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Real-time Graphics Assignment 10

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- The assignments have to be done in groups of 2 students.
- Hand in the solutions to the exercises via L^{2}P.
- You are only allowed to change code inside the marked strips (STUDENT CODE BEGIN/END)!
- Any questions? → L^{2}P discussion forum or rtg@cs.rwth-aachen.de!

If not done yet, obtain the (publicly accessible) exercise framework and assignments from
`https://www.graphics.rwth-aachen.de:9000/Teaching/rtg-ws17-assignments/`.
Use **git pull** to fetch the newest changes of the framework (including the code for this exercise).

The **only** files that you should modify and **upload**:

- MeshGenerator.cc
- plants.vsh

Description and Further Help   In this final assignment you will implement billboard based grass vegetation. As always, you find code strips in the framework with more detailed comments and hints. You can find some screenshots in the folder `screenshots`.

Performance Hints   If your hardware is somewhat weak, the following might help:

- Reduce shadow map size (or disable shadows completely)
- Keep the render distance small
- Reduce your window size
- Disable point light sources

Exercise 1   Vegetation [10 Points]

- Generation / C++: create an interesting distribution of vegetation.
- Rendering / GLSL: create plant billboards with wind animation in the vertex shader.