Q-CAD: QoS and Context Aware Discovery Framework for Mobile Systems

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Background

- Pervasive Computing Environment
  - Users reason in tasks
- Task:
  - “I want to print a picture”
    - Binding to a remote service
    - Getting the code to talk to the remote service
- Many choices for each task to be made
  - Context
  - QoS
  - Different ways to deal with choice
Q-CAD

- Application – Aware framework
- Resource:
  - Sensor, Service, Component
  - Resource Descriptor
- Context
  - Application Profile
- QoS
  - Utility Function
Q-CAD Basics

- Proactive & Reactive Actions
- Binding
  - Association of component with resource
- Application Profile
  - Preconditions, context evaluation at many stages
  - “Pruning”
- Utility Function
  - Evaluated locally or remotely
  - Notification to the user
  - Selection
Discovery Protocol Sample

Proactive Discovery
Conclusion

• Q-CAD
  – QoS and context aware framework for resource discovery
    • Component, Sensor, Service
  – Application Profiles
  – Utility Functions
  – Protocol can be recursive

More information at:
http://www.cs.ucl.ac.uk/staff/s.zachariadis/