Software Documentation and Technical Writing

Name	Task
Elaf Alrashdi	Survey Results and Requirements Purpose and application interface class diagram
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1 bstract

Step exercise is a simple physical activity that focuses on walking to improve overall health and ftness. It enhances cardiovascular ftness and helps burn calories. It can be practiced easily without the need for equipment, making it suitable for everyone and contributing to reducing the risk of chronic diseases.

2 Introduction

Walking is one of the simple and efective physical activities that signifcantly contributes to improving overall health and physical ftness. By regularly practicing walking, diseases such as heart disease and diabetes, along with many other health issues, can be prevented. With the growing focus on physical activity, tracking daily steps has become a popular goal, with many striving to reach 10,000 steps per day . In this context, the My Steps program provides an ideal solution to support users on their journey towards a more active lifestyle. The application helps track daily steps easily and eficiently, allowing users to log physical activities and regularly monitor their progress. By connecting the app to smart devices such as phones or ftness watches, users can track their performance in real-time . My Steps addresses issues such as a lack of physical activity, dificulty tracking progress, lack of motivation, and social isolation in exercising. The app also ofers several key features, including daily step tracking, integration with smart devices, providing motivational challenges and rewards, and enhancing community interaction with a simple and attractive design . My Steps is not just a tool for tracking activity but a comprehensive platform that motivates users to adopt a healthy and active lifestyle.

3 The purpose

My Steps Application To Calculate the rate of steps and distances traveled by the app holder Providing the possibility of comparing the results of the day with the past days, the program provides a comprehensive analysis in the long term as well as the program allows the user the possibility of setting a daily goal to travel a certain distance on a daily basis, for example, and the program targets a large group of individuals, as it supports many languages such as Arabic, English and Spanish. Before presenting the results of

"My Steps," it's important to emphasize its role in tracking daily activity and motivating users to achieve their health goals by monitoring their steps and calorie burn in a simple and efective way

4 Survey Result graph

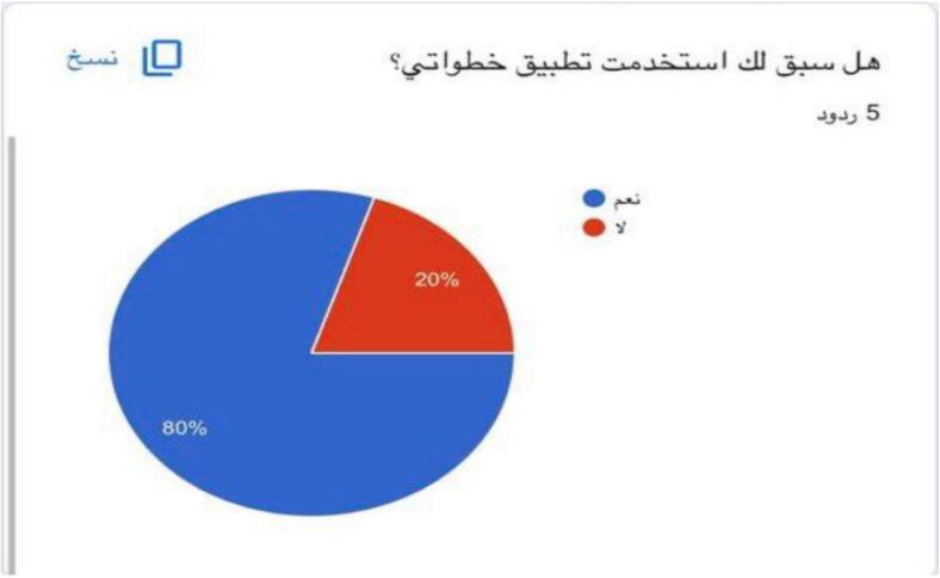

Figure 1: Survey Result

The majority have tried the app, which indicates its good spread among users, but there may be room to introduce it to more people, especially those who haven't used it yet.

