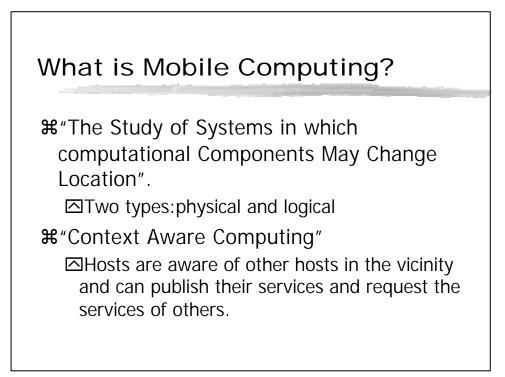
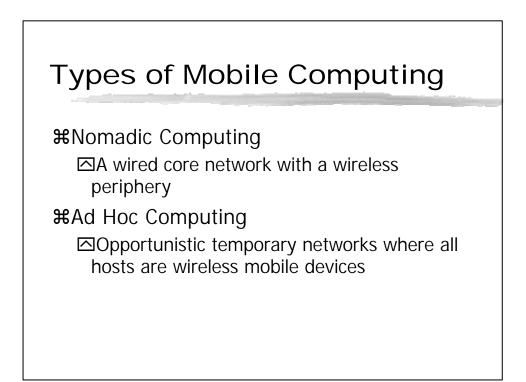
Mobile Computing

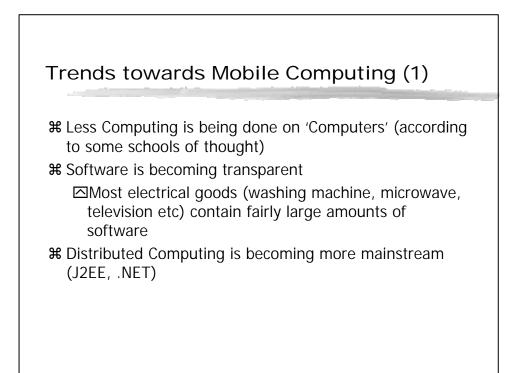
Kevwe Edewor & Adam Hardy 14th December 2001 3C05 Software Engineering

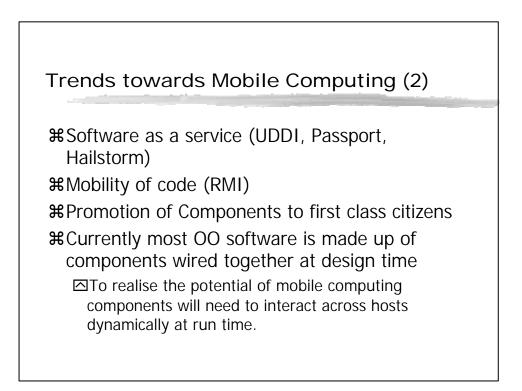
Objectives

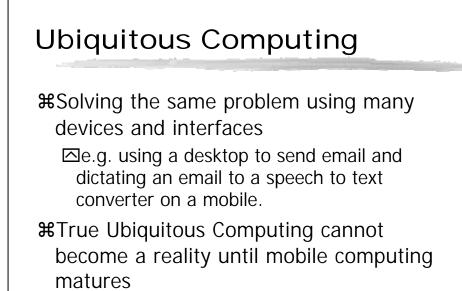
#Define Mobile Computing and look at current trends**#**Distinguish between types of Mobility**#**Examine Theory Research in Mobility**#**Examine Systems Research in Mobility

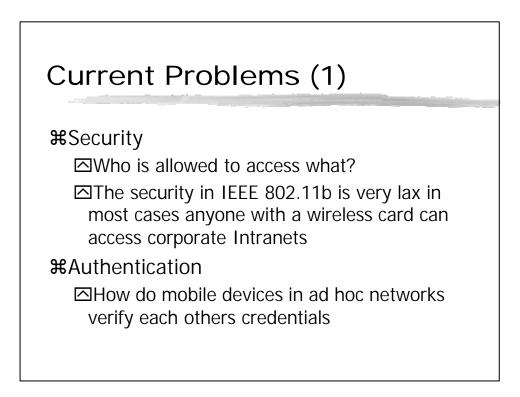












Current Problems (2)

#Creating a general specification that allows devices to offer rich services
#Creating the right level of middle-ware that addresses the needs of mobile computing such as location and signal strength that is not difficult to program.

