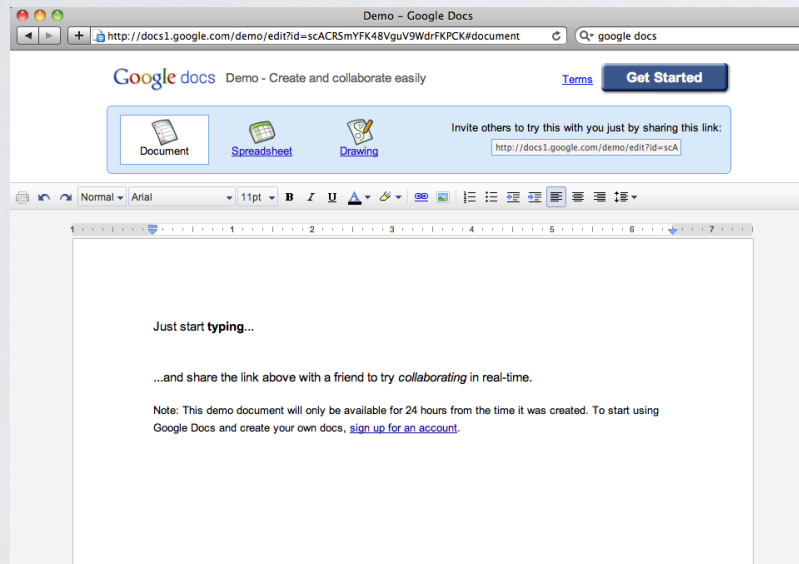# CSCC09
Programming on the Web

Thierry Sans
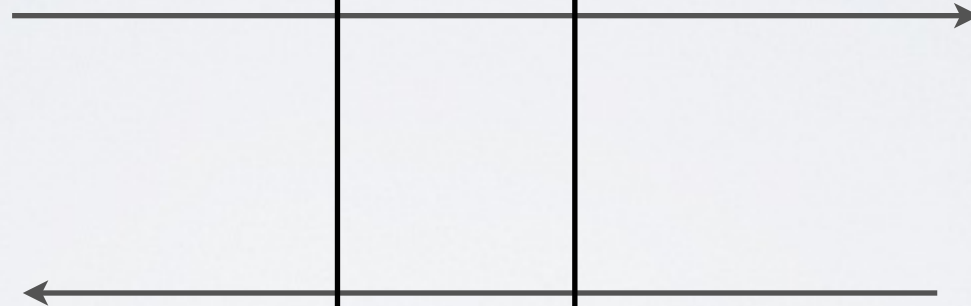
Architecture of a Web Application

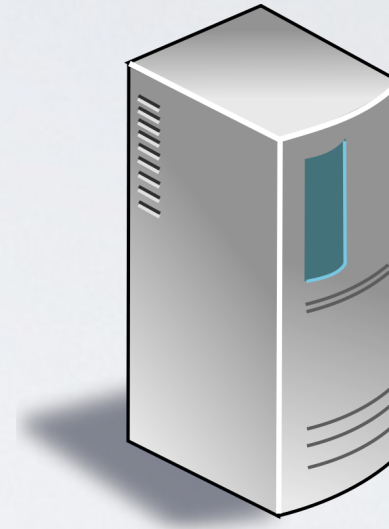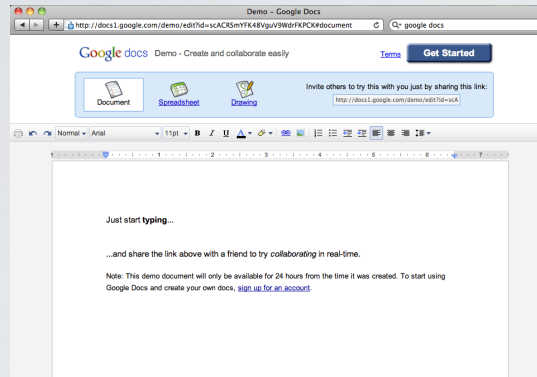## Client Side

