

# Web Technology

A decorative graphic consisting of a series of colored ovals arranged in a diagonal line from the top-left to the bottom-right. The ovals transition in color from light green on the left to bright orange on the right.

Fundamentals of web technology

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# Focus

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- We are concentrating on HTML-based Web-Applications like Amazon, Web-Shops, Newsrooms, Forums, ...



# Overview

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- Global View
- Terms
- How does HTTP works?
- What are the problems with HTTP?
- How can you design a Web-Application?
- What else should be considered?

# Terms

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- Browser / Client
  - Internet Explorer, Firefox, Opera...
  - Mobile Devices
- Server / Webserver
  - IIS, Apache, IBM Websphere, BEA Weblogic
- RFC - Request for Comments
  - Standards
- HTTP – Hyper Text Transfer Protocol
  - HTTP 1.0 / HTTP 1.1

# Terms – Client technology 1/2

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- HTML – Hyper Text Markup Language
  - Presentation Data & Structure
  - Layout
- CSS – Cascading Style Sheets
  - Formatting, Layout
- JS – Java Script
  - Client Side Code
  - Executed in the browser

# Terms – Client technology 2/2

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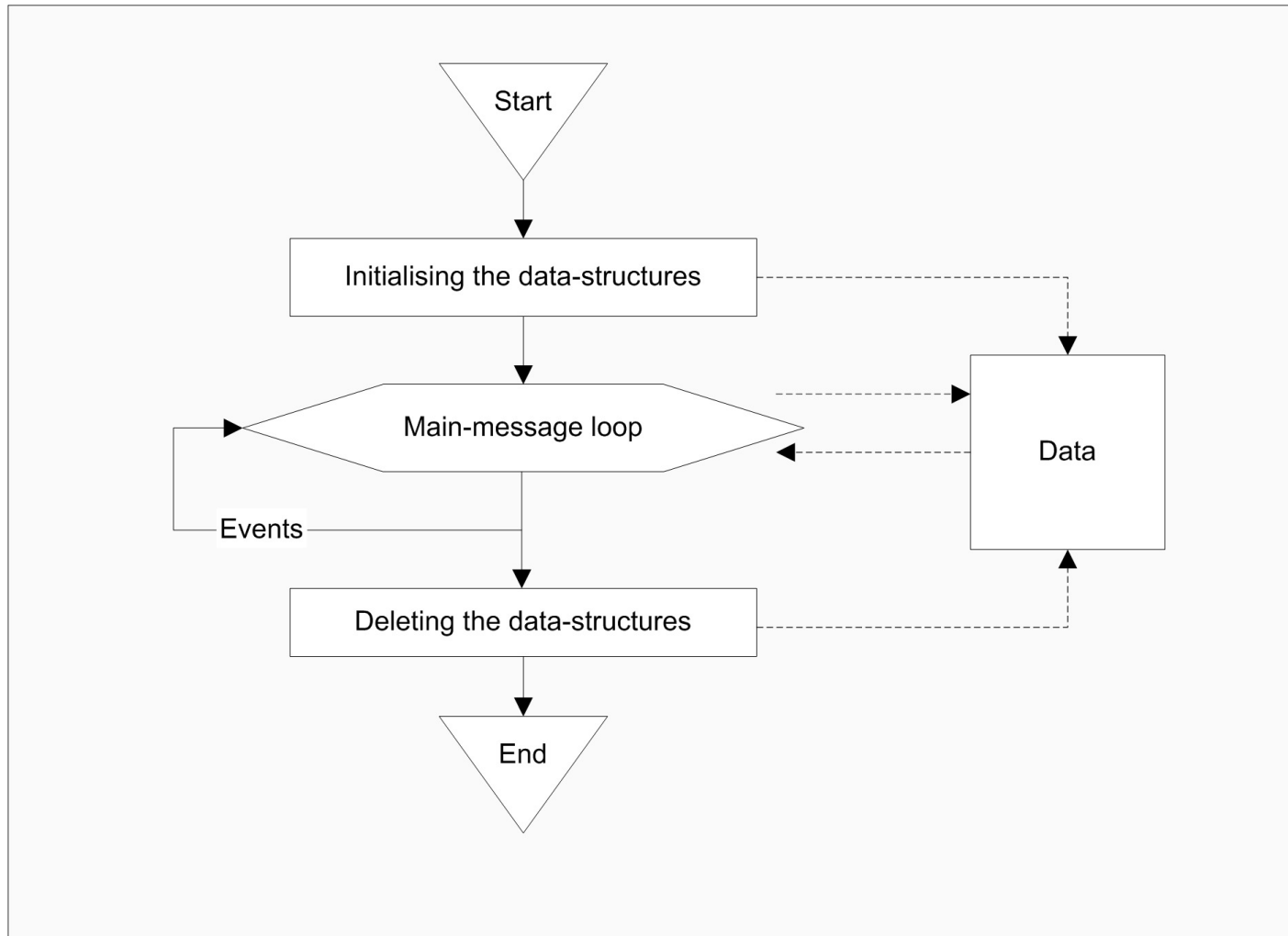
- Dynamic Page
  - HTML Document, which was generated on the server
- Static content
  - Files, which are saved on the server
  - HTML Documents, Pictures, Style Sheets

