

# VIS: OPTICS<sub>vis</sub>

## Milestone 2

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Group 11

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Fakultät für Informatik

# Agenda

## 1. Project

Definition

Data

Possible Visualizations

## 2. Mockups

Mockup 1

Mockup 2

Mockup 3

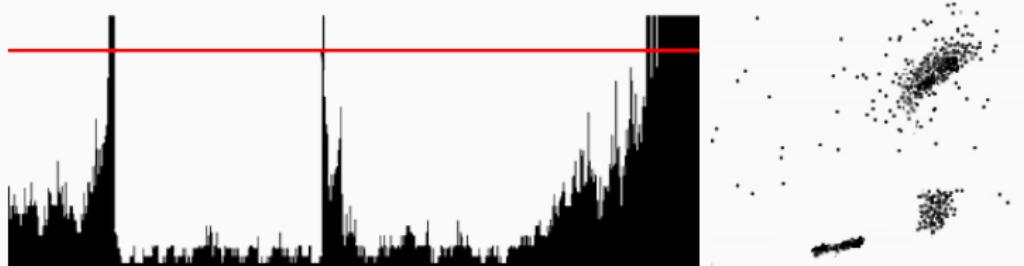
## 3. Future Work

# Project

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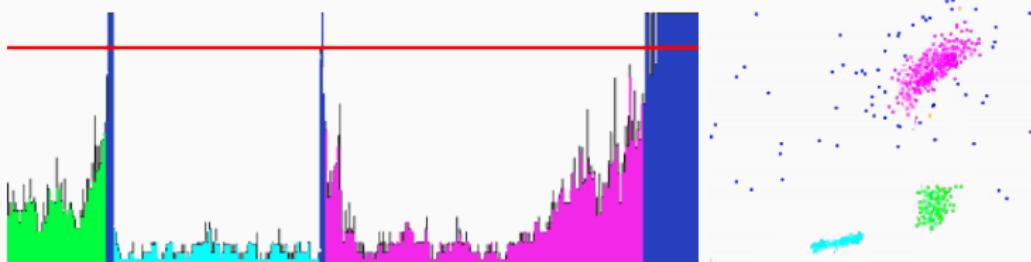
## Project definition

- OPTICS: density based clustering
  - algorithm jumps between points in some order
  - records jump distances
- output somewhat hard to read
  - point order
  - a list of numbers
- staple visualization method: the bar chart



# Project definition

- colorizing helps a lot
- but how does it *work*?
- how do these numbers relate to the data?  
→ OPTICS<sub>vis</sub>



## Our data

- threefold:
  1. points: real-valued and two dimensional (user input)
  2. algorithm output: point ordering and reachability distances
  3. metadata: to be collected as the algorithm runs
- visualize both the data set and the results
- give a rough overview of the steps the algorithm did

# Visualization possibilities (a selection)

## Density map

OPTICS is density-based, maybe the visualization should be too. Avoids clutter when many points present.

## Reachability distances

OPTICS and bar chart belong together.

## Heat map

Similarities of points mapped to both axes reveal hierarchical structures.

## Dendogram

Dendograms (or tree maps) can be used to visualize cluster hierarchies, but corresponding cutoffs need to be picked—but how?

