

Unit 1 Question Bank

#college/uc

Explain DEI Model.(holistic framework for UbiComp.)

A novel holistic framework is proposed for UbiComp called the Smart DEI (Devices, Environments and Interaction) model. It is based upon three interlinked system viewpoints in terms of:

Internal UbiComp system properties: distributed, iHCI (implicit HCI), context-aware, intelligent, autonomous.

System interaction in three distinct external environments: ICT or virtual computing, physical world and human world.

Distinct design architectures: smart devices, smart environments and smart interaction.

Explain five main requirements of Ubiquitous Computing.

1. Computers need to be networked, distributed and transparently accessible.
2. Human computer interaction needs to be hidden more.
3. Computers need to be context aware in order to optimize their operation in their environment. It is proposed that there are two additional core types of requirements for UbiCom systems:
4. Computers can operate autonomously, without human intervention, be self governed, in contrast to pure human computer interaction
5. Computers can handle a multiplicity of dynamic actions and interactions, governed by intelligent decision making and intelligent organizational interaction. This may entail some form of artificial intelligence in order to handle:
 - (a) incomplete and non deterministic interactions.
 - (b) cooperation and competition between members of organisations.
 - (c) richer interaction through sharing of context, semantics and goals.

Explain UbiComp System Model with one use case.

UbiComp System Model can be used to detect masks and social distancing protocols in schools and colleges. If a class is not following the protocols, alert can be sent to the class coordinator and HoD/Principal. This can be done using cameras installed in the campus. Face detection can be used for detecting people without masks.