eServices and the Human Factor

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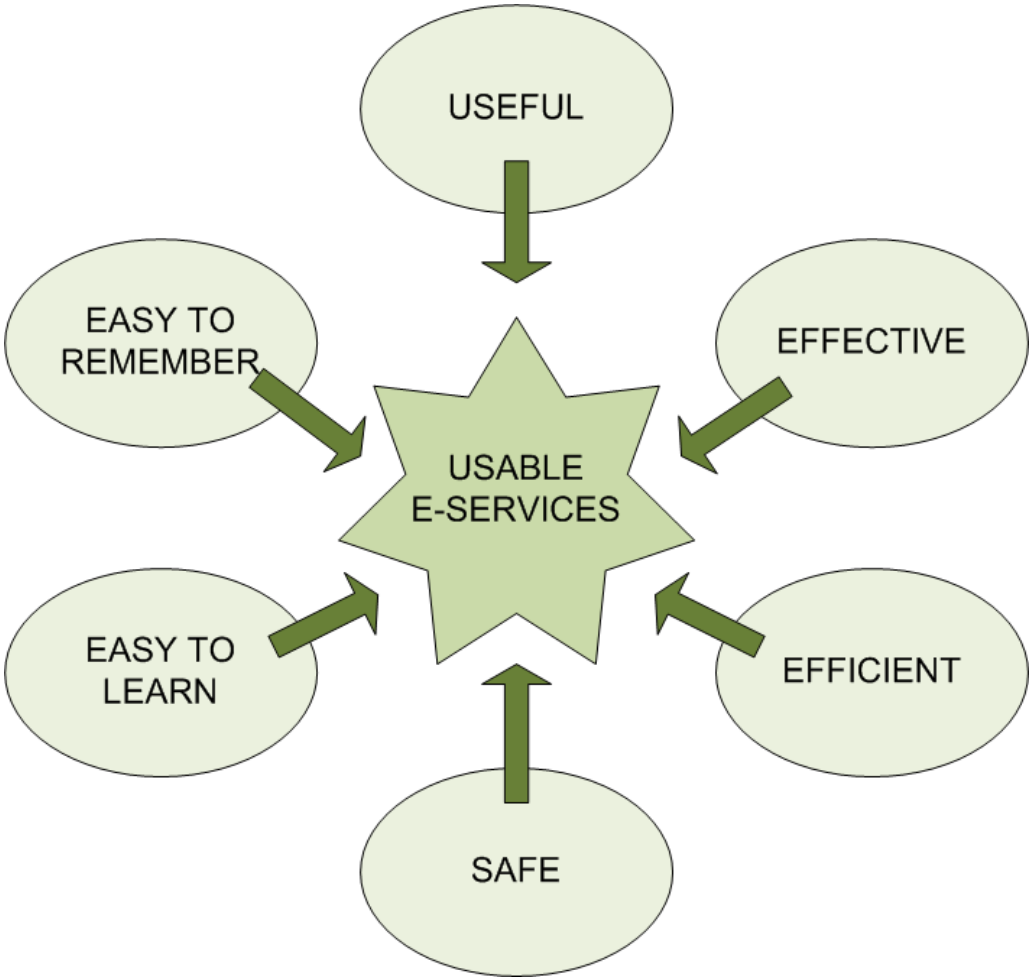
Our objectives:

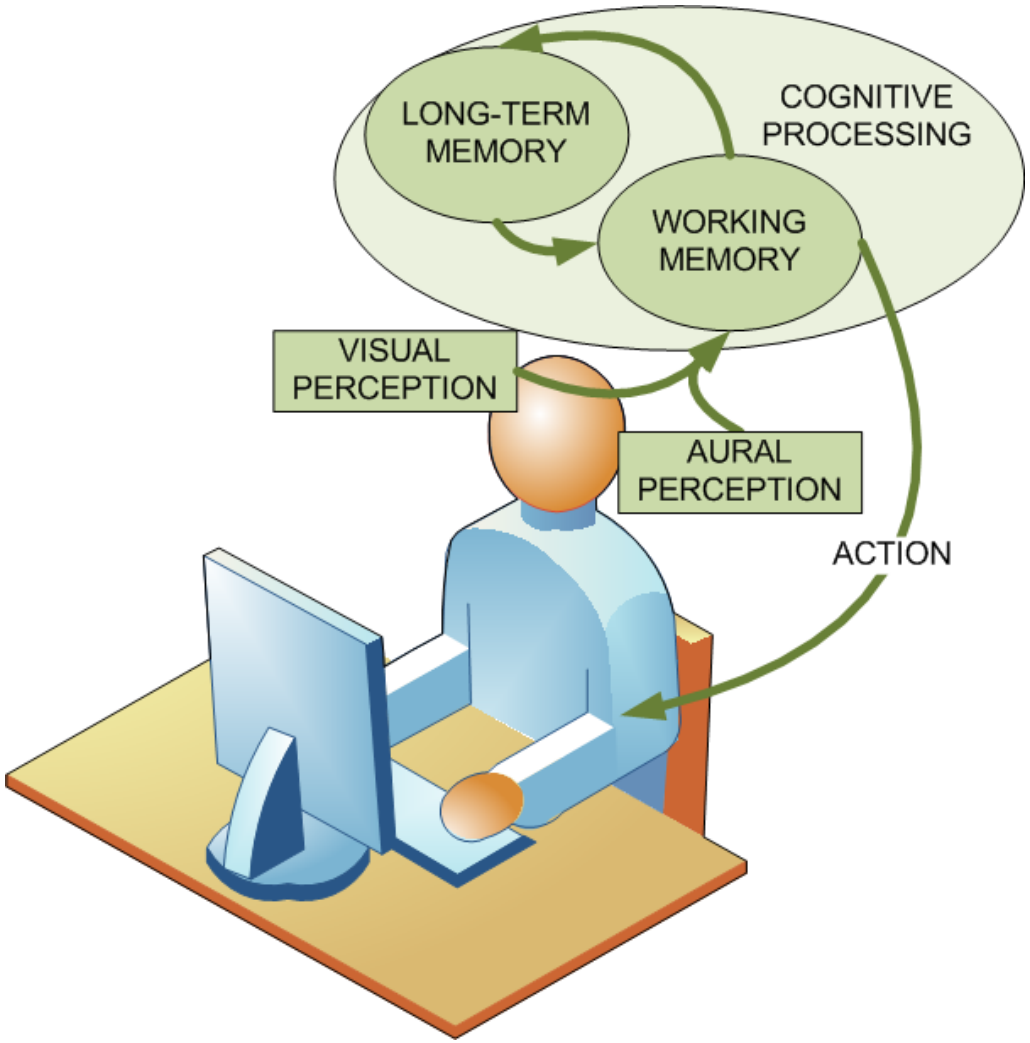
- Define the attributes of a well-designed e-service
- Examine some examples of well-designed and poorly-designed e-services
- Consider the processes necessary to ensure that your unit can and will provide well-designed e-services

