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ECT

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CAMERA

ECT

ECTcamera Pro
User's Manual

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About ECTcamera

ECTcamera (EyeComTec Camera) is a convenient software solution created to work with any web camera or any other video-capturing device connected to a PC or a laptop. ECTcamera has a really convenient and simple user interface and allows the user to scale the visible image area, save screenshots of the whole screen or its parts, and supports a wide range of devices, providing automatic identification of connected hardware. It supports various working resolutions of web cameras and many other settings.

The program is portable, light, and doesn't require installation or registry modification, allowing the user to launch it from any external data storage device. It also allows working with so-called 'hotkeys'. ECTcamera is a fully customizable application, thus the user can zoom the image in or out, change the shift step, as well as the size and position of the main window of the program and the compression ratio of saved screenshots. The flexibility of ECTcamera makes it possible to use any third-party video stream processing solution.

ECTcamera supports working with the command prompt and additional parameters, making it possible to use various scheduling and time-management programs to launch applications according to a schedule. Due to this fact, the program can reduce RAM usage, which permits using ECTcamera even on budget laptops. Furthermore, the application supports an unlimited amount of configuration files, switching between various ECTcamera settings really quickly, which can be handy for working with various video-capturing devices or for operation on different computers.

This program is really easy to use, and provides fast configuration and intuitive controls. Initial configuration of ECTcamera takes less than a minute, while switching between various configuration files (which contain different video output parameters, windows layout, shift step, etc.) in a couple of seconds.

Main advantages of ECTcamera

In comparison with other similar applications, **ECTcamera** provides several important advantages:

- Easy-to-use application with a full range of tools and functions. This program doesn't have excessive parameters, while giving all necessary tools to the user: work with a video stream, convenient screenshots capturing process, and the possibility to import or export settings.
- Simple user interface. ECTcamera doesn't contain animated pictograms or confusing images, which can make working with a camera more difficult. The user interface is as simple as possible. The program supports and efficiently detects a wide range of video-capturing devices and has the ability to disable redundant camera modes.
- Fast operation. All necessary functions and operations can be reached through hotkeys. New users can totally configure it in less than a minute.
- Portability. This program doesn't require installation on a computer, registry, or file system changes. It also doesn't need additional libraries or long framework installation. It can be launched from any external data storage portable device.
- Small size and low technical requirements. The program takes up less than 3Mb on the hard drive. It also requires less than 5Mb of RAM when used without video output. These results are due to a 'clean' interface and high-quality program code.
- Scaling of the image. An essential function for low-resolution camera owners or for situations when it's necessary to select an area on the captured image.
- Command prompt launch support. ECTcamera won't use RAM continuously. It can be used in conjunction with any type of planning applications or third-party software, as well as associated with a key combination or an event.
- Support of the unlimited amount of configuration files. Switching between configuration files is smooth and easy. Each file contains all necessary settings of the program (i.e., from the type of camera to the working resolution and window size). Furthermore, separate configuration files provide fast switching between different devices or when several cameras are used.
- Support of simultaneous working of several copies of the program. This feature allows users to work with several video-capturing devices at the same time, as well as to create surveillance or data processing centers.

This fusion of simplicity and functionality makes **ECTcamera** a really convenient and useful program that can be applied in various sectors.
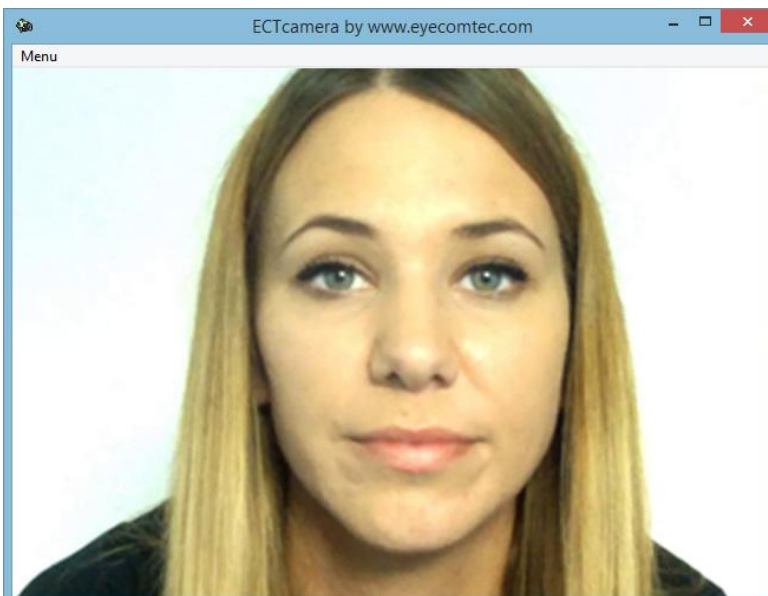
Getting started

During the very first program launch, the user will see the main window of **ECTcamera**, which has to be used as an output window for a connected camera (see fig. 1). Keeping in mind that the camera hasn't been chosen yet, there is no image in the window. In order to start work with **ECTcamera**, it's necessary to choose any desired device and its resolution through the menu.

In order to select a camera, left-click **'Menu'** in the upper left corner of the program window, following with a left-click on **'Video'.** A submenu will appear; choose the model of the camera with the cursor, then left-click on the desired camera resolution.

(Fig. 1. The interface of the program during the first launch)

After selection of the camera, the user can start to work with the program by clicking **'Start'** on the main menu or pressing the corresponding **F2** hotkey. The image from the camera will be shown in the window of the program (see fig. 2).

(Fig. 2. Image from the camera in the window of the program)

In order to start video capturing from the camera with every new start of the program, change the program settings by pressing **'Settings'**. Then on the **'Show Settings Form'** submenu, remove the 0 value in the 11th row (**Auto start video**) and change it to 1. After doing so, **ECTcamera** will launch video capturing with every new start of it in automatic mode.

