



FITBIT FITNESS TRACKER

Case Study Using EXCEL

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CASE STUDY

Project **BACKGROUND**



THE CHALLENGE

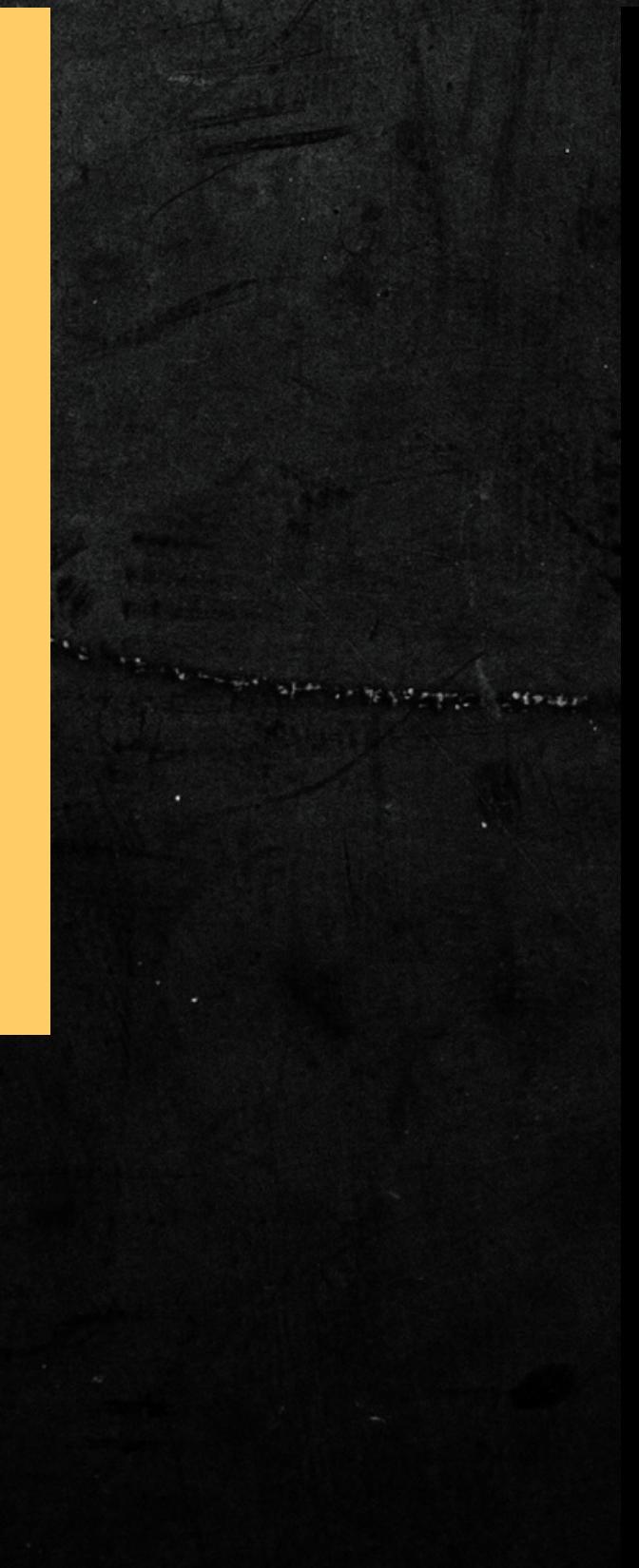
- I see that the majority of people around me use smartwatches, especially during exercise. This inspired me to embark on a small research project on the usage of smartwatches using existing Google data. Eventually, I came across the FITBIT database to explore its data.
- Use your skills to produce insights about Fitbit Fitness Tracker product



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ANALYZING TOOL

The Dataset project was obtained from Kaggle. The can be downloaded [here](#). And for analyze and visualise data just using excel .



