Enabling Information Integrity within Spatial Data Infrastructures - The Digital National Framework Concept

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SUMMARY

As the economic benefits of using "location" and "geography" within information systems gather pace around the world, especially at government level over the last five years, the need for interoperable information increases. To some the term interoperable means the ability to link two computers together, to others it can mean the ability to overlay one geographic dataset over another.

If the power of geography is to fulfill its potential we have to emulate the banking, electronic point of sale and other information industries and develop our data models to operate in automated processes. With this we can move faster towards realising our investments in geographic information and improving services across all levels of society from determining national policy down to local decision making.

We therefore must look to the information we are using and its fitness for purpose in the application and integrate GI into business information systems. Today we are some way from widespread adoption of truly automated decision making applications. Information may have been digitised by different agencies at different times, for different purposes and in different ways. We should not necessarily expect a cadastral parcel by one organisation and mine working records by another to interoperate at the level that the computer can analyse their relationship and determine a conclusion without manual intervention, especially if we intend this as definitive and for which we might be liable.

The Digital National Framework was introduced in Great Britain in 2000. Since then the principles and methods have started to develop and evolve with the primary aim of improving the collective integrity of spatial datasets that are maintained in a distributed manner, by those organisations whose role it is to maintain that data, but which need to be brought together electronically in the decision making process. The paper describes the principles and outlines the methods. Two case studies are described (index to land ownership parcels and a new database of land now open to public access) and finally progress towards the DNF principles are assessed in the paper.

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