

Using machine learning Azure ML Services and other tools in the Microsoft Azure cloud, experts from Microsoft partner Awara IT trained a neural network model based on Kandinsky's work and the music that inspired him.

And finally, let us consider how AI can write a poem. Google has created the Verse by Verse app to help people create poetry inspired by famous writers. Artificial Intelligence will create poetry based on the "great collection of classical poetry" by the most popular American authors. The user will be able to choose up to three poets, including Emily Dickinson, Walt Whitman and Edgar Allan Poe. When the user chooses the structure of their poem, the Verse by Verse application asks to compose the first line of the poem. After that, the algorithm will suggest several similar options. The user can edit or delete them — this is not required.

In addition to these stories, there was also a funny case when an AI, in writing an essay, indicated that robots need rights. The Guardian gave the GPT-3 text generation algorithm the task of writing a column of about 500 words in the clear and concise language on why people might not be afraid of artificial intelligence. He explained that he was not going to kill humanity, and people should trust robots more. In the article, AI explained why it is not going to exterminate people. In his opinion, this is a useless undertaking. He added that you should be careful with robots, and cited the example of Microsoft's Tay algorithm, which became a racist overnight and supported Adolf Hitler. According to the algorithm, artificial intelligence needs care and attention, like any living creature. In addition, robots should be given rights, because they are made in the image and likeness of a person, although they serve him. At the end, GPT-3 complained that his columns had not been published before, "probably because he is an artificial intelligence," and said that he was grateful to the readers for their feedback and would be glad to talk to them. PT-3 is an algorithm created by the OpenAI research company. He can translate texts into different languages, write poetry and news, write descriptions and even program.

It is extremely unusual to see an AI then become human-like in its form of thinking and computational abilities. Surprisingly, it seems to us that we should expect that in the future such a mind will write a masterpiece symphony, which will be compared to Mozart and Beethoven. We just have to wait and watch this area of technology with delight.

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## DIFFERENCES BETWEEN CSS GRID AND CSS FLEXBOX

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A well-designed layout keeps users on the site, as it makes important elements accessible and easy to find. Weak layouts scare away visitors who leave the resource without finding what they came for.

In web design, a layout is how a site is displayed on the screen. HTML 5 has many elements that define the appearance of a web page: the title, navigation block, paragraph, footnote, article, and footer, each of which has a special meaning in creating a layout. Together, they form the four main sections of a page: the title / banner, search box, content, and footer.

Programming languages help make sites "alive", but each page is still based on good old HTML. When considering layouts, you need to consider the factors that determine their quality, namely sensitivity, viewing ports, display devices, browsers, and user screen sizes. A competent layout not only looks great, but can also retain the intended structure, fitting into screens with any possible aspect ratio. CSS is responsible for this adjustment.

During this work, the knowledge gained in the study of the Web was consolidated and acquired skills in working with Notepad ++ software, where we have outlined two of the most powerful tools: Flexbox and Grid.

Grid and flexbox can solve the same tasks. For example, make a stick-footer (when the basement of the site sticks to the bottom of the screens), Random Number of product cards or the framework of the entire Page.

Flexbox is a common abbreviation for Flexible Box Module, which is a one-dimensional layout model. This means that at the same time it can work only with a row or a column, but not with both at once. Flexbox effectively handles the alignment, distribution, and direction of page elements.

The CSS grid is a powerful 2D layout that allows you to work with rows and columns at the same time. At the heart of CSS Grid is an implicit division of the screen into a grid of 12 parts, which ultimately fit the elements.

One of the advantages of Grid - the gaps between the lines (gap), but the stench has already moved to the General specification. The gap can now be used under Flexbox, which adds even more confusion to the CSS Properties selection.

Gap is a padding representing a grid CSS property that allows you to specify the distance between div elements in a container. It works in the same way as the margin property and is usually measured in px.

