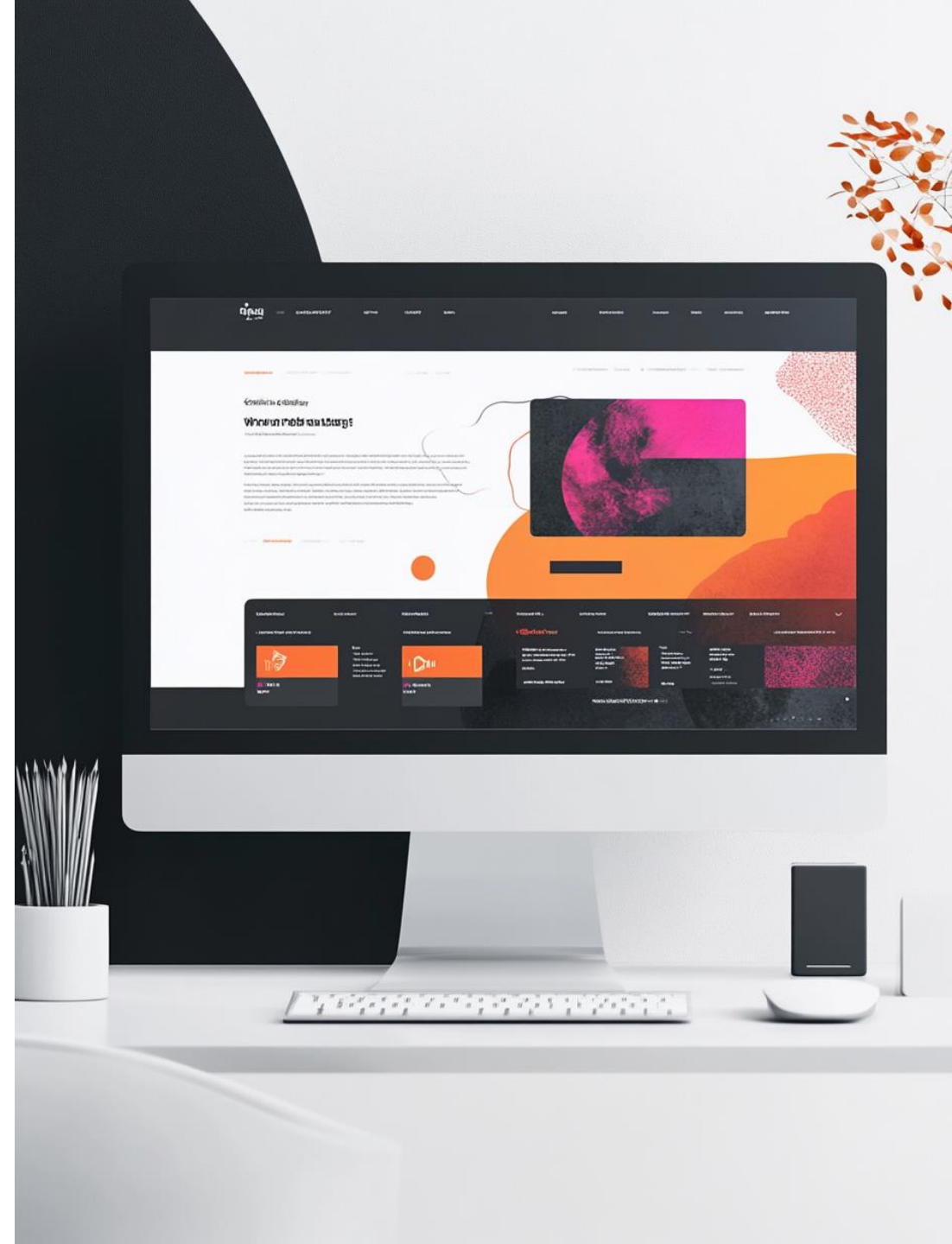


# Web Application Development

## Webdesign

Ing. Michal Radecký, Ph.D.  
[www.cs.vsb.cz/radecky](http://www.cs.vsb.cz/radecky)

