The background is a solid green color with various mathematical symbols scattered across it. These symbols include squares, circles, and plus signs, some of which are slightly larger and more prominent than others. The symbols are in a lighter shade of green, creating a subtle pattern.

Optimisation of
generalisation
re-calculation
using
partitioning

About myself

- Tomas Straupis, iTree
- Work as a GIS expert/project manager
- Hobby of creating maps
 - OpenStreetMap
 - National datasets

Generalisation

- Generalisation requires a lot of time (and resources)
- Higher quality generalisation requires even more time
- Data is updated more often therefore requiring constant re-generalisation

Time required for (re-)generalisation

Time (t) needed to perform each generalisation operation could be expressed as:

$$t = t_o * n_o$$

where:

t_o - average time required to generalise one object

n_o - number of objects being generalised

Identify changes

- Identify changes
 - Of objects being generalised
 - Objects having an impact on generalisation
 - Important attributes
- Ways to identify the changes
 - Compare old/new datasets
 - Collect information on dataset changes

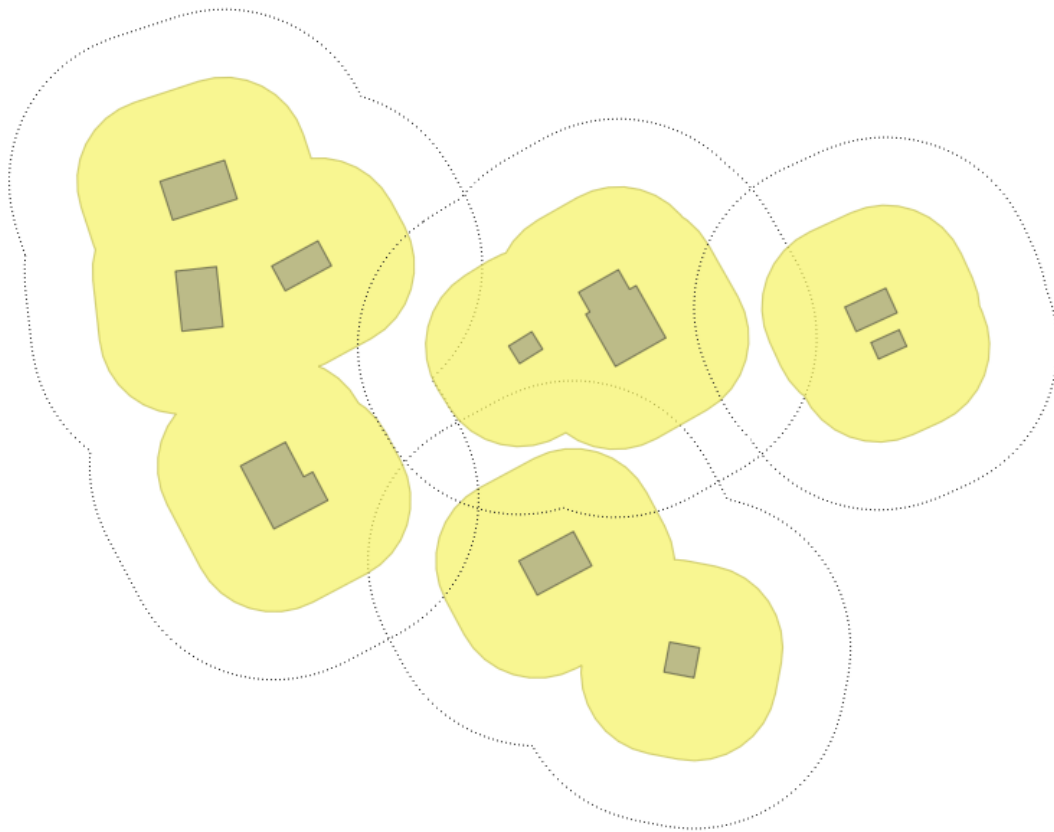
Generalisation impact

- Generalisation involves a number of neighbouring objects
- Changing one object can have an influence on how another object is generalised:
 - amalgamation
 - selection (removal)
 - typification (results much larger object)