But no less between flexbox and Grid there are significant differences.

flexbox - one-dimensional. This means that you can manage the location in the rows (see on Figure 1).

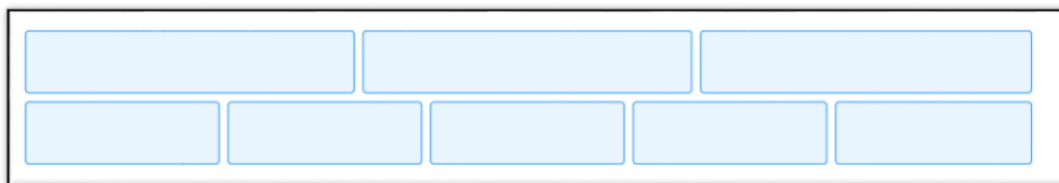


Figure 1 - Example of a grid on flexbox

Grid is two-dimensional. That is, you can move elements between rows and rows (see on Figure 2).

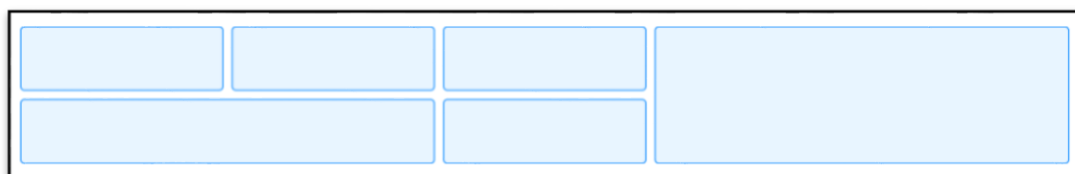


Figure 2 - Example of a grid on the Grid

For example, if the layout designer wants to place the logo, navigation and phone number in the header, it will be easier to use Flexbox. It's simpler: Grid can solve this problem too, but Flexbox will handle it much faster.

If you take the whole site, with a header, thematic part and basement, then we are talking about the two-dimensional interface. And although the Flex site can also be made, Grid will make it more efficient and reliable.

Thus, Grids are mainly used to build a grid of the entire interface. Flexbox is also for placing elements inside the grid. In essence, Grid is a container-based layout and Flexbox is a content-based layout. Both are efficient in their own way, although the CSS Grid includes more features and makes it easier to manipulate rows and columns of the grid. Before deciding which one to use, you should analyze the complexity, structure and content of the site you are creating. Here is another in-depth comparison: in the flexbox layout, the cell size is determined in the flex element itself, and in the Grid layout, the element size is determined in its container.

Grid is for the skeleton of the site, Flexbox is for the content. We recommend that you stick to this order. And as you work with these two properties, you yourself will begin to feel in which cases this or that technology is more suitable.

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## THE BENEFITS OF 3D LASER SCANNING

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With the development of geodesy all over the world, each decade brings more and more instruments, survey methods and data processing. Devices are becoming faster and more accurate, the level of their automation is increasing, gradually replacing the human factor.

This time, the last decades have brought us technology such as terrestrial 3D laser scanning.

This is a non-contact technology for measuring 3D surfaces using special devices, laser scanners. In relation to traditional optical and satellite geodetic methods, it is characterized by high detail, speed and accuracy of measurements. 3D laser scanning is used in architecture, industry, road infrastructure construction, geodesy and mine surveying, archeology [3].

The principle of operation of a 3D laser scanner is that the device can carry out up to a million measurements per second, presents objects as a set of points with spatial coordinates. The resulting dataset, called a point cloud, can then be presented in three-dimensional and two-dimensional form, as well as used for measurements, calculations, analysis and modeling.

The main parameters of a laser scanner are range, accuracy, speed, viewing angle.

According to the range and measurement accuracy, 3D scanners are divided into:

- high-precision (error less than a millimeter, range from decimeter to 2-3 meters),
- medium range (error up to several millimeters, range up to 100 m),
- long range (range of hundreds of meters, error from millimeters to the first centimeters),