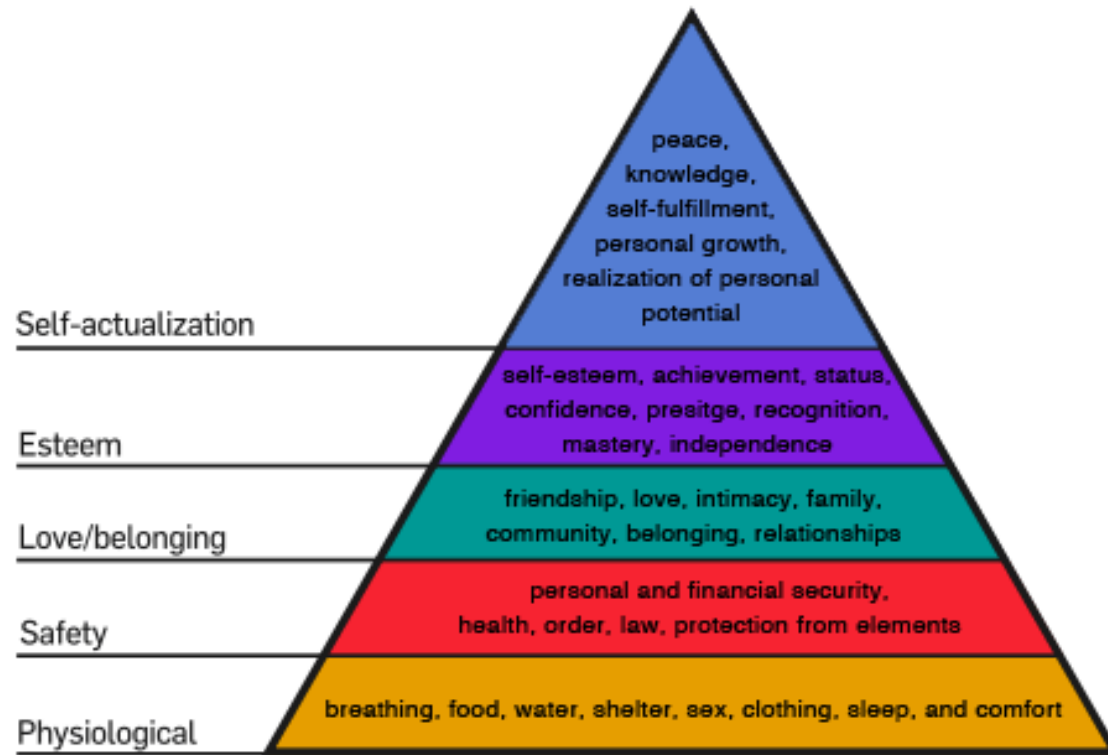


# What is the WebDesign

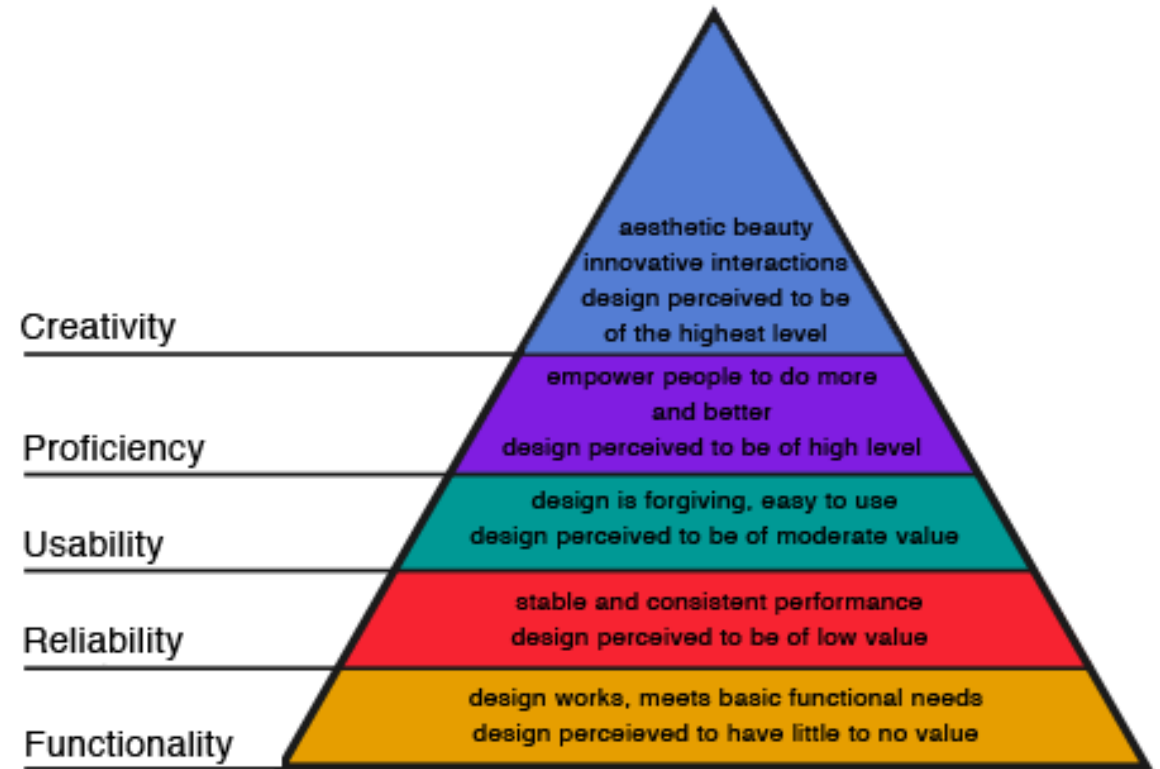
Web design is an multidiscipline that uses the knowledge of visual communication, interaction design, psychology (especially influencing and decision making), marketing, branding, copywriting, gamification and other fields. The goal of web design is to create a **functional website** or web application.



