

MOOC

Initial Steps

Project aim and Target audience

Project aim:

- Teach students the basics of wind energy

Target audience:

- Educated
- Has less than thirty minutes of absent minded time
- Age range from late teens to retirees

Game aim

The game aim from a design point of view:

- Game should be physics based
- Game should be entertaining/fun/addictive
- Game should be open-ended (after the end of the learning curve, the player still has the possibility to play in 'full' mode or other modes)

Choosing a principal learning objectives

Which one is the most important?

1. Factors that are important in the cost of wind energy.
2. Understand why certain wind turbine concept went out of fashion.
3. Understand the energy conversion process.
4. Be able to draw a velocity triangle and understand its effect on blade design.
5. Understand why wind energy is moving offshore.
6. Integrate different components of a drive train in one system.
7. Recognize different regions in a power curve and identify what kind of control is used.
8. Understand the relationship between rotation speed and rotor solidity, and the need for a chord and twist distribution.
9. Be able to reflect on the consequences that unpredictable power supply have.

Additional questions

- What learning depth is aimed for in this game?
- What type of learning feedback are you expecting to be provided to the players?
- Offshore/onshore, what is more important for the game?

