Reference information for dashboard design

The goal of this document is to give information and help create visualizations for end-users. The below reference material is based on the work of the Project 3 data analysis team and includes data descriptions and examples of visualisations related to key statistics and insights of sport performance monitored by activity tracker devices.

Data description

The used datasets have various columns/fields related to the tracked sport activities. The below summary is aimed to help understand the various types of data collected during performing sports activities and could be potentially used for presenting charts and metrics designed for monitoring sport activities. Fields are listed along with their short descriptions and data formats.

Field name	Field description	Field type
Activity Date	date of the tracked sport activity session	datetime
Activity ID	id number of the tracked sport activity session	number
Activity Type	type of sport activity	character
Athlete Weight	weight of the person performing the tracked sports activity	number
Average Cadence	calculated average number of pedal revolutions per minute	number
Average Grade	average grade climbed	number
Average Heart Rate	average heart rate measured	number
Average Moving Speed	average speed calculated while moving performance is recorded	number
Average Speed	average speed calculated during the activity session including resting time	number
Average Temperature	average temperature measured	number
Average Watts	calculated average energy output	number
Begin Latitude	geographical latitude coordinate data when starting the activity tracking	number
Begin Longitude	geographical longitude coordinate data when starting the activity tracking	number
Begin Timestamp	date and time of the beginning of the sport activity	datetime
Bike Weight	weight of the bicycle used during a cycling session	number
Calories	calculated total calories burnt	number
Condition	recorded weather condition	character
Device	tracking device name/identifier	character
Distance	total distance accumulated during the activity	number
Duration/Elapsed Time	duration of time tracked by the activity monitor including stops, rests	duration
Elevation Gain	total amount climbed	number
Elevation Loss	total amount descended	number
End Latitude	geographical latitude coordinate data for ending the activity tracking	number
End Longitude	geographical longitude coordinate data for ending the activity tracking	number
End Timestamp	date and time of the end of the sport activity	datetime
FTP	Functional Threshold Power, the maximum amount of power maintained for the specified period	number
Grade Adjusted Distance	calculated distance travelled adjusted by grade climbed	number

Humidity	measured humidity	number
Max. Cadence	calculated maximum number of pedal revolutions per minute	number
Max. Grade	maximum grade climbed	number
Max. Elevation/Elevation High	recorded maximum height attained during the activity	number
Max. Heart Rate	maximum heart rate measured	number
Max. Speed	maximum speed achieved	number
Min. Elevation/Elevation Low	recorded lowest height attained	number
Moving Duration/Moving Time	duration of time while moving performance is recorded	number
Power Count	count of power measurements during the activity	number
Power Curve	best average power for given time periods	number
Rainfall	recorded presence of rainfall	character
Temperature	measured temperature	number
Total Work	total energy output calculated	number
Weighted Average Power	average power output calculated based on activity factors (i.e. grade, terrain, etc)	number
Wind Direction	measured wind direction	character
Wind Speed	measured wind speed	number
60 Day Maximum Power 1.0 hr	maximum power calculated for the measured period in 60 days	number
60 Day Maximum Power 1.0min	maximum power calculated for the measured period in 60 days	number
60 Day Maximum Power 1.5 hr	maximum power calculated for the measured period in 60 days	number
60 Day Maximum Power 10.0min	maximum power calculated for the measured period in 60 days	number
60 Day Maximum Power 10s	maximum power calculated for the measured period in 60 days	number
60 Day Maximum Power 2.0 hr	maximum power calculated for the measured period in 60 days	number
60 Day Maximum Power 20.0min	maximum power calculated for the measured period in 60 days	number
60 Day Maximum Power 30.0min	maximum power calculated for the measured period in 60 days	number
60 Day Maximum Power 30s	maximum power calculated for the measured period in 60 days	number
60 Day Maximum Power 5.0min	maximum power calculated for the measured period in 60 days	number
60 Day Maximum Power 5s	maximum power calculated for the measured period in 60 days	number

