Strava Fitness Dashboard Insights

Project Link:

Strava Fitness App Dashboard

Introduction:

The final phase of the Strava Fitness data project involves creating interactive dashboards in Tableau to represent key user behavior patterns based on fitness tracker data. This phase is an extension of previous phases of the project, such as data cleaning through Python, behavioral analysis through SQL, and exploratory visualizations through Python libraries.

The main objective of this development phase of the dashboard is to translate analysis findings into simple and clear, actionable visual storylines that serve Strava Fitness's business objectives, which are encouraging user interaction, motivating healthy lifestyle habits, and facilitating data-driven decision-making in product and marketing planning.

The dashboards were designed to display a combined picture of users' fitness activity, such as step trends, activity level, calorie burn efficiency, and sleep patterns. Particular focus was given to providing interactivity and usability through the inclusion of filters and calculated fields that enable users and stakeholders to compare trends on a daily basis, on weekdays, and between user groups.

Tableau's visual analytics function allows Strava Fitness to integrate complex metrics into easy-to-understand dashboards, which allow the team to track KPIs, detect behavior trends, and recognize areas of improvement in user experience and engagement through actionable insights and strategic marketing initiatives.

Dashboard Insights:

1. **Dashboard 1: Overview Summary**

Visuals:

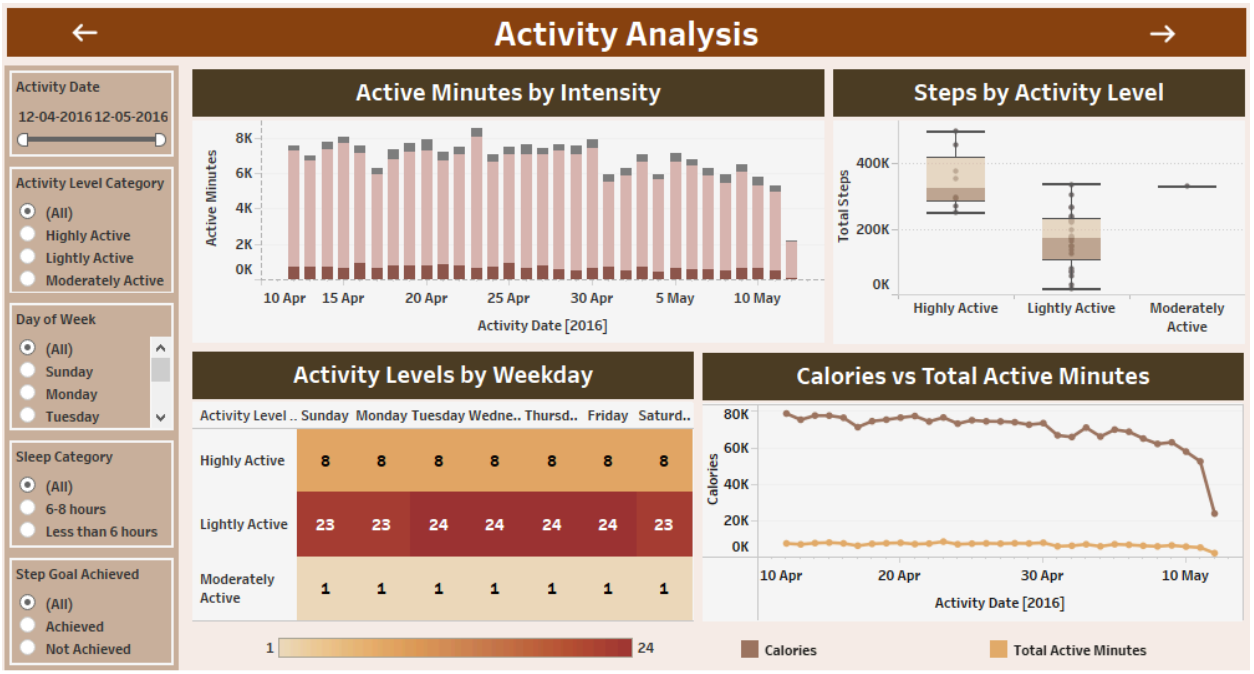
- KPI Cards: Total Unique Users, Average Steps, Calories, Sleep
- Line Chart: Total Steps Over Time
- Bar Chart: Activity Level Distribution
- Pie Chart: Step Goal Achievement

Insights:

- Total unique users equal 33.
- Average daily steps for users were below the health goal of 10,000 steps, a mostly low-activity population.
- Calorie burn equated directly to active minutes and steps—more active users burned more calories.
- Average sleep hours equal 6.5 hours, below the health goal of 7–8 hours, indicative of bad sleeping culture.
- Most users did not achieve 10,000 steps, which indicates poor physical activity.

