Google Data Analytics Capstone Project:
Bellabeat Case Study

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Introduction

Bellabeat is a successful high-tech company that manufactures health-focused smart products targeting the women demographic.

Urška Sršen, co-founder and Chief Creative Officer of Bellabeat, believes that analyzing smart device fitness data could help unlock new growth opportunities for the company.

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Business Task

1) To analyze smart device data to gain insights and discover trends into how consumers are using their smart devices.

2) Use gained insights and discovered trends to help guide the marketing strategy for Bellabeat

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Overview of Dataset

1) The CCO has requested that the analysis be completed using FitBit Fitness Tracker Data, a public dataset available for download from Kaggle.

2) This dataset contains 18 personal tracker data files collected from respondents to a distributed survey from March 2016 to May 2016.

3) For this analysis, Daily Activity, Sleep, and Weight log tables will be used. Daily Activity data includes steps, distance, and duration of the activity, and calories burned.

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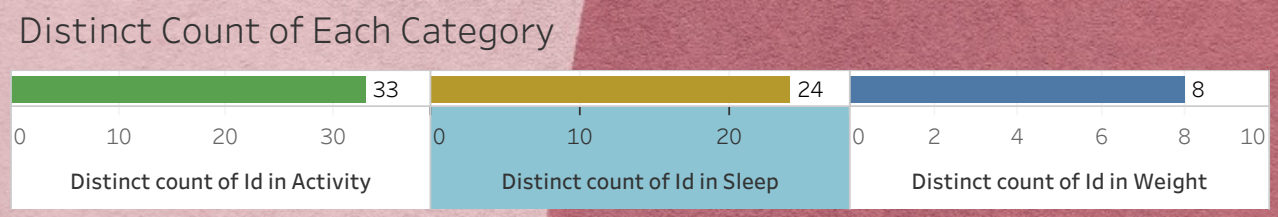
Data limitations

1) Fit Bit Dataset is only from Mar 2016 to May 2016, it is not recent data.

2) There is no demographic data, e.g. gender, age, and occupation.
As Bellabeat is catered toward women, the assumption is that the users in the dataset are women.

3) The sample size consists of 33 unique users in the Daily Activity table, with 24 of them in the Sleep table and only 8 in the Weight log table.



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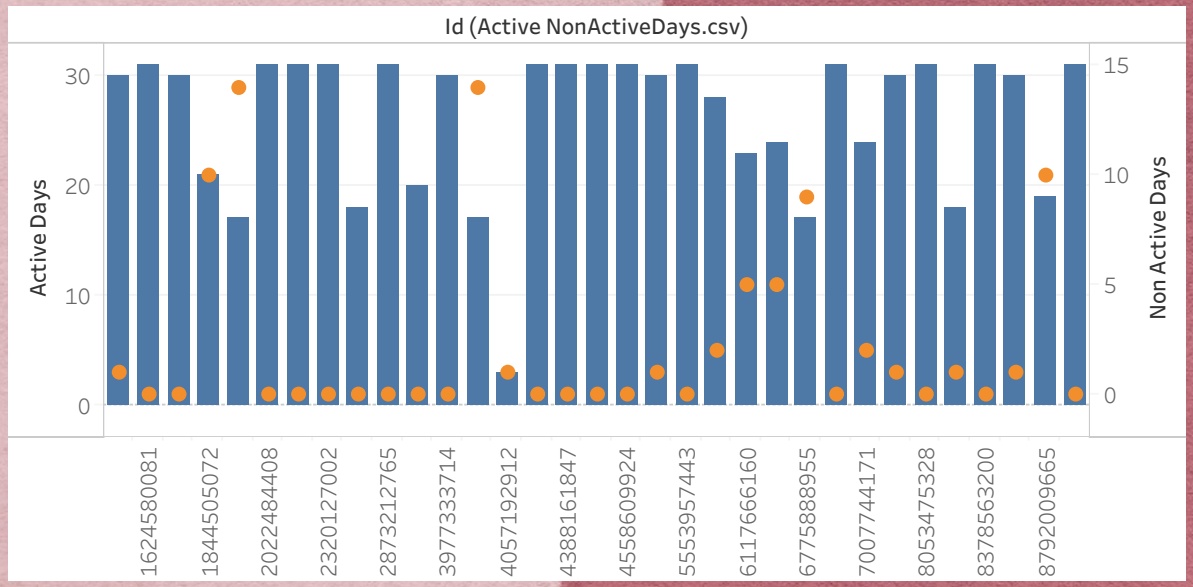
Insights: Active users

