

Graduation or Internship Assignment: Dynamic Soil and Mud Simulation

To help developing agricultural mobile robots we need a simulation of the soil with real time terrain deformation. The robot driving over the field should both have impact on the field and the deformed field also affects the driving behavior of the robot. Eventually, we want the robots to prevent soil compaction by adapting their planning strategies.

In a previous project several simulation environments were investigated and Unity 3D and Unreal turned out to be the most suitable for these types of simulations.



Screenshots from: <https://www.youtube.com/watch?v=t-uGUxwXu30>

Task description

Start with a desk research on soil / mud / terrain / sand simulation. Based on the findings select the best framework for the physics simulation. Develop a simulation where an agricultural robot drives over a field and the tracks are imprinted in the soil.

Practical Information

Student Profile: Creative Media and Game Technologies (CMGT), Applied Computer Science, Computer Science (HBO-ICT), Electronics, Mechatronics (with interest in software aspects of robotics)

Duration: February 2022 – July 2022

Compensation: 230 euro per month, before taxes

Contact Person: Wilco Bonestroo, w.j.bonestroo@saxion.nl, 06-13001996