# Maslow's pyramid



Maslow's Hierarchy of Needs



Design Hierarchy of Needs

# Web development

Web development is not just about design, it's a key part of it

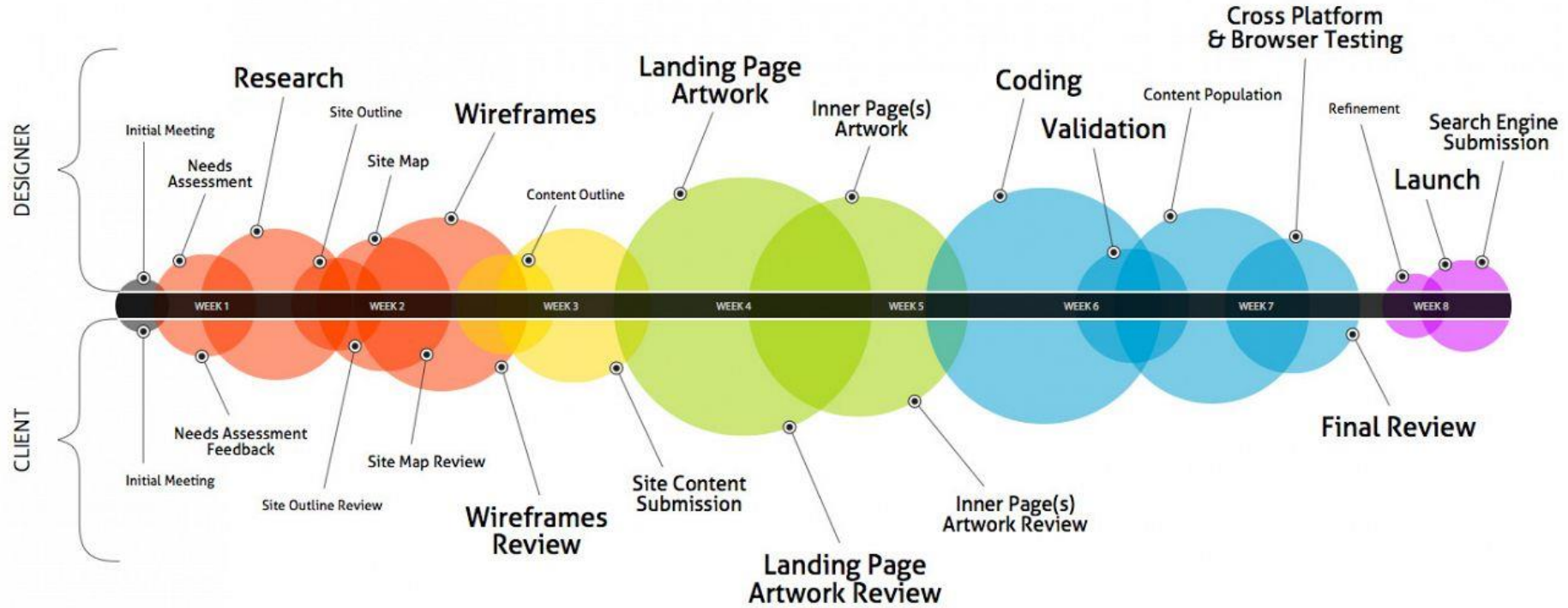
The web design often covers a range of activities (necessary to meet needs and prepare for implementation)

- **Requirements specification** - who will be the user, how the site will be used, what will be presented, technical constraints, specific features, etc.
- **General design** of the solution and its process - consideration of needs, design of technical solution, specification of plans and procedures, cost, formalities, etc.
- **Research and discovery** - competitor analysis, design manual, definition of content and structure, etc.
- **Designing** - wireframes - mockups - prototype
- **Presentation and review** - introduction, feedback, problem vs. solution
- **Design implementation** - deliverables for next phases

Next phases: implementation, content creation, testing, deployment, maintenance, updates, promotion, etc.

