Mobile Computing's Impact on Software Construction

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Mobile/cellular computing devices significantly enlarge the base of networked gadgets. Due to limited hardware resources, the software components in these devices have to be small. As most of the devices will be networked, an adhoc coupling of these distributed components represents an alternative to conventional monolithic applications. The components then have to negotiate how to accomplish certain tasks. The talk discusses basic concepts of such adaptive software systems where components can test each others capabilities and check whether they can cooperate. Case studies exemplify that adaptive components form a natural paradigm for software construction in a networked computing context. The trend towards small mobile devices also influences the way we interact with computers. An overview of current research projects in our group rounds out the presentation, illustrating some applications that become possible only through mobile gadgets.

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