

NEW WEB APPLICATIONS AND QUALITY

M.Sc. Suad Sućeska
SS
Sarajevo
Bosnia and Herzegovina

ABSTRACT

This article works with influence of new type of Web applications on quality. Web applications available over the Internet on your computer's Web browser work as well as locally installed applications. Locally installed applications require: download or installation media; certain system requirements (HDD, RAM, processor speed, graphics resolution, etc.) take up space on the HDD, in the Registry, in RAM. Use of appropriate Web applications does not set these requirements for usage because they are installed on a server on the Internet. Changes of version of the local applications require that the application be upgraded to a new version. Web application is always up-to-date and owner of the Web site where the application is located take care of that.

Keywords: Web application, local application, quality.

1. INTRODUCTION

On the Internet today there are more and more very useful Web applications that are used directly in a Web browser. Usage of Web application has number advantages over appropriate desktop applications. New type of Web application, with all of it's functionalities, is in usage immediately on access to the application. For usage of appropriate desktop application, it is necessary first to ensure that the computer, on which it is installed, meets the system requirements set by the application. It is necessary to have a newer version of the application on the media or download it. After that, it is necessary to install the application locally on the computer. Installed application occupies HDD on the computer, certain data is entered into the Registry, in usage it consumes RAM and other computer resources. Appropriate Web application does not occupies permanent computer resources. After working with the application, no files from this application remain on the computer.

2. NEW TYPE WEB APPLICATIONS

New Type Web applications are Web applications that are used through Web browser and run on a Web server instead on a desktop. These applications include: MS Visual Studio Online, AutoCAD web app, Autodesk Viewer, Thinkercad, WebEx (Cisco), Times (Microsoft), Zoom (Zoom), and many others. Some of these Web applications will be presented in this article.

2.1. MS Visual Studio Online

Microsoft Visual Studio is a well-known Integrated Development Environment (IDE). It is

made in several versions: Community, Preview, Professional, Enterprise. It allows programming in multiple programming languages: C #, Visual Basic, F #, C ++, SQL, Python, JavaScript, PowerShell, Android, Xamarin, iOS.

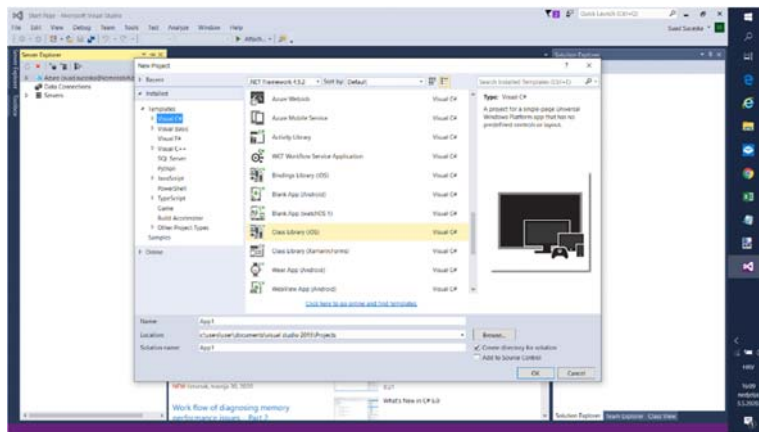


Figure 1. Home page IDE Microsoft Visual Studio

Visual Studio 2019 can be installed on operating systems MS Windows from Windows 7 to Windows 10, on 32 bit or 64 bit computers (recommended). ARM processors are not supported. Hardware requirements are: processor min. 1.8 GHz (Quad-core or better is recommended); 2 GB RAM-a (8 GB RAM recommended), HDD min.: 800 MB to 210 GB (mainly 20-50 GB), video card with resolution of min.: 720 p (1280x720). It is recommended to use WXGA (1366x768) or better. To improve speed it is recommended to use solid state drive (SSD). [1] It is clear that this development environment occupies and uses much system resources of the computer on which it is installed. In this should also include and changes of versions and the .Net Frameworks, various special add-ons for some types of applications and objects, which are not covered by the given specifications.