CASE STUDY

Data ANALYSIS



DATA CLEANING AND MANIPULATION

1. Observe Daily Activity FITBIT Table

<i><u>ID</u></i>	<i><u>ActivityDate</u></i>	<i><u>TotalSteps</u></i>	<i><u>TotalDistance</u></i>	<i><u>TrackerDistance</u></i>	<i><u>LoggedActivitiesDistance</u></i>	<i><u>VeryActiveDistance</u></i>	<i><u>ModeratelyActiveDistance</u></i>
1503960366	04/12/16	13162	08.05	08.05	0	187.999.999.523.163	0.550000011920929
1503960366	4/13/2016	10735	696.999.979.019.165	696.999.979.019.165	0	157.000.005.245.209	0.689999997615814
1503960366	4/14/2016	10460	673.999.977.111.816	673.999.977.111.816	0	244.000.005.722.046	0.400000005960464
1503960366	4/15/2016	9762	628.000.020.980.835	628.000.020.980.835	0	214.000.010.490.417	125.999.999.046.326
1503960366	4/16/2016	12669	815.999.984.741.211	815.999.984.741.211	0	271.000.003.814.697	0.409999996423721
1503960366	4/17/2016	9705	648.000.001.907.349	648.000.001.907.349	0	319.000.005.722.046	0.779999971389771
1503960366	4/18/2016	13019	859.000.015.258.789	859.000.015.258.789	0	03.25	0.639999985694885
1503960366	4/19/2016	15506	988.000.011.444.092	988.000.011.444.092	0	352.999.997.138.977	132.000.005.245.209
1503960366	4/20/2016	10544	667.999.982.833.862	667.999.982.833.862	0	196.000.003.814.697	0.479999989271164
1503960366	4/21/2016	9819	634.000.015.258.789	634.000.015.258.789	0	13.400.000.333.786	0.349999994039536
1503960366	4/22/2016	12764	813.000.011.444.092	813.000.011.444.092	0	476.000.022.888.184	112.000.000.476.837
1503960366	4/23/2016	14371	903.999.996.185.303	903.999.996.185.303	0	280.999.994.277.954	0.870000004768372
1503960366	4/24/2016	10039	640.999.984.741.211	640.999.984.741.211	0	292.000.007.629.395	0.209999993443489
1503960366	4/25/2016	15355	980.000.019.073.486	980.000.019.073.486	0	528.999.996.185.303	0.569999992847443
1503960366	4/26/2016	13755	878.999.996.185.303	878.999.996.185.303	0	232.999.992.370.605	0.920000016689301
1503960366	4/27/2016	18134	12.210.000.038.147	12.210.000.038.147	0	640.000.009.536.743	0.409999996423721
1503960366	4/28/2016	13154	852.999.973.297.119	852.999.973.297.119	0	353.999.996.185.303	11.599.999.666.214
1503960366	4/29/2016	11181	715.000.009.536.743	715.000.009.536.743	0	105.999.994.277.954	00.05

DATA CLEANING AND MANIPULATION

2. Check Missing Value Table

N	O	P	Q	R	S
ut	LightlyActiveMinutes	SedentaryMinutes	Calories	CHECK NULL	NO
328	728	1985			
217	776	1797	UNIQUE ID	33	
181	1218	1776			
209	726	1745			

"This step indicates that there are no missing values, and the total samples used for Fitbit (unique ID) amount to 33 users."

DATA CLEANING AND MANIPULATION

3. Create New Column day and define from Activity Date

	A	B	C	D	E
1	Id	ActivityDate	DaysOfWeek	TotalSteps	TotalDistance
2	1503960366	04/12/16	Sunday	13162	08.05
3	1503960366	4/13/2016	4/13/2016	10735	696.999.979.019.165
4	1503960366	4/14/2016	4/14/2016	10460	673.999.977.111.816
5	1503960366	4/15/2016	4/15/2016	9762	628.000.020.980.835
6	1503960366	4/16/2016	4/16/2016	12669	815.999.984.741.211
7	1503960366	4/17/2016	4/17/2016	9705	648.000.001.907.349
8	1503960366	4/18/2016	4/18/2016	13019	859.000.015.258.789
9	1503960366	4/19/2016	4/19/2016	15506	988.000.011.444.092
10	1503960366	4/20/2016	4/20/2016	10544	667.999.982.833.862
11	1503960366	4/21/2016	4/21/2016	9819	634.000.015.258.789
12	1503960366	4/22/2016	4/22/2016	12764	813.000.011.444.092
13	1503960366	4/23/2016	4/23/2016	14371	903.999.996.185.303
14	1503960366	4/24/2016	4/24/2016	10039	640.999.984.741.211
15	1503960366	4/25/2016	4/25/2016	15355	980.000.019.073.486
16	1503960366	4/26/2016	4/26/2016	13755	878.999.996.185.303
17	1503960366	4/27/2016	4/27/2016	18134	12.210.000.038.147
18	1503960366	4/28/2016	4/28/2016	13154	852.999.973.297.119
19	1503960366	4/29/2016	4/29/2016	11181	715.000.009.536.743
20	1503960366	4/30/2016	4/30/2016	14673	09.25
21	1503960366	05/01/16	Tuesday	10602	680.999.994.277.954

"But we see there is a formatting issue in the activity date that is causing some days in the column not to be indexed, so we need to fix the ActivityDate column."

