

307CR: What is pervasive computing?

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Pervasive Computing.

Pervasive Computing: Discussion.

- What is pervasive computing?
- What areas can pervasive computing be applied to?
 - 1)
 - 2)
 - 3)
- What makes a system pervasive?

Pervasive Computing

Hopefully we have come up with something like:

Definition (Pervasive Computing)

Embedding Micro controllers in **everyday objects** so that they can process and communicate information. It is **invisible**, computing that doesn't require a specific device, but can be found **everywhere**.

Examples: Monitoring Systems

The Classic pervasive system.

- Uses sensors to gather data to low power device
- Transmits this data to a central point (sink)
- Processes the data to information that helps make decisions.

Examples: Monitoring Systems

- Household Monitoring (Hive etc)
- Commercial BMS
- Server Farms
- Greenhouses / Farms etc.
- Glaciers, Volcanoes, Water Distribution Systems, Jet Engines, EOD suits

Examples: Asset Tracking

- Another common use.
 - Tag things (items / people)
 - Use sensors to detect when something happens
 - Process the data to help make decisions

Examples: Asset Tracking

- Warehouses
- Libraries
- Supermarkets
- Students

The Internet of "Things"

- Twittering Bhoys?
- Internet enabled fridges?
- Smart TV's?

Discussion

A Recap of the definition

Definition (Pervasive Computing)

Embedding Micro controllers in **everyday objects** so that they can process and communicate information. It is **invisible**, computing that doesn't require a specific device, but can be found **everywhere**.

Task 1:

"The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it."

– Mark Weiser

- In pairs, try to think of any technologies you believe have achieved this level

Task 2:

Quote 2

"Just because you can, doesn't mean that you should"

–Lt.Col. Carlos A Keasler

- Can you think of any technology that may fall into this category?

Task 3:

Quote 3

"Big brother is watching you"

– George Orwell

- What ethical / security issues can you think of that apply to pervasive computing

Summing things up

- These quotes form the basis of the approach you should take to pervasive computing
- When designing systems, think about the problem, think about the solution, then think about any potential problems your system may cause.
- There is no single solution to any problem, which is why you must be creative
- The more you know about pervasive technology, the more creative you can be.

What about Mobile Computing?

Discussion

Given our definition, can we define mobile phones as pervasive computing.

Questions:

Final round of questions before we finish.