# Architectural Ideas for the Support of Adaptive Context-Aware Applications

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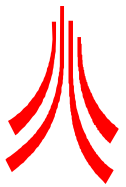
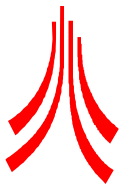
# Current State…

- Apps that adapt to various context…
- Enabled by ‘flows’ of information.
  - e.g. MOST platform – flow from network to app via platform.
  - Platform can adapt
  - App can adapt
- But if we have another app on system…



# Thesis…

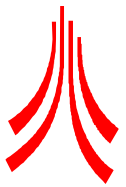
- Need coordination…
- Example – Power Management
  - Goal: conserve power
  - Consider auto-save feature…
  - Apps write to HD on an Ad-Hoc basis…
  - Optimum approach is for apps to write to the HD at the same time



# Avoiding Conflicting Adaptation

- Consider Portable PC with 2 independent adaptation mechanisms
  - Power and Network Bandwidth
- Consider situation where…
  - System needs to reduce power
    - Request apps to postpone network usage
  - Result… available bandwidth increases…
    - Network adaptation mechanism called
    - Apps increase their bandwidth requirements…
- Need priorities…

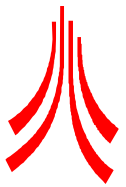




# Obtaining Location Context…

- Discover what services are out there…
  - GPS service and Network service
  - Each have pros and cons…
  - Which Service do you use…





# Concluding Remarks

- Working with SSDP, XML and SOAP
- Need…
  - system wide adaptation policies…
  - notion of priorities, policies and user involvement.
- Research questions:
  - How do we cope with the extensible set of attributes.
  - How to allow users to describe their adaptation requirements in a richer manner.