# Web

## A Web Site Designed MILESTONES, INVOLVEMENT, IMPORTANCE & TIMELINE



### MILESTONES



### INVOLVEMENT



### IMPORTANCE

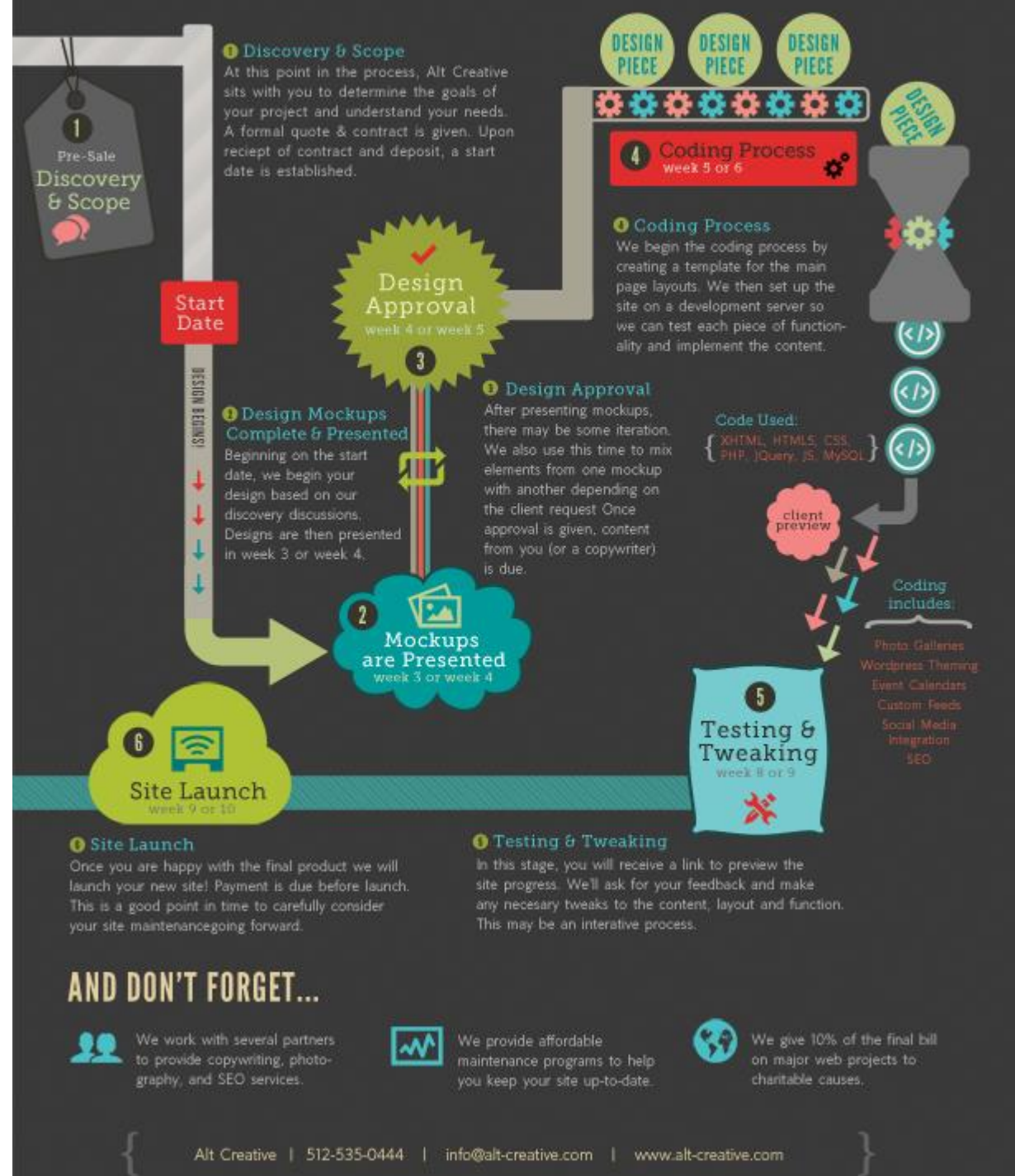
Average  
Greater

### PHASE





# Web design lifetime



# Wireframe – mockup - prototyp

## Wireframe

- Schematic representation of the interface at different depths of detail
- Emphasis on layout, functionality and overall concept

## Mockup

- Fully visual model for presentation and commenting
- Emphasis on visual appearance, form and perception of detail

## Prototyp

- Fully visual and functional model for testing
- Emphasis on user interaction and functionality, simulation of functionality in a real environment (web browser)

## User flow

- The process of use from the user's perspective to achieve certain goals

# User eXperience

"User experience" encompasses all aspects of the end-user's interaction with the company, its services, and its products.

The first requirement for an exemplary user experience is to meet the exact needs of the customer, without fuss or bother. Next comes simplicity and elegance that produce products that are a joy to own, a joy to use. True user experience goes far beyond giving customers what they say they want, or providing checklist features. In order to achieve high-quality user experience in a company's offerings there must be a seamless merging of the services of multiple disciplines, including engineering, marketing, graphical and industrial design, and interface design.

It's important to distinguish the total user experience from the user interface (UI), even though the UI is obviously an extremely important part of the design. As an example, consider a website with movie reviews. Even if the UI for finding a film is perfect, the UX will be poor for a user who wants information about a small independent release if the underlying database only contains movies from the major studios.

<https://www.youtube.com/watch?v=5CxXhyhT6Fc>





# Development support tools

## Design proposal

- <https://www.figma.com/>
- <http://pencil.evolus.vn/>
- <http://www.hotgloo.com/>
- <http://www.mockflow.com/>
- <http://www.invisionapp.com/tour>
- <http://balsamiq.com/products/mockups/>