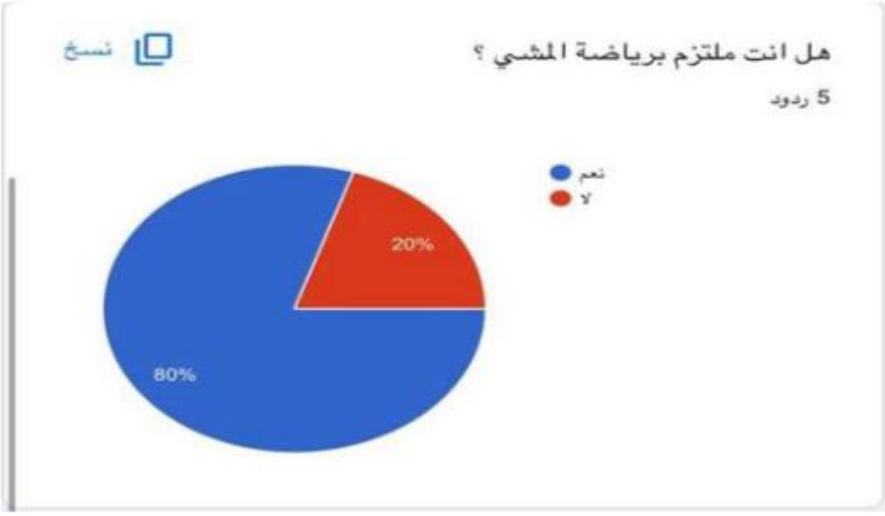

Figure 2: Survey Result

"The note here is that the majority are committed to walking, refecting a good interest in health and physical activity among participants. However, the fact that 20% are not committed suggests the potential to improve awareness or provide additional support to encourage them to practice this activity regularly."

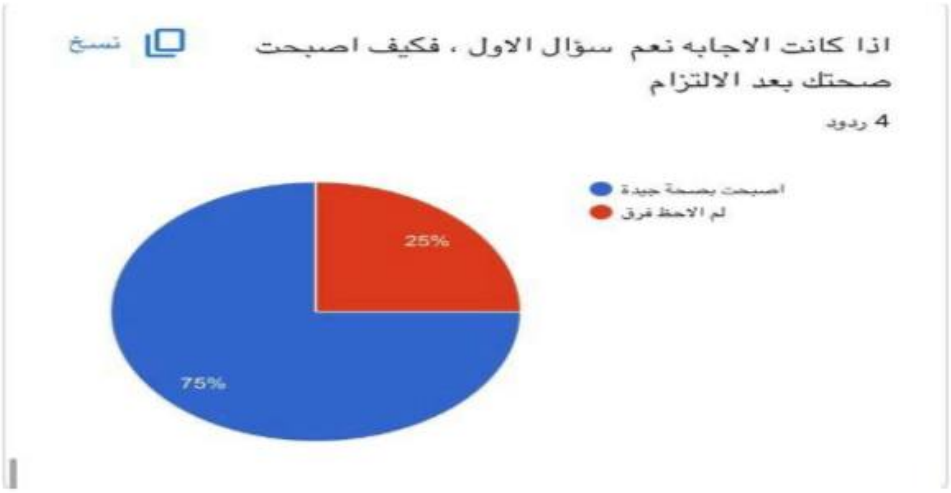

Figure 3: Survey Result

"The majority noticed an improvement in their health after committing, which indicates the benefts of regular walking or physical activity. As for the 25% who did not notice a diference, other factors may be afecting their health, or they might need more time to see clear results ".

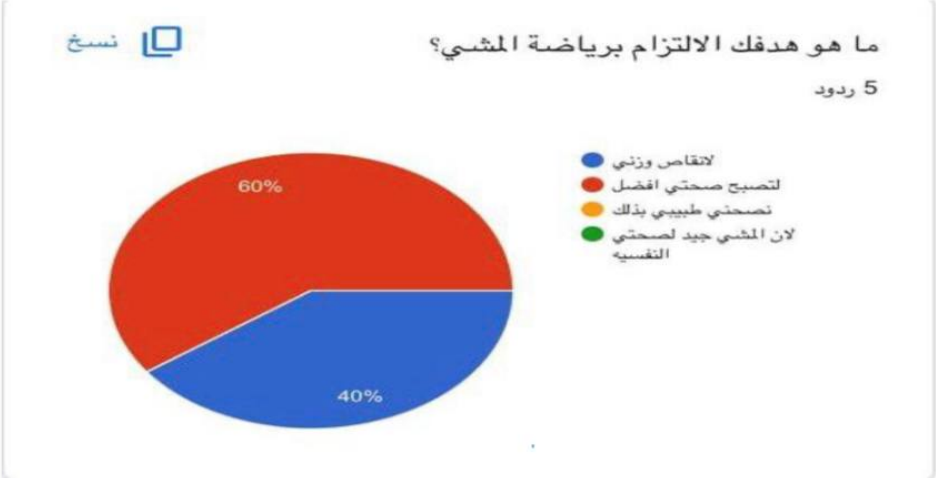

Figure 4: Survey Result

"In this survey, 60% of the participants aim to 'improve their health' through regular walking, while 40% wish to 'lose weight.' The total number of participants is 5, which means the survey provides an initial idea but requires more participants to generalize the results."

