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Web Programming and Problem Solving

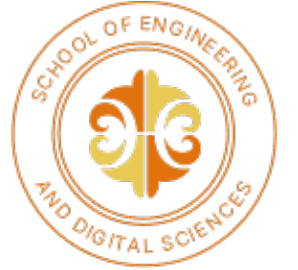
Responsive Web Design (lab)

Date: 26.09.2022

Instructor: Zhandos Yessenbayev



Task

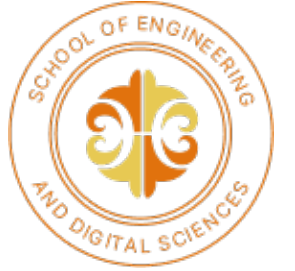


Goal:

- In this **Lab** you need to:
 - learn how to apply the strategies of responsive web design;
 - redesign the website that you created in the previous lab to make it responsive on mobile, tablet and desktop devices.
- **Deadlines:**
 - **Soft** deadline: Sunday, 02.10.2022, until 23:59
 - **Hard** deadline: Monday, 03.10.2022, until 23:59



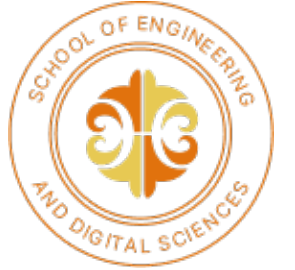
Strategies for RWD



- Here are the main strategies to apply:
 - Viewport setup
 - Media queries
 - Flexible layout
 - Responsive images
 - Relative units



Viewport Setup

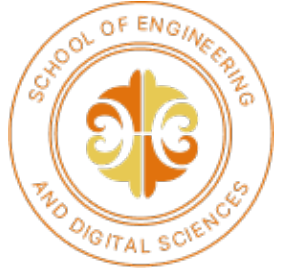


- Add the following line in the head section of your HTML document, to prevent scaling issues on the target devices:

```
<meta name="viewport"  
      content="width=device-width, initial-scale=1.0">
```



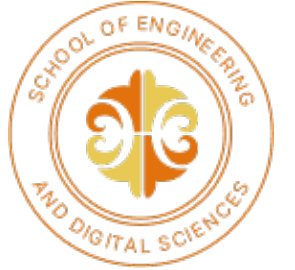
Media Queries



- Decide on the **breakpoints** (screen sizes) to use, in order to distinguish between the target device types.
- Create the appropriate **media queries** to target those devices in your CSS file.
- There must be at least two media queries to target **mobile**, **tablet** and **desktop** devices.



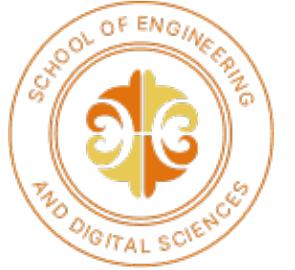
Flexible Layout



- The layout of the website must be flexible in the sense that it should change while switching between different types of devices
- Here you can use variety of techniques like:
 - Flexbox
 - Float
 - 12-column grid view
 - CSS Grid (https://www.w3schools.com/css/css_grid.asp)
- Basically two things will be closely inspected – how you manage the layout of **content** and **menu links**



Responsive images

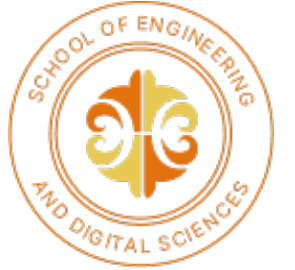


We covered some techniques to make images responsive like:

- Set **max-width** and **height**
- Use **picture** and **srcset**
- Vectors (svg) vs Bitmap (jpg)
- In this task you can use any technique, but the goal is to make your images change its size according to the screen size changes and target device.
- Images **must** occupy all the width of the mobile device (small screens)



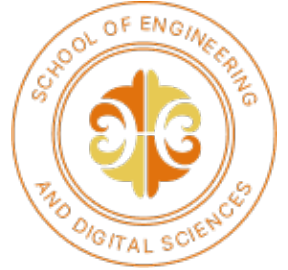
Relative units



- The main requirement here is to use **only relative units** (rem, em, %, vw, etc.) unless there is a justified strong need to use absolute values (px, pt)
- Another requirement is to **change font size** depending on screen size or device type.



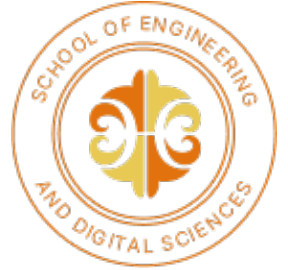
Responsiveness



- The main goal is to make your website responsive, so pay attention how you present **content**:
 - The minimal width of device's screen to target is **300px**
 - Content **should be within** the defined blocks/page/screen
 - Text should be **visible** and **readable**
 - Images must have **appropriate width** depending on device type:
 - full screen width on small devices (mobile)
 - full width of the containing block on other devices
 - Menu or any horizontally aligned blocks must be **stacked**, if necessary
 - Layout must be one-column on mobile (small screens) and at least two 2-column on larger devices (screens)



Grading



Task	Points
Viewport setup	5
Media queries	5
Flexible layout	10
Responsive images	5
Relative units	5
Responsiveness	10
TOTAL	40

Thanks for Attention!