## Presentation and revision

- <http://www.bounceapp.com/>
- <http://www.influenceapp.com>

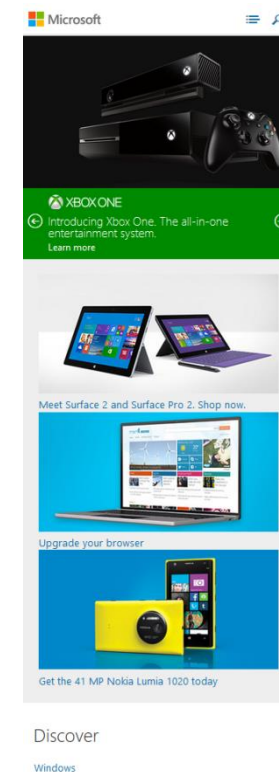
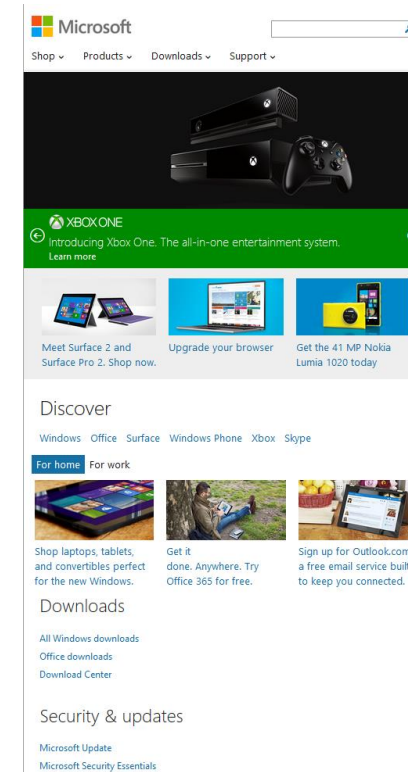
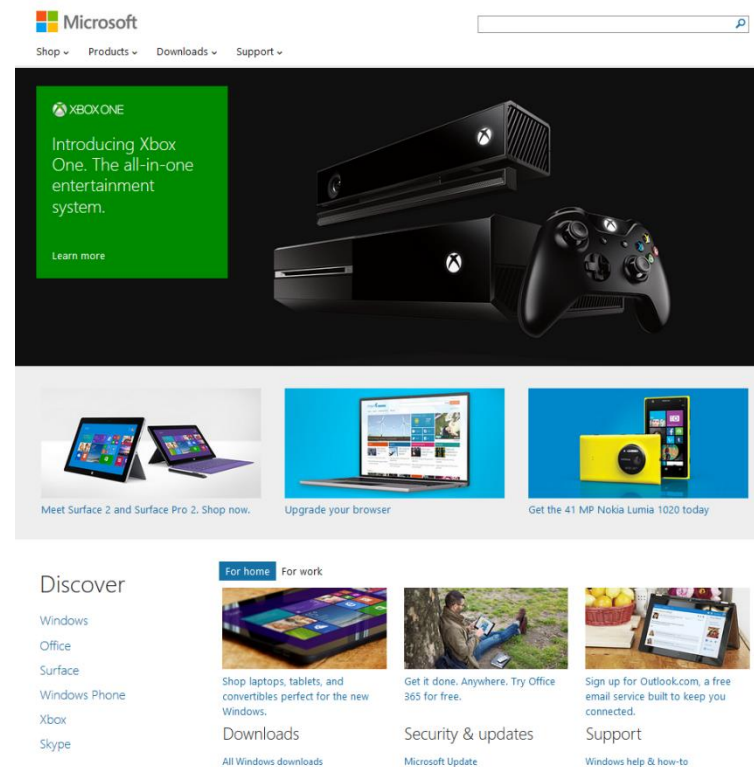
# Content first

- Content determines design
- Information for the target audience is more effective than just a "nice" design without information
- Emphasis on "Call To Action"

The screenshot displays the website for Stonehenge Veterinary Hospital. At the top left is the logo featuring a silhouette of a dog and a cat above the text 'STONEHENGE - VETERINARY HOSPITAL - EST 1976'. To the right, a navigation menu includes 'ABOUT US', 'DOCTORS', 'SERVICES', and 'LOCATION'. A phone number '804.794.4713' is visible with the text 'Need to refill a prescription or schedule an appointment?'. The main content area features the headline 'FURRY OR FEATHERED. OLD OR YOUNG. YOUR PET IS OUR PASSION.' followed by a paragraph: 'Stonehenge Veterinary Hospital is a full-service veterinary hospital in Richmond, Virginia providing compassionate care and progressive medicine to the pets and the good people they belong to since 1976.' To the right, a sub-headline reads 'CATS. DOGS. RABBITS. BIG or SMALL WE KNOW THEY'RE NOT PETS. THEY'RE FAMILY.' Below this are silhouettes of a Chihuahua, Schnauzer, American Sable, and Brazilian Sharthair. The 'ABOUT US' section is partially visible at the bottom, with a green box containing the text 'At Stonehenge Veterinary Hospital WE BELIEVE THAT EVERY PET DESERVES GREAT CARE.' and a 'TOP' button.

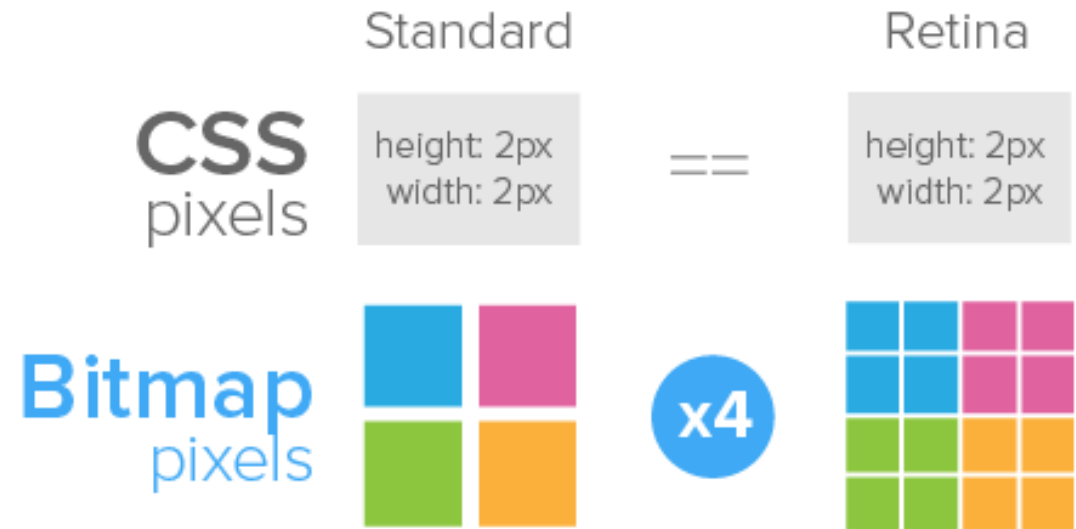
# Responsive design

- It's not just about the look, but primarily about the content and features offered
- User Experience "User Driven" approach
- CSS3 @media queries



