Media Computing Project — Assignment 4

Mini-Script

Deadline: Wednesday, 25th November 13:30

Description

Now that you created some models using Fusion 360 it is now time to work with the API. This week you will use it to create a script which places a random number of circles in a row with varying angles.
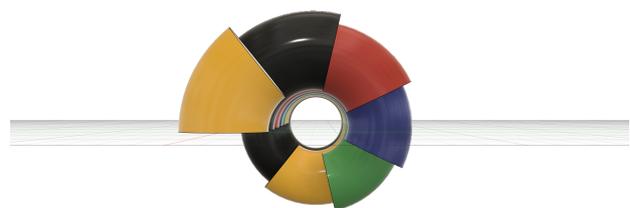
Tasks

1. **Mini Script (8 Points)**
   Create a script with the following characteristics

   1. It creates a random amount of circles between 5 and 10 in a row

   2. The angle of the first circle is 1/n * 360 degrees (n is the total number of circles)

   3. The angle of the last circle is 360 degrees

   4. The angles for all other circles increase by 1/n * 360 degrees compared to the circle before

   5. It is well documented

   Reference Images:

2. **Hero Shot (2 Point)**
   Create a **heroshot** i.e. an image of the models which portraits them in the best way possible

3. **Optional: Colors (0 Point)**
   Assign random colours to the circles. You may define a set of possible colors first.

   Hints which may help depending on your approach
   - Depending on the order of your operations, the profiles might not be sorted according to their creation. If this is the case you need to sort them according to your sketches.
   - You can get the centre of a profile **prof** as a Point3D with the following command: adsk.core.Point3D.cast(**prof**.areaProperties().centroid)

Format

All files need to be packed into a ZIP file. Submit this as a group solution in RWTHMoodle. The ZIP archive contains a PDF (max. 1 DIN A4 page, 12pt font size) with the following content:

- Matriculation number of **each** group member
- Text explaining which problems you faced and how you solved them

Furthermore the ZIP archive contains the following files:
- The f3d file of the models i.e. the format which Fusion 360 uses for their files
- The python script as a py file
- A **heroshot** of the models i.e. an image which portraits them in the best way possible

Grading

Both the work in the group and the careful handling of the tasks in the lab are a prerequisite for a successful passing of the course.

Points are given for the assignment and the amount of work involved is included in the grading of the final project.

It is advisable to make clear for some assignments which team members have worked on the respective subtasks. At the end of the project, however, each member should be able to answer questions about each topic.

Assignments handed in after the deadline will be considered negative in the final evaluation.