Chair for Computation in Engineering
Deparment of Civil, Geo and Environmental Engineering
Technical University of Munich

Flexible pre-processors for fluid simulations

General Overviews:

- Flexible pre-processors are required to generate meshes for fluid simulation within finite volume's framework, especially for complex domains.
- In this project, water simulations are chosen using an in-house code NUFSAW2D.

Tasks:

- You should provide an interface (as a source code) to support an input for NUFSAW2D, either as an input file (.txt file) or directly written inside the source code.
- The interface should support parallel programming (at least written with OpenMP).
- You **DO NOT** need to understand deeply the numerical method used in NUFSAW2D; however, the edge-based data structure for the common PDEs with finite volume method is a **MUST**.
- No restriction in programming language; however, Fortran 90 is preferable.

Project Characteristics

Modeling: ★★☆☆☆
Mathematics: ★★☆☆☆
Programming: ★★★☆☆
Science: ★★☆☆☆

unstructured mesh – e.g. created in .2dm format
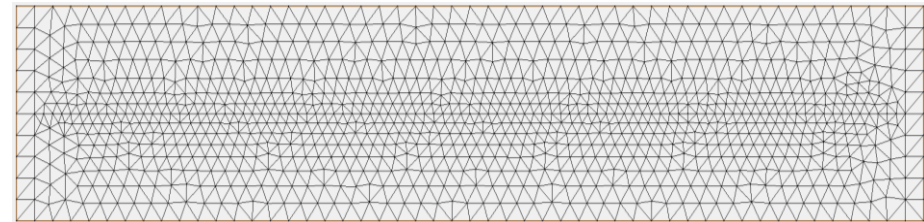
provide an interface to understand the format and to support the edge-based data structure in NUFSAW2D with an efficiently parallelised algorithm.

RUN NUFSAW2D