Microsoft has also created MS Visual Studio Online, a development environment based on Microsoft's Azure Cloud. All of the above-mentioned programming languages are supported, even the programming languages that run on the Web server (PHP, ...). This development environment leaves no trace on the computer and its use does not require such large system requirements. The maintenance of the versions, the required .Net Frameworks and all add-ons is performed by Microsoft on the Cloud. Its only drawback compared to the desktop version is that this version is only commercial and its use is charged per hour. Currently, the price of the cheapest version of this software is \$ 0.242 /h !!!

So, to use Visual Studio Online, you need only a computer with a browser and an Internet connection!

2.2. AutoCAD web app

CAD or computer-aided design is a technology for design and technical documentation that manual sketching replaces with software. 2D and 3D CAD software represents and visualizes objects using sets of points in plane and in space. [3] This software helps to research and share ideas, visualize concepts and simulate the operation of constructions before making. Autodesk is a well-known producer of the CAD software.

The desktop version of Autodesk's AutoCAD 2020 has the following system requirements: min. OS: Windows 7 (64 bit); min. processor: 2,5 GHz; min. RAM: 8 GB; HDD 6 GB; display resolution 1920x1080; display card min. 1 GB GPU with 29 GB/s and DirectX11;

min. .Net Framework 4.7. [9] Autodesk made also online version of this application: 'AutoCAD web app', which can be used to edit, create and view .dwg files in Web browser on any computer as well as mobile device. [10] Its free version for viewing .dwg files 'Autodesk Viewer' enables to view .dwg files in a Web browser. [11]

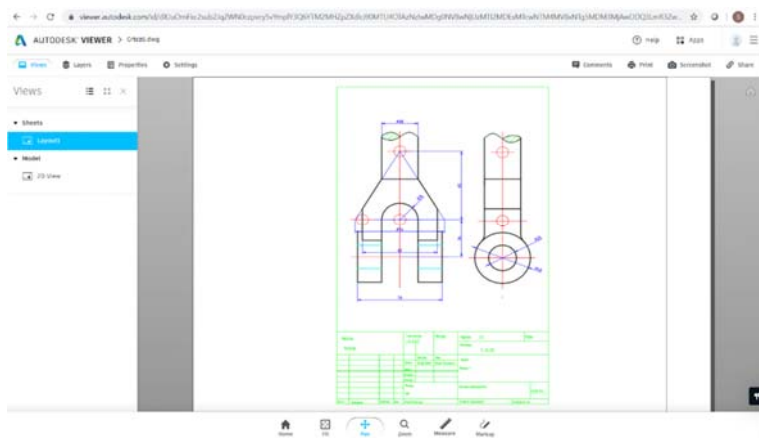


Figure 2. Web application Autodesk Viewer

'AutoCAD web app' and 'Autodesk Viewer' have no big system requirements, and they leave no files on computer where work on.

2.3. Web conferencing applications

Web conferencing applications WebEx (Cisco), Times (Microsoft), Zoom (Zoom), Meet (Google) enable multimedia contacts of more groups and people via the Internet. These applications have used very much during the pandemic. The applications enable online communication using audio and video, to share files, to chat, and other. Local versions of applications are to be installed on a computer or smartphone, which requires: download, resources on the device (RAM, disk, ...). Web versions of these applications do not require downloading, installation, or resources to store application files.