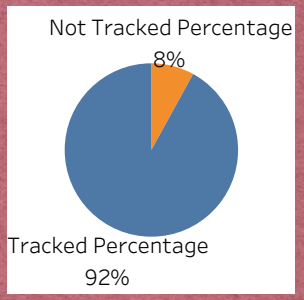
1) In those 3 months, 92% tracked their daily activity with 8% not tracking their daily activity.

2) 92% are Active in those 3 months, and 8% are Not Active.

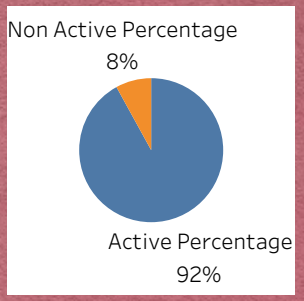
Active Vs Non-Active Days



Percentage of Tracked days



Active Inactive Percentages



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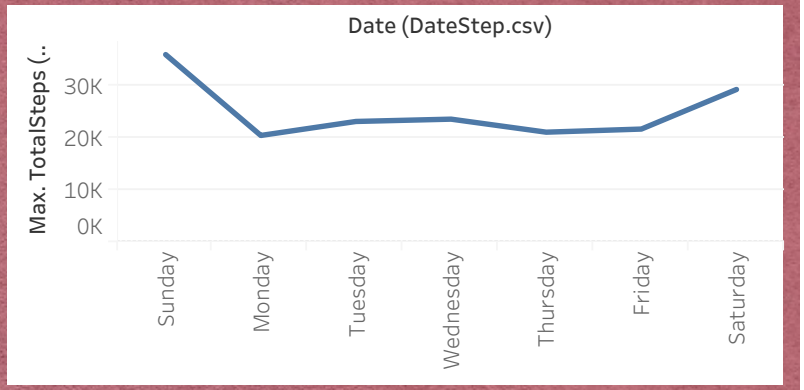
Insights: Active Days & Dates

1) Most of the users are active on the weekends with Sundays being the highest activity.

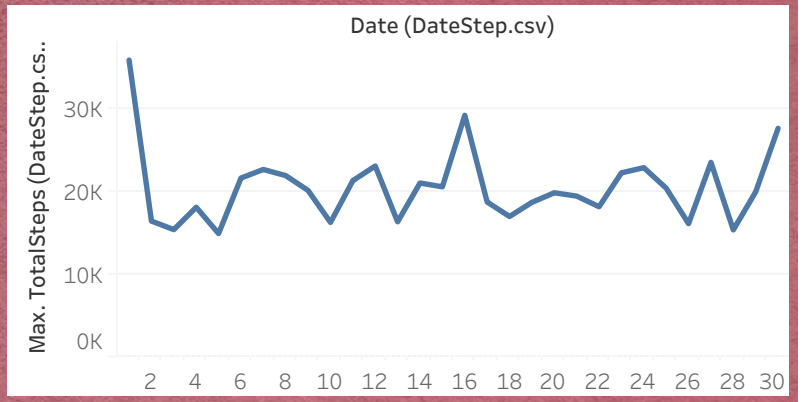
2) For weekdays, there is more activity on Wednesdays compared to the rest of the days.

3) For the day of the month, there is more activity on the 1st, 16th, and 30th of the month with 1st being the highest activity.

