



# **Web Engineering**

## **Lecture 7**

### **Front-end Development**

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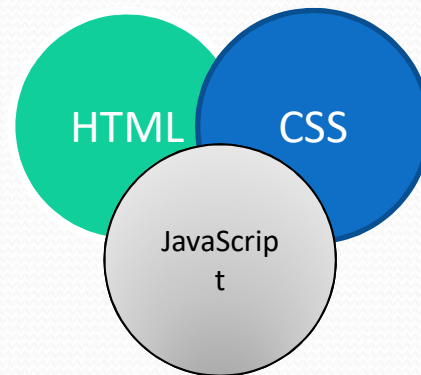
# Front-end development

is the development of those elements of a website that the customer sees and interacts with directly.



# Front-End Developer

- Focuses on look and feel of a website
- Uses HTML, CSS, and JavaScript
- Is competent in color scheming, graphic design, and information flow
- Creates a great user experience
- Is right-brained: Strong intuition, creativity, & imagination



# Back-End Developer

- Creates the inner workings of a website
- Is competent in programming languages (PHP, .NET, Python, C, Ruby)
- Is left-brained: logic, linear thinking, technical
- Hands-on coding experience is required

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# Full Stack Developer

- Comfortable working with both back-end and front-end technologies.
- Work with
  - Databases
  - PHP/Python/.Net/Ruby/Java
  - HTML
  - CSS
  - JavaScript
  - *and everything in between*

# What is a Full Stack?

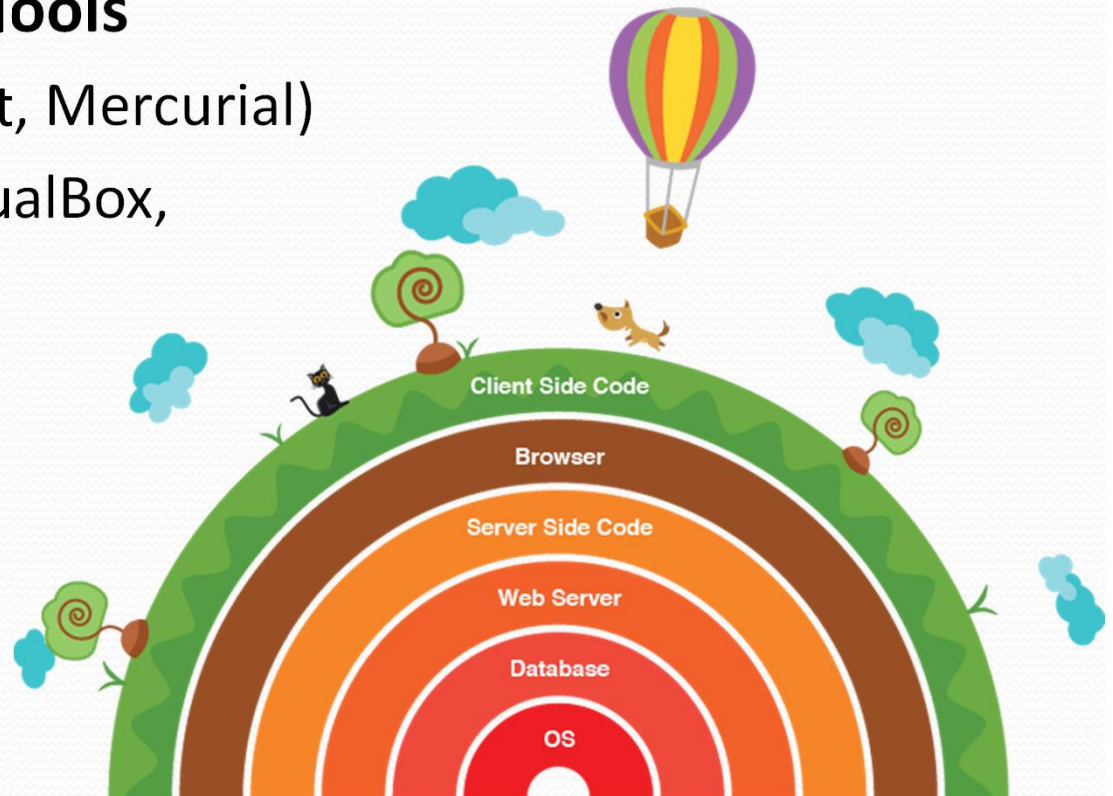
- **System Administration**
  - Shell Scripting (Linux)
  - Cloud Computing (Amazon, Rackspace)
  - Search Engine Integration (ElasticSearch, Sphinx)
  - Caching
  - Monitoring