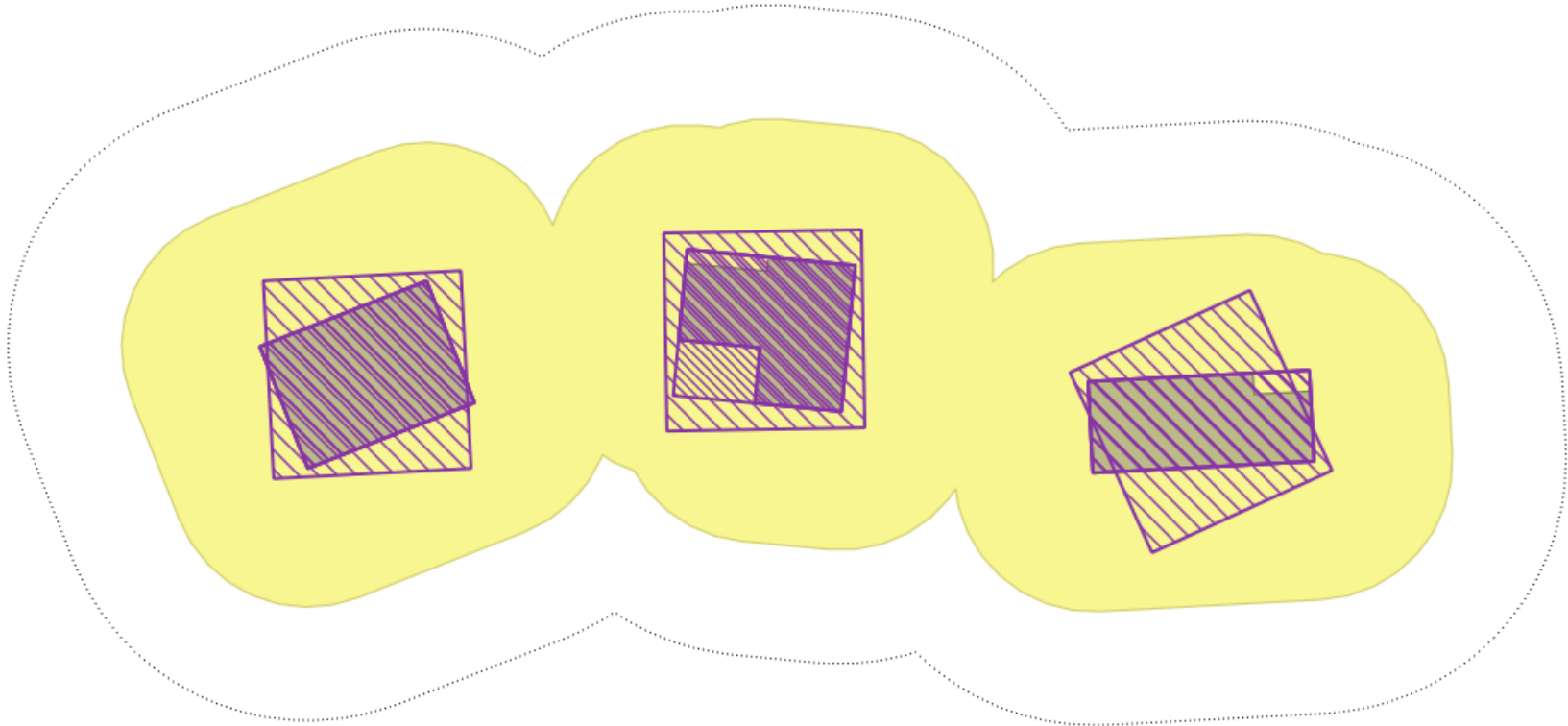
Generalisation impact



Clusters



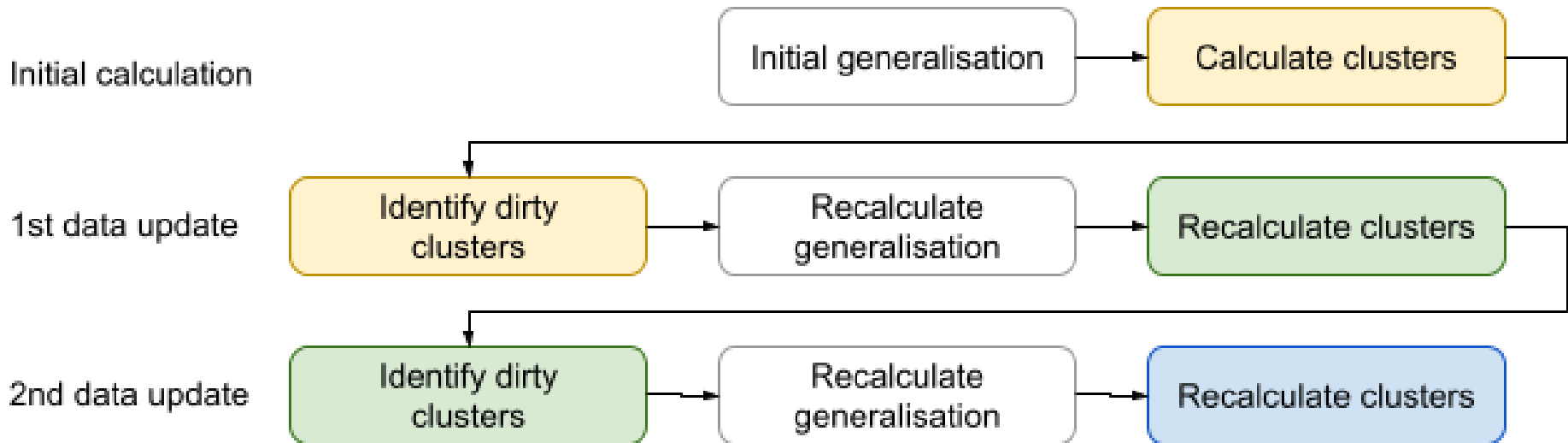
Objects in cluster



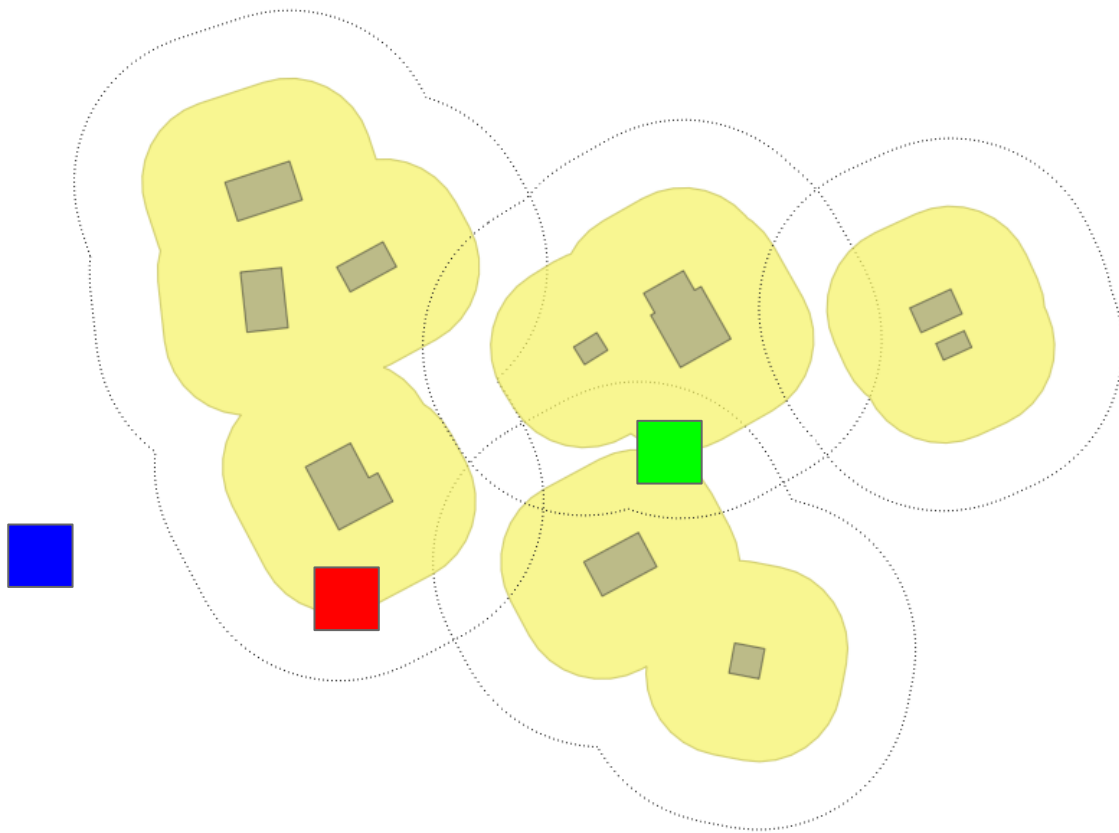
Clusters



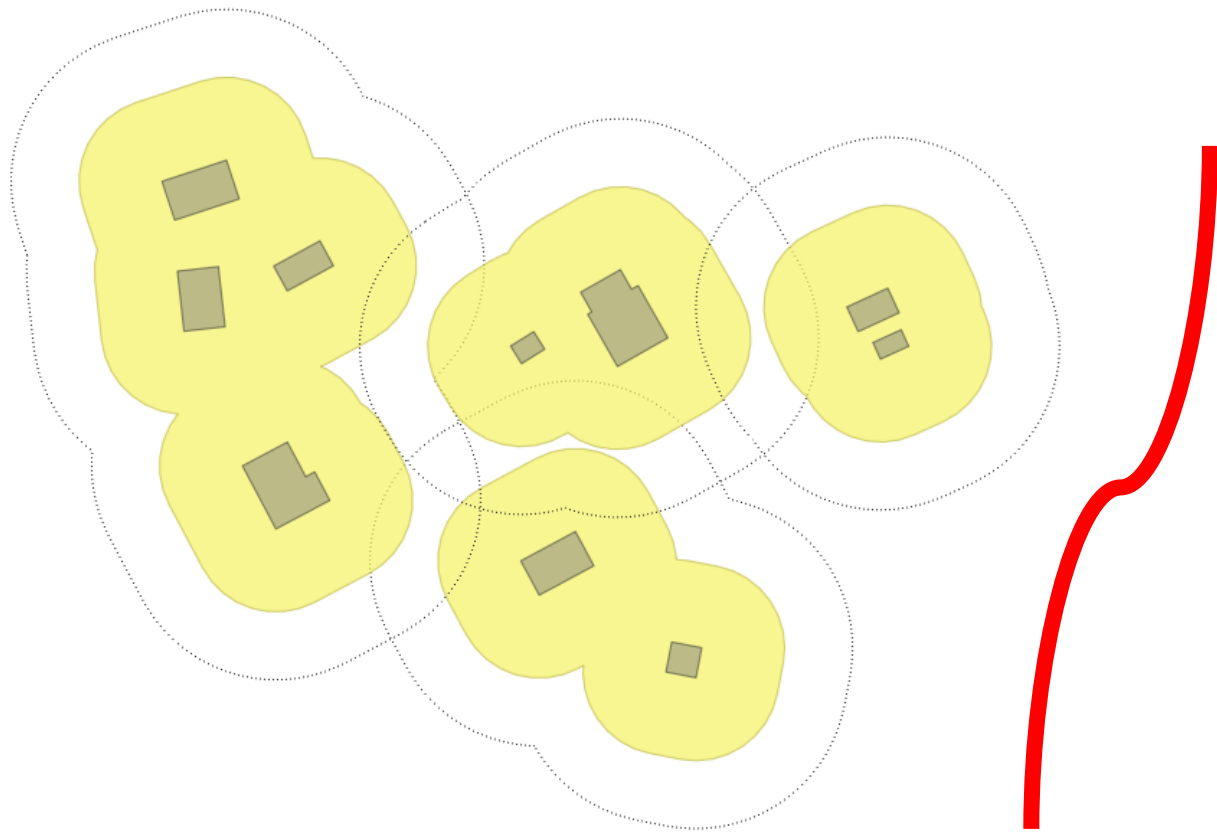
Process



Dirty clusters I



