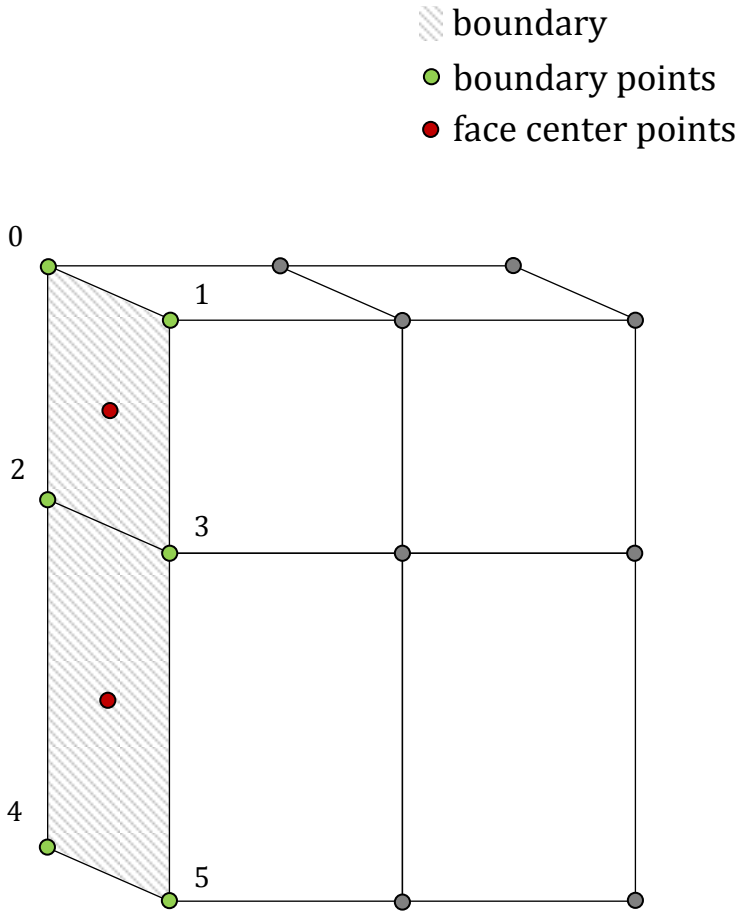
Face-To-Point Interpolation

OpenFOAM®

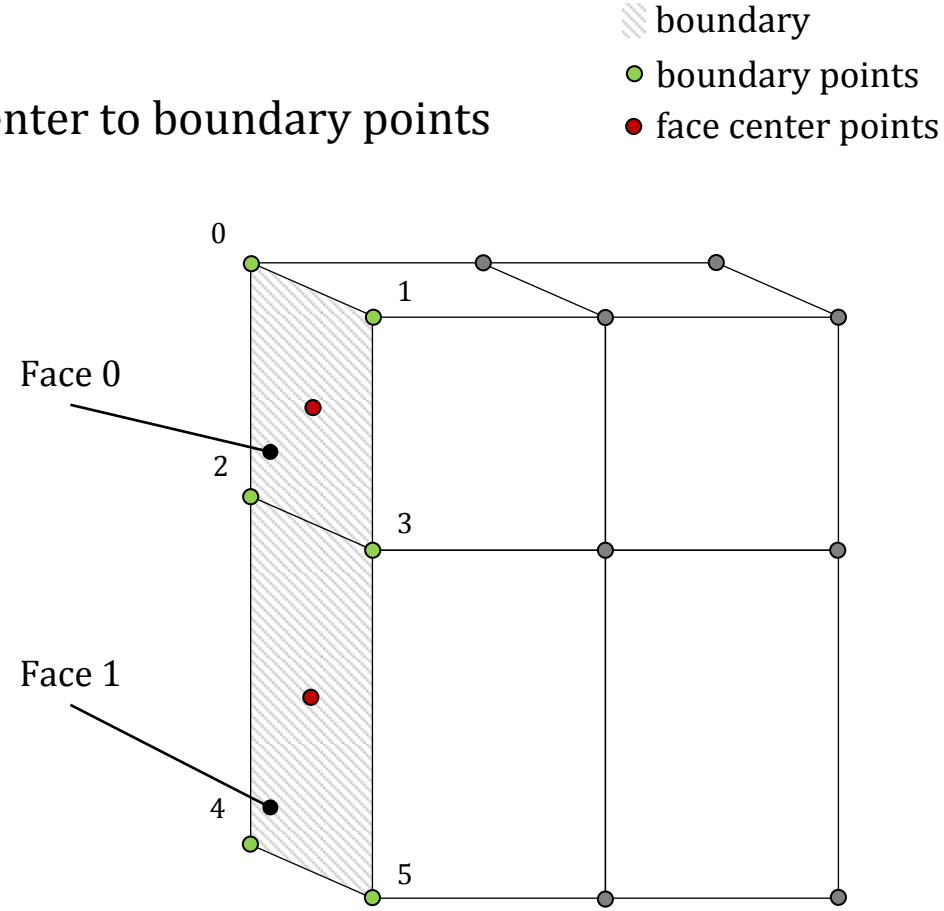
Tobias Holzmann

✓ Description of faceToPointInterpolation() function

✓ FaceToPointInterpolation()



- ✓ FaceToPointInterpolation()
- ✓ Interpolate velocity from face center to boundary points



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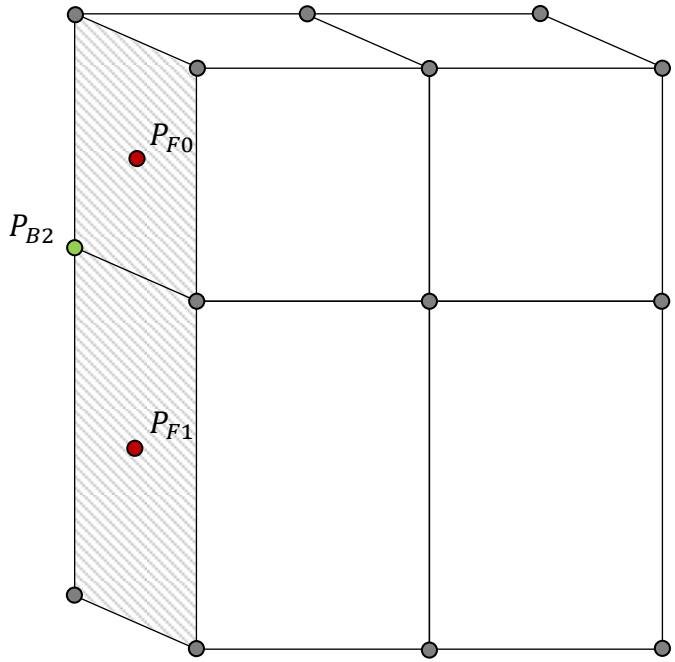