Server Side

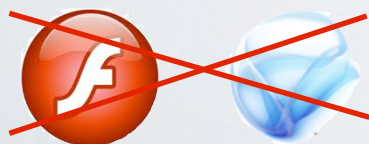Web Browser

Web Server

Web Technologies

Content

Presentation

Client Side
Processing

Multimedia

Resources
management

The evolution of web applications

The Virtuous Circle

faster, better technology

↑ ↓

new usage

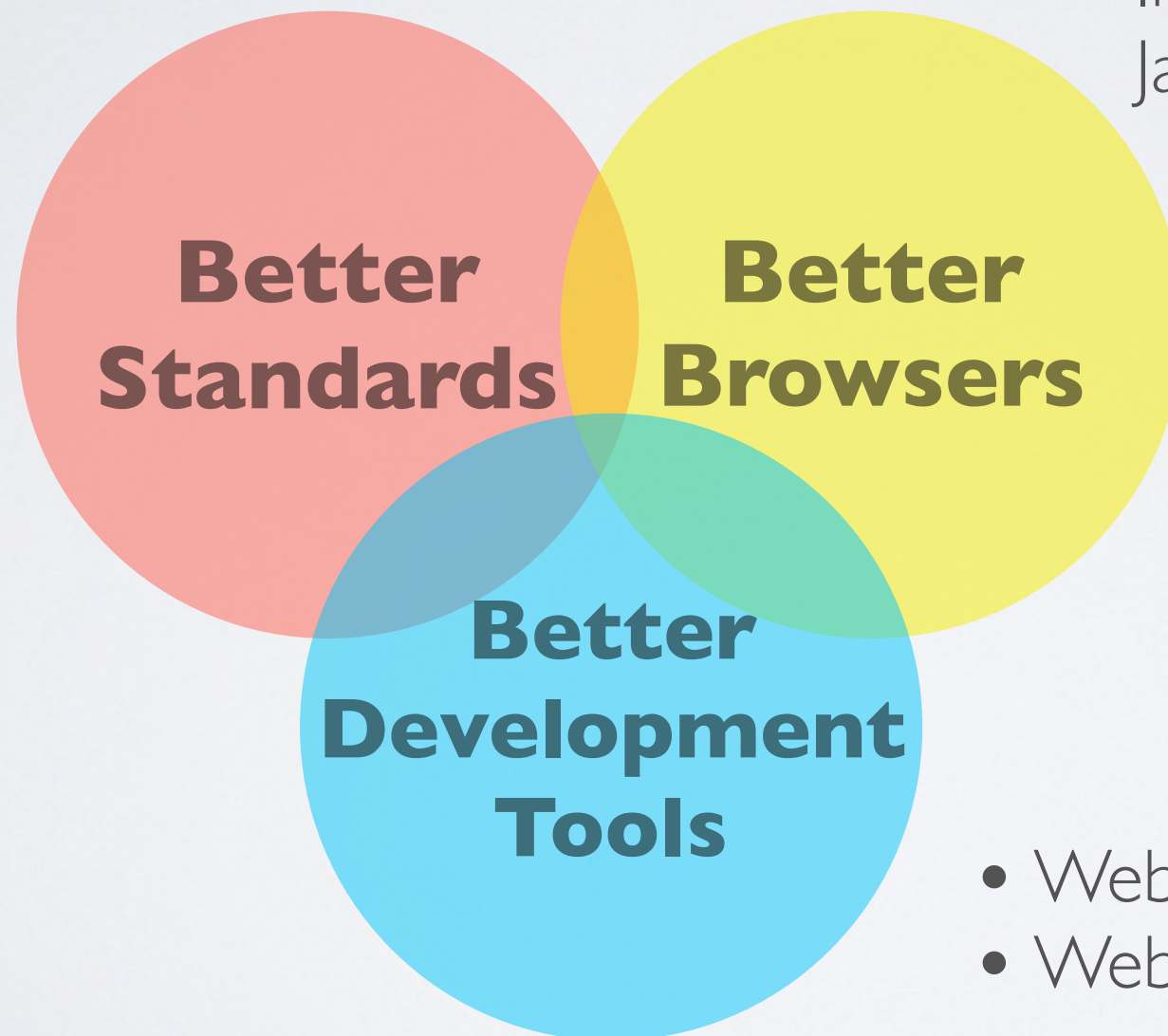# How web technologies have changed?