Day of Max Activity



Date of Max Activity



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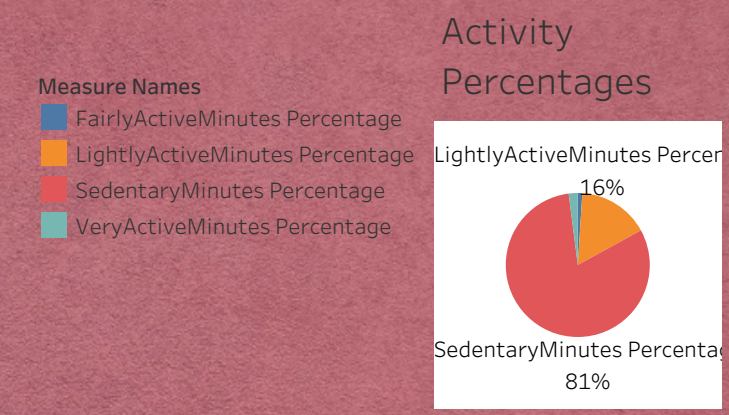
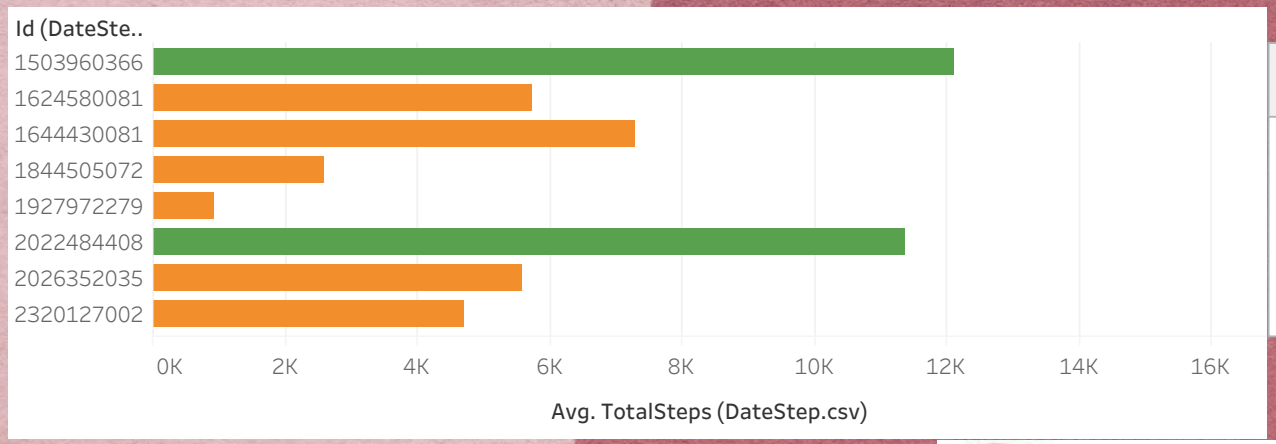
Insights: Activity Breakdown

1) Out of the 33 users, only 7 users have an average step of more than 10K

2) Out of the duration taken for activities, 81% are sedentary, 16% are lightly active and only 2% are very active.





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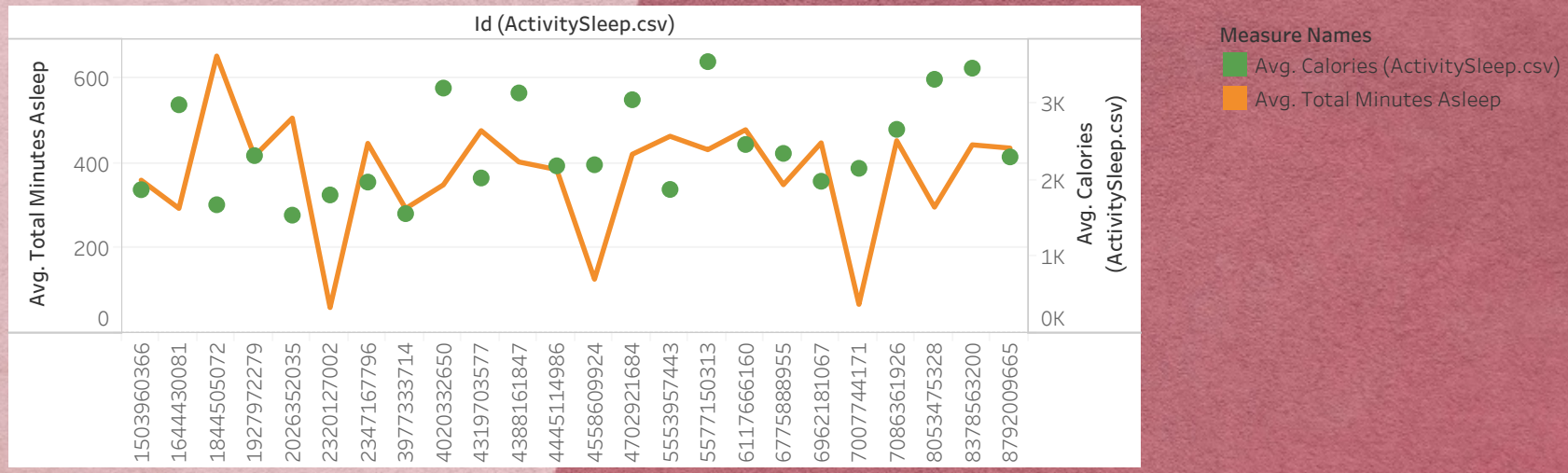
Insights: Sleep VS Calories

