

**SPETSIALIZIRANO INTERAKTIVNO PRILOZHENIE 3D VIEW: SCREENCAST KEYS ADDON KŪM BLENDER SOFTWARE PODPOMAGASHTO OBRAZOVATELNIYA PROTSSES
SPECIALIZED INTERACTIVE APPLICATION 3D VIEW: SCREENCAST KEYS ADDON TO BLENDER SOFTWARE IN SUPPORT OF THE EDUCATIONAL PROCESS**

Tihomir Dovramadjiev

Technical University of Varna, Bulgaria, Mechanical Engineering Faculty, Industrial Design Department, Varna 9010, str. "Studentska" N; Iemail: tihomir.dovramadjiev@gmail.com

ABSTRACT

Along with the many strengths submitted free for Blender software users, the system is possible to integrate specialized application interactive 3D View: Screencast Keys Addon. This application is specially designed to promote the development of presentation lessons in an easy and affordable way to support the educational process. 3D View: Screencast Keys Addon in systematic way allows the presentational information to be translated in appropriate understandable form, which saves time and effort, and thus increases the efficiency of absorption of the presented material.

Key words: Education, interactivity, Blender, Screencast

1. INTRODUCTION

Auxiliary name of ScreenCast application in Blender is borrowed from a component basis Screencasting. Screencasting means a process combining screen and broadcasting in a single term. The term screencast was selected by Jon Udell in 2004 from a list of proposals to his blog [9]. Since then, the process Screencasting permanently began to develop and present in different stages of translation of static and dynamic images, videos and presentations on various forums, interactive broadcasting, etc. Screencasting occupies special place in the traditional and faster entering eLearning [1-6, 8, 10]. In 2010 William Sugar, Abbie Brown and Kenneth Luterbach of East Carolina University made a thorough study on the effective use of Screencast in the educational process. To optimize the ability of integration of Screencast a structure is developed which characterized the successful application of the method in the education process [7, 11]. Screencasting framework and corresponding instructional strategies are shown on Fig.1 [11].

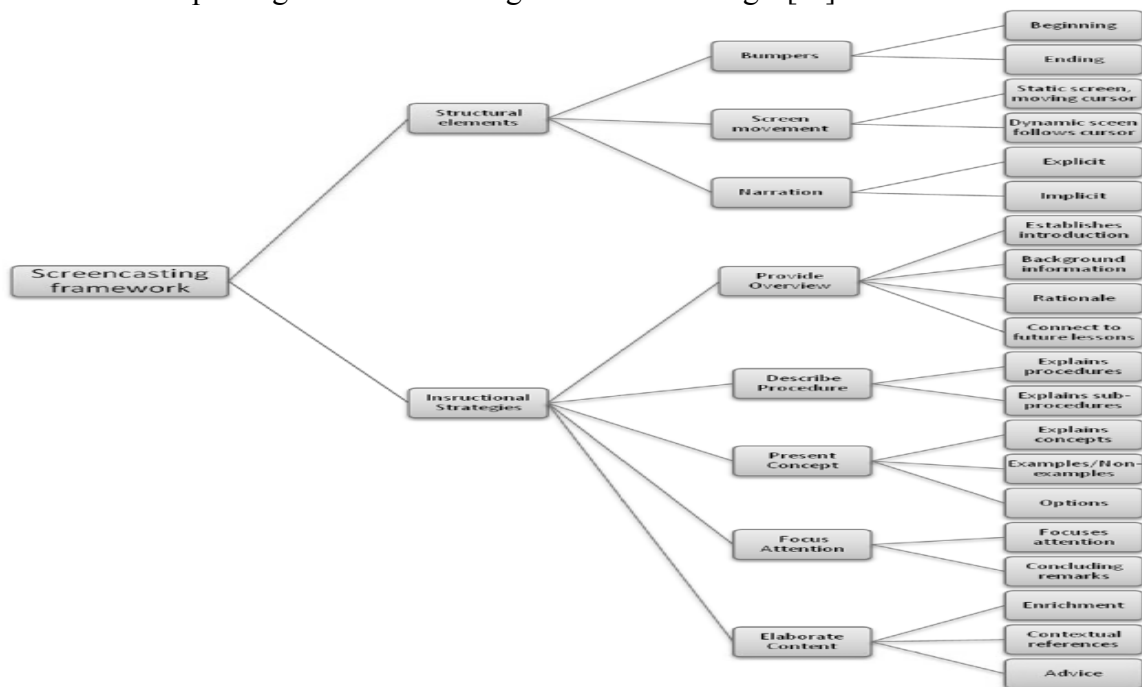


Fig.1. Screencasting framework and corresponding instructional strategies [11]

2. SCREENCAST II 3D VIEW: SCREENCAST KEYS ADDON IN BLENDER

At the latest version of Blender 2.74 (March 2015), Screencast presents as a ready integrated possibility to capture individual images or video in real time (fig. 2).