DATA CLEANING AND MANIPULATION

4. Fix Problem Activity Date Column

This screen lets you select each column and set the Data Format.

Column data format

General

Text

Date: ✓ MDY

Do not convert this column (Skip)

Destinations

YMD

MYD

DYM

Preview

ActivityDate

04/12/2016

4/12/2016

4/13/2016

4/14/2016

4/15/2016

4/16/2016

4/17/2016

4/18/2016

4/19/2016

4/20/2016

4/21/2016

4/22/2016

4/23/2016

4/24/2016

4/25/2016

4/26/2016

4/27/2016

4/28/2016

4/29/2016

4/30/2016

05/01/16

05/02/16

05/03/16

05/04/16

05/05/16

05/06/16

05/07/16

05/08/16

Cancel < Back Next > Finish

Id	ActivityDate	DaysOfWeek	TotalSteps	TotalDistance	TrackerDistance
1503960366	12/04/16	Tuesday	13162	08.05	08.05
1503960366	13/04/16	Wednesday	10735	696.999.979.019.165	696.999.979.019.165
1503960366	14/04/16	Thursday	10460	673.999.977.111.816	673.999.977.111.816
1503960366	15/04/16	Friday	9762	628.000.020.980.835	628.000.020.980.835
1503960366	16/04/16	Saturday	12669	815.999.984.741.211	815.999.984.741.211
1503960366	17/04/16	Sunday	9705	648.000.001.907.349	648.000.001.907.349
1503960366	18/04/16	Monday	13019	859.000.015.258.789	859.000.015.258.789
1503960366	19/04/16	Tuesday	15506	988.000.011.444.092	988.000.011.444.092
1503960366	20/04/16	Wednesday	10544	667.999.982.833.862	667.999.982.833.862
1503960366	21/04/16	Thursday	9819	634.000.015.258.789	634.000.015.258.789
1503960366	22/04/16	Friday	12764	813.000.011.444.092	813.000.011.444.092
1503960366	23/04/16	Saturday	14371	903.999.996.185.303	903.999.996.185.303
1503960366	24/04/16	Sunday	10039	640.999.984.741.211	640.999.984.741.211
1503960366	25/04/16	Monday	15355	980.000.019.073.486	980.000.019.073.486
1503960366	26/04/16	Tuesday	13755	878.999.996.185.303	878.999.996.185.303
1503960366	27/04/16	Wednesday	18134	12.210.000.038.147	12.210.000.038.147
1503960366	28/04/16	Thursday	13154	852.999.973.297.119	852.999.973.297.119
1503960366	29/04/16	Friday	11181	715.000.009.536.743	715.000.009.536.743
1503960366	30/04/16	Saturday	14673	09.25	09.25
1503960366	01/05/16	Sunday	10602	680.999.994.277.954	680.999.994.277.954
1503960366	02/05/16	Monday	14727	971.000.003.814.697	971.000.003.814.697
1503960366	03/05/16	Tuesday	15103	965.999.984.741.211	965.999.984.741.211
1503960366	04/05/16	Wednesday	11100	715.000.009.536.743	715.000.009.536.743
1503960366	05/05/16	Thursday	14070	889.999.961.853.027	889.999.961.853.027
1503960366	06/05/16	Sunday	12159	802.999.973.297.119	802.999.973.297.119
1503960366	07/05/16	Tuesday	11992	771.000.003.814.697	771.000.003.814.697
1503960366	08/05/16	Wednesday	10060	657.999.992.370.605	657.999.992.370.605

