

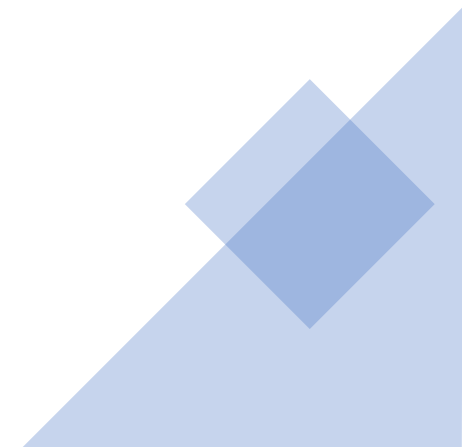


# Process Mining – Intermediate Presentation

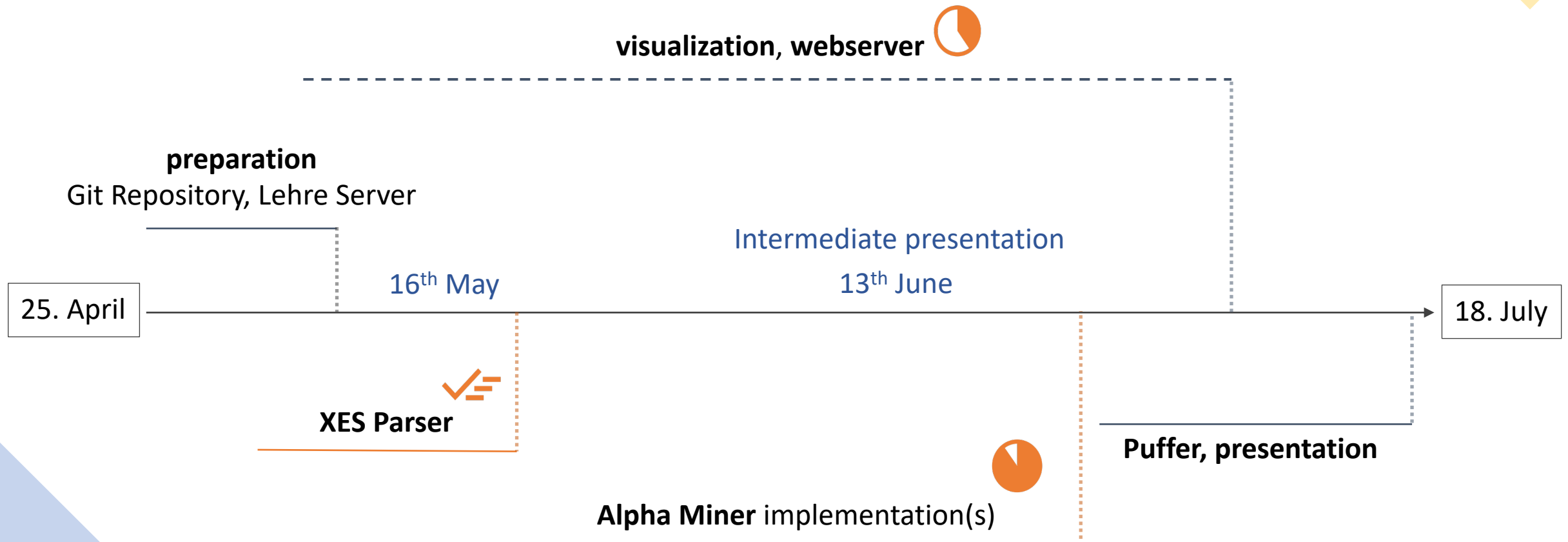
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13. Juni 2022

A cluster of overlapping yellow squares of various sizes in the top-left corner.

# Table of contents

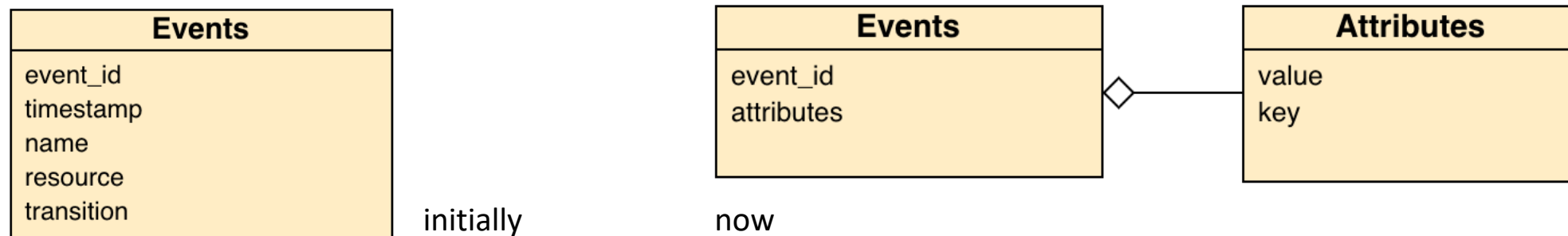
- Schedule
  - XES File handling
  - Alpha Miner
  - Frontend
  - Plans for next weeks
- 
- A cluster of overlapping blue squares of various sizes in the bottom-right corner.