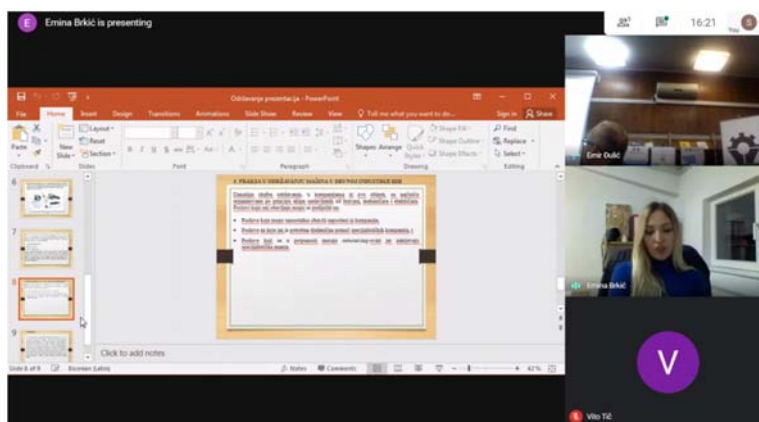


Figure 3. Web application Google Meet

3. ADVANTAGES OF NEW TYPE WEB APPLICATIONS

Desktop versions of applications require download and HDD of some size for storage. Afterwards they require installation, which requires a computer with required specifications. Newer applications may also require HW and SW features that computer does not have. For the HW it can be bought an upgrade or add-on, but it could be necessary to get new computer (smartphone). For SW, necessary add-ons can also be added to the OS to make the application to work, and if it is necessary to make an upgrade of the OS version. Installing an application requires certain resources. For PC they are: HDD, RAM, processor, and for smartphones: RAM and processor. Installed software takes up a certain amount of HDD, to store downloads, application files, registry, log files, and others depending on application. This is not required when using Web applications. There are no application files on the computer, and application does not leave any trace in the OS. Likewise, while the application is running, required utilities must be running and files must be available, which takes up RAM and processor resources. Web applications use the RAM and processor(s) of the server on which they are installed, not the resources of the computer. As some applications use a lot of HDD, RAM, and processors; usage Web applications releases computer resources: HDD, RAM, processor. It is not necessary to have various necessary auxiliary files and programs installed on the computer, nor to take care of them, as well as of versions of the application in use. All this is done on the server where the Web application is installed. It means that administrators who maintain the Web application take care that server has enough resources (HDD, RAM, processors, ...), and that it is installed the latest version of the application on it, which includes all necessary additional programs and files, and appropriate configurations. The user of the Web application has only to know Web address of the application and how to use it.

It is clear that this releases computer resources, but it also allows usage more different Web applications.

4. CONCLUSION

Applications installed on a computer enable more and more, but also become more and more demanding for computer resources. Files stored on computer also take up a lot of HDD. It is true that computer resources are constantly improving and increasing too. It often happens that an application cannot be installed on a computer because it does not meet system requirements for the installation. Today there are many applications that should be at least tried. A very simple solution of this problem are new type of Web applications, which their manufacturers have made on the basis applications that are installed on a computer locally. These applications run in a browser and have not large system requirements. All work related to the installation and maintenance of these applications, including the right versions of additional utilities and various add-ons, is done by administrators who maintain the Web sites where these applications are installed.

5. REFERENCES

- [1] <https://docs.microsoft.com/en-us/visualstudio/releases/2019/system-requirements>
- [2] <https://azure.microsoft.com/en-us/services/visual-studio-online/#overview>
- [3] <https://www.autodesk.com/solutions/3d-cad-software>
- [4] <https://www.bug.hr/softver/koje-alate-koristiti-za-3d-ispis-i-modeliranje-14438>
- [5] <https://meetingsemea8.webex.com/webappng/sites/meetingsemea8/dashboard/home>
- [6] <https://zoom.us/>
- [7] <https://viewer.autodesk.com/designviews>
- [8] <https://www.autodesk.com/products/autocad/overview?plc=ACDIST&term=1-YEAR&support=ADVANCED&quantity=1>
- [9] <https://knowledge.autodesk.com/support/autocad/troubleshooting/caas/sfdcarticles/sfdcarticles/System-requirements-for-AutoCAD-2020-including-Specialized-Toolsets.html>
- [10] <https://www.autodesk.com/products/autocad-web-app/overview?plc=ACDIST&term=1-YEAR&support=ADVANCED&quantity=1>
- [11] <https://viewer.autodesk.com/>