- Ajax (interactivity)
- HTML 5 (multimedia)

- Homogeneous implementation of the standards
- Increasing speed of rendering and Javascript engines

Better Standards

Better Browsers

Better Development Tools

- Web-oriented languages
- Web frameworks

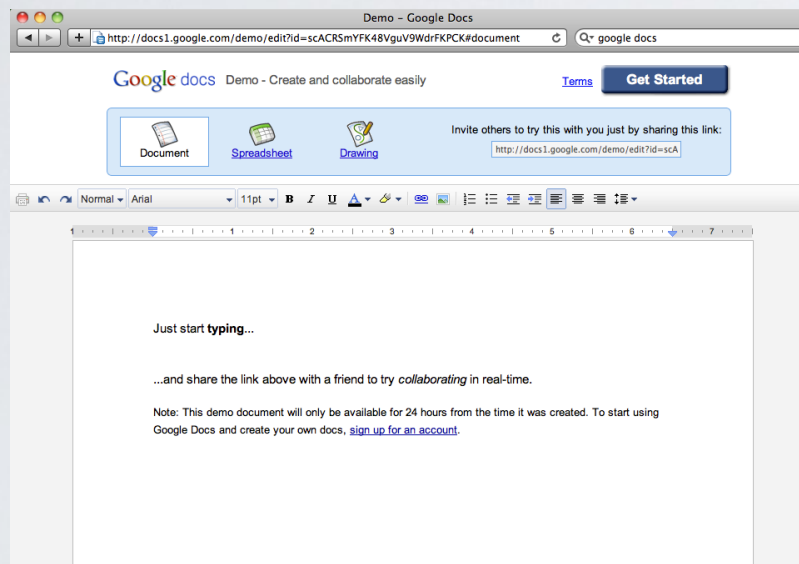# Consequence 1 (of 2)

➡ The application is moving from the server to the client

✓ Rich Content

Traditional Web Platform

Client Side

Server Side

Web Browsers
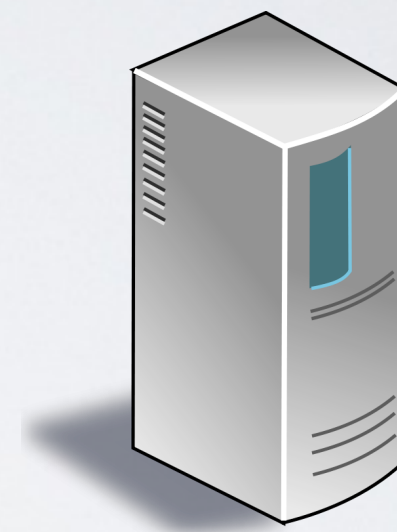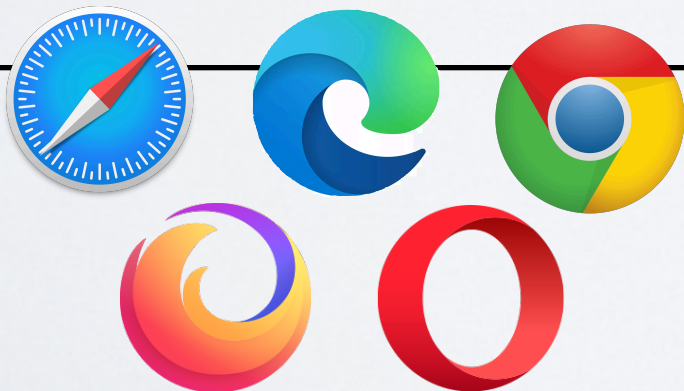
Web Server

