Implementation of different Error estimators in MATLAB

Project Characteristics

Literature: ★★★★☆
Programming: ★★★☆☆
Mathematics: ★★★★★

Simulating colorful pictures is nice …

… but what you really need to know is the **approximation error**.

Your Task:

- Learn about the mathematical background of the Finite Element Method
- Implement a simple 2D Finite Element Code in MATLAB
- Learn about the different possibilities of the error estimation and understand the most important methods using the provided literature
- Implement a selection of the various methods in the MATLAB code
- Derive an appropriate benchmark test case
- Compare the different error estimators