# Schedule – current status



# XES Parser

- **Progress 95%:** Works for all files I have used, but no extensive testing yet
- Still using *ElementTree*



- Held rather simple, might get overdesigned later when I add more features  
→ statistics

# Alpha Miner

- **Progress:** 90% finished → edge cases, testing
  - L1, L5, L2 correct results
- **implementation:** slightly different than proposed in paper
  - No footprint matrix for step 4
  - Instead, based on list logic → at first seemed easier, but more complicated because of more edge cases
  - Step 4 and 5 as one

	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>
<i>a</i>	#	→	#	#	→	#
<i>b</i>	←	#	→	←		→
<i>c</i>	#	←	#	→		#
<i>d</i>	#	→	←	#		#
<i>e</i>	←				#	→
<i>f</i>	#	←	#	#	←	#

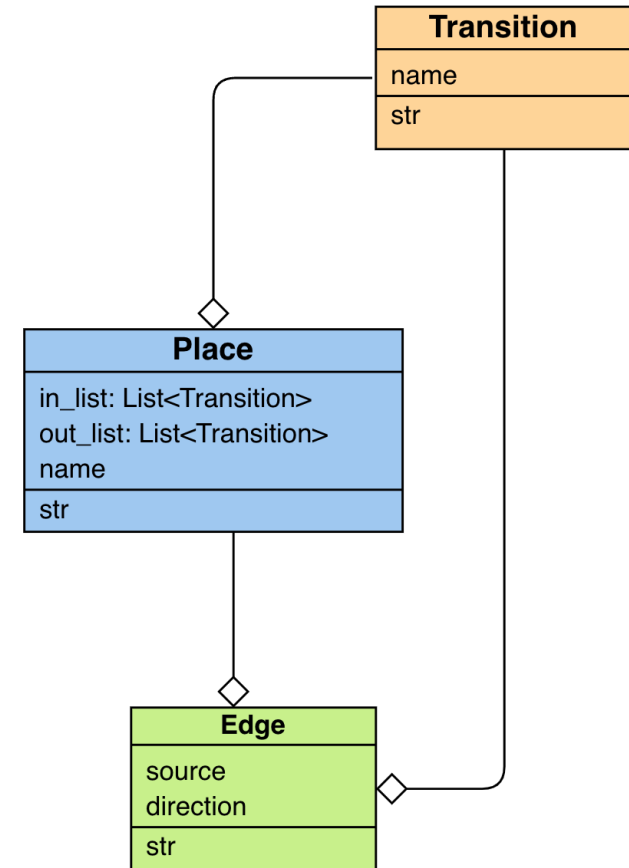
Footprint matrix

	<i>a</i> <sub>1</sub>	<i>a</i> <sub>2</sub>	...	<i>a</i> <sub><i>m</i></sub>	<i>b</i> <sub>1</sub>	<i>b</i> <sub>2</sub>	...	<i>b</i> <sub><i>n</i></sub>
<i>a</i> <sub>1</sub>	#	#	...	#	→	→	...	→
<i>a</i> <sub>2</sub>	#	#	...	#	→	→	...	→
...	...	...	...	...	...	...	...	...
<i>a</i> <sub><i>m</i></sub>	#	#	...	#	→	→	...	→
<i>b</i> <sub>1</sub>	←	←	...	←	#	#	...	#
<i>b</i> <sub>2</sub>	←	←	...	←	#	#	...	#
...	...	...	...	...	...	...	...	...
<i>b</i> <sub><i>n</i></sub>	←	←	...	←	#	#	...	#

Rearranged footprint

# Visualization – front end

- **Visualization** as static graph in .png file
  - “Nets”-plugin from SNAKES
- **Challenges:**
  - Correctly store names
  - easy access to output of step 7 (edges)
- **Own data structure** with classes Transition, Place, Edge
  - $(a, p(\{a\}, \{b, c\})) = e$
- **TODO:**
  - Petri net as static .png file
  - Link with web application



# Further schedule/plan

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- Testing
- Backend almost done → focus on frontend
  - Link with web application
  - Prettier
  - Statistics: Pandas
- keep it simple
  - Only alpha miner
  - No complicated functionalities