# Terms – Server

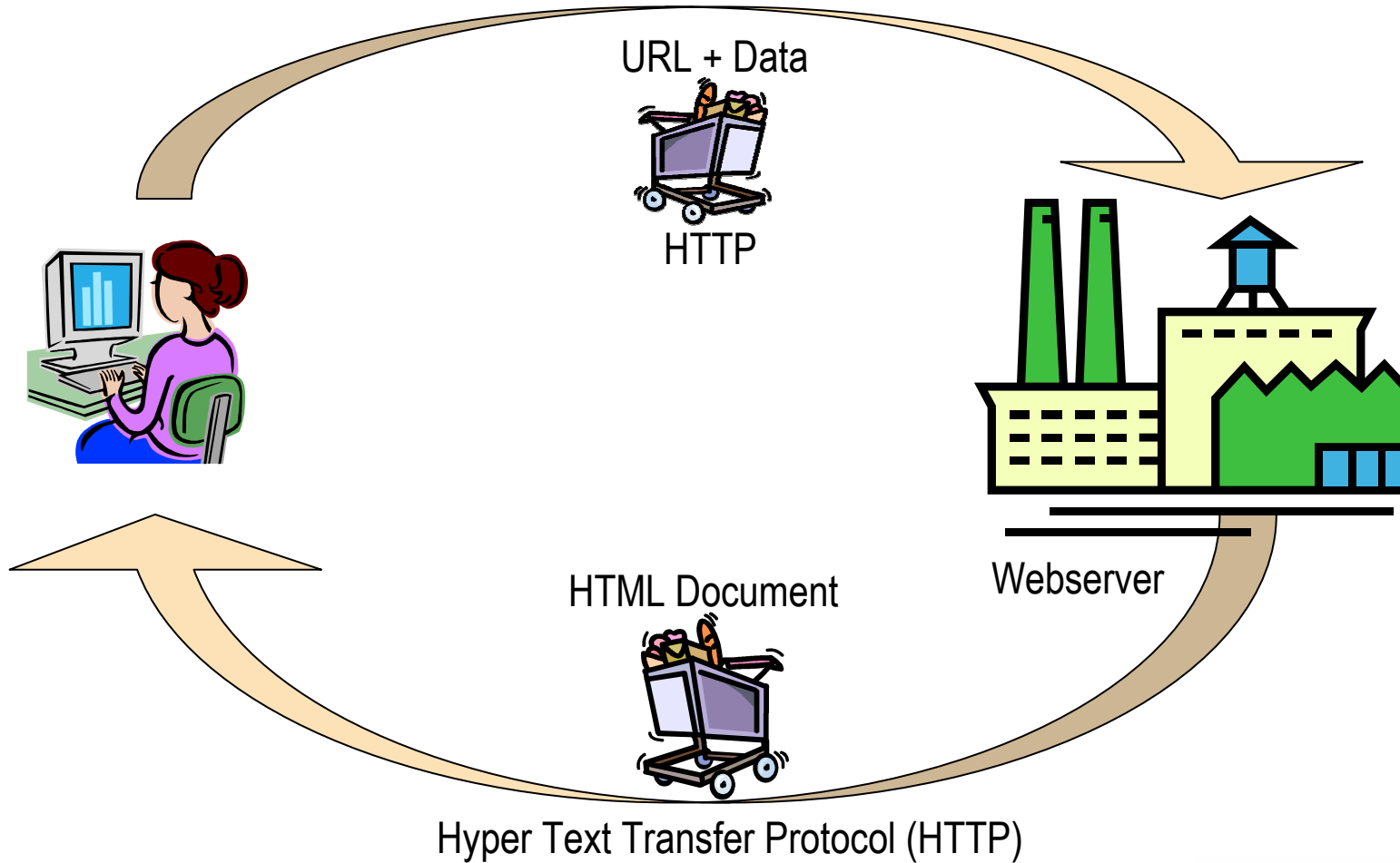
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- Application
- Session
  - A session of user interaction
- Cookie
  - Data saved on the client, transferred and set at the server
- Request
  - Data sent from the client
- Response
  - Data, which will be sent to the client