- Most of the users are classified as "lightly active," which means low to moderate physical activity on most days. Therefore, it shows an overall trend of limited intense activity among the user base.

2. Dashboard 2: Activity Analysis



Visuals:

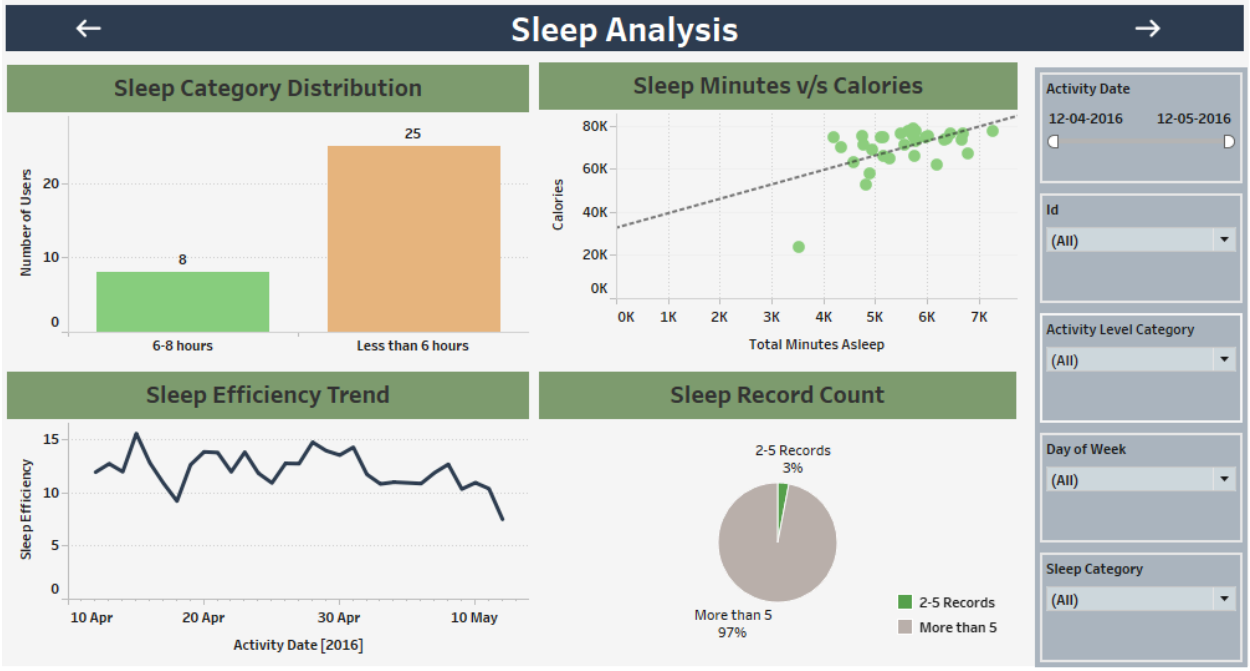
- Stacked Bar: Intensity-wise Active Minutes
- Heatmap: Activity Level by Weekday
- Boxplot: Steps by Activity Level
- Line Chart: Calories vs. Active Minutes

Insights:

- Very Active Minutes were considerably limited, and Lightly Active represented the highest percentage of daily active minutes.

- Weekends (Sat & Sun) show a decline in activity levels, perhaps resulting from rest days.
- Those persons who are "highly active" consistently have greater step counts and calories burned.
- Calories burned and total active minutes show a positive correlation, which means that increased movement may enhance health.