Figure 5: Survey Result

"It is clear that one participant has provided positive feedback about the importance of walking, while the others did not ofer any additional comments."

5 Existing Systems

Application	Advantages	Disadvantages
Samsung Health	Comprehensive tracking of daily activity, guided workouts, compatible with various devices.	Accuracy may be lower compared to some competitors, depends on Samsung's ecosystem.
Apple Health	Integrates data from multiple apps and devices, easy-to-use interface, compatible with Apple Watch.	Heavily reliant on Apple products, somewhat limited without supporting devices.
Fitbit	Strong focus on fitness, precise analysis, supportive community.	Some features require a paid subscription, best experience relies on Fitbit devices.

Apple, Samsung, and Fitbit offer health programs, each with its Advantages and Disadvantages:

- **Apple Health:** Great at integrating data but relies on Apple products.
- **Samsung Health:** Tracks activity comprehensively but can be less accurate at times.
- **Fitbit:** Focuses on fitness, but some features are paid and depend on its devices.

Figure 6: Logos of Apple Health, Samsung Health, and Fitbit

Figure 7: My Steps

5.1 My Steps Application

My Steps simplicity of use offers a simple and easy-to-use interface without additional complexities, making it suitable for all users regardless of their technical expertise. "My Steps" focuses heavily on improving step counting accuracy using innovative techniques based on phone sensors and low power consumption.

6 4.0 Requirements

6.1 Functional Requirements

For Users:

- **Login:** Ability to log in through user accounts or register new accounts.
- **Activity Tracking:** Display the daily step count and calories burned.
- **Activity Logging:** Add and log different types of sports activities.
- **Activity Reports:** Provide detailed reports on daily and weekly activities.
- **Goal Setting:** Set daily goals for target step counts or activity levels.
- **Notifications and Alerts:** Receive alerts to encourage movement and activity logging.

For the System:

- **Data Management:** Ability to efficiently store and retrieve user data.
- **Device Integration:** Support interaction with wearable devices (like smartwatches).
- **Data Synchronization:** Enable data synchronization with the cloud for backup and recovery.
- **Data Analysis:** Ability for the system to analyze data and show trends to users.

6.2 4.1 Non-Functional Requirements

For Users:

- **Usability:** Simple and easy-to-interact user interface.
- **Performance:** Quick response for user operations with fast page loading.
- **Security:** Protect personal data and comply with privacy standards.
- **Technical Support:** Provide user support for resolving issues and inquiries.

For the System:

- **Reliability:** The system should be dependable and operate without interruptions.
- **Scalability:** The system should be capable of handling an increasing number of users.
- **Compatibility:** The program should work on different operating systems (iOS, Android).
- **Resource Efficiency:** The system should use device resources effectively without impacting performance.

7 Interface Design

Figure 8: Main Interface

Figure 9: Main Circle

Main Circle in the Center:

- Displays the number of steps you have taken during the day clearly in the center.
- Around the circle, there is a progress bar that shows how close you are to achieving your daily step goal, which is usually 10,000 steps.

Daily Goal:

- Below the circle, there is a button or bar that indicates the daily step goal, which is clearly shown as "Goal: 10,000."

Walking Speed Bar:

- At the bottom of the screen, there is an indicator that displays your walking speed, which is a simple graphical representation of the speed you walked during the day.

Figure 10: Calories

- Calories:Based on your activity and body data (such as your weight and height), the app calculates the number of calories burned while walking or running.

Figure 11: Duration of Walking

- Duration of Walking: The app also records the duration of walking or physical activity in minutes (e.g., 43 minutes).

Figure 12: Distance Traveled

- Distance Traveled: The app converts the number of steps into distance traveled and displays the distance you have covered during the day in kilometers (e.g., 2.2 km).

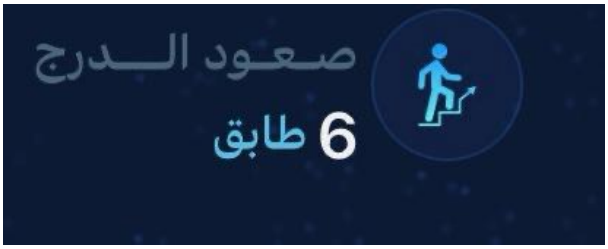

Figure 13: Stair Tracking

- Stair Tracking: If you have climbed stairs, the app records the number of foors you have ascended (e.g., 6 foors).