When necessary, the user may change the position of the image and its zoom. This can be done through the **'Scale'** and **'Position'** submenus of the main menu of the program. Each command is assigned a key combination. Hotkeys allow changing the size and position of the image in a few seconds (see fig. 3).
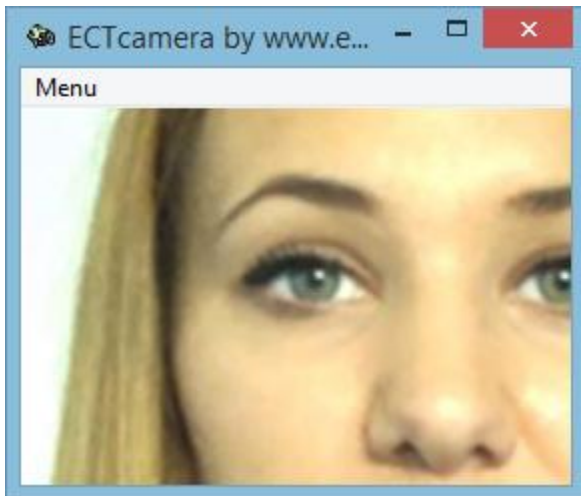
(Fig. 3. The image with adjusted position and zoom. Focused on the right eye of the user)

Now the image from the camera can be used in other applications (such as **ECTtracker**). The user can also make a screenshot by choosing **'Make Shot (photo)'** or by pressing the **F6** hotkey. A screenshot file will be saved in the same directory that was used to launch **ECTcamera**.

When program operation is over, the user has to stop video capturing. To do so it's necessary to push the **F2** hotkey or choose **'Stop'** from the menu.

More details about the functionality of **ECTcamera** and its settings can be found in the following chapters: Main menu and functionality of **ECTcamera** and Settings and additional parameters of **ECTcamera.**

Main menu and functionality of ECTcamera

The biggest part of the program window is taken by the image from the camera (when the camera is not selected or capturing is off, the user will see a black area instead of the image). The menu is located in the upper left corner of the window and provides access to all necessary controlling commands and settings.

By using the main menu of **ECTcamera** (see fig. 4), the user can choose an appropriate video-capturing device, image zoom and resolution, fragments of the image to be zoomed, as well as make screenshots, use the help section of the program, and several additional parameters. All controlling elements of the program are combined into categories, while the most important of them are assigned with hotkeys. The menu can be opened traditionally by using the **'Alt'** key and arrows or **'Enter'**. The user can also open it with a left-click on the Menu.
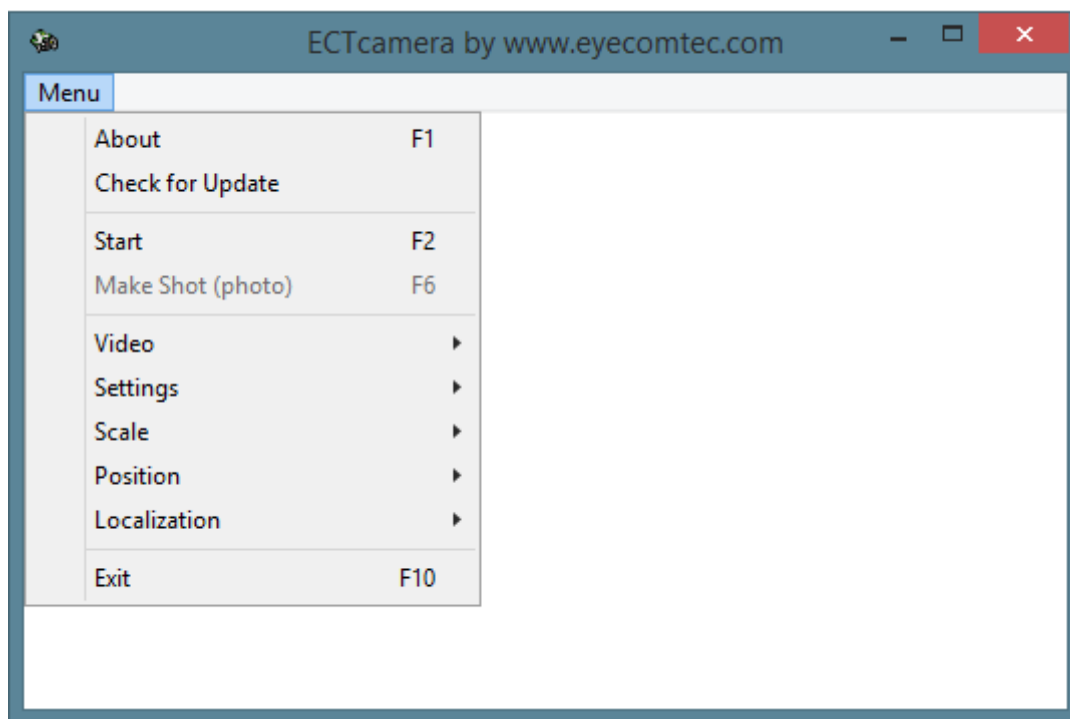

(Fig. 4. The main menu of the program)

Items of the main menu – **'About'**, **'Check for Update'**, **'Start'** or **'Stop'**, **'Make Shot (photo)'**, **'Video'**, **'Settings'**, **'Scale'** , **'Position'**, **'Localization'**, **'Exit'**.

'About', **F1** button. This item opens the About window of **ECTcamera,** which includes information about the current version, release date, developers, as well as some legal information (see fig. 5).
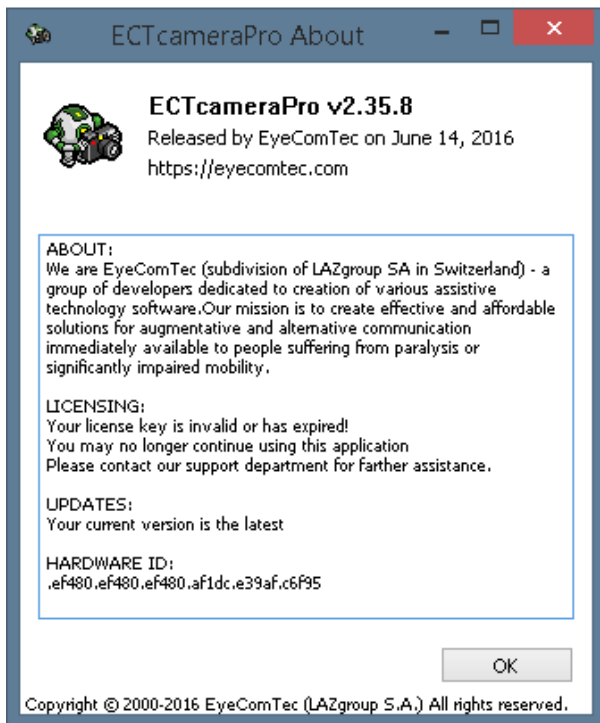
(Fig. 5. About window of the program)

