User Manual

Label Refinement by Behavioral Similarity - WEBSITENAME

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1 Overview

Many processes involve carrying out an action multiple times. An example for this would be an online shop in which you first have to pay a registration fee before ordering an item and paying it. This process contains the event “payment” twice, but in different contexts, so that the payments are actually two different tasks. In the context of analysing processes, the event logs usually only contain the event names, so that the “payment” actions would be treated as the same task and loops would be induced in the resulting models. However, these loops do not match the actual process, which is the issue this project addresses.
Using the webservice we provide, imprecise logs can be refined based on the structural contexts of the events. The refinement is executed by relabeling the original log and no filtering is applied to the log. Moreover, it is possible for the user to interactively change the thresholds used by the algorithm. The algorithm we use is based on [1].
In the following chapters, the usage of this web service will be explained.

2 The Start Page

The start page of our web service consists of different parts, which will be explained in the following subsections. Namely, we have the parts ”Upload Event Log for refining” (1), ”Customize” (2), ”Last uploaded files” (3), ”Last refined files” (4) and ”Candidate Labels” (5), which can be viewed in Figure 1.

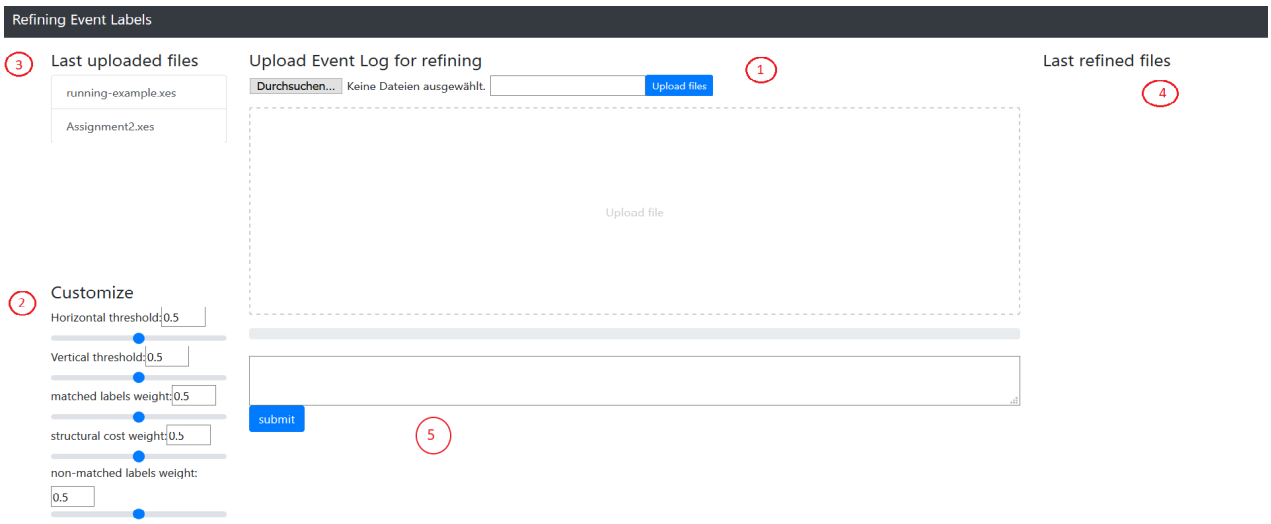
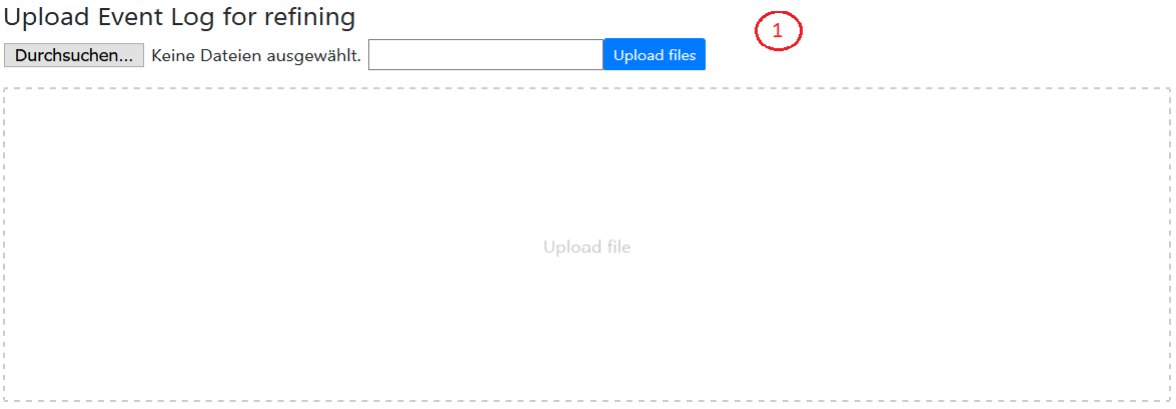