# High quality images

- Physically 2x more pixels = finer graphics at the same resolution
- Need to supply higher resolution bitmap graphics or vector graphics
- Apple postfix @2x for double resolution images
- **CSS3 media queries - device-pixel-ratio (2)**



# Fixed/flow elements

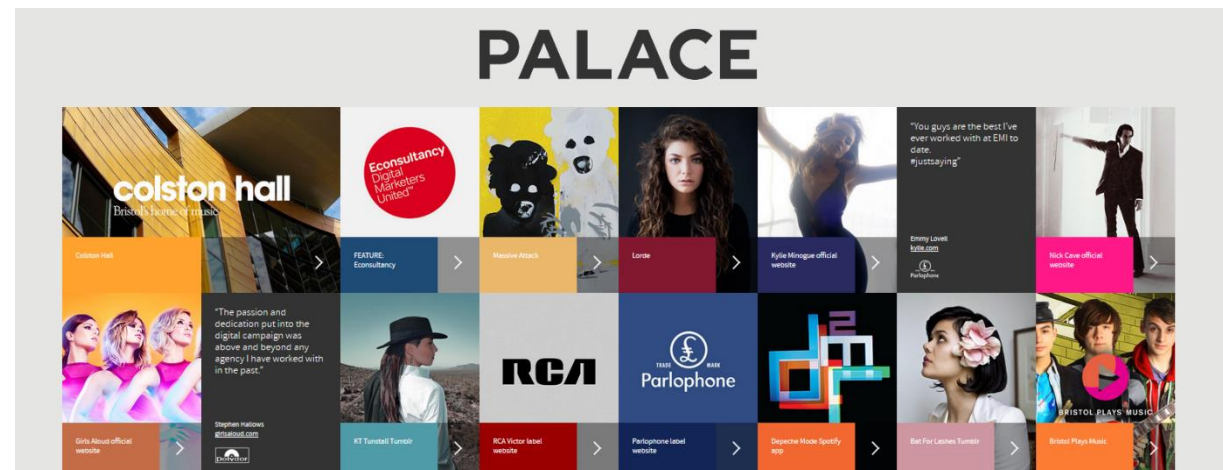
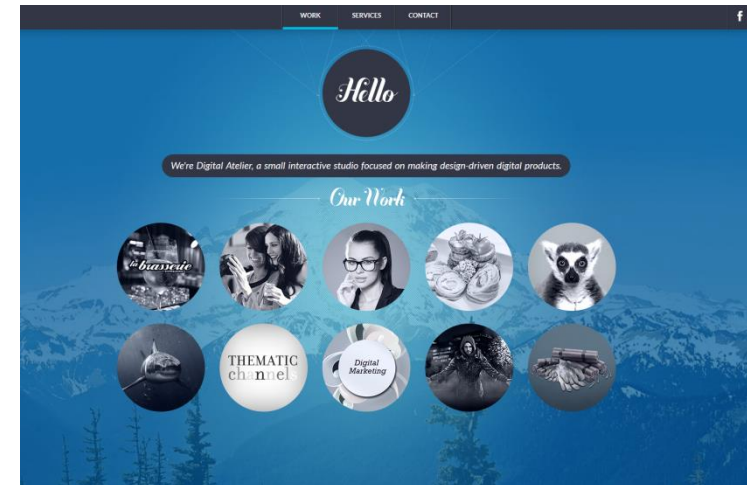
- Static positioning of elements even when scrolling content (headers, menus, buttons)
- Dynamic positioning of floating elements with respect to scrolling position (advertising, graphic elements)
- **CSS position: fixed, JavaScript pageYOffset**