Figure 14: Tracking Previous Days

- Tracking Previous Days: The app provides comparative data for previous days so you can see the progress of your daily walking and physical activity performance.

8 Database

1. Steps table:

- **StepID:** (primary key)
- **Date:**
- **StepCount:** (number of steps)

2. Statistics table:

- **StatID:** (primary key)
- **TotalSteps:** (total number of steps)
- **Date:**

3. Settings table (optional):

- **SettingID:** (primary key)
- **UserPreference:**

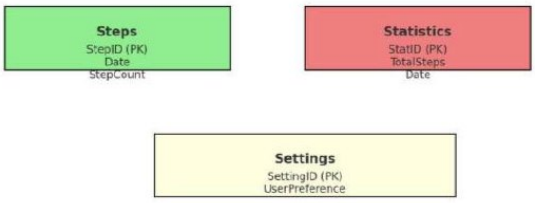

Figure 15: Database

System Architecture of the Khatawati App

The System Architecture of the "Khatawati" app is the structural design of the system that includes the various components of the application and how they interact with each other. The program consists of key components such as the User Interface (UI), which displays the information, an activity tracking engine that collects and analyzes data, and a local database (or internal storage file) to store the information. The app's lack of a login requirement simplifies the design and reduces the complexity of user management.

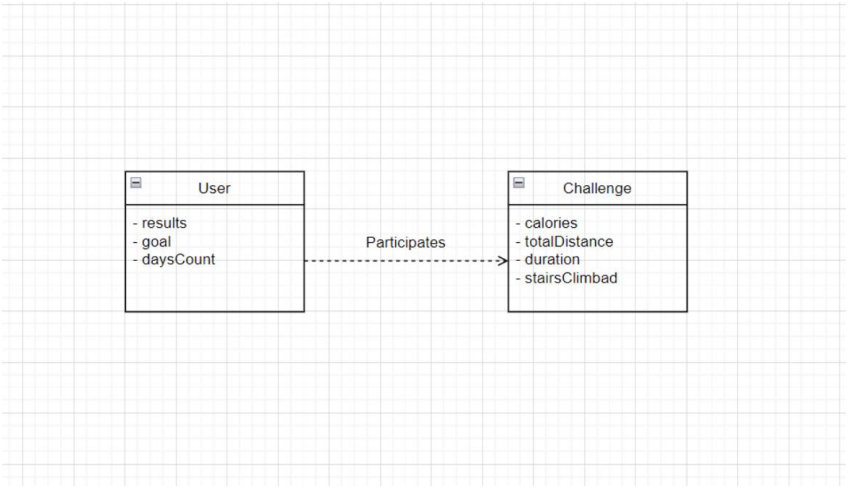

Figure 16: class digram

A simple model of the relationship between the User and Challenge in the "Khatawati" app:

- **User:** Contains data such as:
  - results
  - goal
  - daysCount
- **Challenge:** Represents the challenge and contains information like:
  - calories
  - totalDistance
  - duration
  - stairsClimbed

The relationship between the user and the challenge is described as "Participates in".

9 In conclusion

My Steps represents a paradigm shift in how individuals approach their physical health and daily ftness. In a modern life characterized by frequent sitting and lack of movement, "My Steps" provides an innovative solution to overcome these challenges. By tracking user steps daily, converting them into distances and calories, the program ofers a comprehensive tool to help improve overall health and maintain ftness. In conclusion, it can be said that "My Steps" is not just a step tracking app, but a digital partner that helps individuals improve their quality of life and overall health. It integrates modern technology with concern for human health, making it a must-have tool for anyone seeking a more active and balanced life. Relying on this app represents a step towards achieving a healthier and happier lifestyle, at a time when health challenges associated with lack of movement are increasing.

10 References

https://www.google.com/url?q=https://www.apple.com/sa-ar/health/&sa=U&ved=2ahUKEwiG5pLVx6eJAxWoUKQEHbngPB8QFnoECBEQAQ&usg=AOvVaw1wTXiWDyvhkYqbQkedkFdk https://www.samsung.com/sa/apps/samsung-health/ https://x5apk.com/fitbit/ https://search.app/mv6TCtgGsm36MqMy8