3. Dashboard 3: Sleep Analysis



Visuals:

- Bar Chart: Sleep Category Distribution
- Line Chart: Sleep Efficiency
- Scatter Plot: Sleep vs. Calories
- Pie Chart: Sleep Record Count

Insights:

- A majority of the users sleep for less than 6 hours, which reflects sleep deprivation.
- Sleep efficiency also varies a lot by user and is less than 90% in most, which suggests time in bed is not efficiently utilized.
- Users with good sleep (6–8 hrs) are more likely to reflect greater activity and calorie burn, which indicates better-rested users are more active.
- Most users have just 1 sleep record per day, which verifies typical sleep cycles being logged.

4. Dashboard 4: Steps & Goal Achievement

Visuals:

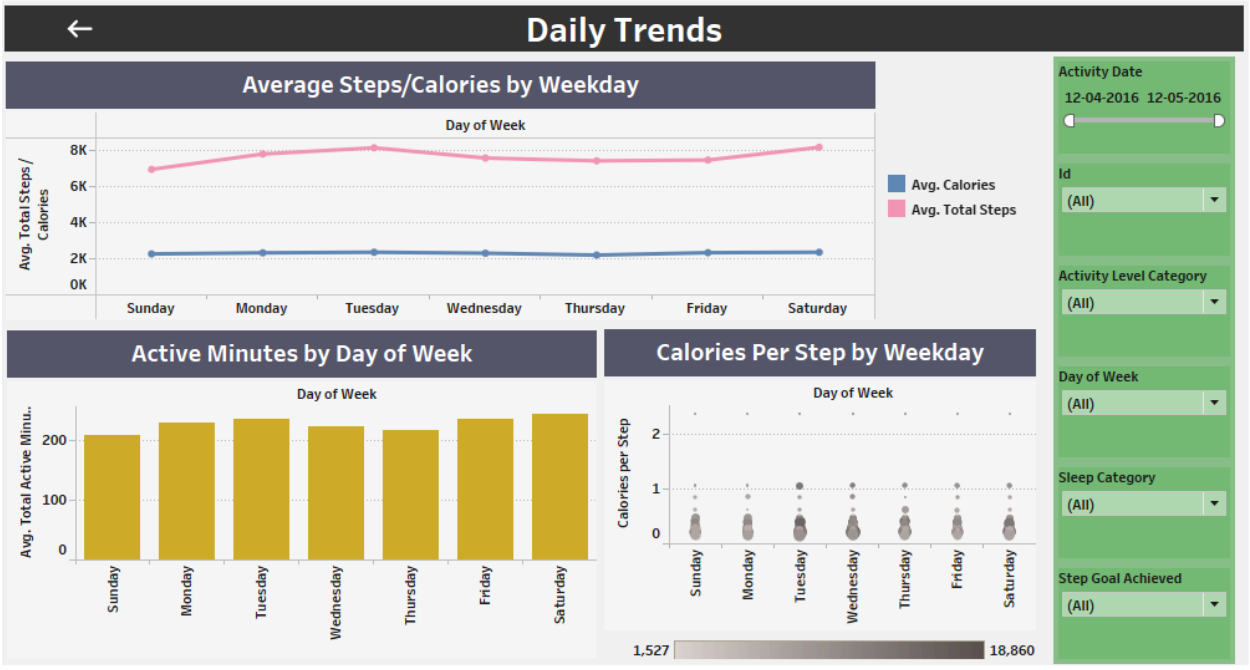
- Area Chart: Steps Over Time

- Bar Chart: Goal Achieved vs. Not Achieved
- Histogram: Step Frequency
- Line Chart: Calories vs. Steps Over Time

Insights:

- Most people don't reach the 10,000-step threshold on an average day.
- Steps are usually between 4,000 and 7,000 for most users.
- High-step-day activities are consistent with high calorie burn, confirming physical activity as an energy source.
- Step counts each day fluctuate daily, with no consistent upward trends, suggesting users don't have structured exercise routines.

