GIScience Grand Research Challenges: from Spatial Integration to Spatiotemporal Inspiration

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Mashup
Spatial Integration

• Spatially integrated framework
  – Data
  – Model
  – Decision support

• Vertical Integration vs. Horizontal Integration
  – Scale
  – Fusion
  – Mash-up

• Analysis and modeling
  – Locations and Proximity
  – Networks and Topology
  – Pattern and Dispersion
iPhone and Space-Time
Spatial Intelligence

http://www.blog.iqmatrix.com/wp-content/uploads/2008/05/7-intelligences-spatial.jpg
• **Space-time as a source of inspiration for new ideas**

• **Space-time memory and space-time clues**
  – Find things in a mess
  – Transform patterns to actions >> forms to processes
  – Identify missing pieces or something out of the ordinary
  – Recognize what to do next

• **Space-time ordering and spatiotemporal language**
  – Computational thinking: abstraction, sorting, queuing, recursively, heuristically,
  – System thinking: multi-scalar, interactions, relations, feedbacks, equilibrium
  – Characterize

• **Cyber GIS and real-time applications**
  – Real-time geographic nowcasting
  – Cloud computing: data centric to app centric

• **Space-time and geographic dynamics**
  – Connect the dots and build narratives
  – Expect and anticipate what is coming