

Do we have our heads in
the Cloud?

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What is this infrastructure?

- The desktop becomes “just” a terminal
 - Or a mobile; a games console; ...
- All the work is done by a server
- All the data is stored on a server
- If these servers are
 - Shared
 - Located “somewhere in the internet”
 - They can be accessed without needing to know their actual location
 - Users can access (and pay for) the computing they use, as they do for other utilities

Cloud Computing

- A technical and social reality – an emerging technology
- Unsure of future social, ethical, legal consequences it might have
- Computing & Social Responsibility
- How can new technologies be developed within the context of social responsibility?

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- Where is the data stored?
- Privacy security concerns
- Data integrity
- Who is backing up the data?
- Accountability
- Transparency
- Dependence - reliability

Cloud Computing: Issues

- People or organisations might not know where information and services are coming from or where their information is preserved
- Shifting of **control** from users to 3rd parties due to outsourcing & off-shoring
- **Storage** of data in multiple physical locations across many servers around the world – owned/delivered by different organisations
- **Interconnection** of multiple services – levels of functionality
- Unexpected & undesirable effects

Internet of Things: Ethical Issues

M2M connectivity and related services will be everywhere:

- Initially driven by operational cost reduction. In future, more to do with creating new service opportunities
- When there is a large population of connected devices, could data from one device be used in different ways by other devices?
- Where there is tracking, how secure should this be?
- Where data is collected for one application, what protection is there if it is then used for something else?
- Example applications that may cause issues:

Smart meters; Remote healthcare monitoring; PAYD insurance; People tracking. . .

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- Richard Stallman (2008) “It’s stupidity. It’s worse than stupidity: it’s a marketing campaign”
- Increasingly expensive locked and proprietary systems

Issues?

- Impact upon work activities
- Its practical and socio-political feasibility
- Corporate governance issues – vague
- More cost-effective than other, more traditional, forms of IT provisioning such as co-location.

Issues

- No control over data storage / security
- Lack of flexibility to install new software
- Need to negotiate with external supplier
- Reliance on the network
 - And little chance to influence that
- Geo-political issues
 - Governed by the laws of the country where the server is physically based

Do we have our heads in the cloud?

- Life will be awesome when everything moves to “the cloud”
- “the main attraction to the cloud to investors and entrepreneurs is the idea of making money from you, on a recurring, perpetual basis, for something you currently get for a flat rate or for free without having to give up the money or privacy that cloud companies hope to leverage into fortunes”
(Cory Doctorow)
- Monopoly who provides services on their networks?
- “rather than buying a hard-drive once and paying nothing – apart from the electricity bill – to run it, you can buy cloud storage and pay for those sectors every month!!”

(Cory Doctorow)

Ethical use of information highlights issues of:

- Privacy & confidentiality
- Ownership & accessibility
- Equity
- Accuracy
- Quality & reliability
- Can these be applied to Cloud Computing?

References

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