On Generating Polygons:
Introducing the Salzburg Database

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Würzburg, March 2020
What is the Salzburg Database?

Keystones

• A repository of polygonal areas
• Can be used freely
• Database: https://sbgdb.cs.sbg.ac.at/
• Generators: https://github.com/cgalab
• Currently contains 11507 instances
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How to use it?

**Browser**
Per instance via [https://sbgdb.cs.sbg.ac.at/db/](https://sbgdb.cs.sbg.ac.at/db/)
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**Whole Repository**

```
git clone https://sbgdb.cs.sbg.ac.at/db/.git

```
git annex get
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What’s the Format?

Requirements

• Can be parsed and stored easily
  • Supports the basic geometric types
  • Can be extended to support various properties
  • A human should be able to read it?
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GraphML to the rescue!
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- XML – format
- Supports graphs in general
- Directed-, undirected-, mixed-, and hyper-graphs
- Supports edge-weights
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- Written in Python

- Reading and writing .graphml, .ipe, .obj-files
- Reading .line, .poly .site-files
- Additional options for edge-weights
- Adding additional formats is simple.
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Generators

- **Rpg** — Various heuristics
  - **Srpg** — On the integer grid
  - **Koch, Sierpinski, Hilbert, and Lebesgue**
- **Fpg** — Triangulation Perturbation
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Instance Classes
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fpg with holes
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2-opt
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- Complex, zigzagged shape
- Irregular, non-convex shape
- Regular, grid-like shape
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Summary

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Format-Converter  https://github.com/cgalab/format-converter

Call for Participation

Do you have *interesting* polygons?

What is missing?
*(specific class, property, file format)*

Contact
{geder,held,palfrader}@cs.sbg.ac.at