

Background and objectives

- Create a library of 2D and 3D modular multimedia grains related to sustainable development (up to 60 seconds).
- Propose a grain classification scheme and composability in order to create a flexible online course.
- Evaluate the external accessibility to the grain library.
- Assess the evaluation conditions.
- Suggest some potential visualization platforms.

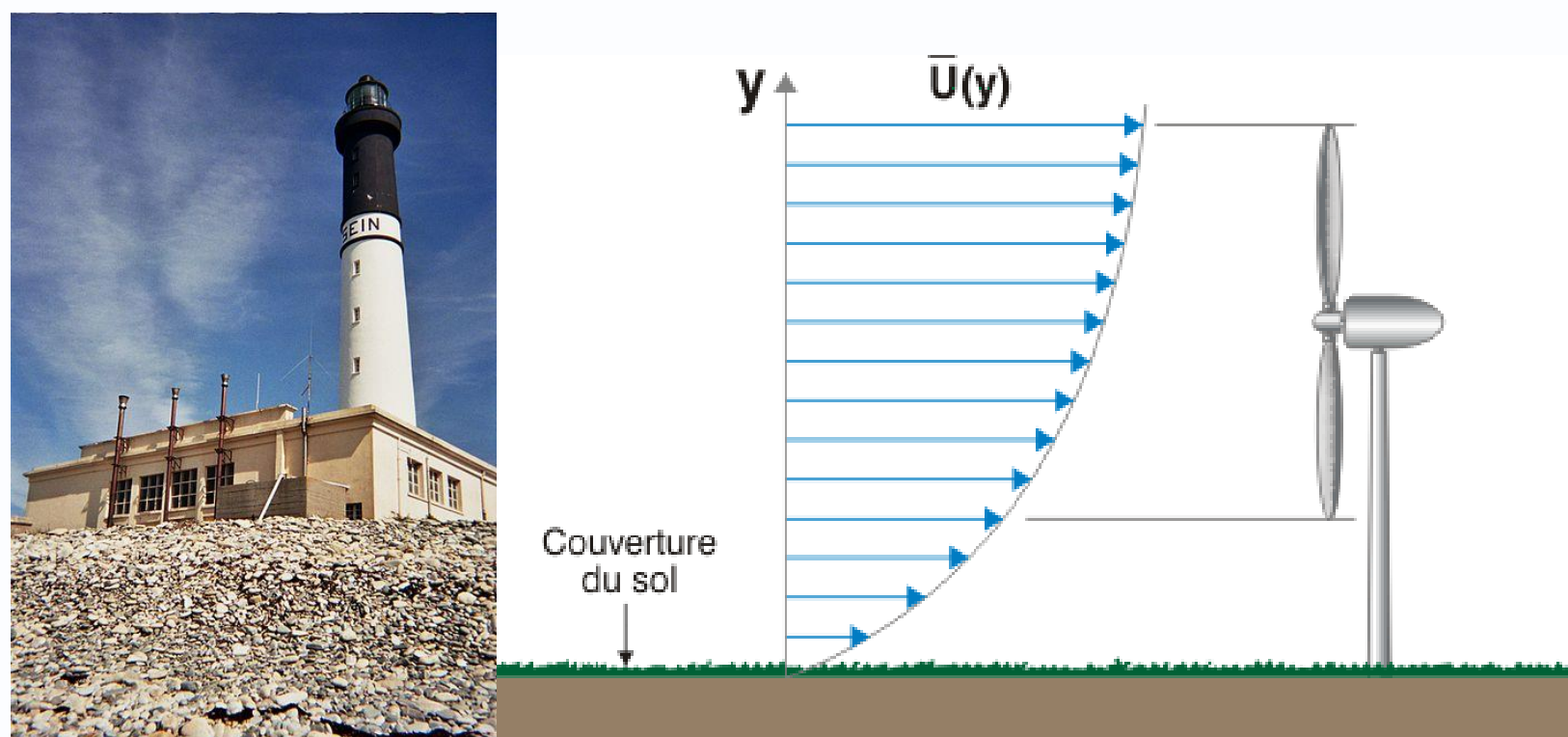
Online library of elements contained in a modular logic of grains