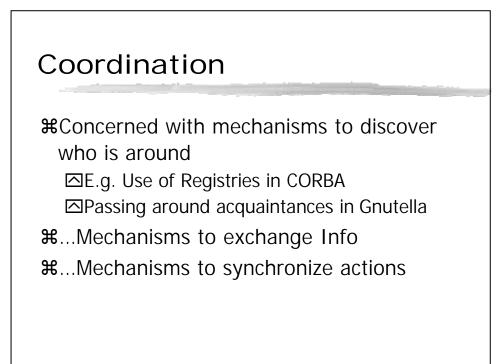
Types of Mobility

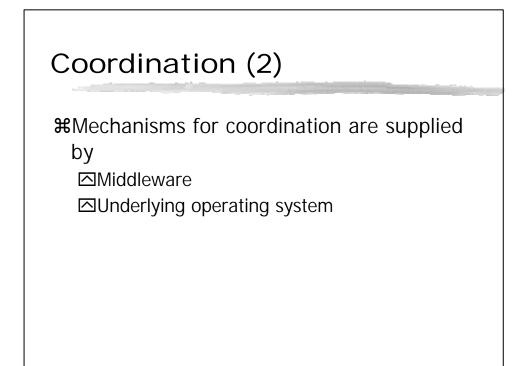
₩Physical

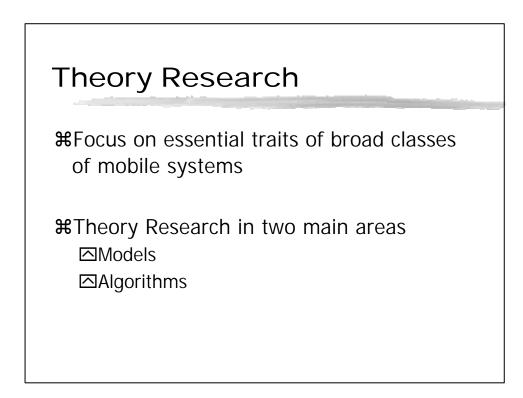
⊠Movement of a host in physical space

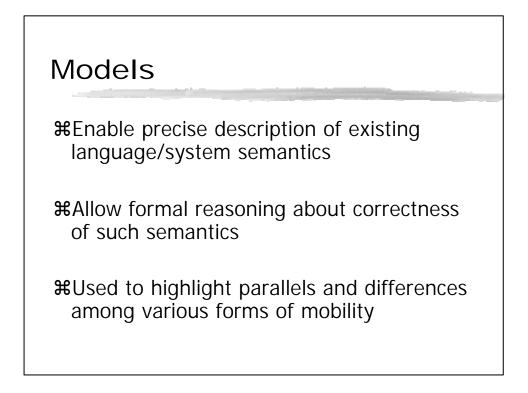
₩Logical

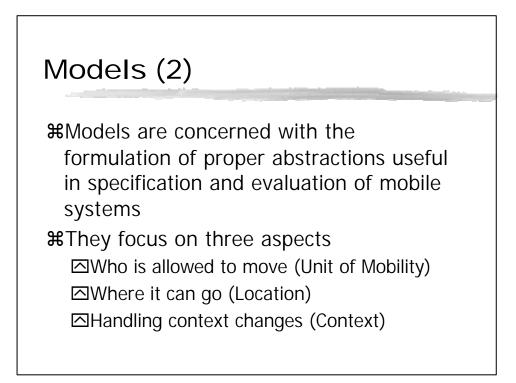
Movement of a unit of mobility among hosts