A well-designed e-service is usable

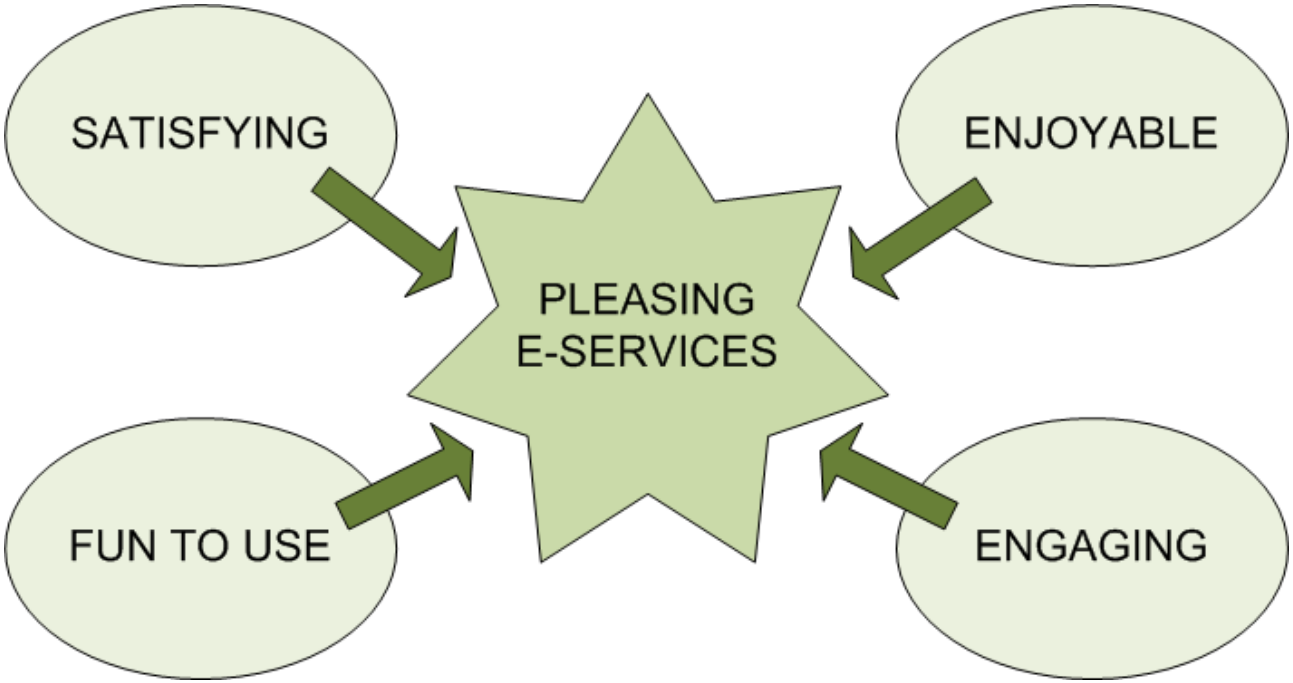


Information processing model

Card, Moran, & Newell, 1983

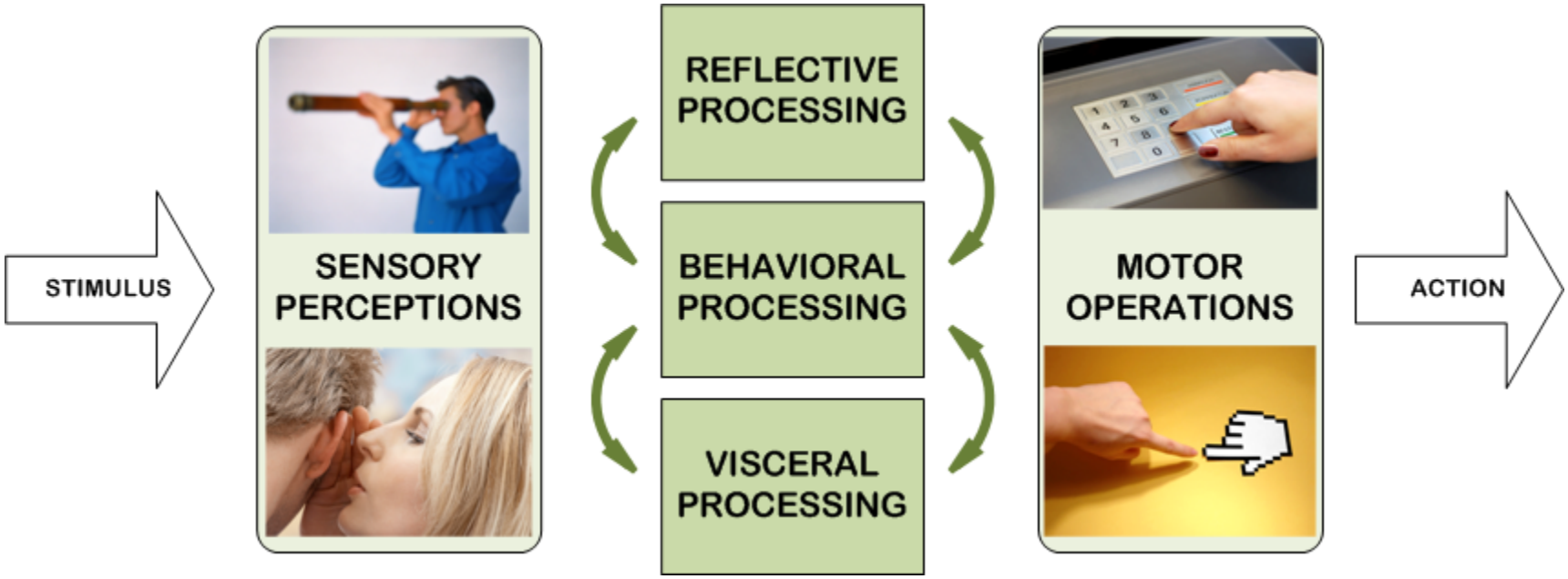


A well-designed e-service pleases its users



Emotional design model

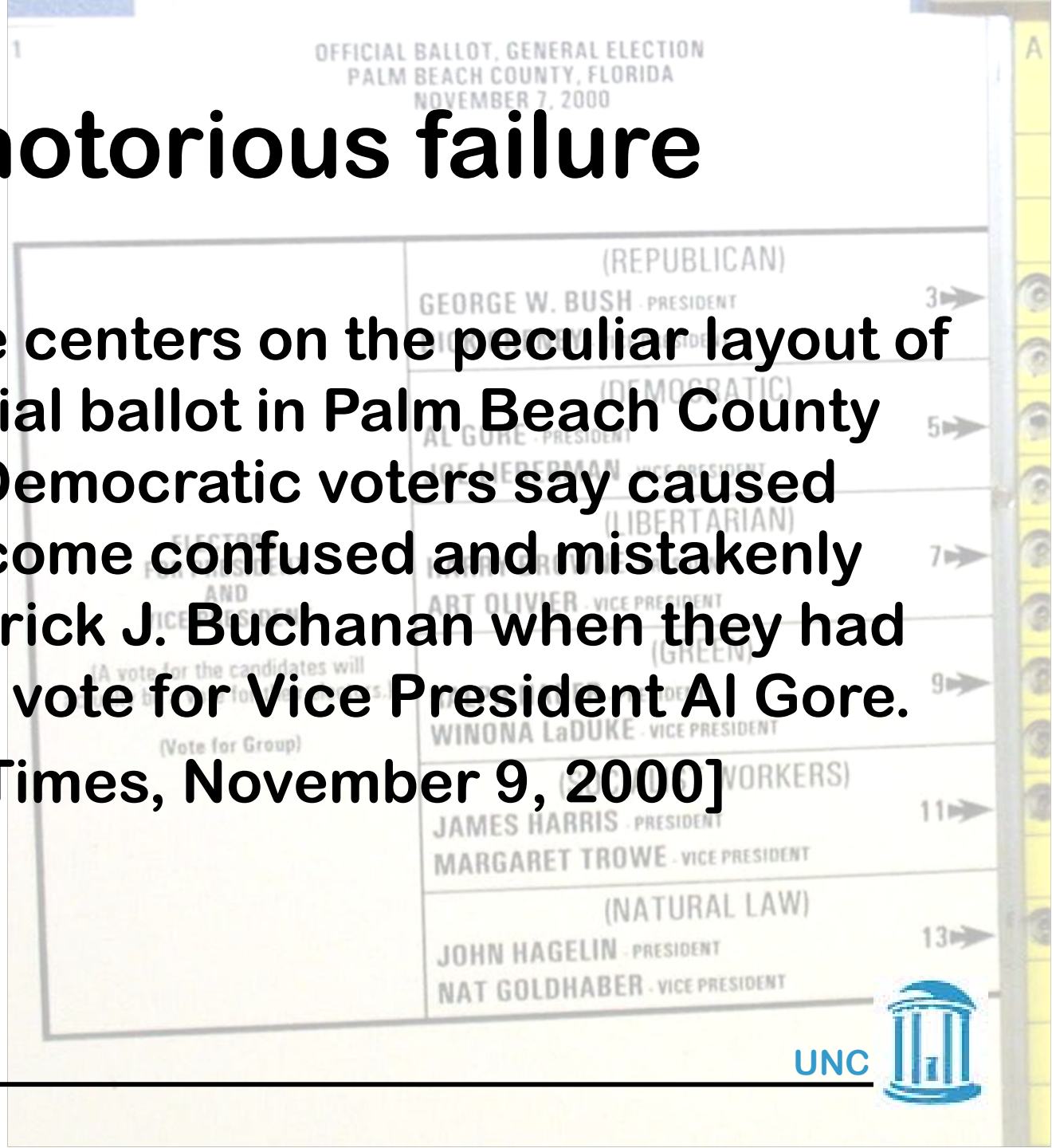
Norman (2002, 2004)



Well-designed e-services

- Usable e-services
- Pleasing e-services

A notorious failure



The dispute centers on the peculiar layout of a presidential ballot in Palm Beach County that some Democratic voters say caused them to become confused and mistakenly vote for Patrick J. Buchanan when they had intended to vote for Vice President Al Gore.

[New York Times, November 9, 2000]

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The problem

A user's perspective: "When I went to push the one for president, I pushed one and it seemed to be just below the office of vice president. It seemed like I had to push one for vice president, too. Then I saw I had accidentally voted twice."

[South Florida Sun-Sentinel, Nov. 7, 2000]

One “solution”

Director of the State Division of Elections: “I don't think they are confused. I think they left the polling place and became confused. The ballot is very straightforward. You follow the arrow, you punch the location. Then you have voted for who you intend to elect.”