Modern Web Platform

Client Side

Server Side

Smartphones and Tablets

Web Server

Consequence 2

� arrow Data storage and data processing are moving from the desktop to the cloud

◉ Cloud Computing

Customer Resources Management

Accounting and Billing

Collaboration

E-Learning

Web Portals

Content Management

Planning

E-Health

Where Web Applications are going

Rich Content

+

Cloud Computing

=

A new way to think about software

Web Technologies are **at the heart** of this change

Emerging Web Platform

Client Side

Web-based Operating System

Server Side

Web Server

Web applications from the developer's perspective

Why are web applications so popular?

- Easy to deploy

- Easy to maintain

- Fast and reliable technology (especially browsers)

What is challenging about web development

- A large collection of languages, framework and dev tools

- Technology evolves fast

- Event-based programming (concurrency)

- Asynchronous communication

- Debugging

About this course

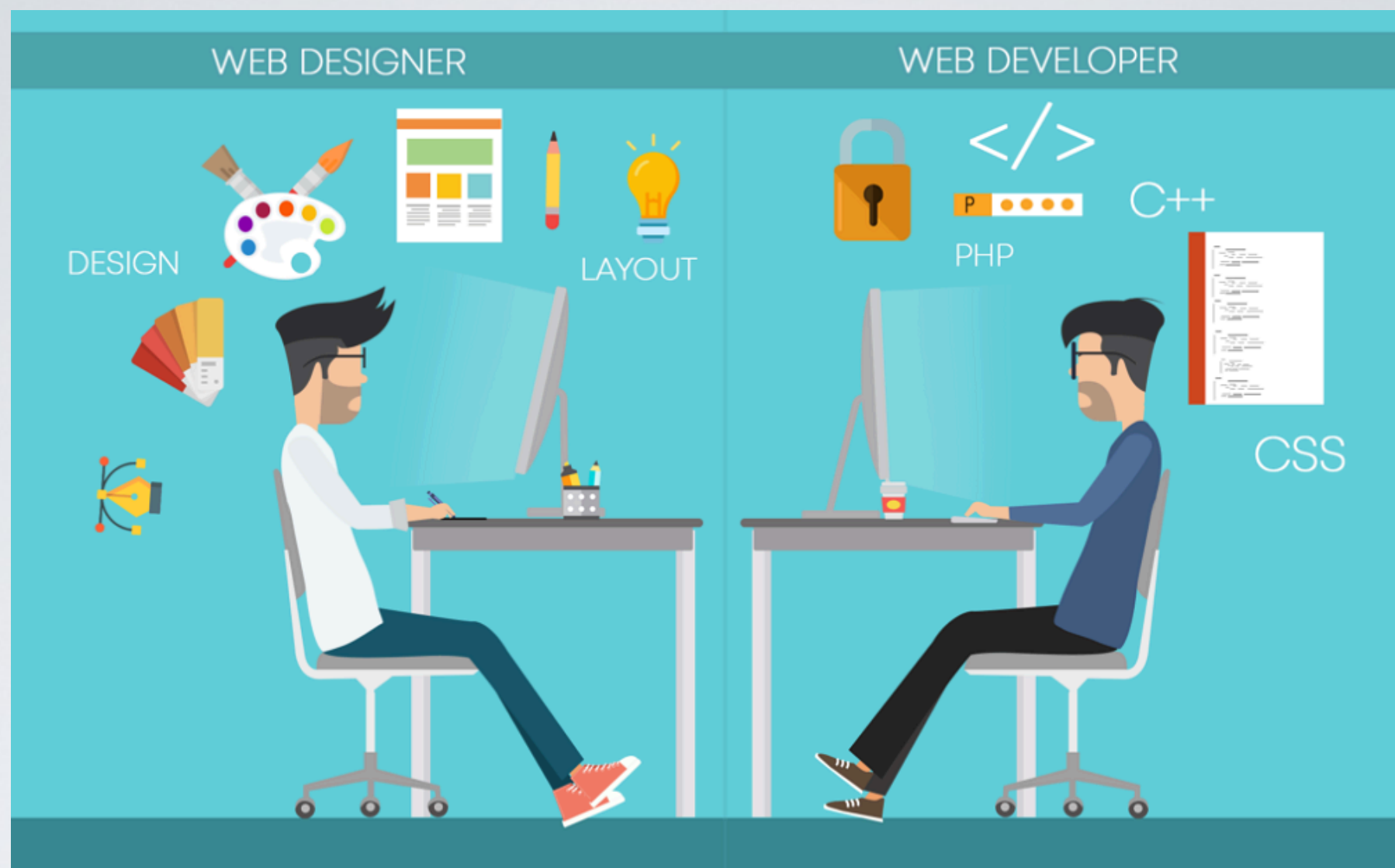# What you will learn in this course?

