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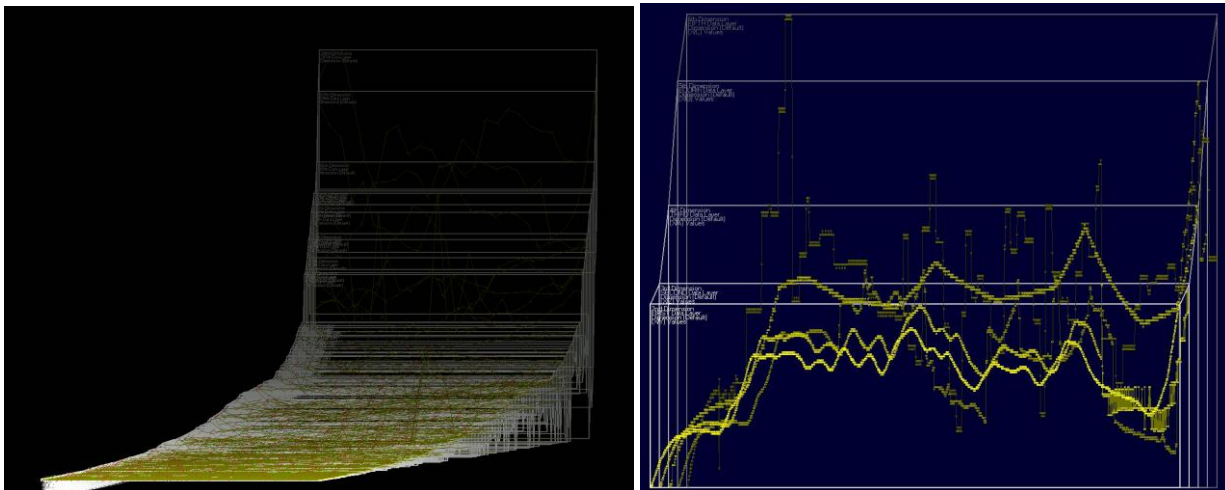
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Climate Monitoring Portal

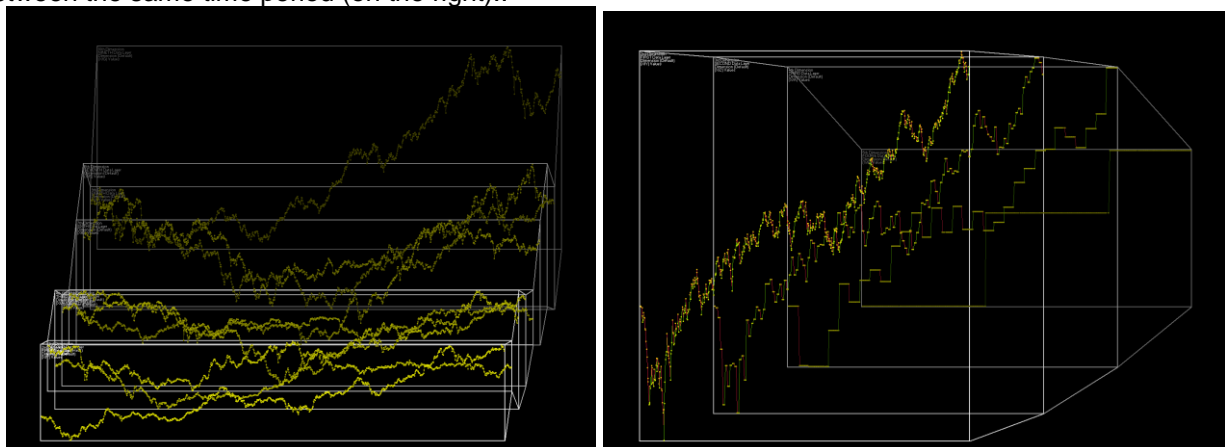
A Project for visualizing and forecasting multi-dimensional data online

The *Climate Monitoring Portal* aims to deliver a new web-based tool for investigating publicly accessible data bases. By using data from two complex areas such as climate change and economic developments, the portal will offer a first opportunity to demonstrate how complex problems can be tackled in a new way. As Software innovation, it will offer the use of a new method of visualizing multi-dimensional data via the web.

This project builds on the off-line version of the 3D visualisation engine, the core component of which is the generic method for visualizing multi-dimensional data in vertical layers. The following example shows this 'layering method' for CO₂ emissions in 208 world regions (on the left) and five chronologies relating to Vostok ice core data (on the right):



Financial market data is also a complex area of data. Here, the visualization engine illustrates daily historic Dow Jones values between 1896 and 1929 (on the left) and daily, monthly, quarterly and annual values between the same time period (on the right):.



Climate change is as complex an area as economics. But the '3d metric' visualization engine can help investigate both, separately and together, as soon as it is accessible online. The mash-up will combine the following levels of functionality, integrated into one web interface:

1. Access to public data bases - with a view to finding correlations between CO₂ emissions and other climate related data, and measures of economic growth, in the context of globalisation
2. Creating a data base of data bases, to be used as a menu for user selections
3. Selection of data records - according to geographical and other criteria, besides time periods
4. The visualization of selected data records in vertical layers
5. Sorting, ranking and selecting data layers based on the new visualization style
6. Saving screenshots with annotations of what data is in view
7. Sorting galleries of screenshots and appropriate descriptions
8. Interpreting and commenting on screenshots
9. Inputting additional data bases and their descriptions.

Within the undergraduate courses of the University, the project fits into the scope of Computer Visualisation, Computer Science and Creative Technology, (E-learning, Games, Multimedia). It is hoped that the project will demonstrate its usefulness for cross-disciplinary e-learning through the choice of climate and economic data.

The *Climate Monitoring Portal* will be of value to everybody interested in lifelong learning with electronic resources, especially reusing existing data for deriving new insights and forming new conclusions. Insurance companies and university departments advising policy are possible end users, and the [UCL Environment Institute](#) is a prime academic example.

The team is composed of self-employed professionals who each have extensive experience in their respective field.

- a) Prof. Algirdas Pakstas PhD was in the area of Distributed Software Configurations. He authored 2 research monographs and over 150 other publications related to various aspects of communications software engineering. He has extensive experience of managing various research and development projects involving distributed systems. Most recently he was awarded a grant from the London Development Agency, related to a multidisciplinary service kiosk (gas sensor data, climate data, data on luminance and chromaticity distribution of the sky) as a prototype for the London 2012 Olympics. This was one possible application of the 3D visualization engine upon which this application is building. Previously he had a project funded by Panasonic on extension of the Session Initiation Protocol for control over networked devices.
- b) Sabine K McNeill, Director, [3D Metrics](#): mathematician and software designer, software diagnostician at CERN and Visiting Research Fellow at the London Metropolitan University.
- c) Diane Perlman, Director, [Branding Matters](#): responsible for selecting developers from her experience of running software projects
- d) Rufus Pollock and Jonathan Gray, [Open Knowledge Foundation](#): responsible for selection of data bases.
- e) It is hoped that the rich inter-disciplinary quality of the team will not only deliver the goods, but also benefit from the richness of the associations across ideas and web-based software development.
- f)