'Check for Update'. Allows the user to check for new versions of the program on servers of the developer. if there's a new version available, the user will see a window with the information about the actual version of the program (see fig. 6). If there's no new version, the user will also see a notification (see fig. 7). If it's impossible to connect to servers (no Internet connection, no response from the server, or a firewall is blocking connections) the user will see the following message: 'Error in Connection' (see fig. 8).
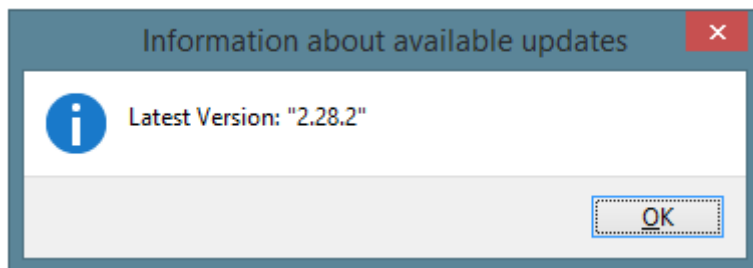
(Fig. 6. Information about available updates of the program)
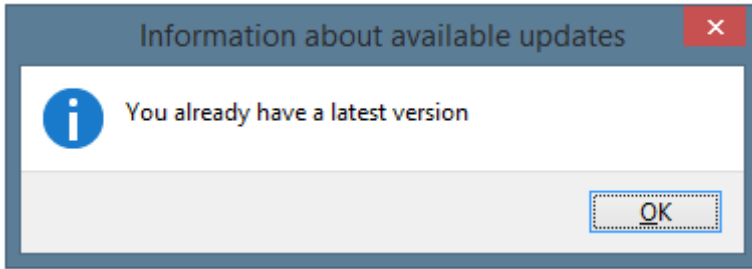
(Fig. 7. Window shown if there are no updates)
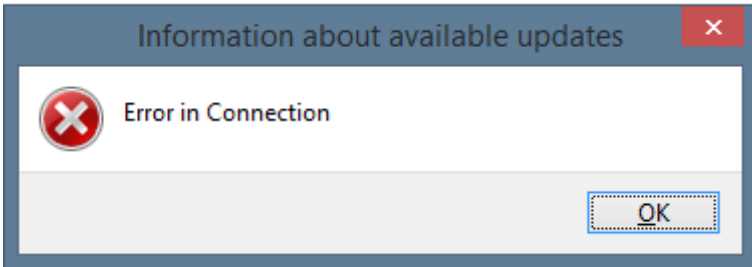
(Fig. 8. Window shown if it's impossible to check for updates)

'Start' or **'Stop'**, **F2** button. This button allows the user to start or stop capturing video from the connected device. If video stream is off after program launch or the user needs to change several settings (choose another device, change video mode or resolution), this item is going to show **Start**. If video is already streaming (e.g., when automatic video streaming is used for **ECTcamera)**, this item is going to show **Stop**.

'Make Shot (photo)', **F6** button. This menu item, as well as the corresponding hotkey, allow the user to make a screenshot and save it in BMP, PNG or JPEG formats in dependence with current settings. The user can also use settings to choose full screen or only main window screenshots (e.g., for significant zoom usage). Such screenshots are going to be saved in the same folder that was used to run the program. File names will be combined from four parts: ECTcamera + current date (in YYMMDD format) + current time (in HHMMSS format) + hundredths of seconds, which is really useful for comfort browsing and sorting of the screenshots (see fig. 9). When video stream is turned off, this menu item remains inactive.

(Fig. 9. Name of the screenshot file)

'Exit', **F10** button. Terminates video streaming to the main window of the program and closes **ECTcamera**.

'Video' submenu

This submenu contains the list of all video cameras connected to the PC. Each camera has its own submenu with available video formats and resolutions (see fig. 10).
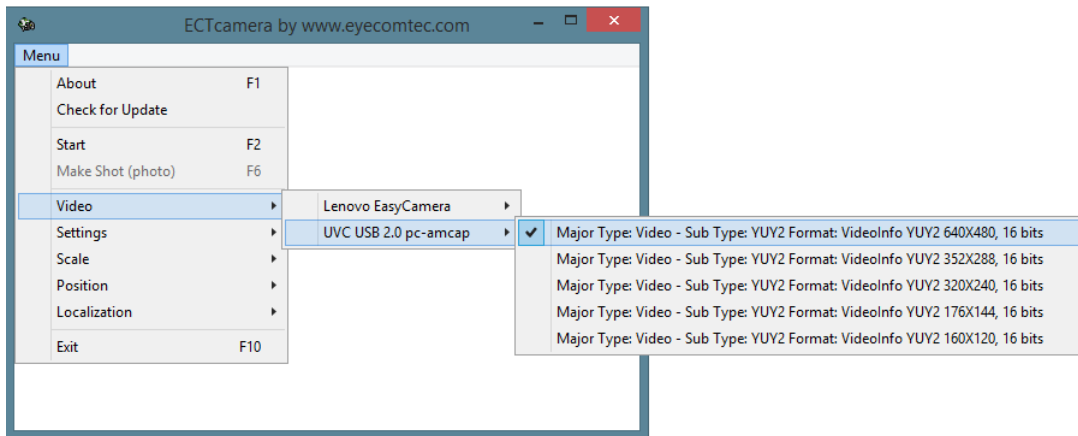
(Fig. 10. Video submenu)

Settings of the camera that have been used recently are marked with a checkmark. The **Video** submenu is inactive if video from one of the connected devices is already streaming to the main window of the program.