[South Florida Sun-Sentinel, Nov. 7, 2000]

Is this just ancient history?

- In Effort to Simplify Ballot, Florida Adds More Problems [NYT, 2002]
- Absentee voters in the most populous county of a critical state in the presidential election are complaining about a ballot layout… [AP, 2004]
- Voter confusion over a poor ballot design was mainly to blame. [NYT, 2007]

Ballots aren't the whole picture

People are. And people differ.

- Experience using computers.
- Tasks they'd like to do.
- Awareness of services.
- Familiarity with services.
- Trust.
- . . .

E-services in e-government

- Making information available to the public
- Making communication easier
- Handling transactions
- Governing

(This is a technocentric description.)

E-services: Data transactions

- E-Procurement

  Should we target novice users?
- Online Tax Filing and Payment

  How trusting are users?
- Voter Registration

How fast must mistakes be flagged?

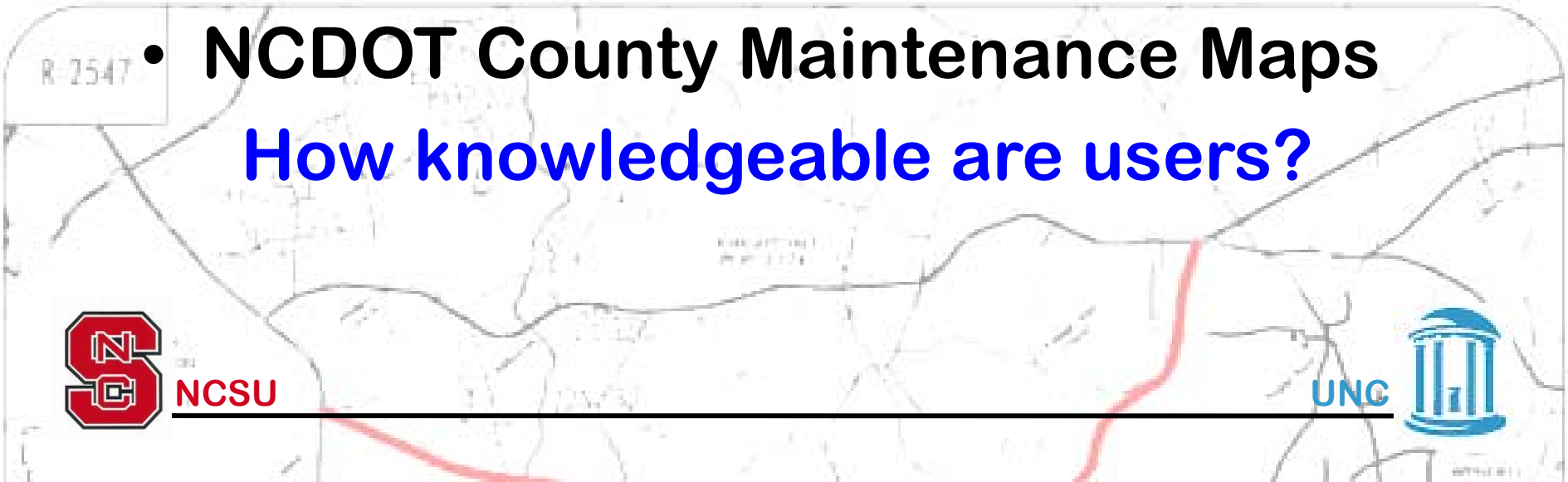
E-services: Information access

- Live Traffic Camera Images

  What are users looking for?
- Real Time Travel Information

  How patient are users?
- NCDOT County Maintenance Maps

  How knowledgeable are users?



Tricky e-services issues

- Adopt a Child

  Privacy?
- Criminal Background Checks

  Security?
- Sex Offender Registry

  Data integrity?

Issues

Half of all failures in software the fault of poor user interface design--complex systems no one can use.

Careful analysis is required of the interplay between tasks, people, and software environments to ensure success.