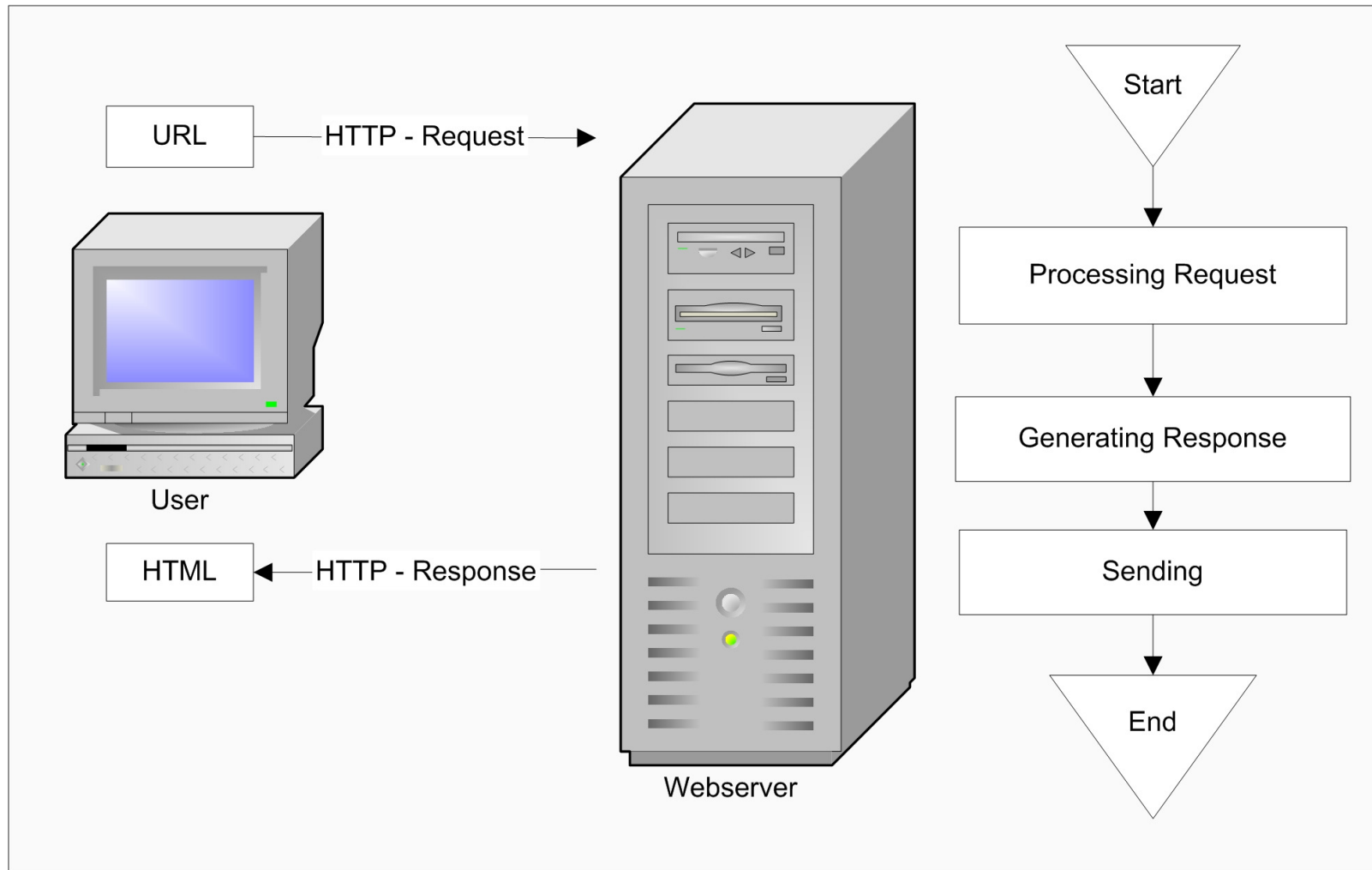
# The principle of conventional applications



