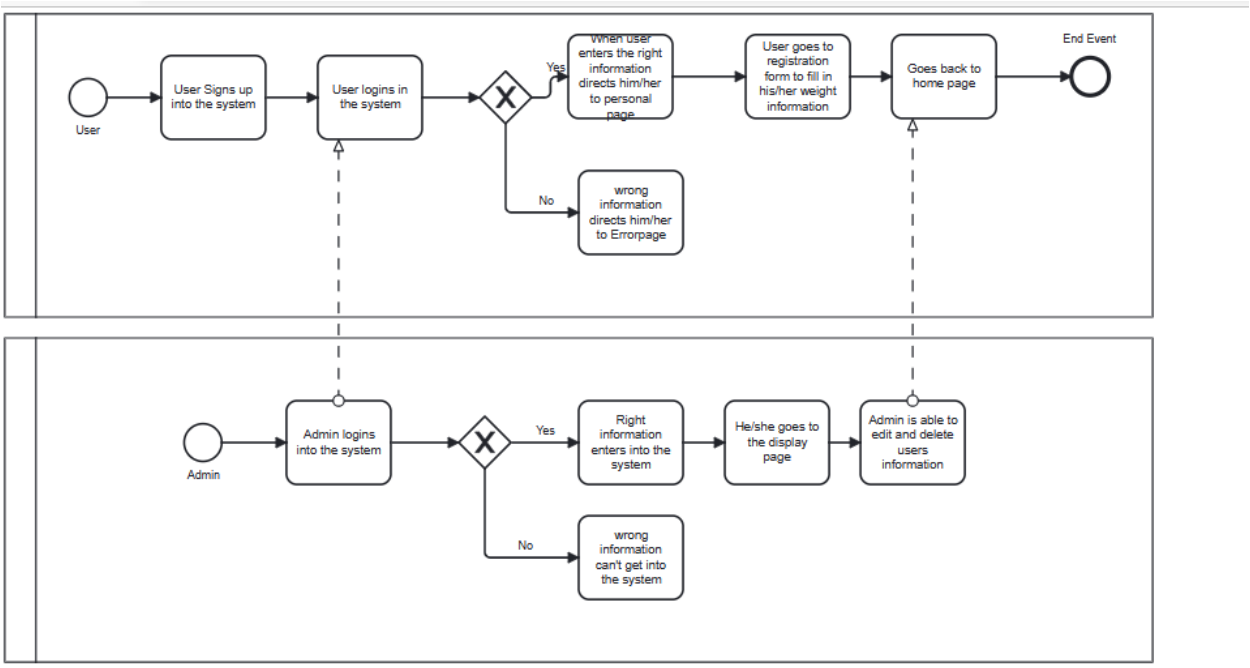
The BMI feature can be deployed on a cloud platform, such as AWS or Azure, to ensure scalability and availability. Load balancing and autoscaling techniques can be applied to handle increased user traffic and provide a responsive user experience.

7. Limitations

It is important to note the following limitations of the BMI feature:

- BMI as an Indicator: While BMI is a widely used indicator for body composition, it has limitations and does not account for individual variations in muscle mass, bone density, and other factors. Users should understand that BMI is just one tool among many to assess overall health and consult with healthcare professionals for a comprehensive evaluation.
- Self-Reporting Accuracy: The accuracy of BMI calculations relies on the accuracy of user-reported height and weight values. Users should be encouraged to provide accurate measurements to ensure reliable results.

PROCESS MODEL DIAGRAM



8. Conclusion

The Body Mass Index (BMI) feature within the spring application provides users with a convenient way to calculate and track their BMI. By offering insights into body composition and providing health recommendations, the feature aims to promote awareness of healthy.