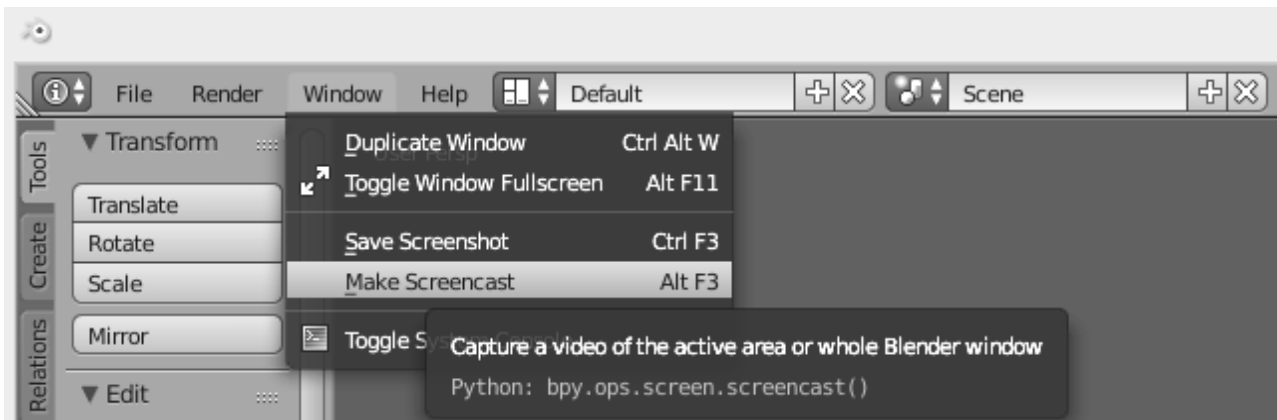


Fig.2. Integrated Screencast function in Blender 2.74

The built-in function Screencast differs from educational utility "Screencast Addon". While the first one aims to preserve and document what is happening in the workspace of Blender, the 3D View: Screencast Keys Addon aims mainly to detailed and visual explanation of used commands and operations in real time with the help of visual activity of mouse and keys. The specialized application 3D View: Screencast Keys Addon officially is present in some previous versions of Blender. At this stage 3D View: Screencast Keys Addon should be integrated additionally. The application is with a free license (<http://blenderartists.org/forum/showthread.php?181703-Screencast-keys-status-tool>).

The integrating of 3D View: Screencast Keys Addon in Blender goes through a sequence of several stages. In the *File* menu *User Preferences* is selected, then *Add-ons*, and after that *install from file* is outlined and the file *space_view3d_screencast_keys.py* is activated. A consequence of this action *3D View: Screencast Keys Addon* appears and it is activated by the check (Fig. 3).

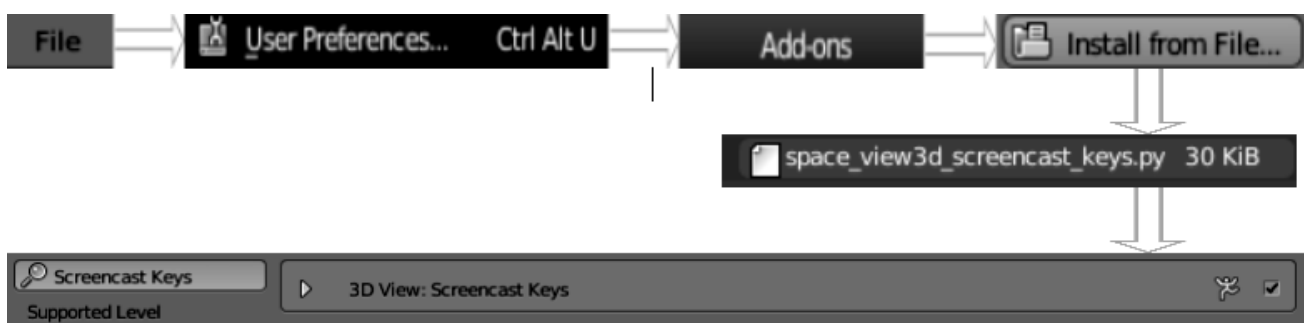


Fig.3. Integration of 3D View: Screencast Keys Addon in Blender 2.74

After performing the defined action of steps the application is available, but not yet in real action regime. Fig. 4 (a) shows the default configuration of Blender when starting a new project and not the availability of 3D View: Screencast Keys. The process of launching the application is shown in Fig. 4 (b).