Two selected applications

1 End-of-Life Vehicle (ELV) Processing Facility



2 The Sein Island : the energy transition of an island not interconnected to the mainland

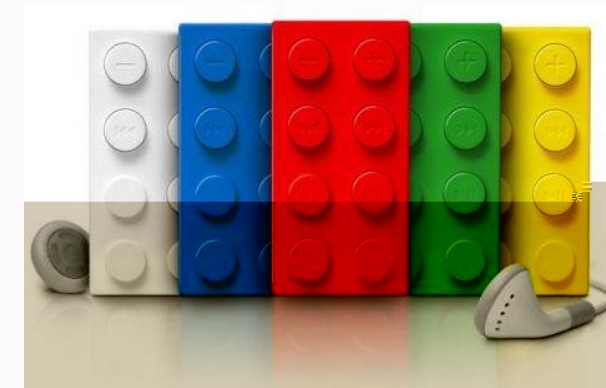


Example of an interactive application on a 3D touch table



The concept of a « Grain »

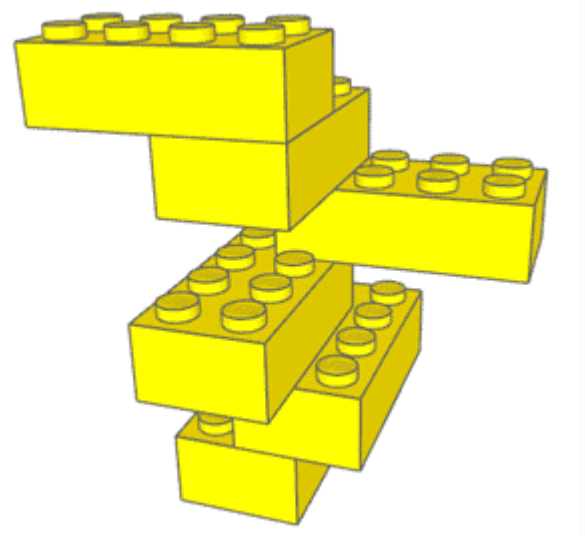
A multimedia grain can be a video, audio or textual module of variable duration that can be assembled and annotated (by the teacher), can be made in 2D or 3D format depending on the educational goals. Their purpose is to support courses that fit multiple learners' profiles.