5. Dashboard 5: Daily Trends



Visuals:

- Line Chart: Avg Steps/Calories by Weekday
- Bar Chart: Active Minutes by Weekday
- Scatter: Calories per Step by Weekday

Insights:

- Tuesdays and Thursdays consist of greater step averages, indicating possible exercise days.
- Sunday consists of reduced activity and calorie consumption, indicating a planned resting day.
- Calories per step performs best (lower number) when users are experiencing higher-step days, meaning improved energy burn when utilized on a daily basis.
- Weekday patterns differ, indicating that users are not following fixed exercise routines.

Solutions to Achieve Business Objectives:

1. Increase Daily Physical Activity Levels:

- Introduce personalized activity goals based on users' latest trends and raise goals incrementally.
- Release step challenge campaigns (weekly/monthly) with leaderboard rankings to fuel good-natured competition.
- Integrate push notifications/reminders for short phases of movement in long periods of sitting.
- Provide gamification features such as badges, streaks, and milestone reward capabilities for maintaining habits.

2. Improve User Sleep Patterns:

- Offer in-app sleep tips through the use of AI to suggest bedtime schedules based on the user's sleep history.
- Alert users to their sleep deficit and the effects it has on health and activity.
- Offer educational content (blog/videos) highlighting the significance of good sleep and stress management.
- Introduce the "Sleep Score" feature and remind users on how to optimize it.

3. Boost Calorie Burn & Engagement:

- Provide customized exercise plans based on their current Very Active Minutes and history as a starting point.
- Provide daily Very Active Minutes goals with tracking of progress.
- Partner with fitness bloggers to provide guided workouts within the app.

4. Strengthen User Retention & Habit Formation:

- Utilize habit-forming techniques such as streak tracking and goal-oriented reminders.
- Enable users to set active hours preferences and nudge motivational messages for that time.
- Offer visualizations of progress, indicating weekly/monthly steps, caloric intake, and sleep progress.

5. Targeted Marketing Campaigns:

- Classify users by activity (e.g., very active, medium active, inactive) and segment them differently:

a. Inactive users: motivational testimonials, soft nudges towards goals.

b. Active users: badges of performance, word of mouth, premium functionalities.

- Execute email and in-app campaigns that focus on personal achievements (e.g., "You took 3,000 more steps this week!").

- Leverage data to detect inactive periods and reconnect with users through timed offers or reminders.

6. Enhance Product Design & Recommendations:

- Offer daily health updates. For example, "Your activity was down today. Try this 10-min walk."

- Create a health scorecard that integrates steps, calories, sleep, and intensity for the complete picture.

- Suggest Strava products/services on a behavioral basis (e.g., sleep bands for sleepers, fitness guides for lightly active users).

7. Facilitating Company Growth through Data-Driven Strategy:

- Utilize insights to develop products for the most utilized health measures by users.

- Collaborate with healthcare professionals to validate and certify suggestions, building brand expertise.

- Expand to new geographies based on usage trends on the ground (if demographic information is available).

- Utilize insights in investor decks, showcasing how analysis of user behavior drives real-world outcomes.

Implementing all the above solutions will benefit Strava Fitness by enhancing user health outcomes, boosting app usage and retention, enhancing product experience.

standing out in the competitive wellness tech category and leveraging data as a strategic differentiator to personalize, predict, and promote healthier living.

Conclusion:

The user data of the Strava Fitness app provides valuable insights into activity, sleep, and energy expenditure patterns. The majority of users are characterized as having low physical activity levels, with inactive or light activity making up the majority of daily activity. The majority of users fail to achieve the target of 10,000 steps, and their active minutes are far from the target levels of a healthy lifestyle.

Sleep statistics also validate that the users are sleep deprived, and most of them report fewer than 6 hours of sleep and poor sleep efficiency. This can be impacting their motivation and vigor for exercise.

Besides the potential of the app, data show the need for behavioral reminders, exercise scheduling, and customized health advice. Marketing campaigns should be centered on:

- Informing users on the advantages of frequent movement and rest.
- Promoting step challenges, badges, or gamification for greater engagement.
- Providing sleep tips and stress-management tips through app content.

Overall, this usage trend analysis has identified actionable areas where Strava Fitness can focus to enhance user health and increase product engagement through such marketing and features.