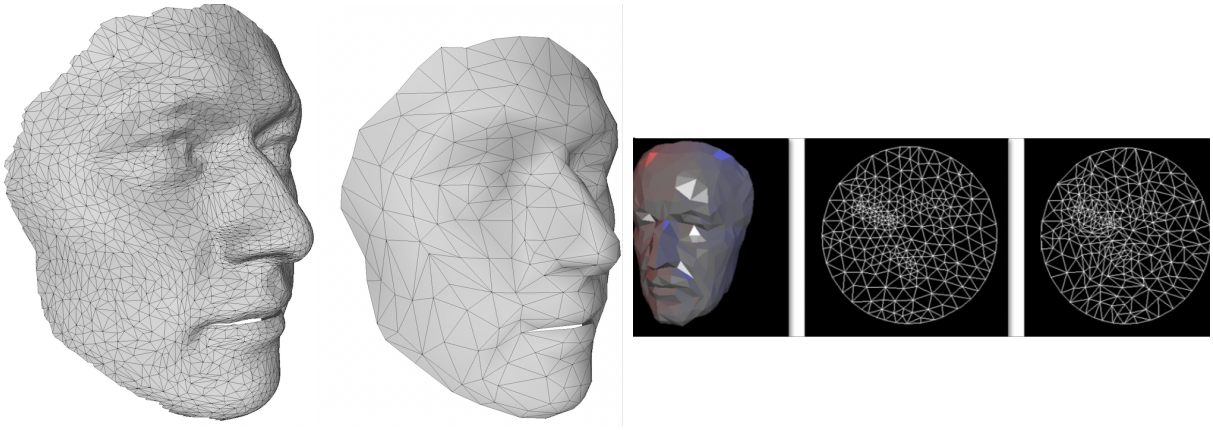
METU **Department of Computer Engineering** **Spring 2019**

CENG 789—Digital Geometry Processing

ASSIGNMENT II Apr 4, 2019
Instructor: Y. Sahillioğlu 10 Days

Mesh Parameterization

{*100 points*} You will implement disk paramaterization to flatten the face meshes such as the two shown below. Use uniform, harmonic, and mean-value weights to obtain 3 different flattenings per mesh. You simply need to map the boundary vertices to a disk (as in the last 2 columns below) and then map the others in such a way that each vertex is in the center (uniform) or weighted center (harmonic and mean-value) of its 1-ring neighborhood. Please check my Parameterization lecture slides in order to get all you need for this implementation. Your output should look something like the last two columns below. Each weighting scheme gives you 33 points. For bonus, use convex boundaries other than disk.



Submission This assignment constitutes 20% of your final grade. Use the meshes provided in ∼ys/face.off, face-low.off, and facem.off, facem-low.off. Send to ys@ceng.metu.edu.tr your code, executable, output screenshots, and resulting file as well as mynotes.txt file where you mention the encountered problems and interesting observations.