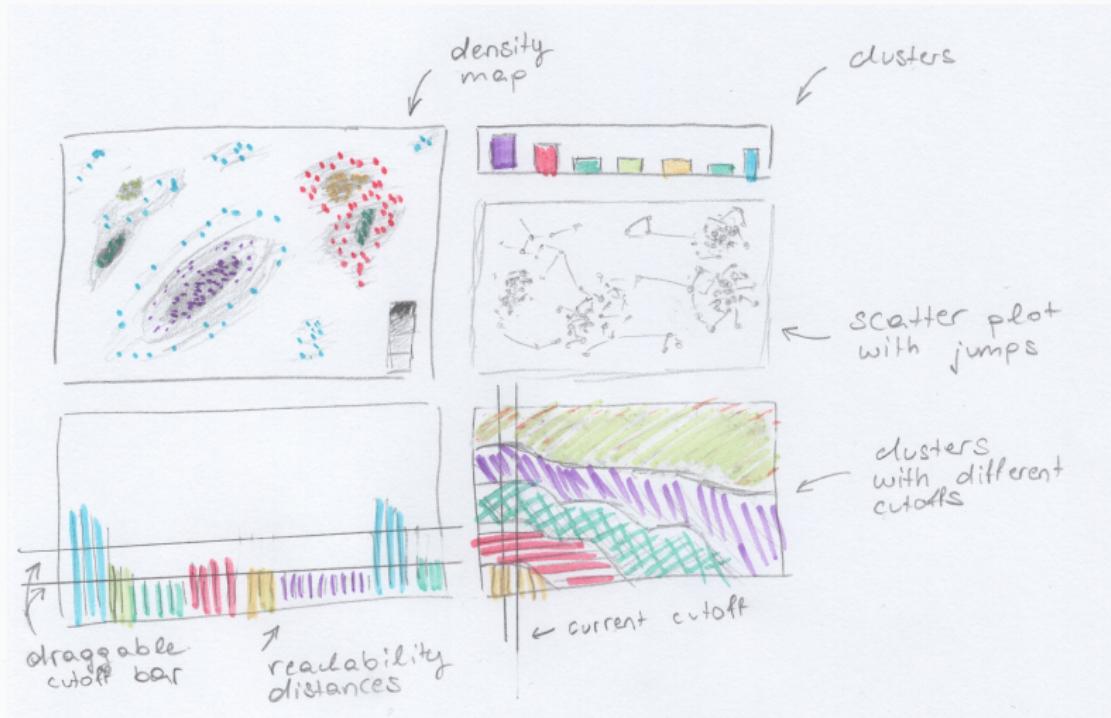
# Mockups

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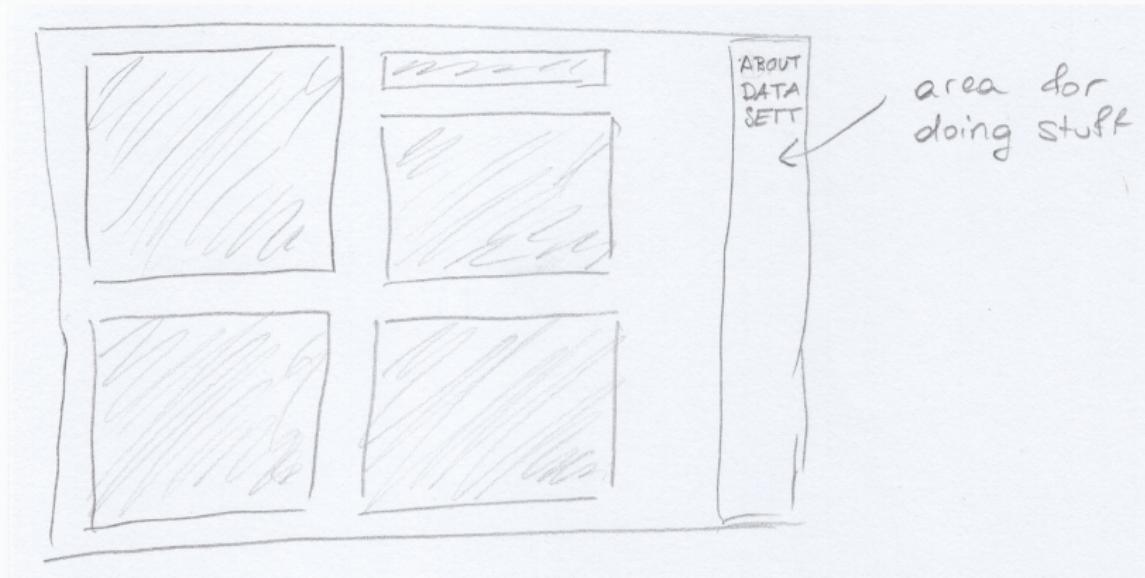
# Mockup 1

## Mockup 2

# Mockup 3



# Mockup 3



## Mockup 3: Analysis

- + density map is an apt way to display data for density clustering
- + scatter plot with jump paths shows how the algorithm works
- + area chart contrasts different cutoffs against each other, can help pick the best cutoff
- area chart is non-interactive
- area chart is probably close to useless on most data sets

## Future Work

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## Future Work