Education and Culture DG

Lifelong Learning Programme

Database Technology Professional Extended
DBTech EXT

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This presentation is the result of collaborative work undertaken along the lines of the DBTechNet Consortium. The speakers participate in DBTech EXT, a project partially funded by the EU LLP Transversal Programme (Project Number: 143371-LLP-1-2008-1-FI-KA3-KA3MP

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Lifelong Learning Programme

DBTech EXT

Virtual Laboratory Workshop

on

Business Intelligence & Knowledge Discovery from Databases (BI & KDD VLW)

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BI&KDD VLW Overview (1)

A) The tutorial part

Video presentation and ppt slides on:

- Data vs. Information
- Shallow/Multidimensional/Hidden/Deep Information
- The KDD Process
- Data Mining Strategies
- Information Representation and Interpretation

BI&KDD VLW Overview (2)

B) Self-practicing part

Exercises with model answers on:

- Affinity Analysis (Apriori algorithm)
- Decision Trees (J48/C4.5)
- Clustering (K-Means, DBSCAN, Agglomerative)

BI&KDD VLW Overview (3)

C) Hands-On Self-Study and Practicing

- Association rules mining (WEKA, IBM I.M.)
- K-MEANS clustering (WEKA)
- Classification (J48/C4.5 WEKA)
- Using the K-MEANS output to improve the quality of the J48 output (WEKA)
- Recommender system processing with association rules mining, improved with demographic clustering*

* IBM DB2 DWE IM Tutorial: *Managing your business in retail*

http://www.ibm.com/developerworks/edu/dm-dw-dm-retail_tutorial-i.html

BI&KDD VLW Overview (4)

D) Laboratory Report

Association Rules Mining:

- Software used: WEKA and IBM Intelligent Miner
- Datasets: (a) HEAL-Link e-resources/journals dataset
  (b) Titanic dataset

E) Quiz-Assessment

MCQ type

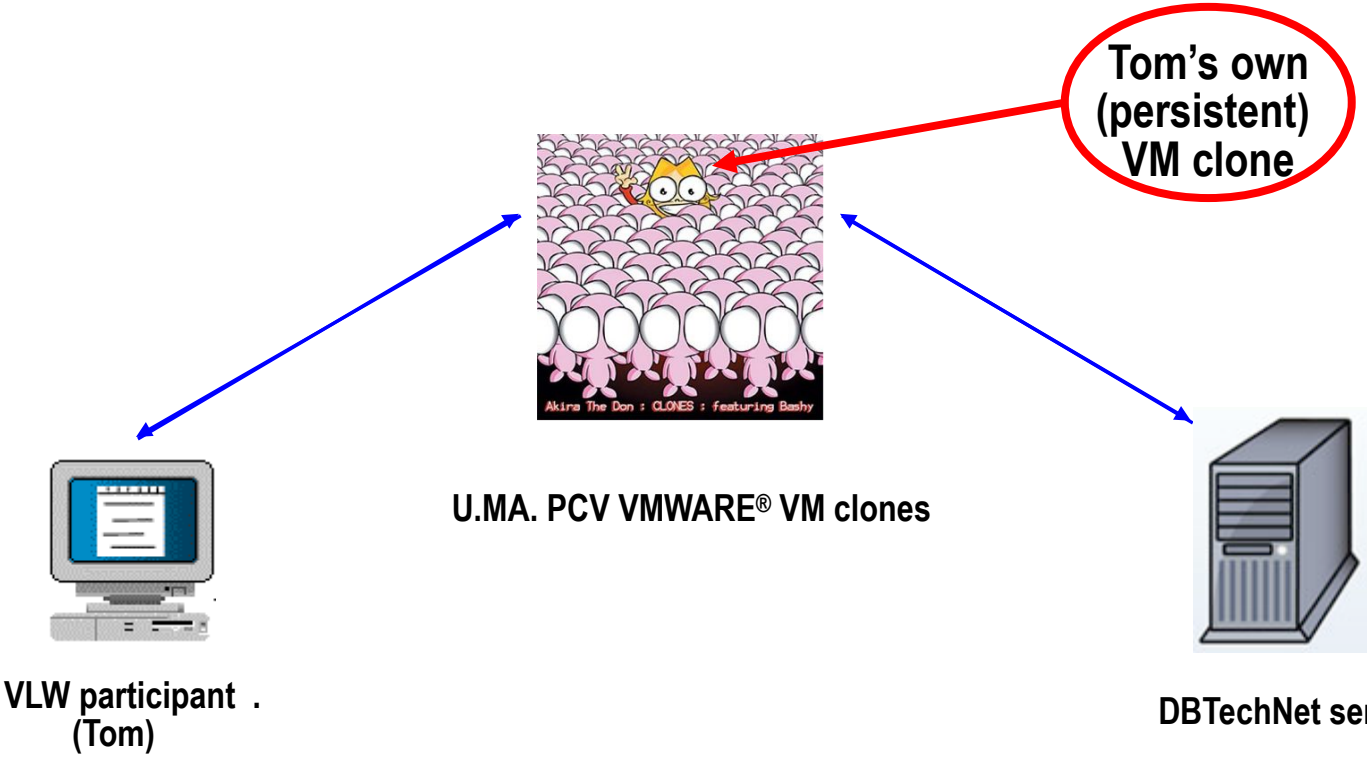
F) Supporting Material

'How To" Guides, Software installation and user guides (with videos), Trainer's/Trainee Guides, bibliography, etc.

Content Organization (http://dbtech.uom.gr)

- Three-level access authorization scheme:
  public access, portal user, BI&KDD user
- One-point of entry to all VLW content (BI&KDD "RoadMap")

The UMA PC Virtual Environment



...resolves the commercial software licensing issue

Trainer(s)-to-Trainee(s) Communication

A) Asynchronous

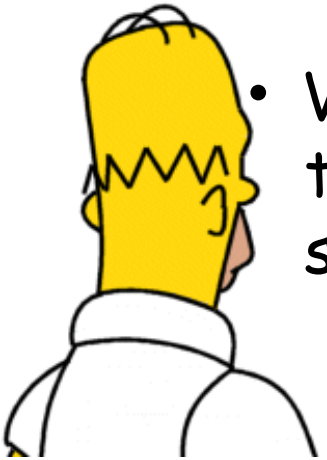
- email
- Discussion fora
- Google Docs forms

B) Synchronous

- 1-1: Skype (with screen sharing, if needed)
- 1-M: Adobe Connect Pro (UMA, HAAGA-HELIA)

Conclusion

- DBTech EXT BI&KDD VLW overview
  - Content outline and organization
- Self-study, self-practicing (model answers, step -by-step instructions for the 'hands-on' part
- Open source and commercial software utilized)



- Virtualization technology utilized, both to distribute the sw used, as well as to overcome the commercial software user licensing issue

Thank You
for
Your Attention!