boundary
boundary points
face center points



- ✓ FaceToPointInterpolation()
- ✓ Interpolate velocity from face center to boundary points
- ✓ Calculate the inverse distance between boundary point and face center

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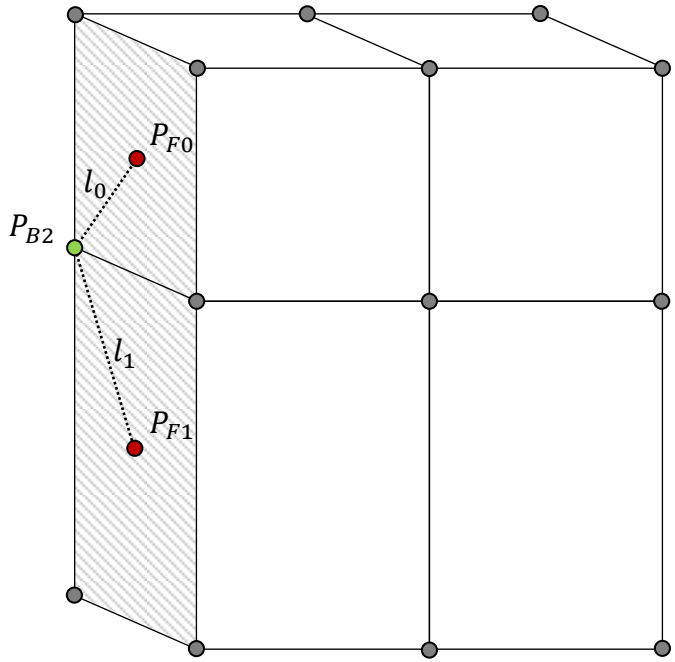
$$l_i = \frac{1}{|P_{F_i} - P_{B_j}|}$$