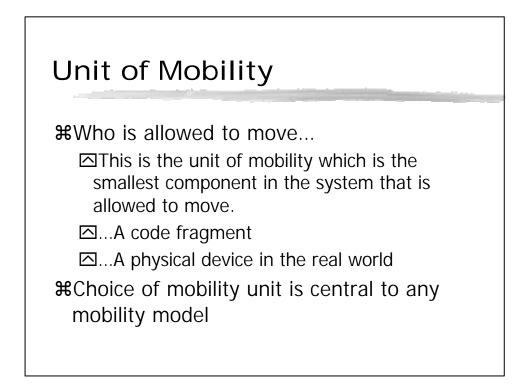








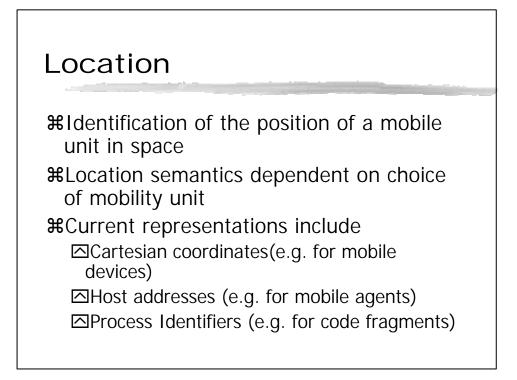


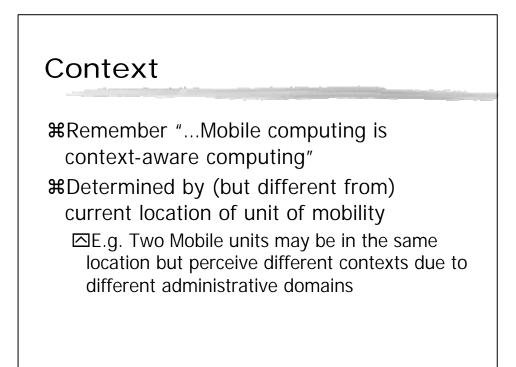


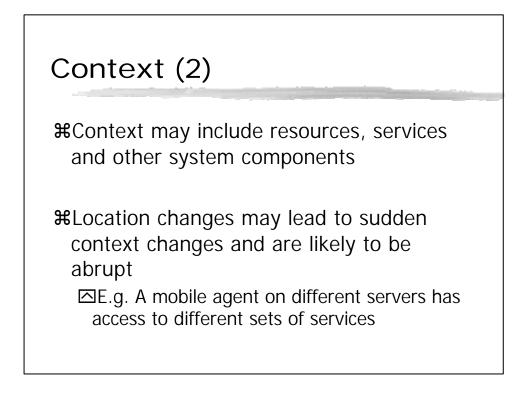
Unit of Mobility (2)

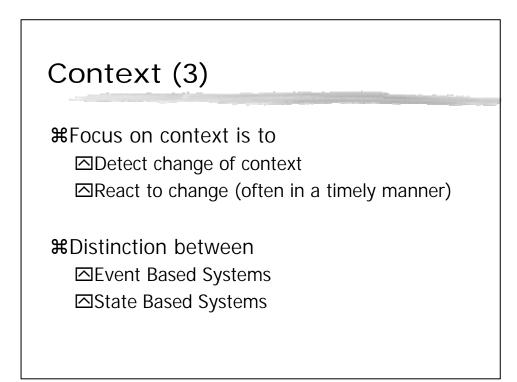
#Typical choice of mobility unit coincides with unit of execution. This unit of execution is commonly called a Mobile Agent

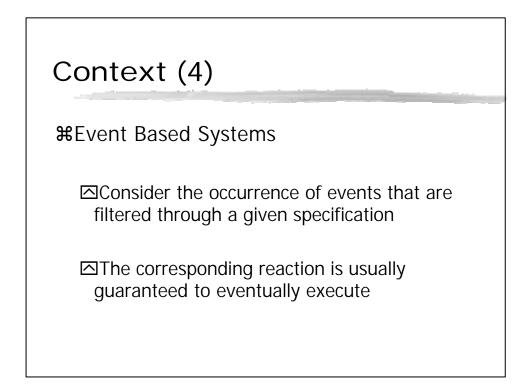
#Finer grained units pervasive in everyday practice.

