Information Technology 2010/2011

Homework Assignment

Prepare a report on the following problem:
At the origin of the coordinate system X-Y lies a circle of the radious R=1. The circle undergoes deformation described by the equations:

$$\tilde{x}(x,y,t) = x \ ,$$
$$\tilde{y}(x,y,t) = y\left[\cos\left(\pi\frac{x-R}{R}\right)t+1\right].$$

where (x,y) are coordinates of circle points, $(\tilde{x},\tilde{y})$ are the coordinates after deformation, t is the deformation parameter that could be treated as time. Find a shape of the deformed circle for $t=\{0,0.5,0.9\}$.

The report should contain (at least):

a) Author's name, matric. card number.

b) The problem statement with the equations describing the deformation.

c) The deformed shapes plotted in one figure.

d) The source code of all Octave scripts used for preparing the report.

Important

- Reports should be prepared as PDF files and sent by e-mail to the respective tutor.
- For grading information, hints and additional materials please visit `http://www.l5.pk.edu.pl/~putanowr/iten` .

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