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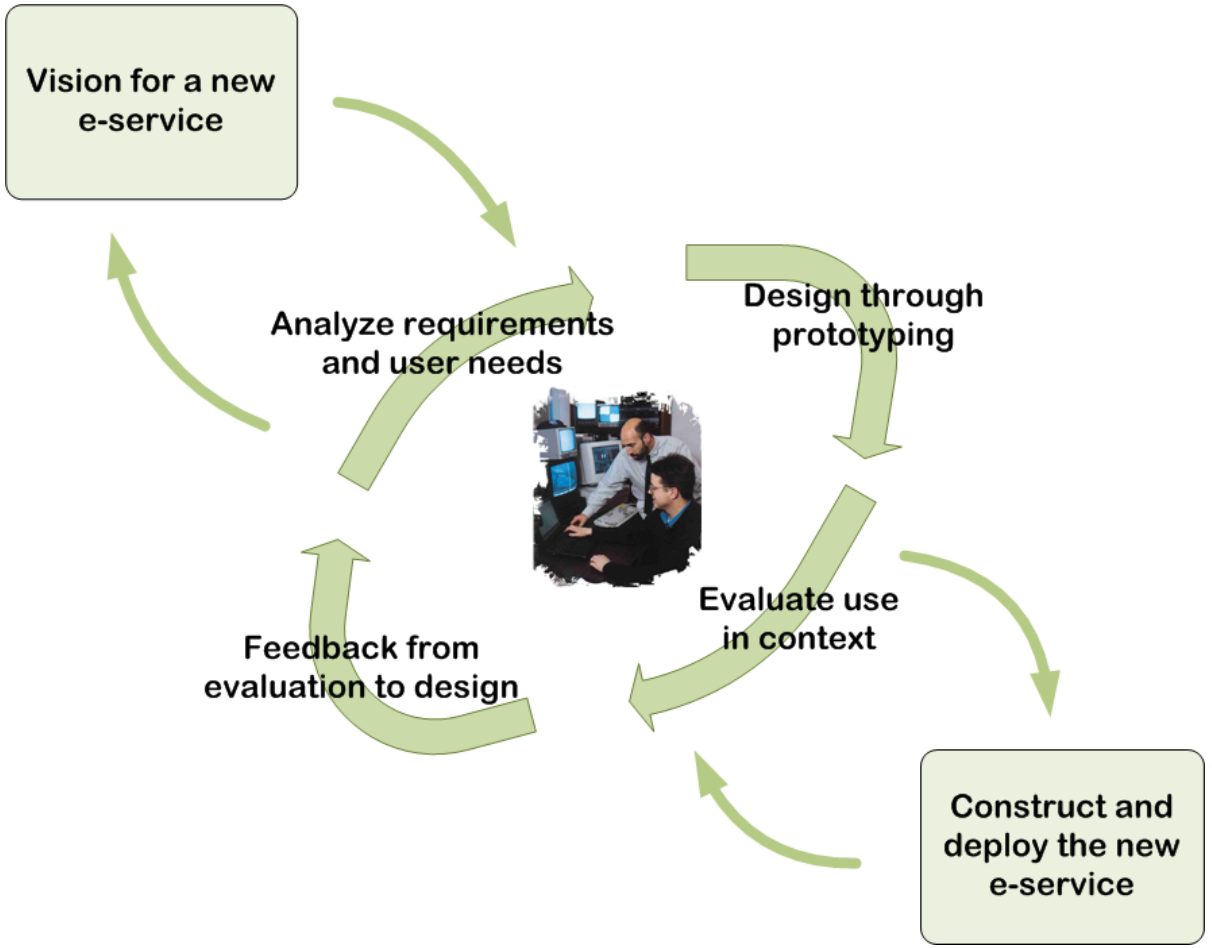
The system design lifecycle

Gulliksen et al. (2003)



Stakeholders in the design

- Users
  - Direct users: public
  - Direct users within the agency
  - Managers of agency users
- Other stakeholders
  - Upper management in agency
  - Upstream or downstream indirect users (in other agencies)
  - NC citizens

Developing a usability team

How can we ensure that government e-services are effective?

Time.

Money.

Resources.

Knowledge.

The first three are obvious; the last requires a team of experts.

Usability teams

A usability team is responsible for all aspects of the “user experience”.

Its specific activities can be tailored to the mission of the organization providing e-services.

Questions to answer. . .

What?

What kinds of results should a usability team be expected to provide?

Usability goals to target. Analysis of existing systems. Feasibility. Guidance during new development. Laboratory evaluation. Field studies. . .

When?

When should the services of a usability team be called in? For how long?

The received wisdom is that usability must be addressed early and continuously through development.

Where?

Where should a usability team stand with respect to other groups in an organization?

Consultants? Integrated into software teams? Independent across multiple groups? Answers depend.

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