The stability of **ECTcamera,** in conjunction with its light interface, allows users to create systems with several cameras in use (see fig. 11). Each copy of the program runs as an independent process, while the user can adjust both windows according to their needs (i.e., change zoom and position of the image or make screenshots). Positions and sizes of program windows can also be adjusted independently. In order to use desktop space with maximum efficiency, the software allows users to hide window frames and use pop-up menus.
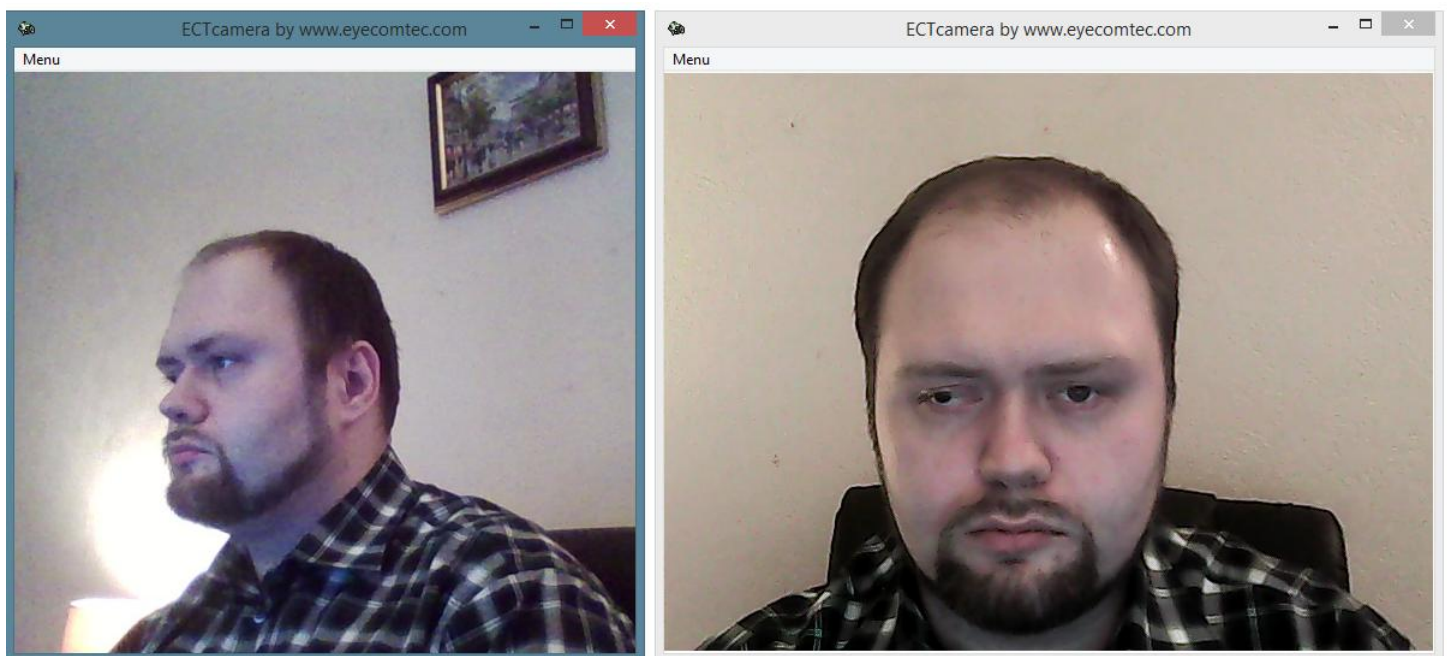
(Fig. 11. Simultaneous usage of two copies of the program with different cameras)

'Settings' submenu

This submenu contains additional setting parameters of the program, as well as profile loading and saving commands (see fig. 12).
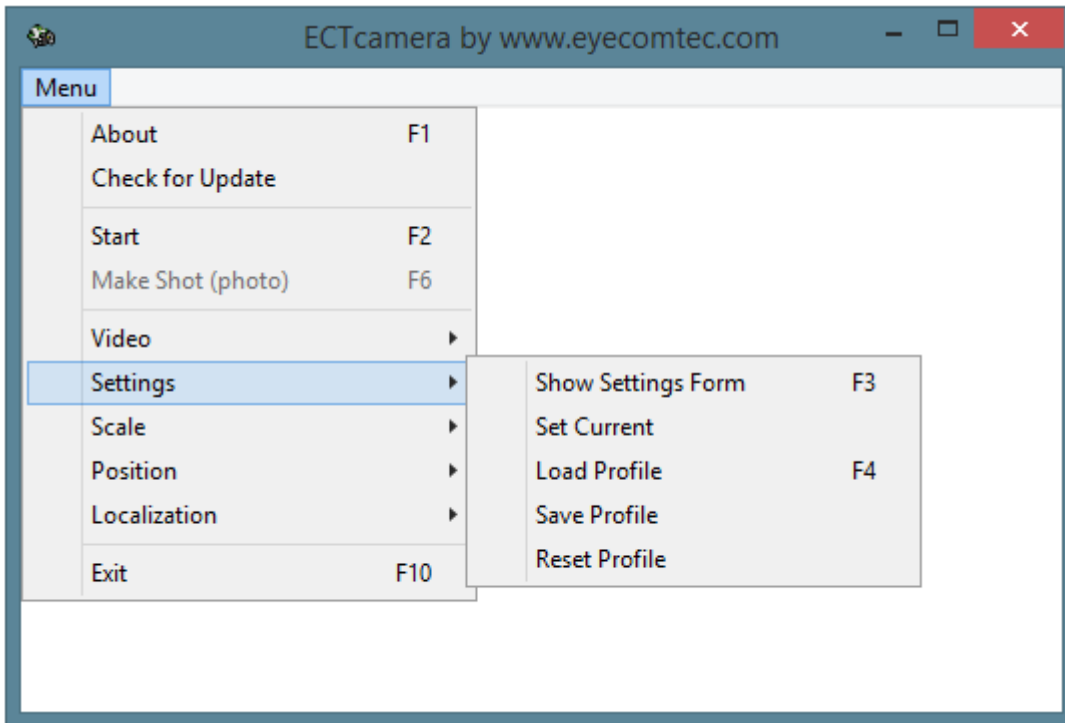
(Fig. 12. 'Settings' submenu)

'Show Settings Form', **F3** button. The settings panel of **ECTcamera** contains more than 20 changeable parameters. These parameters allow the user to change the size and position of windows, video position and zoom, image shift step, full or partial screenshots, as well as to select the screenshot saving format and compression ratio (for JPG) and to enable or disable automatic video streaming during the start of the program. More information about program settings can be found in the Settings and additional parameters of **ECTcamera** chapter of this manual.

'Set Current'. This saves and makes effective all changes that were made in the settings panel.

'Load Profile', **F4** button. This item of the menu allows the user to choose and load a previously saved user profile that contains information about video position and zoom, screenshots format and screenshot file name format. User profiles also contain information about **ECTcamera** windows layout, as well as many other important parameters.

'Save Profile'. This item of the menu allows the user to save all the settings of the program into a separate user profile. Such things as main window, informational window, and settings panel positions are also saved in the profile. This approach is handy when the program is alternately used by several users and each of them requires different settings (i.e., image zoom and position, windows layout). It also provides fast settings transfer when it's necessary to move **ECTcamera** to any other computer or laptop.