Example visualisations for presenting sport performance data

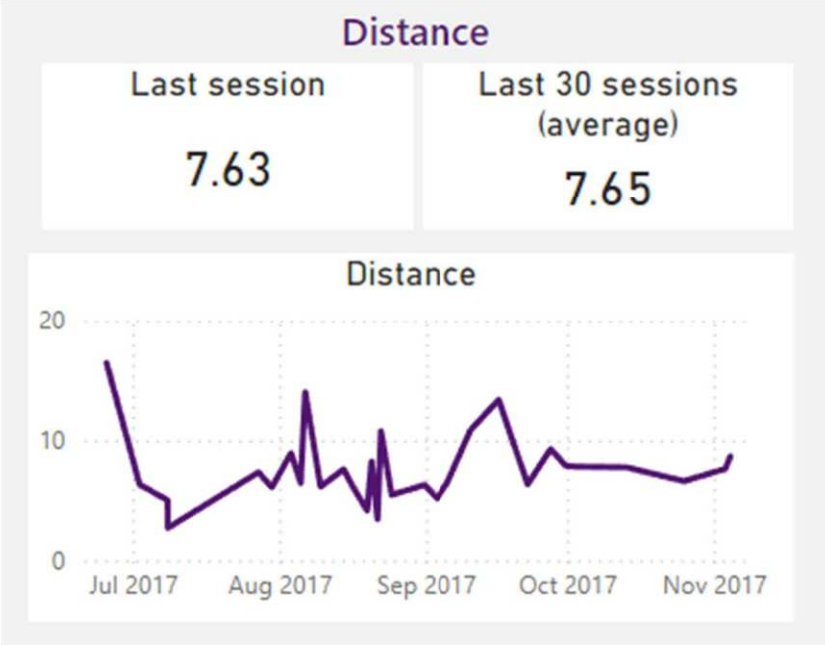
The goal of this section is to illustrate various interpretations of sport performance data in the forms of visuals. Several sport activity metrics are outlined and relevant visualizations (such as information cards displaying calculated values or charts for presenting trends) are shown as suggested dashboard capabilities to inform end-users.

Distance:

- shows the distance accumulated during the sport activity

- card visualization and/or bar chart visualization for current/last distance and average of the last 30 sessions

- line chart visualization for historical trend



Calories burnt:

- shows the calories burnt during the sport activity

- card visualization and/or bar chart visualization for current/last burnt calories and average of the last 30 activity sessions

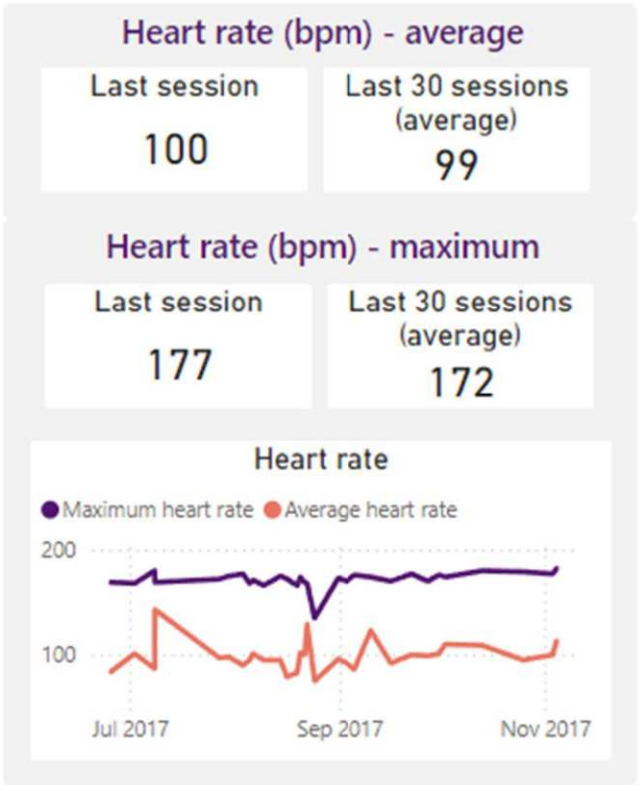
- line visualization for historical trend to track past calories burnt

Heart rate:

- information on heart rate tracking

- card visualization and/or bar chart visualization for current/last heart rate and average of last 30 sessions

- line visualization for historical trend comparing average and maximum heart rate levels



Speed:

- visualisation for providing data summary on average moving speed

- card visualization and/or bar chart visualization for current/last average speed and average of last 30 sessions

- line visualization for comparing average and average-maximum speed