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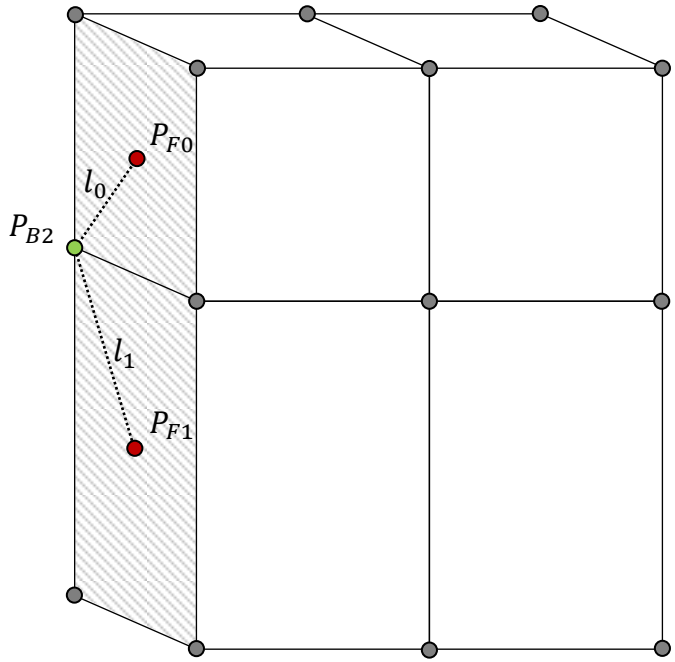

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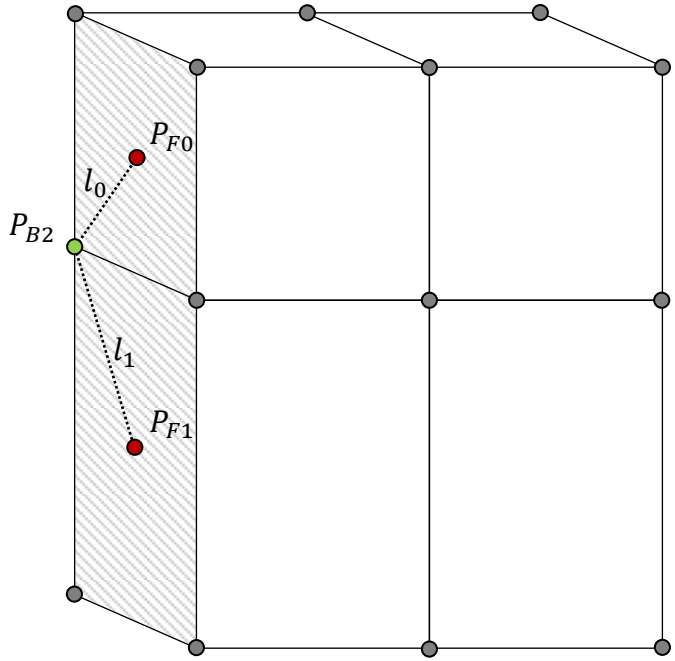

- ✓ Sum the inverse distances

$$l_{sum} = \sum l_i$$

- ✓ Create weight factors

$$w_i = \frac{l_i}{l_{sum}}$$

✓ Calculate the velocity at the points

$$U_{P_{Bj}} = \sum(w_i \cdot U_{P_{Fi}})$$

✓ Done

boundary
boundary points
face center points