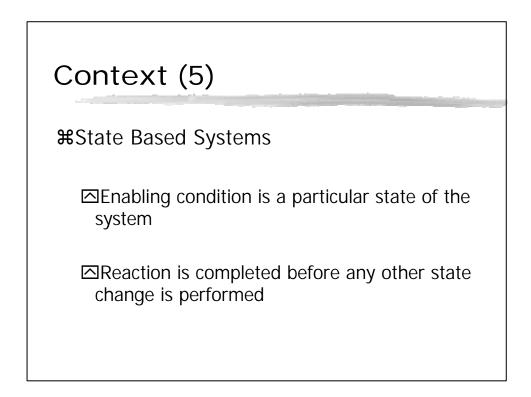


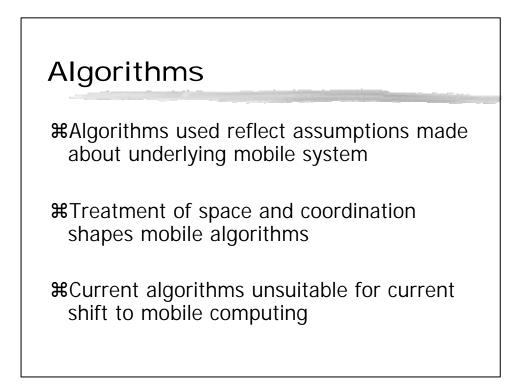


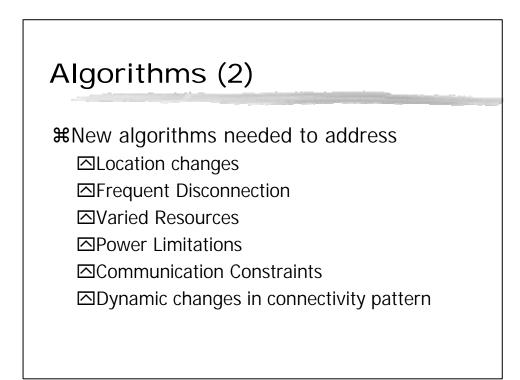


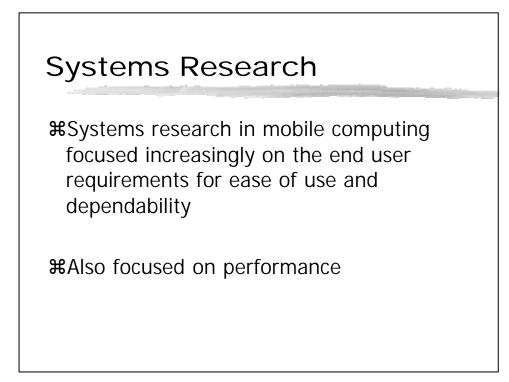


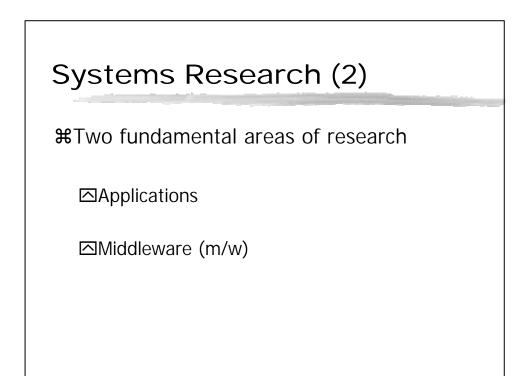


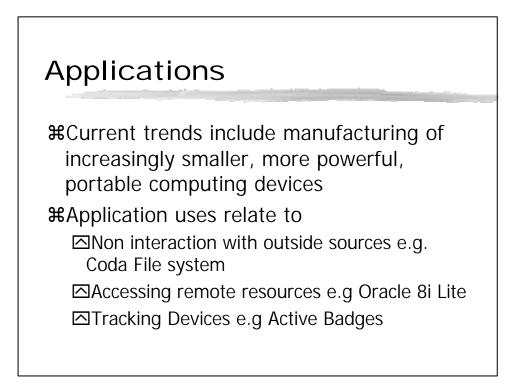












Applications (2) - Concerns

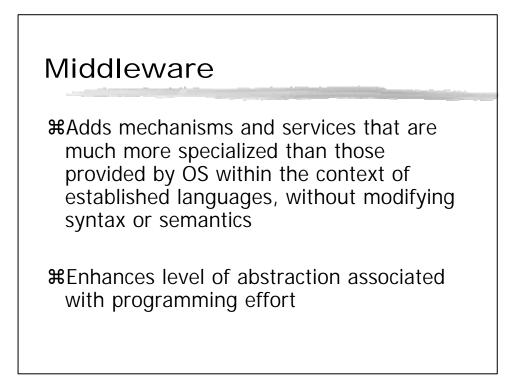
#User perception of application with respect to degree of exposure of mobility at application level (e.g. Coda File System)

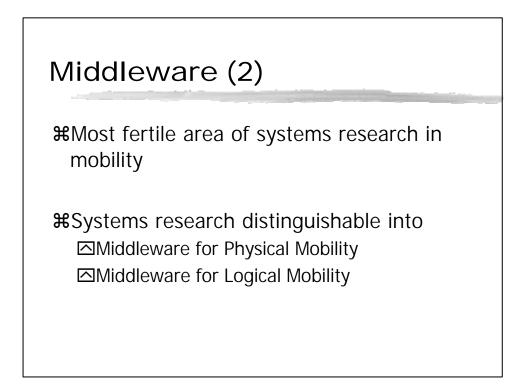
₩Variable Quality of Service
⊠Need to provide adaptability

Applications (3) - Concerns

Security Policies and security demands ⊡Movement between administrative domains

✗Environmental capabilities
 ☑Power availability (PDA Vs Notebooks)
 ☑Connectivity patterns (Base Stations Vs Ad Hoc environment)



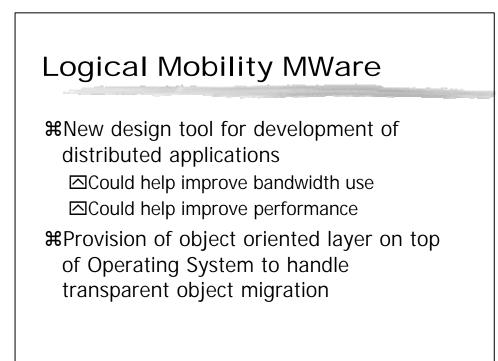


Physical Mobility MWare

#Application centred

#Unit of mobility concerned is Mobile Host

#Provision of mechanisms to detect connectivity, variations of Quality of Service, Service Lookups.



Logical Mobility Mware (2)

%Unit of mobility could be
△Unit of execution e.g. mobile agents
△Finer grained units e.g. Java classes **%**Need for mware support of relocation of code and state **%**Need for mechanisms that allow different rebinding strategies