1) There is no relation between the average amount of sleep and the amount of calories burnt.

Sleep Vs Calories



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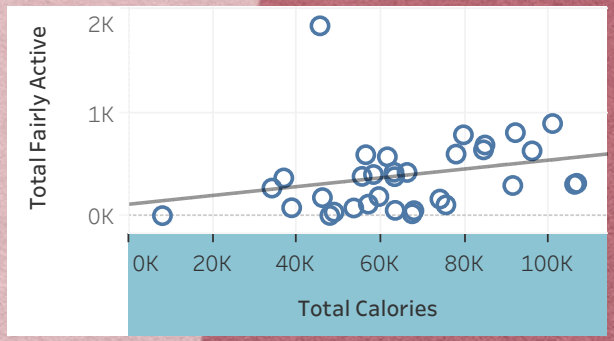
Insights: Activity VS Calories

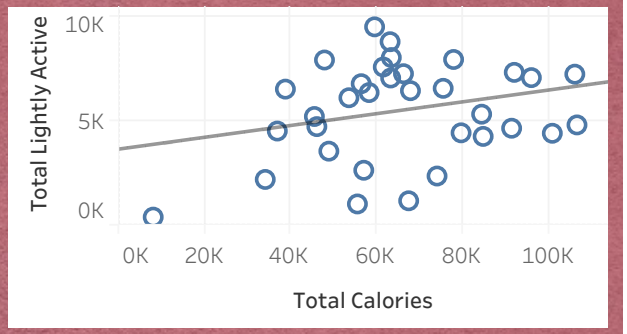
1) There is a trend in activity level in relation to calories burned. Being Very active burns more calories compared to being sedentary.

2) More calories are burned the longer time taken during an activity despite the activity level.