# The HTTP Request – Metaphor



# The HTTP Request – Response mechanism





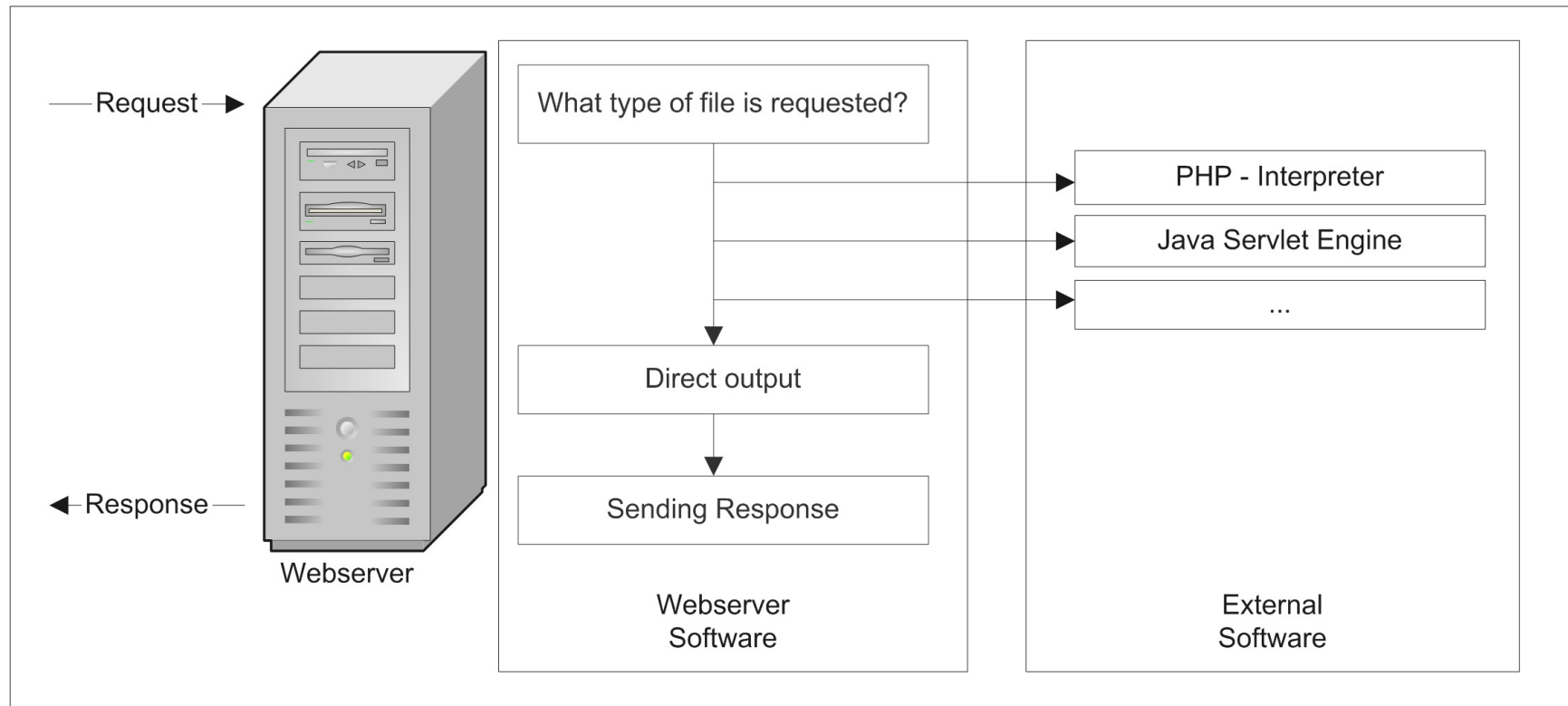
# The common problems with HTTP

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- Identification of users
- No „Runtime“-Environment
- Unknown number of users