Dirty clusters II

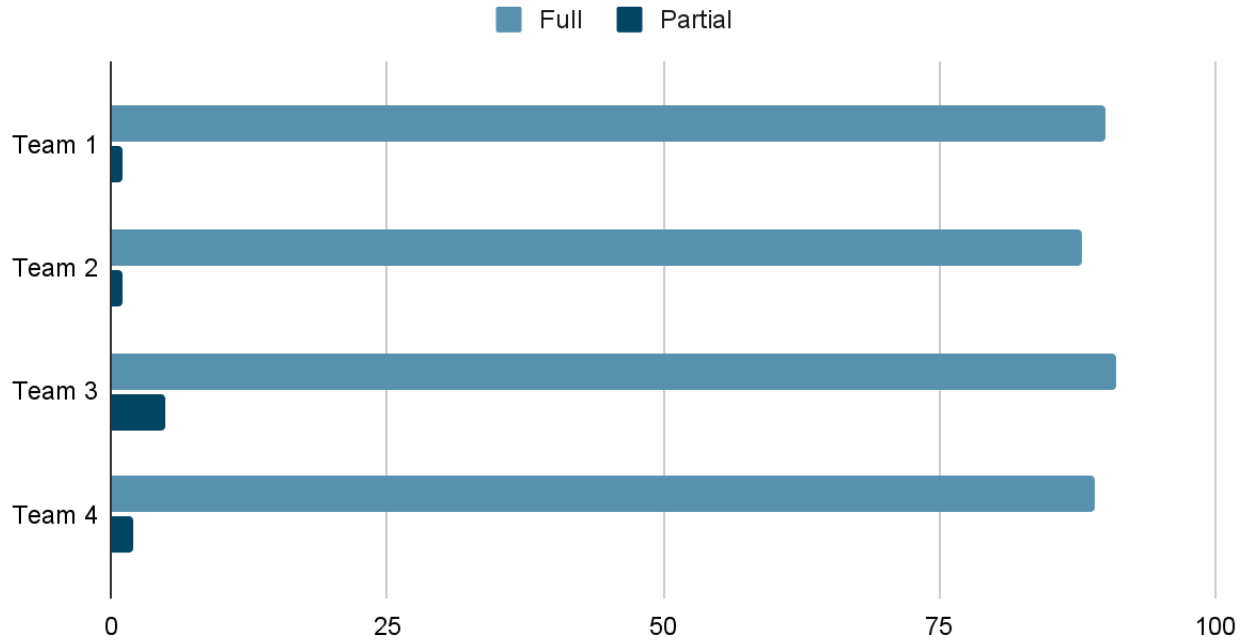


Testing

- Calculating in parallel:
 - Full generalisation
 - Incremental generalisation
- Comparing results:
 - Find differences
 - (Find errors/inconsistencies)

Statistics

Generalisation time



Other types of objects

- Works (should work) for:
 - buildings
 - waterbodies (except waterways)
- Will not work for:
 - roads (might use ref numbers)
 - waterways/railways (might need splitting on straight'ish segments)
- Depends on the way one object impact another

Further improvement

- Clusters could be split with natural boundaries (rivers, roads)
- Further refine re-calculation for specific scales



Q&A

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Thank You



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