VEPs Virtual Environmental Planning

Virtual Environmental Planning system (VEPs)

Planning issues (summary of Action 1.2 and 2.2)

This is a summary of the two reports for Actions 1.2 and 2.2 of VEPs, that defined the scope for the Virtual Environmental Planning system, through 'Identification of Planning Scenarios'.

Action 2.1

The action 2.1 report focused on identifying those aspects of planning development which engage with the citizen. It examined how those citizens and planners, from the different NWE regions involved, would go about making informed decisions with respect to sustainable development, in a context where highly detailed 3D data is available. This led to definition of a workflow. The Report also contrasted planning legislation and approaches in the UK, France, Germany and the Netherlands.

Action 2.1 further developed the demonstration and evaluation of suggested alternative planning models or digital maquettes (mock-ups, demonstrations) as solutions to planning and environmental issues to guide the development of the underlying knowledge based systems within VEPs. These emergent tools and maquettes were used to focus discussion in a series of workshops. Notes and analysis of the outcomes of these workshops are available on the Project Website. Consultation of the attendees at these workshops, together with other research, formed the basis for the recommendations made in the report.

Action 2.2

The Action 2.2 report sought to complement and expand on, rather than to repeat, the content of the previous Action 1.2 report on the same subject. References were thus made, where relevant, to items within the Action 2.1 report in the detailed section at the end of this second report.

The Action 2.2 Report has an introductory section that examines VEPs within the broader context of Planning Support Systems, and makes recommendations for the focus and development of the emerging Virtual Environmental Planning systems. It followed with some generic Scenarios that illustrated a potential workflow and use of VEPs within the wider context of a system to support all forms of planning.

These scenarios included:

A - Citizen Group Instigated;
B - Politician Instigated;
C - Individual Instigated;
D - Developer Instigated; and
E – Formal Enquiry.

User requirements

Action 2.2 continued to evaluate and develop the user requirements (identified in Action 1.2) in order to determine what was practically achievable in the short and longer term. The partners continued to share their ideas and knowledge on the essential elements to portray a masterplan, and further identified: commonalties and regional differences in e-Planning, citizen consultation; sustainable development techniques; appropriate technologies for use in these fields; open standards to share processes and data between regions; and appropriate means of development that support regional differences but benefit from standardisation. Some of these are referenced in the detailed section at the end of the Action 2.2 report.

Planning Support System(s) on the Web

Both Reports identify the requirement for a Planning Support System (PSS) on the Web. In their 2001 book on PSS Klosterman and Brail[i] predicted that 'in the most expansive sense of a Web-enabled planning support system, the broader community would be able to visualize the results of alternative future planning scenarios over the Web and explore the effects on their quality of life and on the environment.'

It was found that such a system must fully support group interaction and discussion, while viewing 3D interactive planning scenarios on the web. Klosterman defined these requirements as follows: 'PSS should be designed to facilitate collective design, social interaction, interpersonal communication, and community debate which attempt to achieve collective goals

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and deal with common concerns. However, as a planning system, it must also pay particular attention to long-range problems and strategic issues, as well as explicitly facilitate group interaction and discussion (in contrast to DSS [Decision Support Systems] and SDSS [Spatial Decision Support Systems]).

Klosterman also suggested that PSS must not be seen as a radically new form of technology that will replace the software tools planners currently find on their desks. Instead it must 'take the form of an information framework that integrates the full range of current (and future) information technologies useful for planning… It must be seen as providing the information infrastructure for planning that facilitates interaction among planners, and between planners and other actors, both within and outside of government.'

The VEPs focus

Within the context of the VEPs project it has not been intended to create either such a broad simulation system or a fully rounded planning support system. The VEPs focus is on those particular aspects of such a system that together: are enhanced by the use of highly accurate 3D data (derived from LiDAR); support the collaborative engagement and understanding of individual citizens in the process; and lead to the cooperative establishment of the intended goals.

Citizen Focus versus Planner Support

There is thus within VEPs an implicit focus on 'person-centric' judgements, which build from the individual out towards group consensus through explicit group interaction and discussion. There is also an implicit assumption that more reliable data can in itself promote consensus. So for example, while 'political' decisions are inherently challengeable, predictable 'geographical' outcomes such as flood risk ought not to be so.

Consultation with some Planners made clear that the middle ground for consensus would be better established if all parties could agree on the reliability of the data and the resulting predicted outcomes. In this sense they were very receptive to the use of a system deploying more accurate and 3D visualisable data.

Concerns were also raised about the need to provide systems that facilitated rather than created additional burdens for Planners and other officials. It was argued that without key input from such officials the necessary data will not be available for deployment in the VEP system. It therefore proved necessary to consider the 'Planner Support' aspects of VEPs as well as those for the citizen. It was suggested that a part of the solution might be that the same 'person-centric' tools that support the individual citizen could become semi–automated in order to assist planners, politicians, other officials, and also developers and designers to gather data about and analyse the context of large numbers of individuals within a neighbourhood to determine the extent to which they are likely to be affected by proposed actions.

Master Planning within a Neighbourhood

VEPs consultations showed that highly accurate 3D data was most likely to be of use in supporting judgements about the impact of proposed action locally within a neighbourhood. This potentially met the needs of: those that live there, that know the area, but could not necessarily grasp the consequences of the proposal; and those officials, politicians and others engaged in decision making about the alternatives, who did not necessarily have the same local knowledge.

The VEPs focus was also on the stage at which public cooperation in the process of setting goals and judging between alternatives is likely to have most influence on the outcome. This is defined as the 'master-planning' or 'sketch planning' stage, during which planners give broad consideration to a range of alternatives, rather than the final stages of making a detailed plan. It followed that evaluation of the emerging tools in the VEPs project needed to focus on those aspects that support the rapid and repetitive proposal of alternatives and examination of their consequences.

[i] 2001 Richard K Brail, Richard E Klosterman, Editors – Planning Support Systems –ESRI press, Redlands California.

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