✓ Web development

- **The foundations of web programming**

- The new trends in web application development

◉ ~~Web design~~
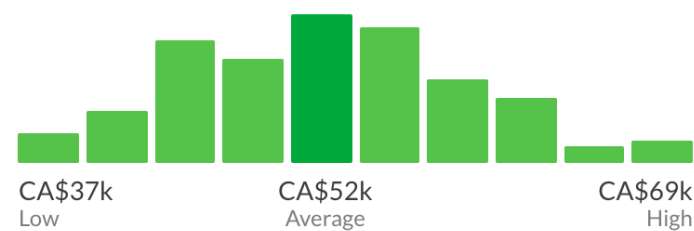
CSCC10 Human-Computer Interaction by *Naureen Nizam*

Web Designer Salaries

126 Salaries   Updated Dec 27, 2019

Average Base Pay

CA$52k /yr

CA$37k
Low

CA$52k
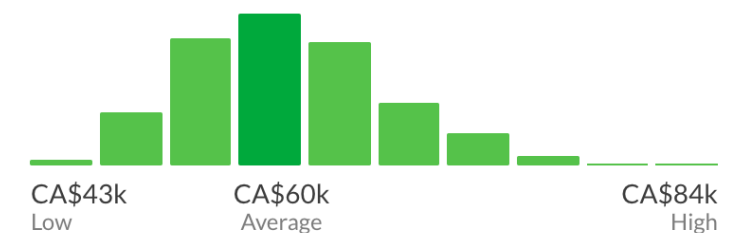Average

CA$69k
High

How much does a Web Designer make?
The national average salary for a Web Designer is $52,265 in Canada. Filter by location to see Web Designer... More

Web Developer Salaries

831 Salaries   Updated Jan 6, 2020

Average Base Pay

CA$60k /yr

CA$43k
Low

CA$60k
Average

CA$84k
High

How much does a Web Developer make?
The national average salary for a Web Developer is $60,000 in Canada. Filter by location to see Web... More

source: Glassdoor

Learning Outcome

- This course will make you ready for the **rapid changes of web technologies**

- This course will provide you with an experience that is **beyond junior web developer**

Course Syllabus

Let's look at the course webpage:

https://thierrysans.me/CSCC09/

How to succeed in this class?

- Learn and gain experience by doing labs, homework and project

- Start to work early,
  web applications are hard to develop and hard to debug

- Come to the lectures, do not rely solely on the slides
  or code snippets

- Use resources on the web extensively

- Go beyond, be curious, experiment, get your hands dirty

- Start thinking about your project now

Web Development tools

- **Chrome** (recommended) or Firefox

- **Code editor** with syntax highlighting for HTML, CSS, Javascript

- Web Accounts
  - **Github**
  - **Piazza**

- Command Line Tools
  - **Git**
  - **NodeJS and NPM**