# Processing the Request Dispatching



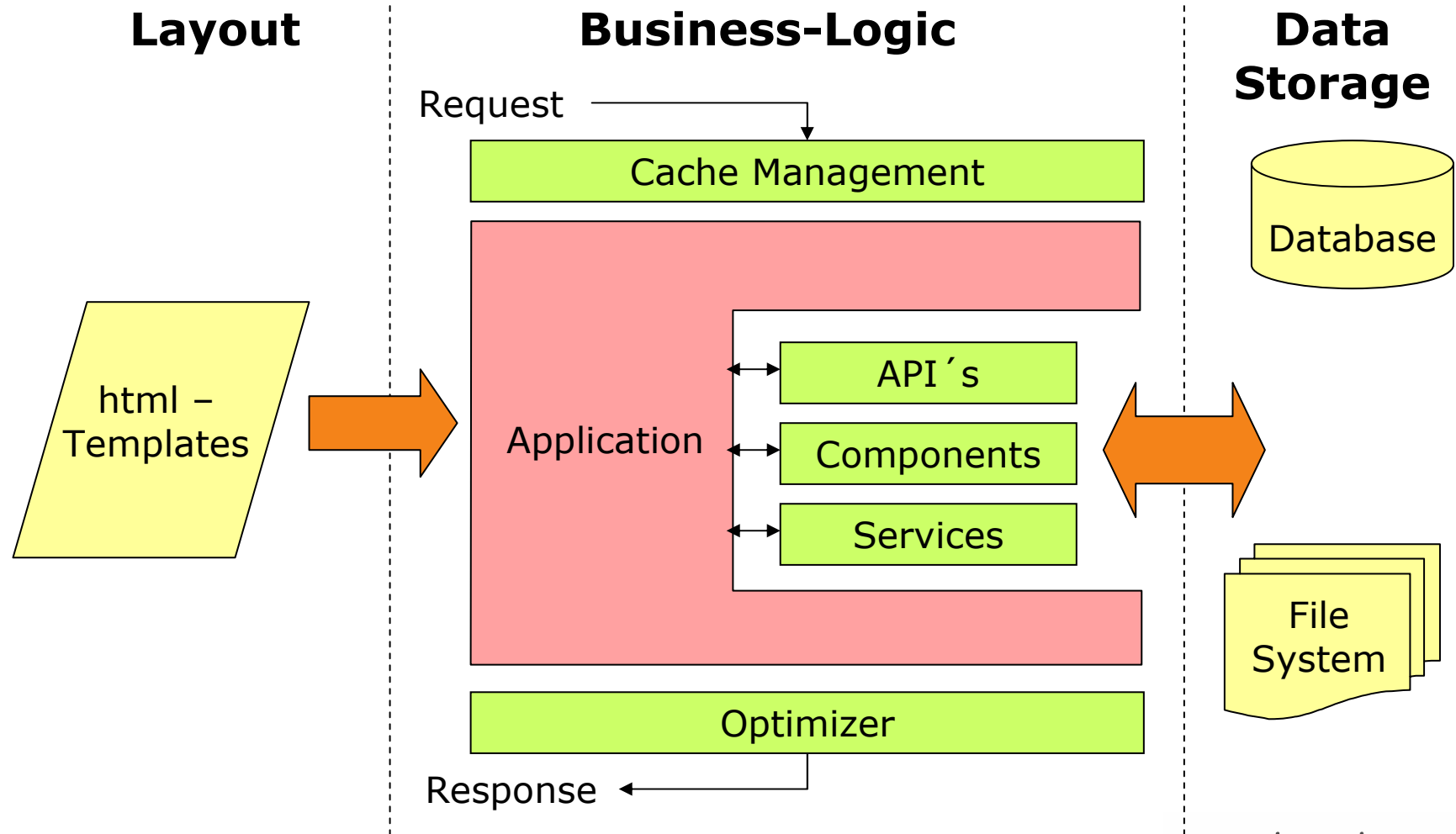
# Processing the Request

## Typical Technologies

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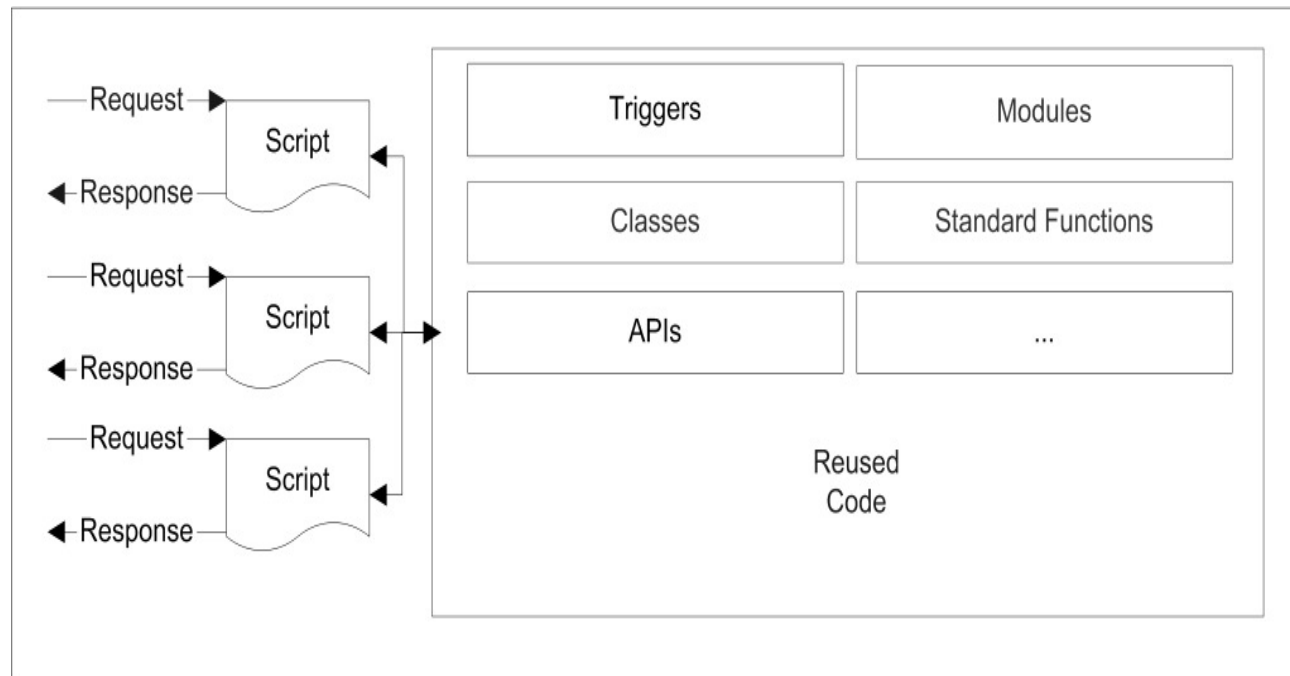
- CGI – Common Gateway Interface
  - Programming interface between server and client programs
- PHP – PHP Hypertext Preprocessor
  - Interpreted programming language commonly used for web
- JSP – Java Server Pages
  - based on Sun's Java technology
- ASP / ASP.NET
  - Microsoft's web technology
- Pearl
  - Programming language, which is often used in web
- Cold Fusion
  - Macromedia technology

