

Development of an Authoring Tool for the Creation of Individual 3D Game-Based Learning Environments

Topic

Serious games have a promising potential in higher education. To address this in higher education the AdLer authoring tool offers lecturers the possibility to design and generate virtual 3D learning environments in which students can interact with learning content according to the principles of game-based learning.

Goals

- Various game-based learning elements and didactic features
- Individual 3D learning environments
- Ease of use (standard web browser, cross platform, different devices)
- Free available tool

Process


Preproduced Learning Elements



e.g. jpg, png, webp



txt, pdf, source code (e.g. py)



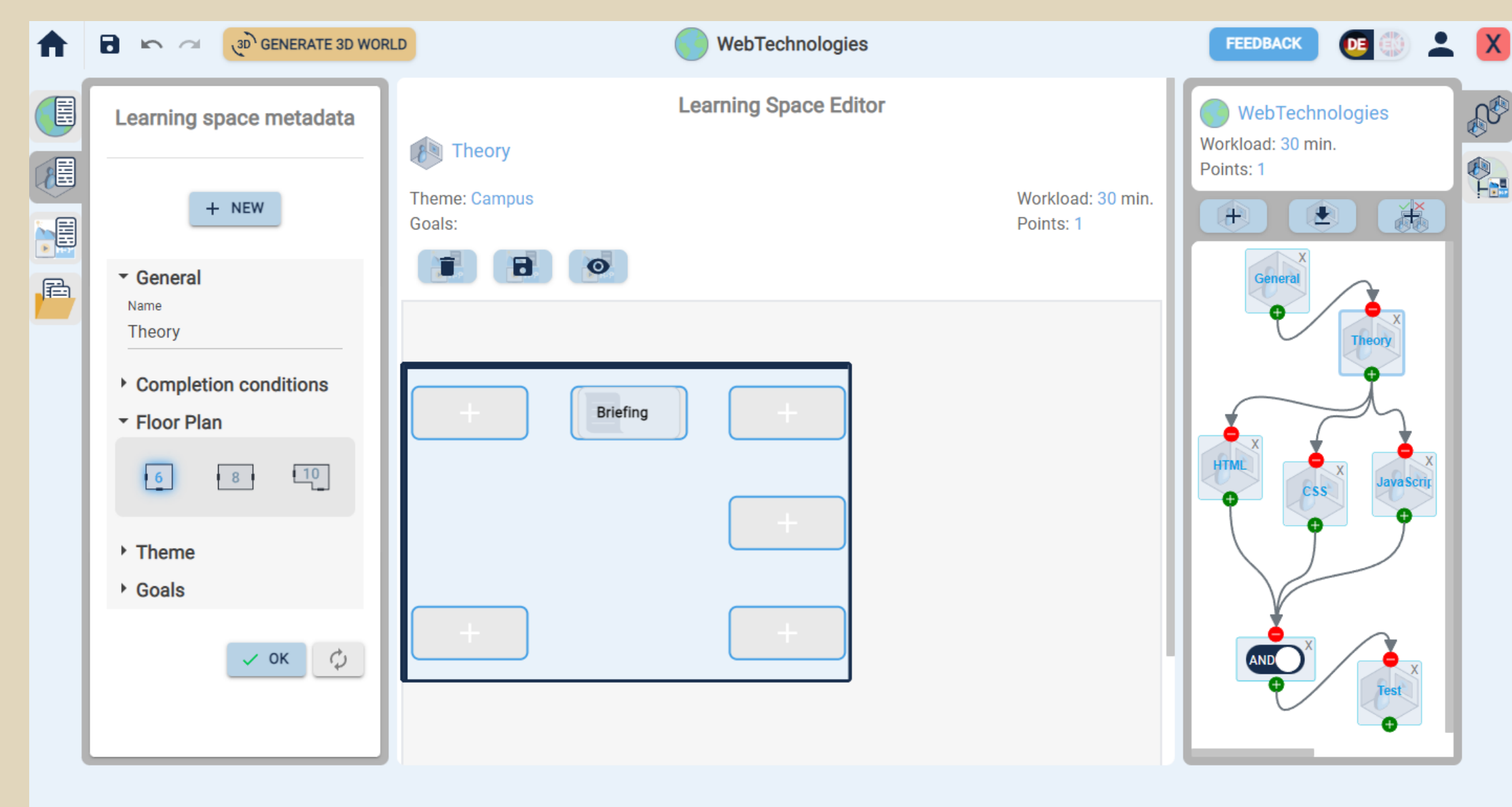
h5p



youtube, vimeo, opencast

Authoring Tool

With the help of the AdLer authoring tool, a learning world and associated learning spaces can be created in several successive steps. Preproduced learning elements can be imported and annotated with the help of metadata. Furthermore, the learning spaces can be connected to guide students later on. A 3D learning environment and a Moodle course are then generated via the authoring tool.



