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

- QoS-based Context – Aware Resource Discovery Framework for Mobile Devices

- Resource:

  - Sensor, Service, Component

  - Resource Descriptor

- Context

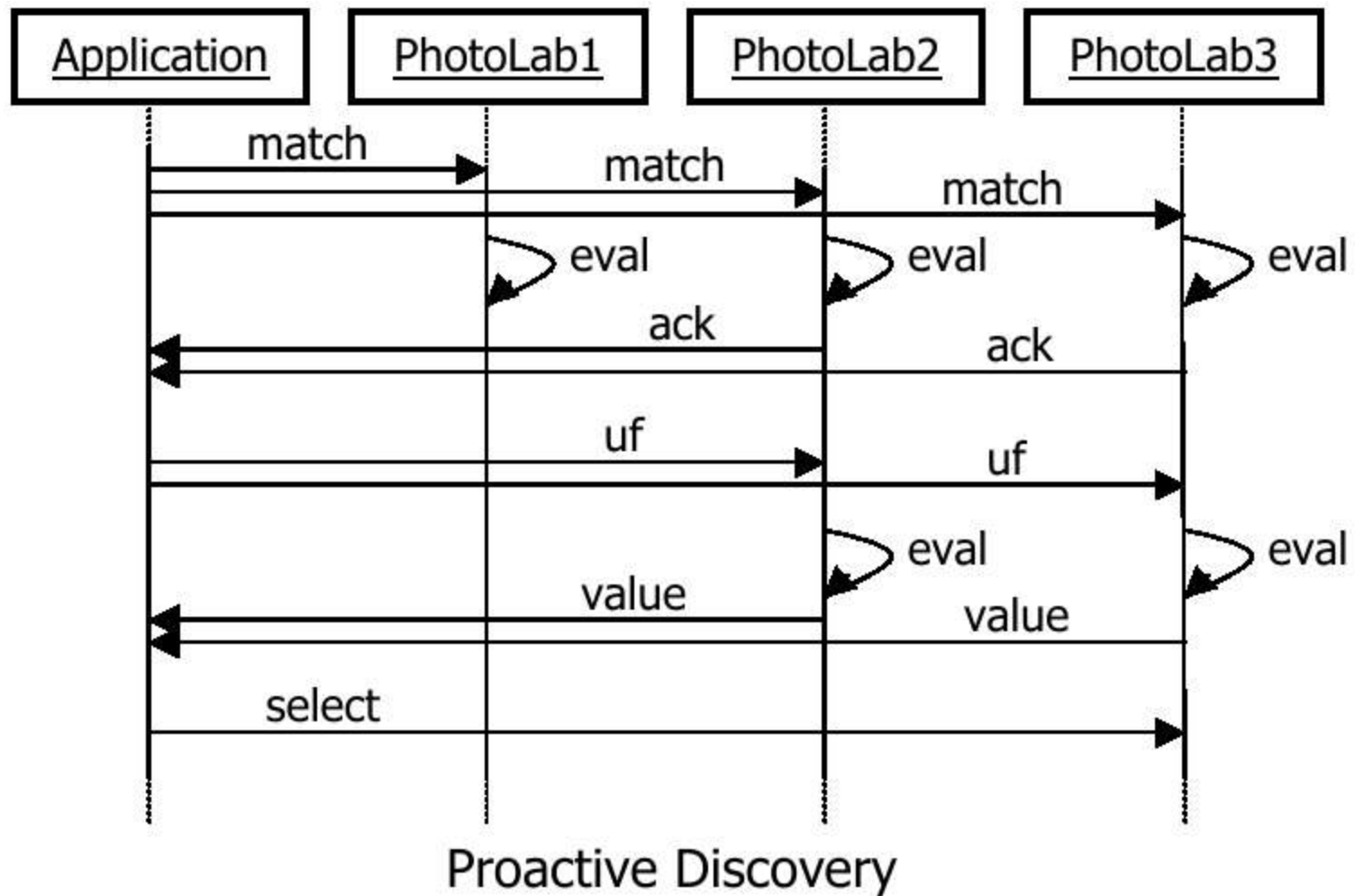 - Application Profile

- QoS

  - Utility Function

Q-CAD Basics

- Proactive & Reactive Actions

- Binding

  – Assosiation 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/