'Reset Profile'. This menu item restores all default settings (including windows layout).

'Scale' submenu

The **'Scale'** submenu allows the user to change the size of the image from the web camera (see fig. 13).
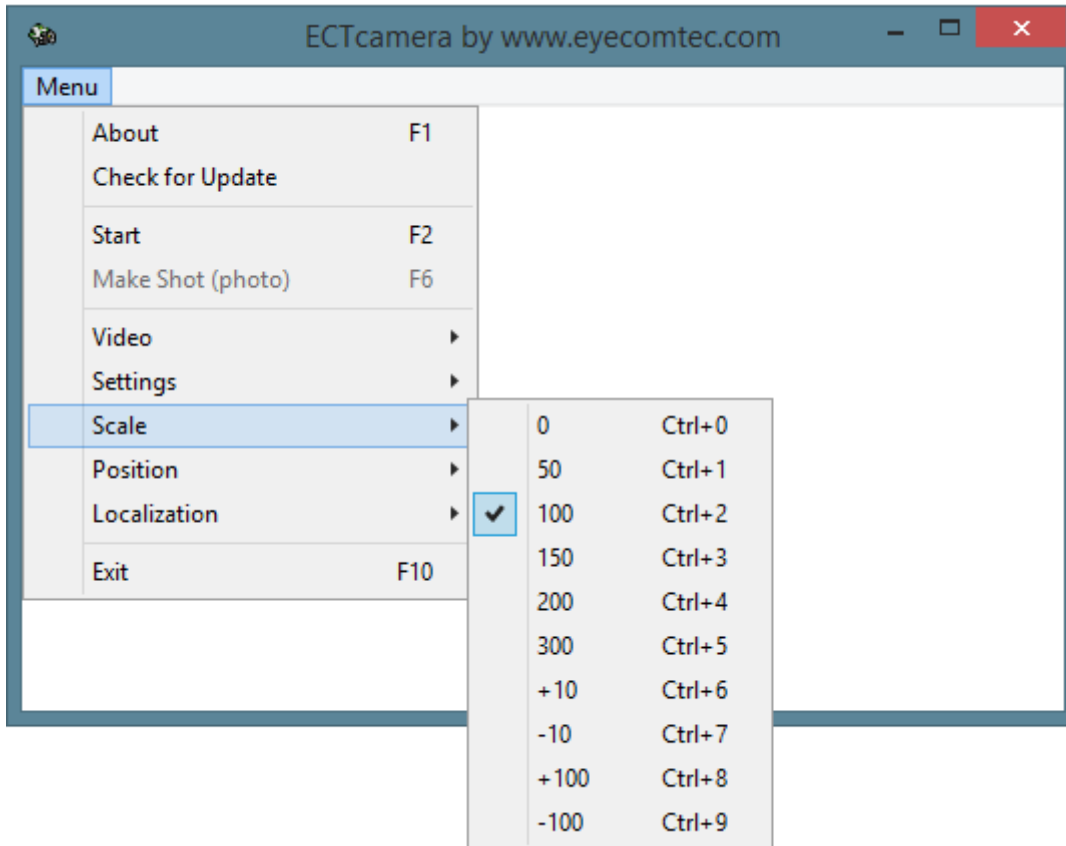
(Fig. 13. Scale submenu)

Choosing a 0 value (**Ctrl+0** key combination) changes the scale to fit image to all available space of the program window. It doesn't save image proportions; however, they can be changed together with the size of the program window.

Other available scale options:

- 50% – **Ctrl+1** key combination;
- 100% – **Ctrl+2** key combination;
- 150% – **Ctrl+3** key combination;
- 200% – **Ctrl+4** key combination;
- 300% – **Ctrl+5** key combination.

The user can not only select one of the provided scale options, but to change it manually, can zoom the image in or out:

- Zoom in by 10% – **Ctrl+6** key combination;
- Zoom out by 10% – **Ctrl+7** key combination;
- Zoom in by 100% – **Ctrl+8** key combination;
- Zoom out by 100% – **Ctrl+9** key combination;

The video scaling feature can be really useful for cameras that support only low resolution. Scaling allows the user to get a pretty clear image in the working area of the program and successfully work with its fragments (for example, track eye movements). Owners of high resolution cameras can use the zoom-out feature to increase sharpness. By stretching the image to cover the whole working area, the user is also able to change its size; proportions of the image can be adjusted by changing the size of the main window of **ECTcamera**. The settings panel makes it possible to choose any desired scale value with one percent accuracy; however, image size is going to be changed only when the user selects **'Set Current'**. The default zoom level for camera video stream is 100%.

'Position' submenu

The **'Position'** submenu allows the user to change the position of the image captured from the camera (see fig. 14). It's recommended to use this command if the size of the video (default or after zooming) goes beyond the border of the main window or when it's necessary to zoom in a specific fragment of the image.
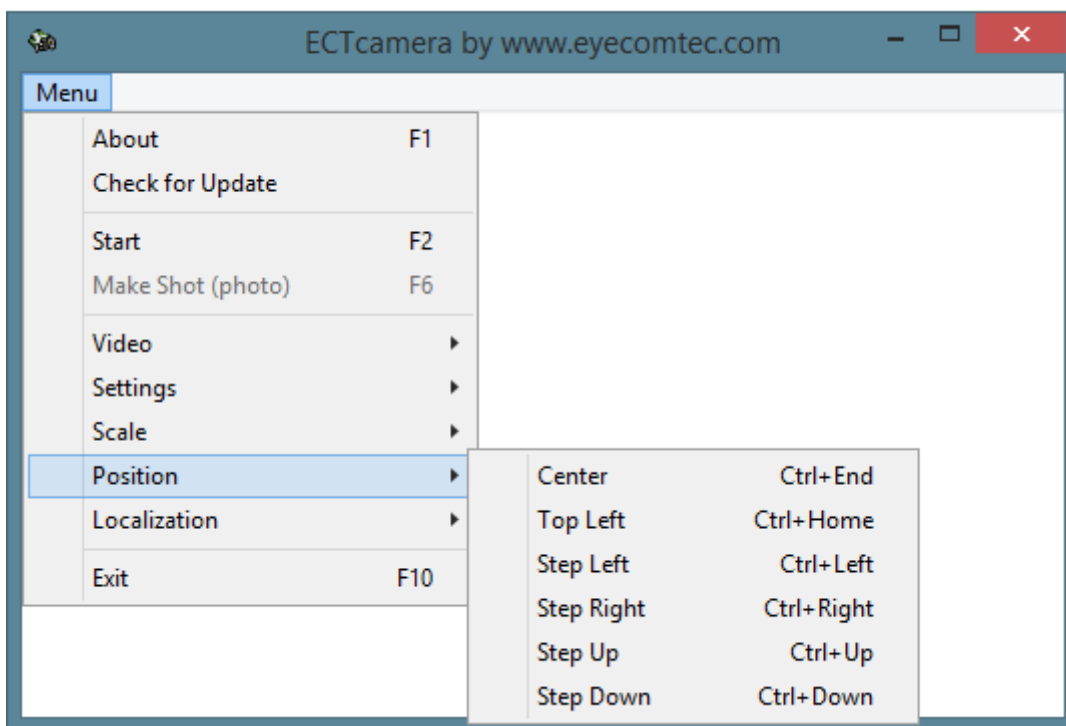
(Fig. 14. Position submenu)