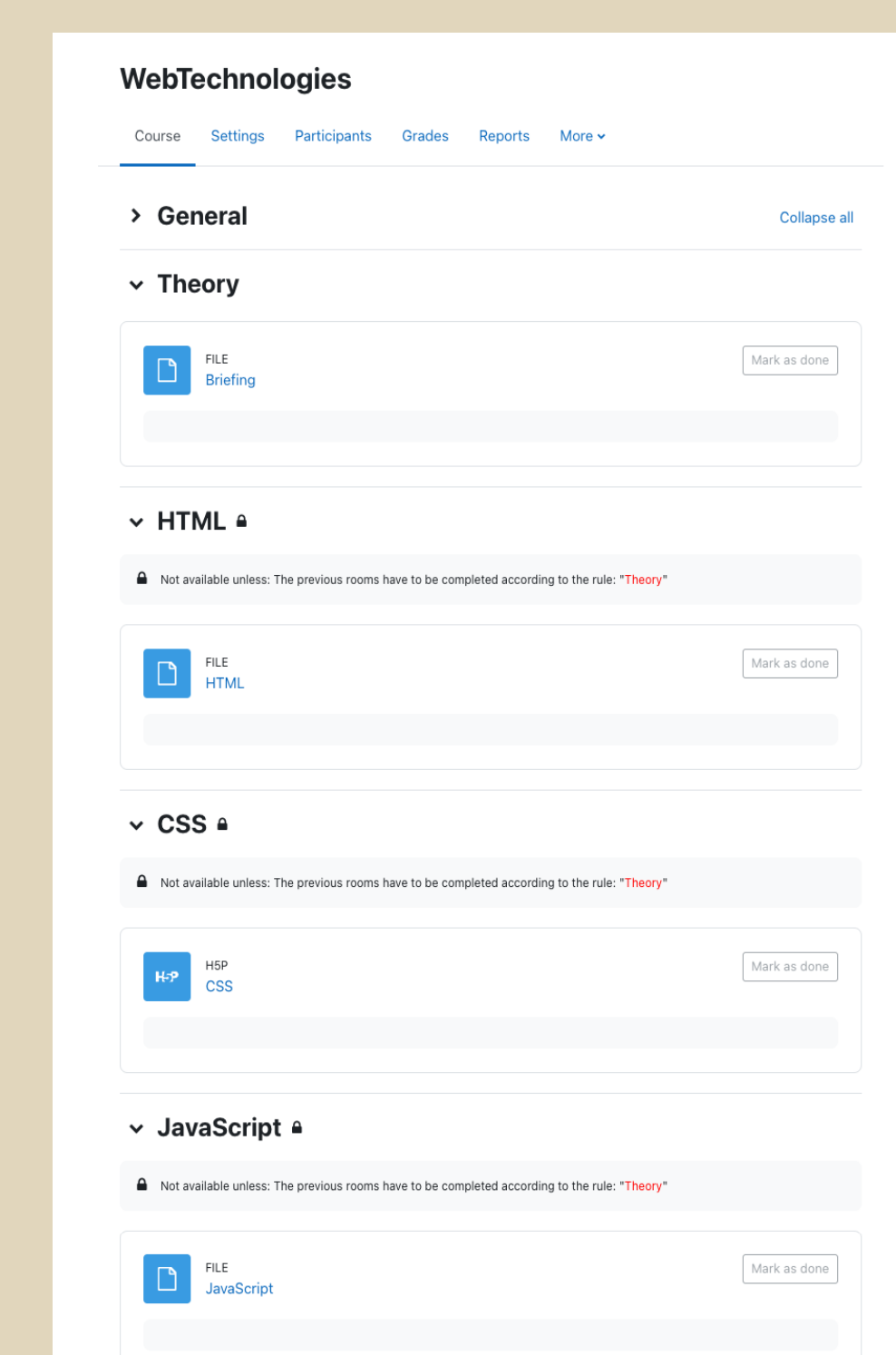
3D Learning Environment

In the AdLer 3D learning environment, students can enter the learning world by an avatar, move through the learning spaces, which are represented as architectural spaces and can interact with learning elements as 3D models.



Moodle

The generated Moodle course also maps the content of the 3D learning environment with the possibilities of Moodle functions.



learning world = entire course | learning spaces = rooms within the learning world containing learning elements | learning elements = learning content (e.g. H5P)