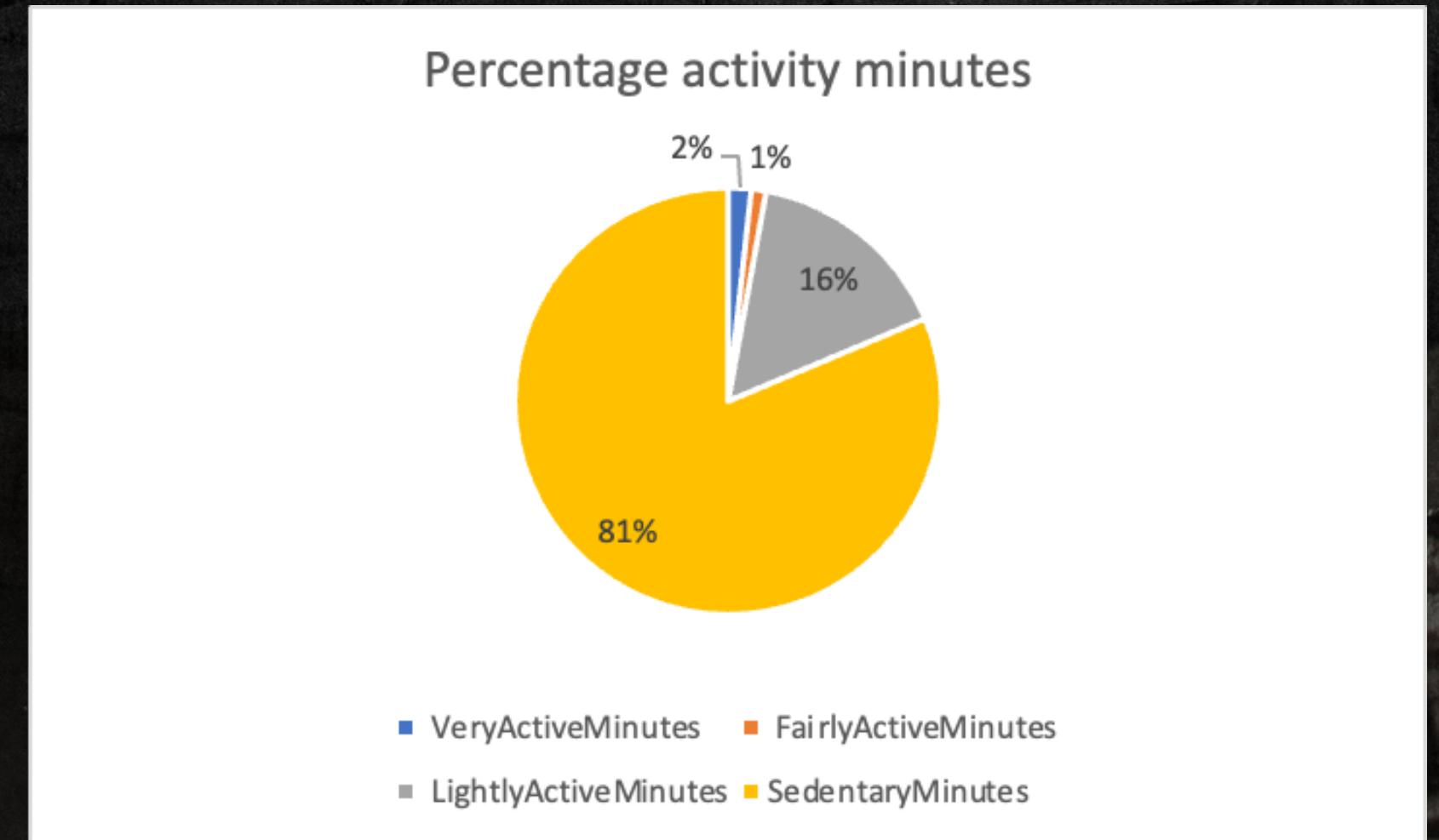
The issue has been fixed, now ready to be analyzed.

ANALYZE

I would like to obtain insights into the daily usage of FITBIT per user throughout a week.

Id	(All)						
	Row Labels	Average of TotalSteps	Average of Calories	Sum of VeryActiveMinutes	Sum of FairlyActiveMinutes	Sum of LightlyActiveMinutes	Sum of SedentaryMinutes
Sunday	6933,231405	2263		2418	1758	21051	119821
Monday	7780,866667	2324,208333		2773	1680	23047	123353
Tuesday	8125,006579	2356,013158		3489	2179	29996	153119
Wednesday	7559,373333	2302,62		3117	1965	28478	148422
Thursday	7405,836735	2199,571429		2853	1758	27257	141413
Friday	7448,230159	2331,785714		2527	1526	25729	126039
Saturday	8152,975806	2354,967742		2718	1885	25686	119571
Grand Total	7637,910638	2303,609574		19895	12751	181244	931738

ANALYZE



From the above pie chart, it can be observed that Sedentary minutes take the largest slice at 81.3%, followed by Lightly Active minutes. This indicates that users utilize FitBit to track daily activities such as daily commuting and inactive movements.

