# Active Web Technology

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## user view

- what changes?
  - media stream, presentation, content
- by whom?
  - automatic, site author, user
  - other users - feedthrough
- how often?
  - pace of change: days, months, seconds

## computation

where does it happen

client
- applets, JavaScript, Shockwave, DHTML

server
- CGI scripts, active server pages, servlets, etc,

other machine
- authoring machine, database server, proxy

people
- socio-techncal solutions

## security

- for computation
  - code and data at same place!
- problem
  - data - needs to be secure
  - web-server - least secure machine
  - client machine even worse

… and networks!

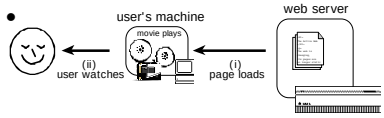
## architectural design

- what happens where
- affects:
  - complexity of implementation and maintenance
  - feedback
    - seeing results of one's own actions
  - feedthrough
    - seeing effects of other people's actions

## client side dynamism

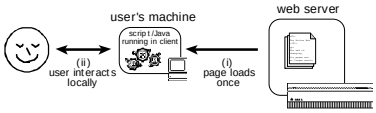
animation
Java and JavaScript
DHTML

## animated gif or movie




- pros: simple
- cons: predetermined sequence
  also … streaming audio/video

## Java applet or JavaScript running locally

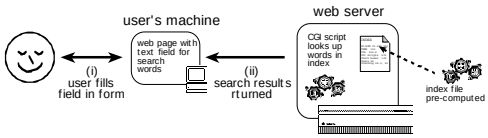



- pros: rapid feedback
- cons: only local, no feedthrough

## server side dynamism

CGI scripts
searches

## searches



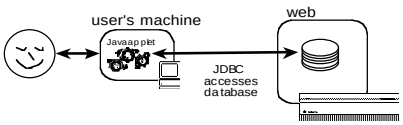

- create indices off-line
- fast lookup when needed

see `http://www.hcibook.com/`

## database access

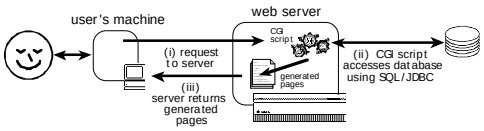
client-side - JDBC
server side - CGI etc.

## Java applet accesses database using JDBC



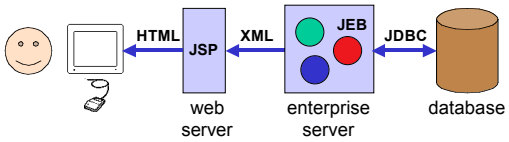

- pros: interactive DB access
- cons: bandwidth, security

## CGI script accesses database




- pros: up-to-date, use existing DB
- cons: not proxy/index friendly

## n-tier architectures

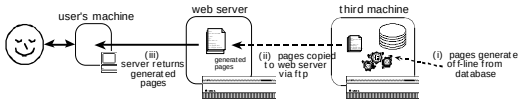



- one or more intermediate layers
- 'business logic' in layers
- web standard components and protocols

## socio-technical solutions

off-line generation
people in the process

## batch pre-generation of web pages




- pros: indexable, secure
- cons: slower turnaround