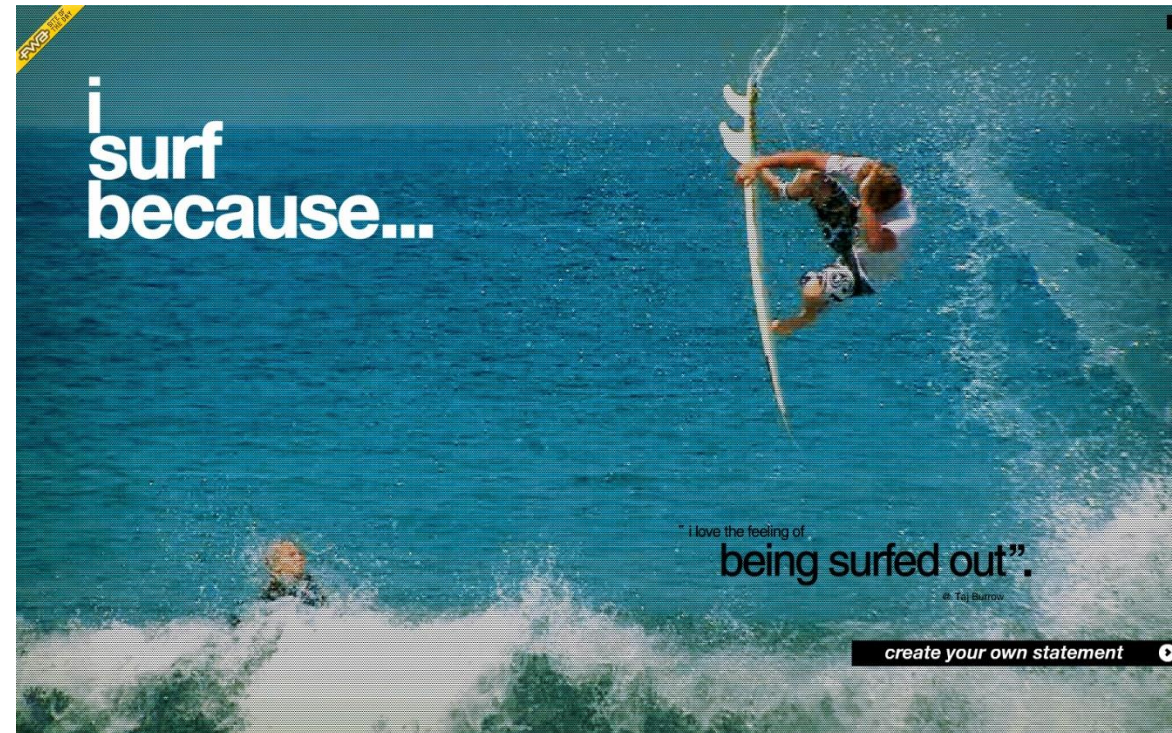
# Square/circle design

- Use of basic shapes in a simple style
- Inspiration from Modern UI/Metro UI – Windows
- Effective implementation of "grid layout"
- Full use of browser width
- **CSS floating, round-corners**



# Big sized photos/videos/backgrounds

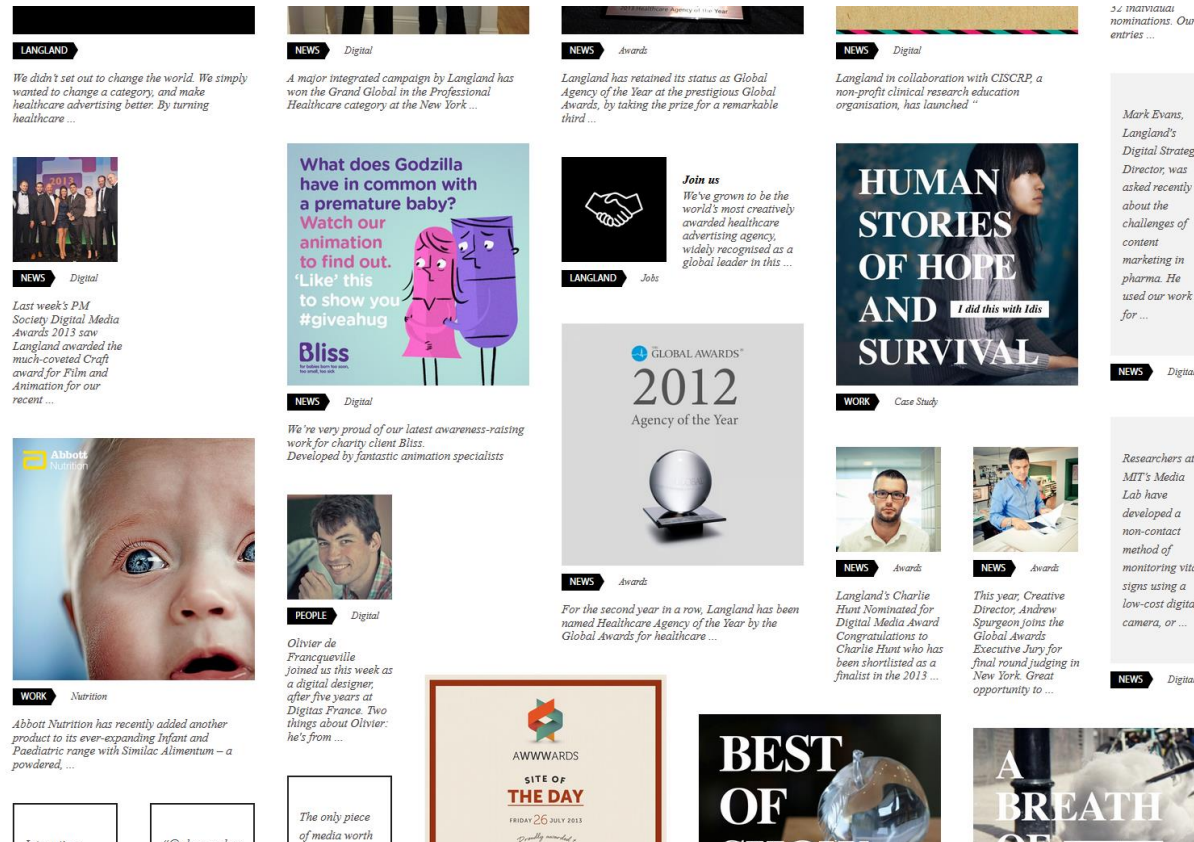
- Large-format photo used as a background (dynamic size adjustment)
- Not only as a supplementary graphic, but also as a functional element (portfolio, user interaction)
- **CSS3 background, HTML 5 video element**