# The Structure of Web-Applications



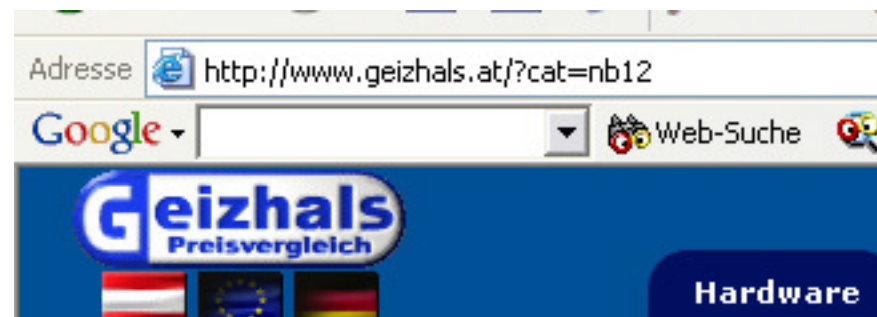
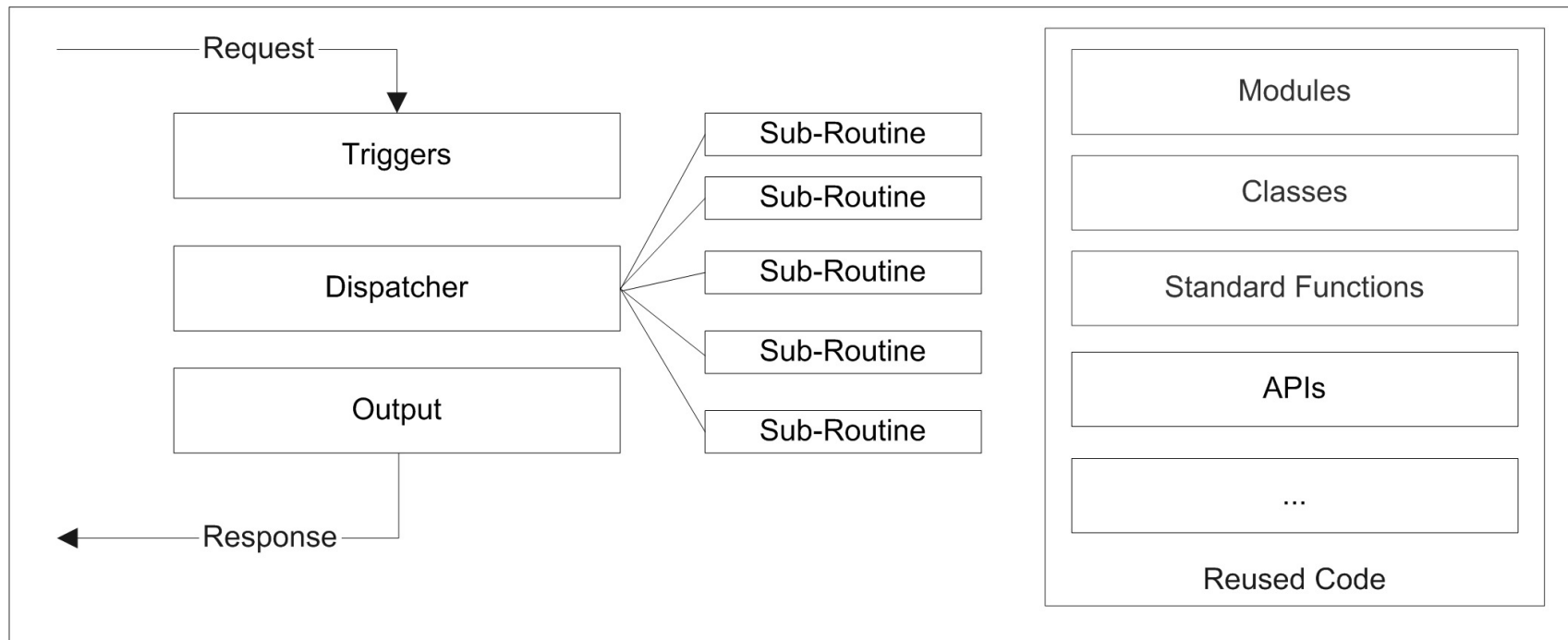
# Business Logic

## Multiple Entry-Points



- classes
- config
- fotos
- fotosNews
- htmls
- include
- mail
- trigger
- bottom.php
- deaktivieren.php
- defaultSearch.php
- freigeben.php
- login.php
- myAccount.php
- news.php
- newsletter.php
- register.php
- remindPWD.php
- search.php
- searchForm.php
- showDetails.php
- speichern.php
- speichernDaten.php
- stammdaten.php
- unternehmen.php
- vonDaten.php
- vonVorschau.php
- vorschau.php

# Business Logic Central Dispatcher



# Other important aspects

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- Cacher / Optimizer
- Server side / Client side
- Security aspects
- The target group
- Typical connection speed