Grid Based Search From Project to Commercialisation Prof. Jim Austin CEO

Sept 2009

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> high performance pattern recognition systems

Overview

- Who we are
- How we got here
 - SDE and Grids
- Where we are going



Company Overview

CYBULA> high performance pattern recognition systems

Cybula

- Founded 2000
- Spin-out of University of York, Computer Science
- Privately funded and owned company
- Based in IT centre at York Science Park
- Draws on 35 staff





Cybula



- Sells high performance pattern matching software and hardware
- Provides R&D to support customers needs
- Works with end users in vertical market segments



University

- Department of Computer Science, University of York
- Advanced Computer Architectures Group
- 30 members
- eScience, Pattern Recognition and advanced architectures



Relationship

- Cybula is privately owned
- University provide technology under licence
- IP remains in University
- Royalties paid to University
- Allows a technology pipeline
- Simple and effective

Technology

Signal Data explorer

- Distributed search engine for signals
- Visualisation system for time series data
- Applications
 - Diagnostics and prognostics
 - Neuroscience



Projects

Distributed Aircraft Maintenance
Environment: DAME eScience project

Ran up to 2004 – basic technology

- BROADEN eScience project
 - Ran from 2004 2007 applied research
- CARMEN eScience project
 - Runs from 2007-2011 applied to science



formance pattern recognition systems

Architecture Components



- Four components of architecture
 - Interactive Visualisation/Search Environment
 - Distributed Search
 - Data Virtualisation
 - High performance search engine





Pattern Match Controller

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SRB System Architecture







- AURA Advanced Uncertain Reasoning Architecture
- Set of methods for dealing with complex data
- Based on neural networks



Advantages

- Depend on application area
 - Fast and scalable for complex data
 - Other methods built on conventional database methods – slow for this type of data



Customers

Examples

- Rolls-Royce Aero-engines
- Bombardier transportation
- Scottish and southern energy



Successful exploitation

- Good technology pipeline agreement between University and Company – ensures new developments keep you ahead
- Focus on needs of customers and make technology fit ... not the other way around
- We undertook projects to understand users needs, then developed product from this



Successful exploitation

- Build IP and skill in company before getting investment – sell to early and value will be low
- While doing the above undertake project work (to keep you going!)
- Use the University skills in the technology area if possible
- If you believe in your technology, others will too
 always be positive





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