# Lazyloading, scrolling

- A user-friendly way to provide large amounts of data within straightforward functionality
- Sequential loading of content - modifying page content
- JavaScript (scrolling, DOM), AJAX



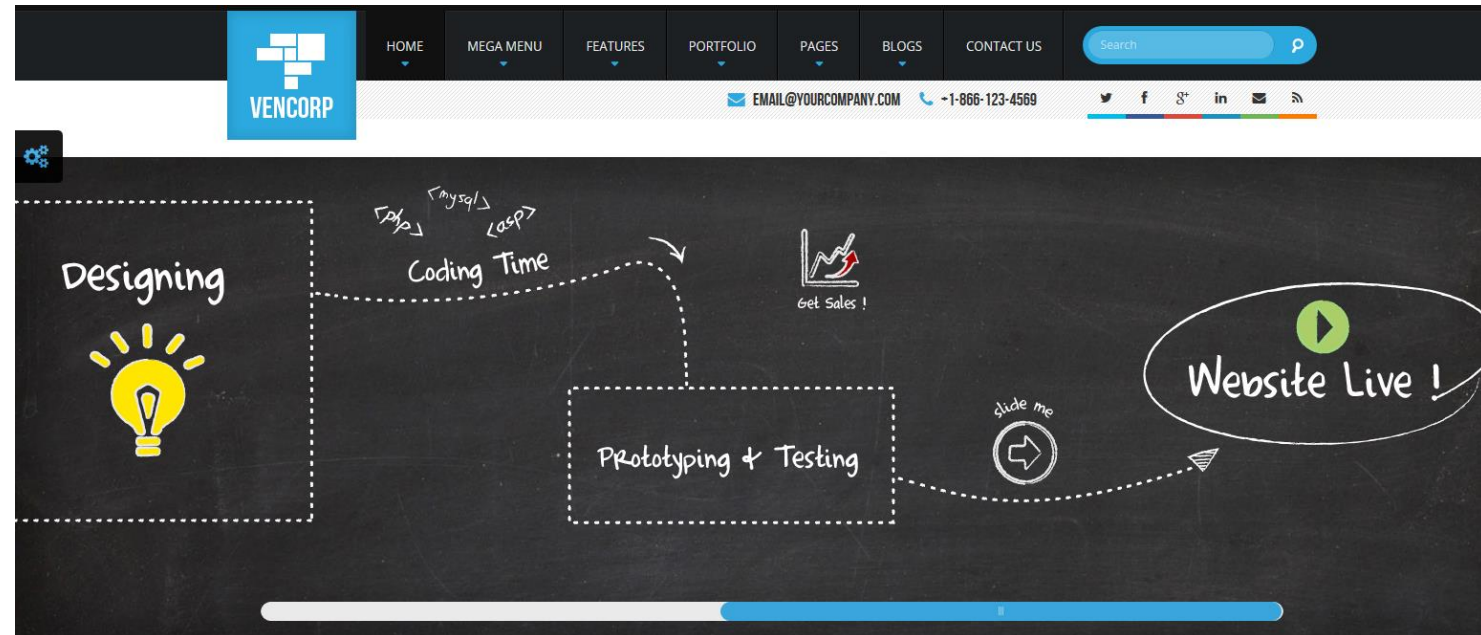
# Typography

- Possibility of using custom fonts for the textual content of the website
- Emphasis on typography and form of information presentation
- **CSS3 font-face**



# Animated elements/parallax

- Animation of a specific part of the page (usually called a slider) with respect to user interaction
- Parallax effects
- Interaction with user (microanimations)
- **CSS3, JavaScript**





# Single-web page design

- Design of information content within a single page (using common navigation elements)
- Design of sections within a "long" page, often with animation when moving between sections
- **HTML anchors, JavaScript**

Zdroj: <http://s4rallye.de/>

BREAKDOWN BET CONNECTED CAR GALLERY BLOG ABOUT US

SINNER-SCHRADER ŠKODA SQUAD  
Presented by  
Haasenstein

## TRACK THE TRACK

THE CRAZY RACE AROUND THE BALTIC SEA  
7500 Kilometers / 15 Days / 10 Countries / 1 Connected Car

FORGET ABOUT HERBIE, KITT AND THE DE LOREAN.

We are on the data highway to help Our Geo-Persona is speeding around the Baltic Sea packed full of sensors and with 32 racing tonnes under the hood. Whatever happens to our ŠKODA 110i R on the antique and dusty road is digitally broadcasted to the Internet. So, please your seats-belts and follow our Connected Car on the Baltic Sea Circle Rally. Track the Track.

Find us on Facebook Help for Charity

### WILL WE MAKE IT?

Thanks to the crowd that voted with "Yes" on Facebook, You're awesome. To the critics: you'll probably just hit the wrong button. No worries.

YES  94 %	NO  6 %
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HERE IT IS, THE CONNECTED CAR: TRACK THE TRACK.

Just click on the red icons, scroll down and see what happened where.

United Kingdom  
Ireland Eire  
Nederland (Netherlands)