# What is a Full Stack?

- **Web Development Tools**
  - Version Control (Git, Mercurial)
  - Virtualization (VirtualBox, Vagrant, Docker)

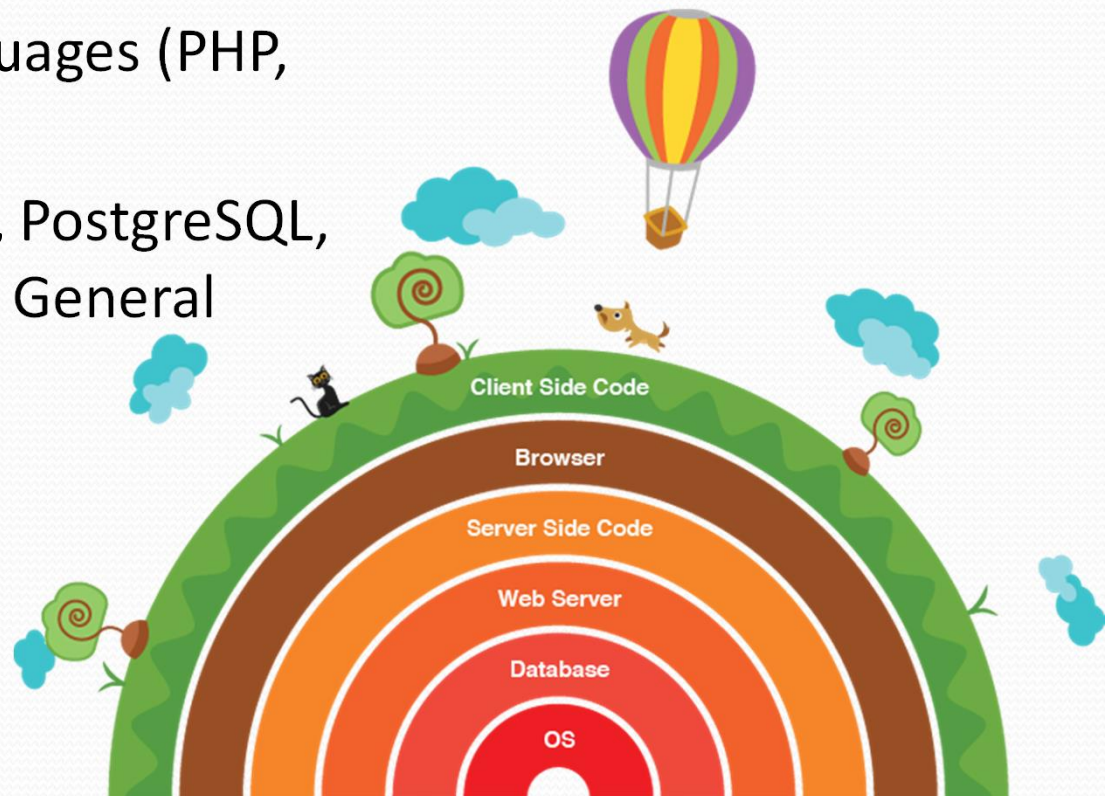




# What is a Full Stack?

- **Back-end Technologies**

- Web Servers (Apache, Nginx)
- Programming Languages (PHP, NodeJS, Ruby)
- Databases (MySQL, PostgreSQL, MongoDB, Redis) – General (SQL, JSON, XML)





# What is a Full Stack?

- **Front-end Technologies**
  - HTML / HTML5 Semantic Web
  - CSS / CSS3: LESS, SASS, Media Queries
  - JavaScript: JQuery, AngularJS, ...
  - Browser Compatibility
  - Responsive Design
  - AJAX, JSON, XML, WebSocket





# What is a Full Stack?

- **Design**
  - Convert design to front-end code (PHP-HTML/CSS)
  - User Interface (UI)
  - User Experience (UX)

