From Data to Understanding
Layerscape, ChronoZoom, and Academic Search

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MSR at a glance . . .

John Warren
Microsoft Research mission statement:

- Expand the state of the art in each of the areas in which we do research
- Rapidly transfer innovative technologies into Microsoft products
- Ensure that Microsoft products have a future
Product transfer examples from MSR to MS products
Microsoft Research | Connections

- Division within Microsoft Research focused on partnerships between academia, industry and government to advance computer science, education, and research in fields that rely heavily upon advanced computing
- Supporting groundbreaking research to help advance human potential and the wellbeing of our planet
- Developing advanced technologies and services to support every stage of the research process
- Microsoft Research Connections is committed to interoperability and to providing open access, open tools, and open technology

http://research.microsoft.com/collaboration/
Microsoft Research Connections

Community and Geographic Outreach

Core Computer Science
Earth, Energy and Environment
Education & Scholarly Communication
Health & Wellbeing
Natural User Interface

Advanced Research Tools and Services
Microsoft Research in Australia

... at a glance
**MSR Australia Academic Collaboration Summary 2004 - 2012**

**Advance the State of the Art**
- RFPs & ARC Linkage Projects
  - Themes
    - NLP
    - Health & Wellbeing
    - Earth, Energy and Environment
    - Cloud computing
    - Natural User Interface

**Accelerate Discovery & Exploration**
- Academic Search @ University of Melbourne
- Azure in curriculum at University of Queensland
- “What’s new in NUI” workshops
- “Open Data for Open Science” workshops

**Inspire Computer Scientists**
- Faculty Summits
  - >110 faculty have attended
- PhD School sponsorship

**Faculty Fellow Program**
- eScience Project at UQ – Prof Jane Hunter

**Multi million $ Research Investment**
A cloud-based user experience

Layerscape

- Employs tools to analyze and visualize complex Earth and oceanic datasets.
- Enables scientists to gain environmental insights.
- Makes creation and sharing 3-D virtual tours and collaboration with the Earth-science community easy.
WorldWide Telescope
Layerscape Application

• WWT with Excel Add-in enables data visualization.
• Spatial/temporal rendering and playback.
• The 3-D environment - on, below, or above the Earth’s surface.
• Time-series data support - more than 500,000 data points
• Point, vector, and raster data—including map overlays, shape files, Microsoft Excel spreadsheets, CSV,
• Story-authoring tools
Cloud based community

- Share data, visualizations, stories, and related files (such as images, shape files, and maps)

- Participate in existing communities (Astronomy, Oceanography, Climate, and more) Create your own community, based, for example, on your organization or area of research.

- Participate in discussions: ask questions; share hypotheses; even copy, edit, and re-publish content to reflect your own perspective, expertise, and ideas.

- Publish WorldWide Telescope visualizations, stories, data, and metadata.

- Credit data sources; publish and receive credit for work with evolving citation tools.

www.layerscape.org
Origins (not the universe but related)

- All started with Big History
- Conveying the vastness of time
- 13.7 billion years ago until today
- Hard to grasp without data visualization
Video
Need

• Easier way to consume information - scientific humanistic

• Beyond word search - interactive visualization.

• Cross disciplinary collaboration – an environment at the crossroads of humanities and science

• Interest to everyone - suited to way K-12 like to learn.
Get Involved
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Join
Facebook.com/ChronoZoom

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Questions