A Platform for Ubiquitous Context-Sensitive Applications

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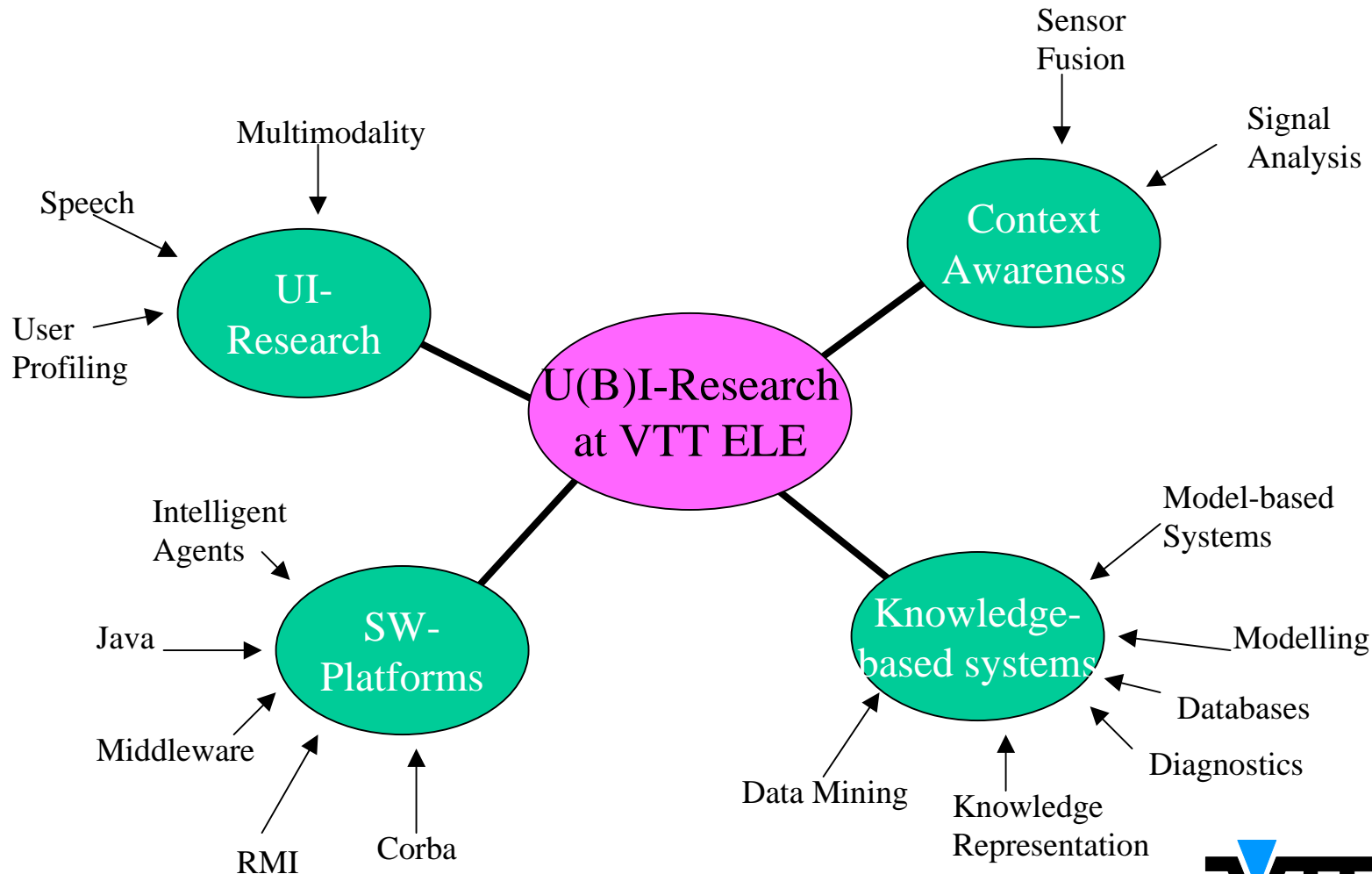
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HUC2K, September 2000, Bristol
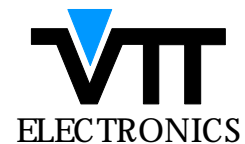
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Backround and current research topics