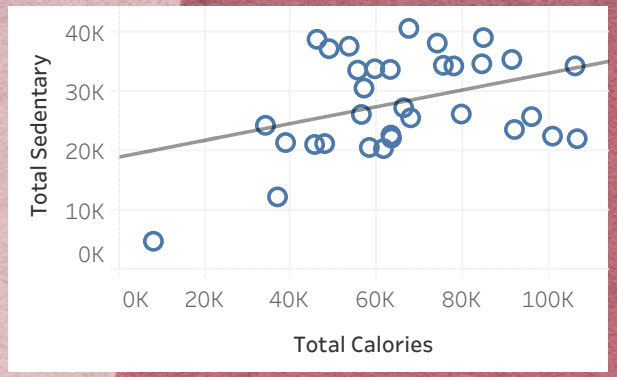
Fairly Active Vs Calories Burned



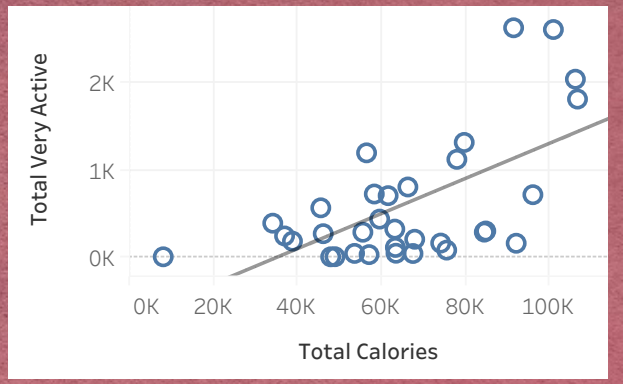
Lightly Active Vs Calories Burned



SedentaryVs Calories Burned



Very Active Vs Calories Burned



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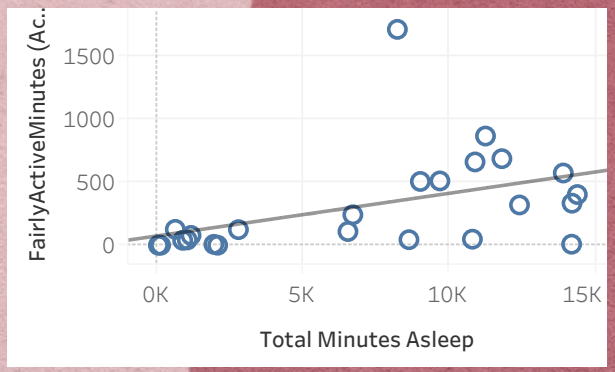
Insights: Activity VS Sleep

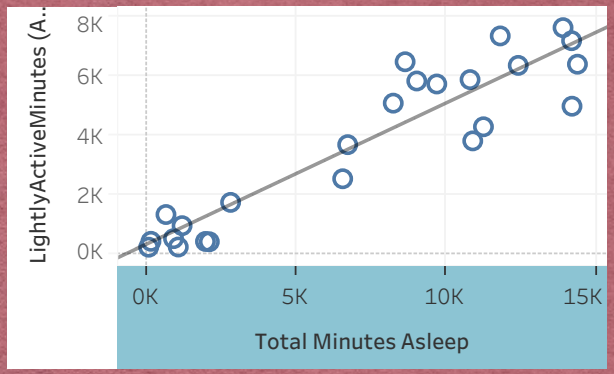
1) There is a trend between activity level and length of sleep. The higher the activity, the more length of sleep.

2) The less time is taken during an activity, the less amount of sleep despite activity level.

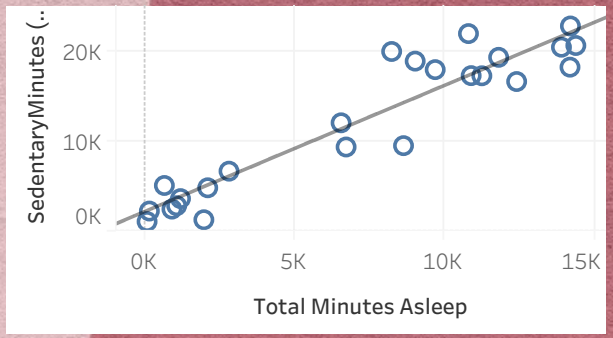
Fairly Active Vs Sleep



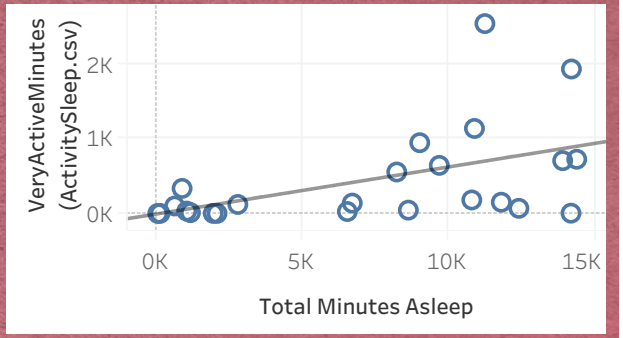
Lightly Active Vs Sleep



Sedentary Vs Sleep



Very Active Vs Sleep



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Conclusion and Recommendations

In Conclusion,

We do not have sufficient to inform the marketing strategy but from the insights, we can summarise that 8% of data are not tracked and are inactive. This could be due to low battery life or the device being turned off.

24 out of 33 users have sleeping data and only 8 logged their weight details. This proves that tracking daily activity is more important to the users compared to tracking sleeping or weight.

Recommendations:
Conduct a further study with the below-detailed data:
1) Demographics, e.g. age, gender, occupation, etc.
2) Larger user base
3) Include Activity type, e.g. running, gym, cycling, etc.
4) More recent data over a longer period

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Resources and Notes

1) Data Cleaning and Processing are done by SQL language using SQLlite, and TablePlus (trial) as a data viewer.

2) Visualizations are done by Tableau Public.

3) FitBit Fitness Tracker Data, a public dataset available for download from Kaggle.

4) Images are taken from Unsplash.

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