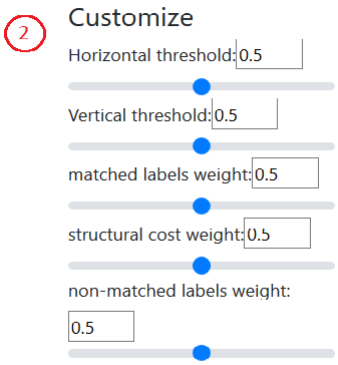
Figure 1: Overview of the start page with the different parts marked in red numbers

2.1 Upload Event Log for refining



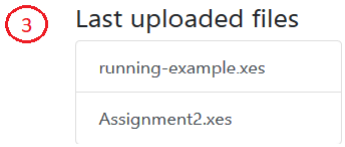
In this part of the start page, an event log can be uploaded. In order to do so, the user can either directly type in a path to a file and press the "Upload files" button, he can use the "search" button to search local files on your pc or drag a file into the big box with "upload file" written in it. Afterwards, he has to press the "Upload files" button in order to upload the selected file.
In order to successfully upload a file, this file has to be in XES or csv format, otherwise an error will occur.

2.2 Customize



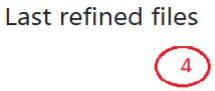
In this section, the user can adjust the thresholds in order to fit his needs. To do so, he can either adjust them using the provided slide control or by typing them manually. The thresholds the user can adjust are the horizontal threshold, the vertical threshold, the weight structure, the weight for matched pairs of actions and the weight for not matched pairs of actions. All of the thresholds and weights have to be in the range from 0 to 1.

2.3 Last uploaded files



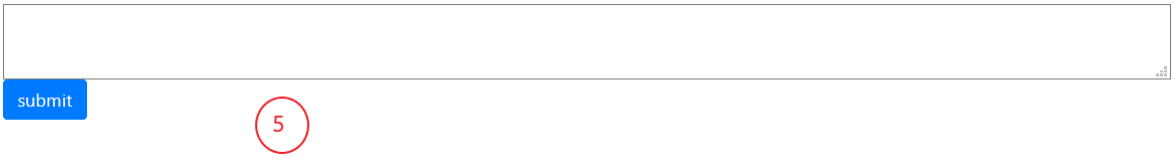
In this part of the start page, the user can see up to five of his last uploaded files. These files are not refined yet. By clicking on them, he can select them and apply the refinement algorithm on them again.

2.4 Last refined files



In this part of the start page, the user can see up to five of his last refined files. These files are already refined. By clicking on them, the user can download them.

2.5 Candidate Labels



In this section, the user provides the algorithm with the candidate labels that should be refined. To do so, he enters the label of the events into the white box. The format should be: label 1, label 2, label 3, ... After entering the candidate labels, the user can click on the "submit" button, so that the refinement algorithm will be started using the current thresholds, the chosen file and the provided candidate labels.

References

[1] Lu, Xixi, et al. "Handling duplicated tasks in process discovery by refining event labels." International Conference on Business Process Management. Springer, Cham, 2016.

[2] La Rosa M., Loos P., Pastor O. (eds) Business Process Management, BPM 2016, Lecture Notes in Computer Science, vol 9850. Springer, Cham, 2016.