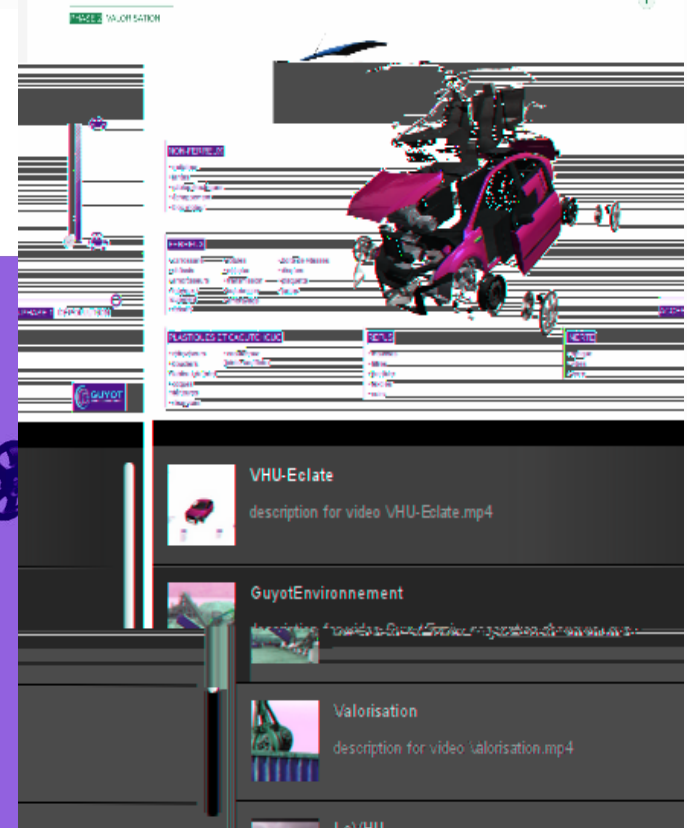
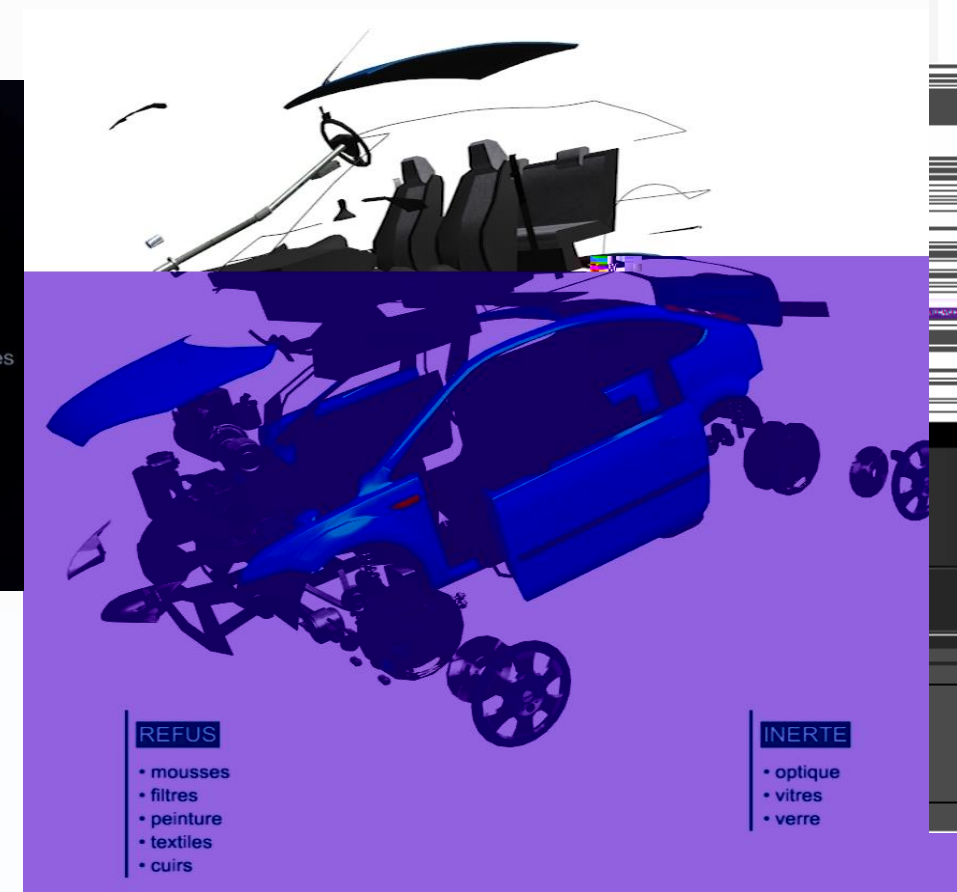
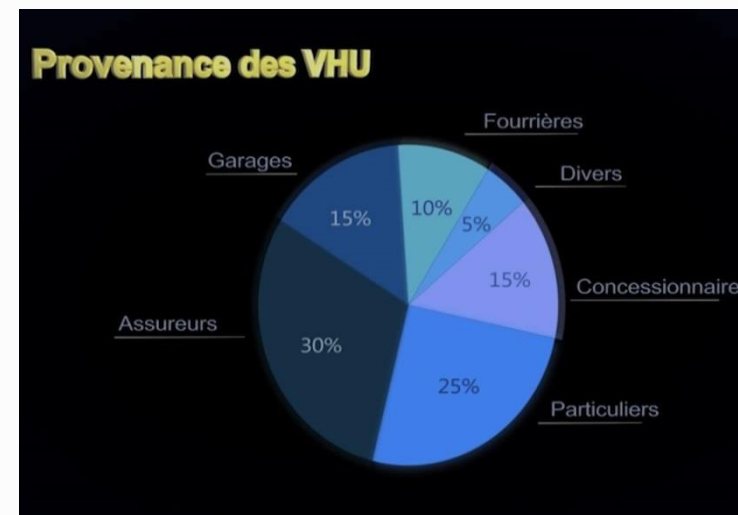
2D grain



3D grain



Grains composition



Construction of a lesson template through grains composition

Variantes ou niveaux d'approfondissement

	Variante1	Variante2	Variante3
Introduction	✓		
Les enjeux environnementaux			
Le VHU			✓
Traitement	✓		
Conclusion	✓		

Points de vue sur le thème abordé

Lecteur des grains

Module d'annotations

Liste des grains disponibles

Matrice des grains qui supportent le cours

Conclusions and Outlook

- Introduction of a MOOC concept using 2D and 3D modular grains.
- 2 thematic sandboxes (renewable energy, waste recycling).
- Teachers' ownership of a video grain library that can be used for face to face lectures, as well as for online courses.
- Definition of suitable interfaces for the visualization of 3D MOOC.
- Study of the educational evaluation conditions of such a MOOC.