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Inhoud

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# Creating a DiagrammeR graph with **enriched\_process\_map**

The first step in the visualization process is the creation of a DiagrammeR graph from a BupaR event log that contains all the attributes that you will need later on. To do this we create an aggregation instruction list that describes the different aggregate columns we to create. If aggregationInstructions is an empty list only the process model is generated as graph.

# Three aggregations exist at the moment:

## enriched\_frequency

Example: enriched\_frequency(value = "absolute", columnName = "xxx")

Counts the number of instances per node and per edge.

* Value: can be “absolute” or “relative”
* columnName: defines the column name for the aggregate

## enriched\_performance

Example: enriched\_performance(FUN = mean, columnName = "xxx")

Calculates aggregates of performance (throughput time p per node and per edge)

* FUN: an aggregation function
* columnName: defines the column name for the aggregate

# enriched\_column\_aggregate

Example: enriched\_column\_aggregate( FUN = mean, columnNameIn = "RandomWaarde1", columnNameOut = "xxx1", edgeOperation = "to")

Calculates aggregates over an input column per node and per edge.

* FUN: an aggregation function
* columnNameIn: the colum name in the BupaR event log to be aggregated
* columnNameOut: the resulting column name in the DiagrammeR graph
* edgeOperation: defines how the node values are used to create an edge value that is then aggregated using FUN. Optons are:
  + mean: take the mean of the start and the end node
  + min: take the minimum value of start and end node
  + max: take the maximum value of start and end node
  + from: take the value of the start node
  + to: take the value of the end node

## Example of building the list

aggregationInst = list(enriched\_column\_aggregate( FUN = mean, columnNameIn = "RandomWaarde1", columnNameOut = "xxx1", edgeOperation = "to"),enriched\_column\_aggregate( FUN = mean, columnNameIn = "RandomWaarde2", columnNameOut = "xxx2", edgeOperation = "from"),enriched\_performance(FUN = mean, columnName = "perf")

)

# enriched\_process\_map

map<-enriched\_process\_map(eventlog = eventLog.Base, aggregationInstructions = aggregationInst )

* eventlog: BupaR eventlog
* aggregationInstructions: list of aggregation instructions

# Four visualization enhancements exist at the moment

## color\_activities

Example: color\_activities( column = "xxx2",

colorCaption = "black",

colorUpperbound = "gray50",

colorLowerbound = "gray100")

* column: the column to be used as base for coloring the model
* colorCaprion: the color to be used for the caption
* colorUpperbound: the color to be used where the highest values occur in column
* colorLowerbound: the color to be used where the lowest values occur in column

## label\_activities

Example: label\_activities(columns =c("activity\_name","xxx2"))

* columns: list of columns to be used in the caption

## color\_transitions

Example: color\_transitions(column = "xxx2",

colorCaption = "black",

colorUpperbound = "gray0",

colorLowerbound = "gray50")

* column: the column to be used as base for coloring the model
* colorCaprion: the color to be used for the caption
* colorUpperbound: the color to be used where the highest values occur in column
* colorLowerbound: the color to be used where the lowest values occur in column

## label\_transitions

Example: label\_transitions(columns = c("xxx2"))

* columns: list of columns to be used in the caption

# Exampe total

aggregationInst = list(

enriched\_column\_aggregate(

FUN = mean, columnNameIn = "RandomWaarde1",

columnNameOut = "xxx1", edgeOperation = "to"),

enriched\_column\_aggregate(

FUN = mean,

columnNameIn = "RandomWaarde2",

columnNameOut = "xxx2",

edgeOperation = "from"),

enriched\_performance(FUN = mean, columnName = "perf")

)

map<-enriched\_process\_map(eventLog.Base, aggregationInstructions = aggregationInst )

map <- map %>%

color\_activities( column = "xxx2",

colorCaption = "black",

colorUpperbound = "lightblue",

colorLowerbound = "green1") %>%

label\_activities(columns =c("activity\_name","xxx1","xxx2")) %>%

color\_transitions(column = "xxx2",

colorCaption = "black",

colorUpperbound = "deeppink",

colorLowerbound = "darkgreen") %>%

label\_transitions(columns = c("xxx1","xxx2"))

map %>% render\_graph()