The user can select one of the following options and hotkeys:

- Center – **Ctrl+End** key combination;
- Top Left – **Ctrl+Home** key combination;
- Step Left – **Ctrl+Left** key combination;
- Step Right – **Ctrl+Right** key combination;
- Step Up – **Ctrl+Up** key combination;
- Step Down – **Ctrl+Down** key combination.

'Localization' submenu

In order to provide more flexibility and make work with the program more convenient, it supports several localizations (i.e., different languages of the interface and parameters description). Currently the program supports English, French and Russian languages.
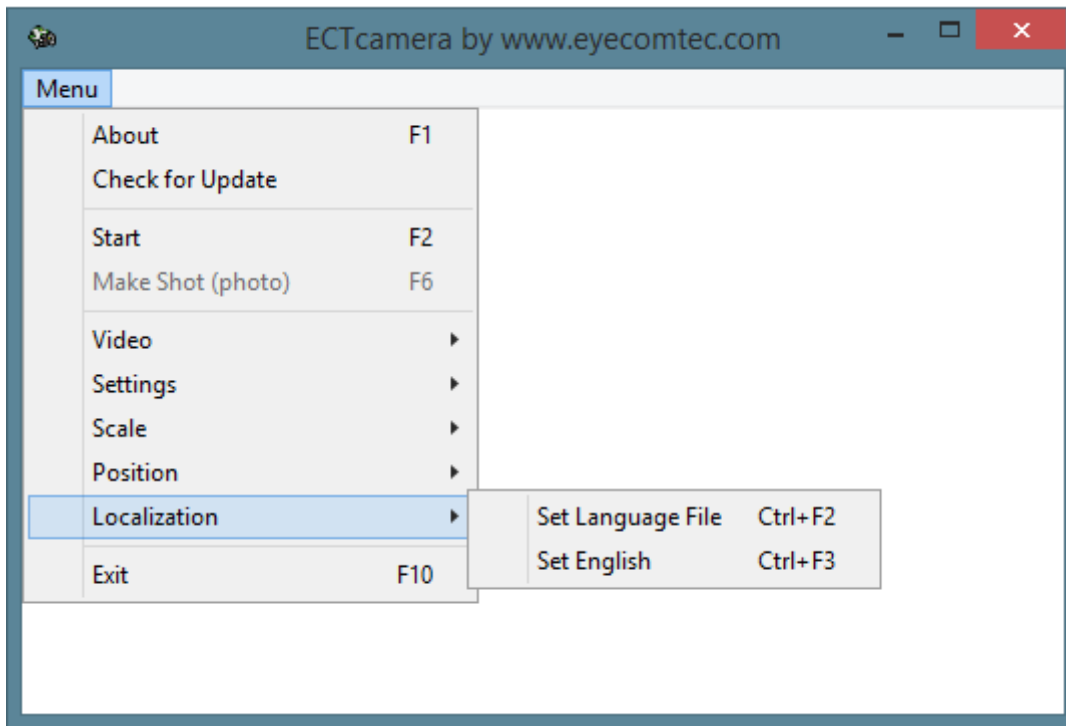
(Fig. 15. Localization submenu)

'Set Language File', **Ctrl+F2** key combination. When the user selects this menu item, a dialog box of the operating system (OS) is shown, allowing the user to select one of the language files in .lng format. The program language can also be selected in the 24th row of the settings form of the program.

'Set English', **Ctrl+F3** key combination. This immediately changes **ECTcamera** language to English without showing any additional dialog boxes.

'About' window

When launching a non-activated copy of EyeComTec programs (ECTcamera, ECTtracker, ECTkeyboard, ECTmouse, ECTlistener and ECTmorse), the user will see the **About** window, which contains additional blocks of information (see fig. 16).
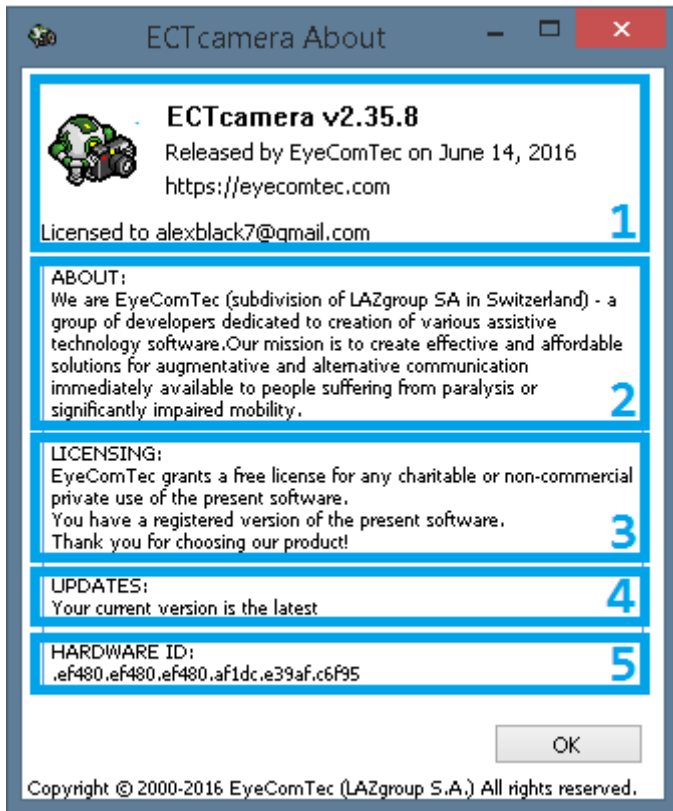
(Fig. 16. An updated About window of the **ECTcamera** program)

On the image above, various information blocks are marked with numbers:

1. The number and the date of the release, the company's website address. For activated versions, this block also includes an e-mail address of the user registered to this copy of the program.
2. The **About** section, which contains the information about the EyeComTec Company.
3. The **Licensing** section, which indicates the license type of the current copy of the program (paid commercial or free non-commercial license);
4. The **Updates** section, which shows if there's an updated version of the program on the developer's website);
5. The **Hardware ID** section, which indicates the hardware code of the computer used to launch the program.

