

Future Landscapes

Future Landscapes is an interoperable, responsive tool that allows young people to discuss and represent ideas about human influence on the landscape. Young people will be able to enter and manipulate different kinds of data in order to explore the influence of humans on the environment, by visualising 'future' landscape scenarios in both 2D and 3D formats.



Team

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Technology

PC with 3D graphics card

Outline

Maps can be difficult to understand, and provide no sense of how the landscape could look. Future Landscapes provides a tool to enable students to explore the visual impact of landscape change.

Data can be input from scratch, from pre-existing map software, field study and research. Displayed side by side, the 2D map data will be geo-referenced to the 3D visualisation and will enable the student to 'take photographs' from any part of the map. Once they have added additional landscape features the 3D view will change, and the students will be alerted to some of the potential consequences of the development.

The tool will support existing fieldwork practices in geography by providing learners with the opportunity to easily enter and manipulate field notes, such as images (eg digital images or their own drawings) of the landscapes, and quantitative (eg population, number of houses etc) and qualitative (eg interview or sound bites from local residents) data.

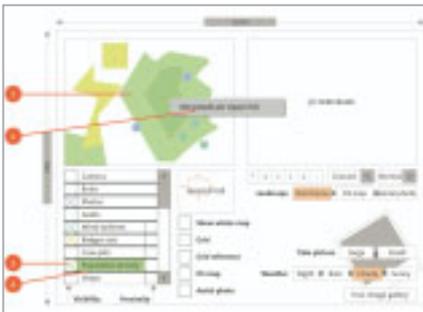
Focused around two case studies – the development of a wind farm in a rural setting, and a shopping development in green belt land - the students will be able to explore how to minimise the visual impact of the development, whilst ensuring that it is developed within chosen parameters.

Importantly, the tool will support learners in gaining a deeper understanding about the influences that shape the landscape and allow young people to visually represent these changes in 2D and 3D formats. It will enable students to articulate their ideas about landscape change, and provide a platform for discussion and debate.

Learning and Research Objectives

The project will address the following questions:

- 1 How can we best bring together geographical mapping techniques with visual technologies to create an interoperable, responsive tool that allows young people to discuss and represent ideas about human influence on the landscape?
- 2 How can we ensure that the tool best supports young people in visualising and manipulating these landscapes?
- 3 How can we ensure that the tool best supports young people in engaging in meaningful and critical discourses about human influences on the landscape?
- 4 How can we develop a usable resource that supports teachers to motivate and creatively engage students in this area?



Population density (chloropleth data) view



Interface prototype

Research and Development Process

The software will be based on a commercially available product, but it will be adapted to school use. Initial research has included using this commercial visualisation software with the target age group, and getting feedback regarding their understanding of maps and the functionality of the software.

We will continue to work with teachers and students to enable us to develop a system that works within the current curriculum, and enable students to explore landscape change. We will test out both the case studies chosen for the prototype, and the user interface design, to ensure that the program is intuitive to the user, and focuses their attention on landscape change and not peripheral aspects of the software.

As with all Futurelab projects we are also interested in:

- 1 What this project tells us about the best ways of designing educational digital resources.
- 2 What this project tells us about how learning processes can be transformed through use of these tools.
- 3 How this project helps us understand the potential of next generation technologies to create intrinsically motivating and engaging learning experiences.

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