CASE STUDY

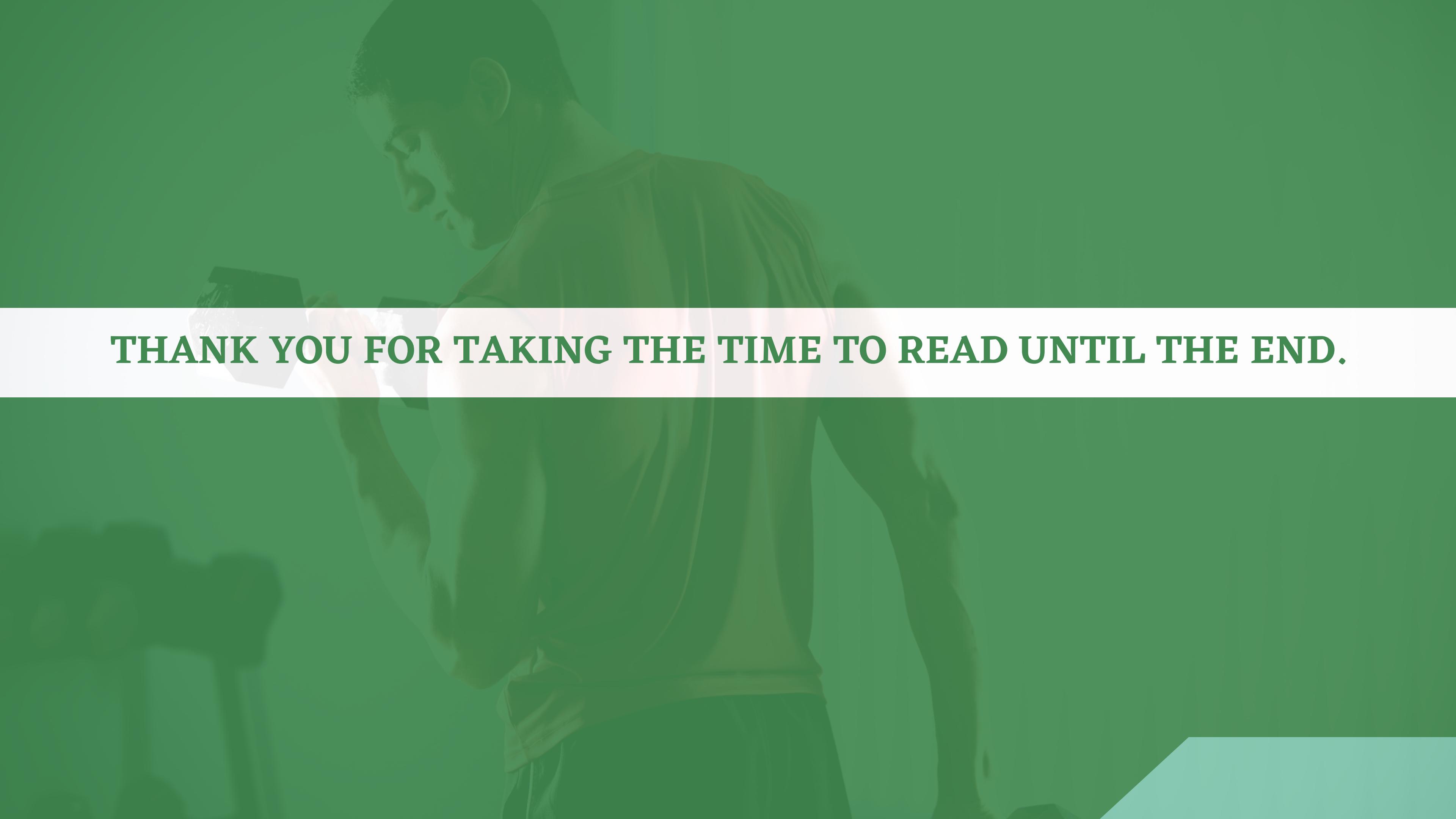
Data **RECAP**



Key Findings :

- The highest total steps among 33 Fitbit users occurred on Saturday.
- Users expended the highest calories on Tuesday.
- The majority of FITBIT users remain sedentary, with an average of 931,738 minutes per week. So, I feel the manufacturers need to produce smartwatches with longer battery life, haha."



A man in a dark suit jacket and light-colored shirt is looking down at a white tablet device he is holding in his hands. He is positioned in the upper left corner of the frame, with a blurred background.

THANK YOU FOR TAKING THE TIME TO READ UNTIL THE END.