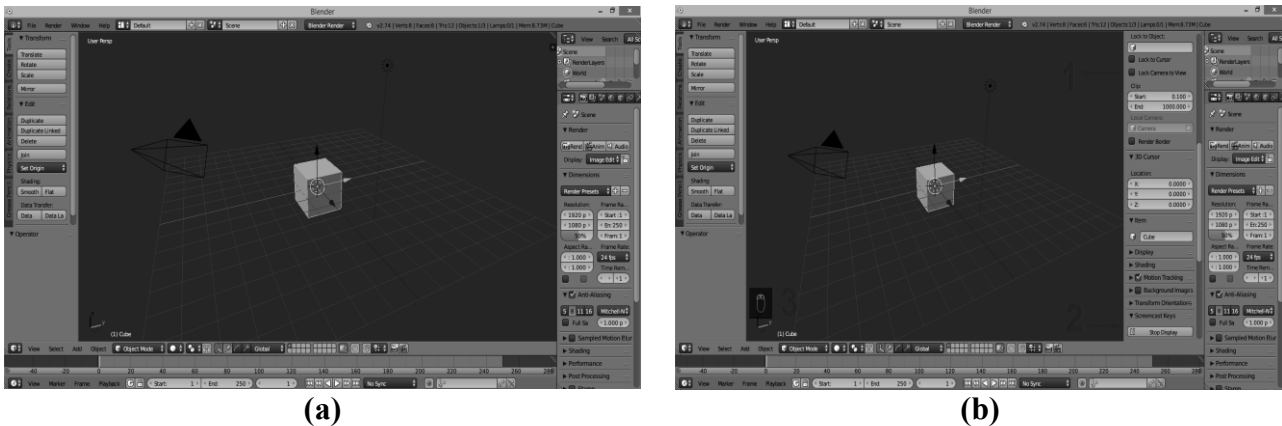


Fig.4. Configuration of workspace of Blender before and after starting the already integrated application 3D View: Screencast Keys in real time

The active window of 3D View: Screencast Keys provides a range of options which in personal discretion can be defined as follows on Fig. 5:

- **Start display button:** When is activated, Blender will display any Key or combination of Keys you are pressing on the bottom left corner of the 3D window as floating text. If you press several times the same Key or combination of Keys, Blender will add an “xn” tag at the end of the Keys or combination of Keys, indicating how many times you pressed the Key or combination of Keys.
- **Stop display button:** will stop Blender from displaying ScreenCast Keys.
- **PosX:** position of the Screencast text on X axis.
- **PosY:** position if the Screencast text on Y axis.
- **Font:** Screencast text font size.
- **Mouse:** Screencast mouse icon size.
- **Mouse display:** Select how the Screencast text will be displayed
- **Text:** Will display the Keys pressed and Mouse buttons pressed as text.
- **Icon:** Will display the Mouse as an icon and Keys pressed as text.
- **None:** Will display info about Keys pressed only, without mouse button info.
- **Group Mouse & Text Check box:** When this is checked, Blender will display a box around the Screencast Text to make reading easy.
- **Color:** Color of the Screencast text.
- **Display Box:** On/Off
- **Box Color:** Set the color and alpha for the background box.
- **Hide:** Only show the box when a key was pressed, otherwise hide it.
- **Box Width:** Set the minimum size for the box (it resizes automatically if text doesn't fit)
- **Last Operator:** The last used operator (tool) is shown below the box in the 3D View.
- **Time Display:** Show On/Off Elapsed time.
- **Time Size:** Time elapsed size.
- **Reset:** Reset time.



(a)

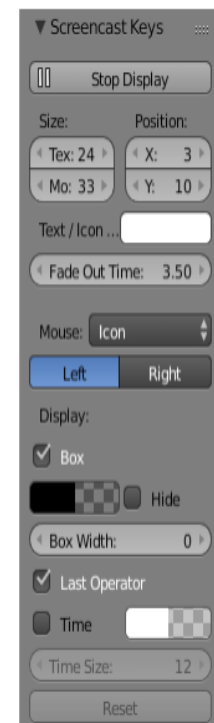


Fig.5. Definition of 3D View: Screencast Keys (a) Display mouse (b) Parameters

The already defined configuration may at any time be redefined according to the desire, needs, and for convenience. The typical flexible application design in real time shows everything that happens during the working process including the use of auxiliary keyboard shortcuts and involvement of peripheral devices mouse and touch pad.

3. CONCLUSION

The integration of Screencast technology in education is important, as well as supportive pedagogical tool and for effective absorption of the taught material by the students. The taught material in addition to the ability of adding audio informational explanations assist with visual graphic images which turn attention to the technique of working in an environment of Blender. This leads to increasing the efficiency of absorption of the taught material, its rapid reproduction in practice and the ability to store information in order to reuse it further. Increased use of 3D View: Screencast Keys Addon application is fully justified and recommended.

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