

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-technical 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!

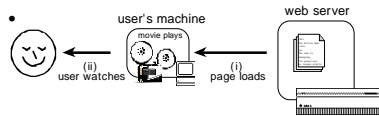
architectural design

- 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

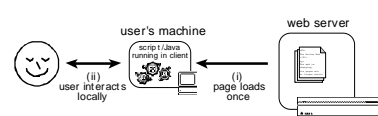
animation
Java and JavaScript
DHTML

animated gif or movie



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

Java applet or JavaScript running locally

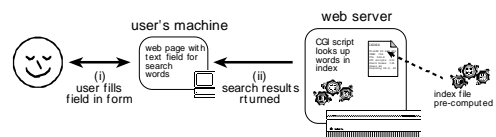


- pros: rapid feedback
- cons: only local, no feedthrough

server side dynamism

CGI scripts
searches

searches



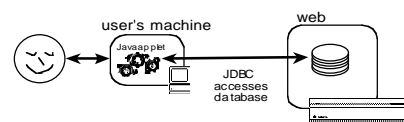
- create indices off-line
- fast lookup when needed

see <http://www.hcibook.com/>

database access

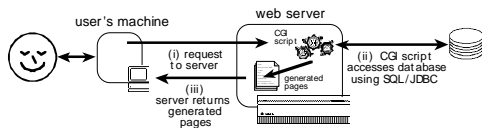
client-side - JDBC
server side - CGI etc.

Java applet accesses database using JDBC



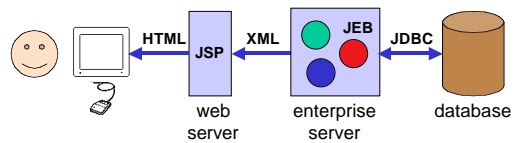
- pros: interactive DB access
- cons: bandwidth, security

CGI script accesses database



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

n-tier architectures

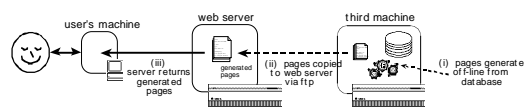


- one or more intermediate layers
- 'business logic' in layers
- web standard components and protocols

socio-technical solutions

off-line generation
people in the process

batch pre-generation of web pages



- pros: indexable, secure
- cons: slower turnaround