The appearance of the **About** window is different for paid commercial programs (Pro version) and free versions for non-commercial use (see fig. 17).
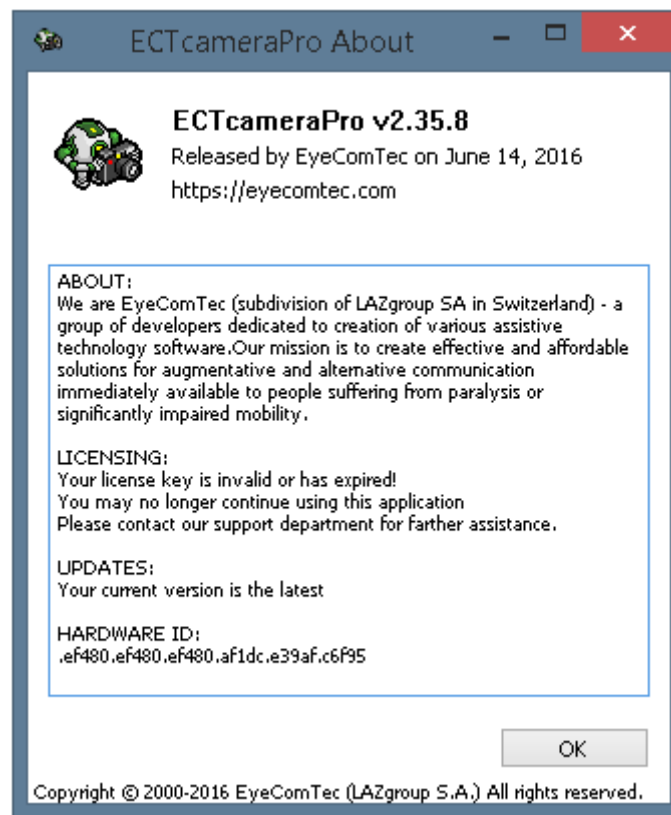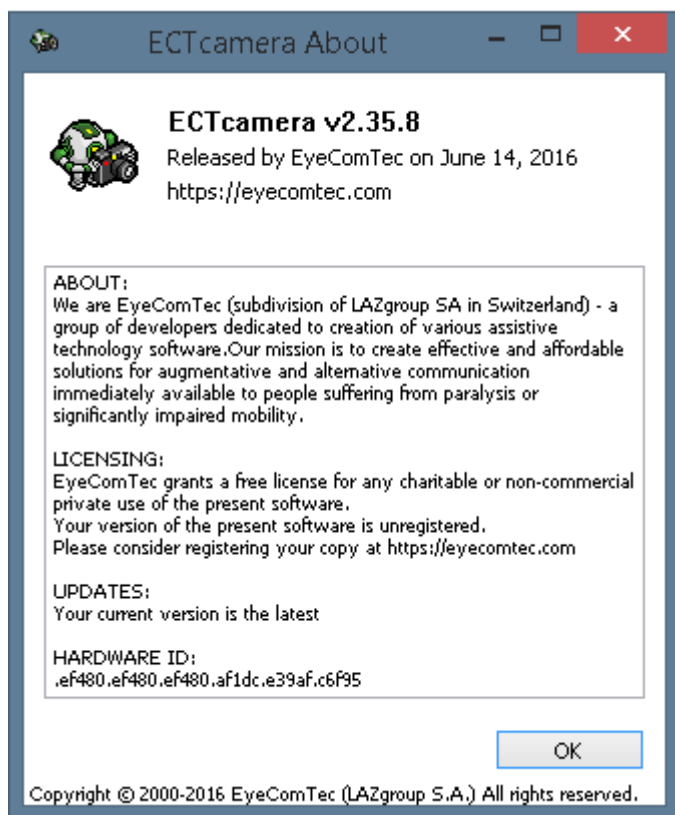
(Fig. 17. The About window for non-activated versions of the program. Left: free license for non-commercial use; Right: paid commercial license)

The user will see the main window of the program after pressing the **OK** button and closing the **About** window in a program with the free type of the license. The non-activated version of the program with a commercial license will not be launched until the user purchases (or prolongs if the license expired) a license and creates a new key file in the program's folder.

All the programs with free licenses are intended for people with a real physical need for assistive technologies from the EyeComTec Company. The registration process is not compulsory in such cases, but the company kindly recommends that our customers do register in order to gain the full benefits e.g. updates and customer support. Free versions of our software products can also be used by non-commercial and charitable organizations. These organizations must register for a licence.

Registration on the company's website and the following activation of the program are compulsory for Pro versions of software.