Requirements for the Platform

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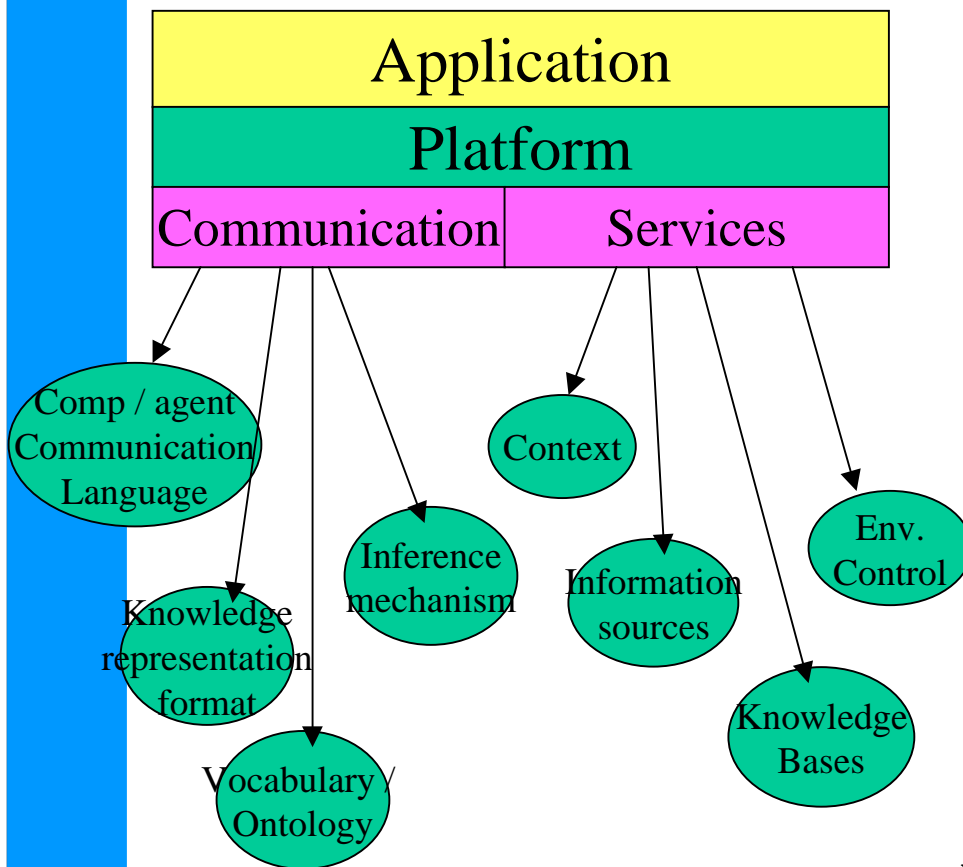:sender Chihuahua
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(tell
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- Co-operating appliances / artefacts
  - Common Protocol for exchange of messages
  - Shared vocabulary (domain ontology)
  - Common messsage format
- Appliances must be able to locate each other
  - Plug and play + white- and yellow pages-like services
- Environments aim is to support the user
  - Users context and desires
  - Personal agent / assistant
  - Artificial Intelligence?

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Infrastructure for Smart Devices

Application	
Platform	
Communication	Services

- Comp / agent Communication Language
- Knowledge representation format
- Vocabulary / Ontology
- Inference mechanism
- Context
- Information sources
- Knowledge Bases
- Env. Control

- Agent platform
  - Autonomy, Intelligence
  - Task in co-operation with other agents
  - Service and resource management
  Communication
    - Agent communication languages
    - Knowledge Interchange Format
    - Vocabularies, Ontologies
    - Data Transfer

Future Challenges

- Sensor data enhancement
  - Raw data to symbolic information
- Knowledge representation & Ontologies
  - Representation format
  - Ontology design (restricted yet sufficient)
  - Inference & combination of knowledge
  - Goal setting
- User-centred operation
  - User profiling
  - Learning
  - Pro-active operation

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The end

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