After completing the activation, the **About** window will not be shown during every launch of the program. The user can open it by using the **About** menu item, or by pressing the **F1** hot key (see fig. 18). There is sometimes a short delay when opening the **About** window, as every time it is opened, the program will check for updates on the EyeComTec website.
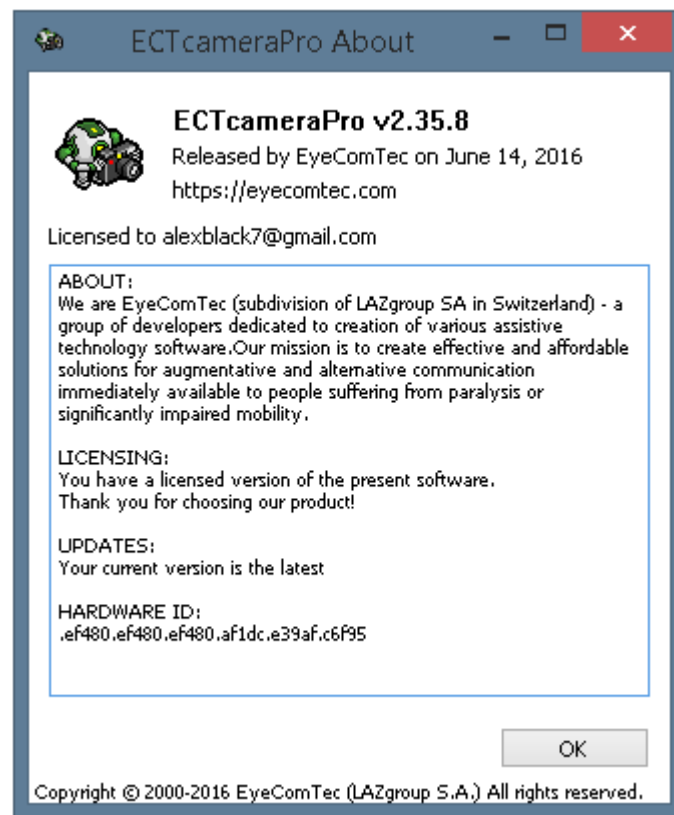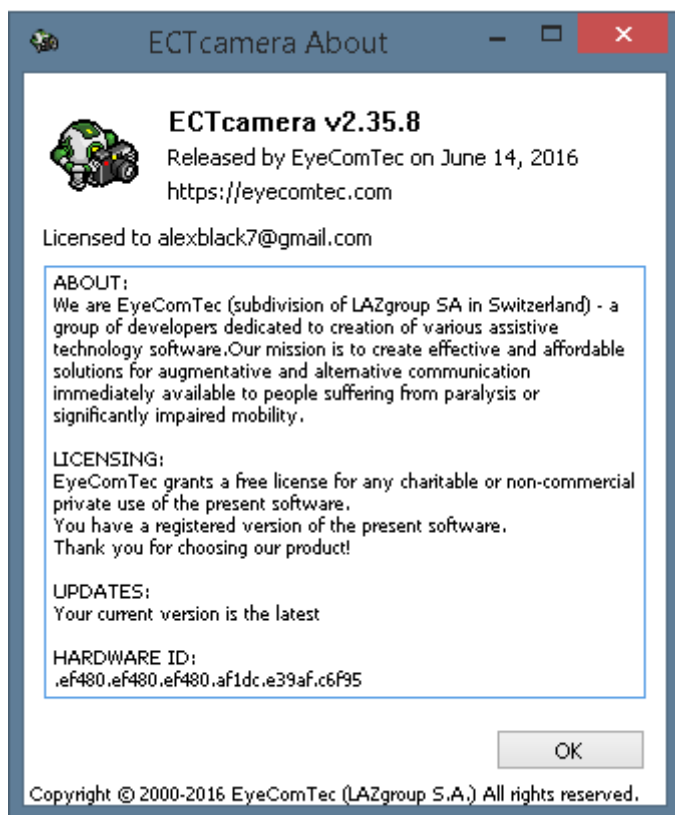
(Fig. 18. The About window for activated versions of the program. Left: free license for non-commercial use; Right: paid commercial license)

Settings and additional parameters of ECTcamera

ECTcamera provides the user with 25 changeable parameters. These parameters can be accessed through **'Settings'** – **'Show Settings Form'** or by pressing the **F3** hotkey. For convenience, all the parameters of the settings panel are marked with different colors (see fig. 19).

0	VALUES	COMMENT
1	UVC USB 2.0 pc-amcap	Camera device in use
2	Major Type: Video - Sub Type:	Video format and resolution
3	100	Scale video in percents from original
4	20	Step in pixels
5	160	Video position X
6	90	Video position Y
7	320	Video window width
8	200	Video window height
9	100	Video window position X
10	100	Video window position Y
11	0	Auto start video
12	0	Flip video (0-original, 1-horizontally, 2-vertically, 3-horizontally and vertically)
13	100	Jpeg compression %
14	0	Make shots in selected format (0-bmp, 1-jpg, 2-png)
15	1	Capturing mode (0-original photo, 1-visible on window, 2-full screen shot)
16	1	Display form borders
17	1	Menu (0-no menu, 1-main menu, 2-popup menu, 3-main and popup menu)
18	YYYY_MM_DD-HH_NN_SS-ZZZ	DateTime format
19	ECTcamera_*	File mask for saving shots
20	1	Make multiple shots in a raw
21	0	Delay between shots in milliseconds (multi-shot only)
22	0	Buffer all images before saving to disk (0-no buffer, 1-with buffer) (multi-shot only)
23	1	Video resolutions listing mode (0-show all, 1-hide VideoInfo2, 2-hide VideoInfo)
24	Eng	Current language file name
25	.9c12f.ef480.ef480.af1dc.e39	ID

(Fig. 19. **ECTcamera** settings panel)

The settings panel of the program has its own **'Action'** menu (see fig. 20). It contains the same items as the **'Settings'** submenu.
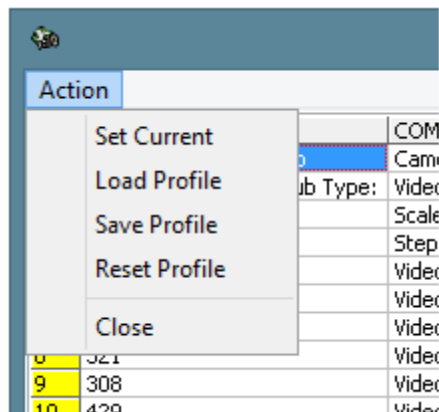
(Fig. 20. Action menu of the settings panel of the program)

The user can change each parameter by modifying its value in the second column of the table. After the termination of the program, it automatically saves all changes into a configuration .ini file and automatically loads them during the next launch. This configuration file is created during the very first start of the program and after each termination of it.

Let's look more closely at the parameters of the settings panel of the **ECTcamera**.

1 – **Camera device in use**. When there are several video-capturing devices connected to the computer, the user can select one of them through the menu. The name of each device, automatically identified by the program, is going to be shown in the value field of this parameter.

2 – **Video format and resolution**. When the program identifies a web camera or any other external device, a new submenu appears, allowing the user to choose a video codec and a resolution. When the user selects a desired submenu item, its value is automatically filled in this parameter.

3 – **Scale video in percents from original**. After selecting the camera and its resolution, the user can also choose video zoom level. This parameter allows the user to select any desired video zoom level.

4 – **Step in pixels**. In cases of a very high resolution or zoom, the image can go beyond the borders of the main window of the program. In such a situation, the user has to use the image shifting function to select a desired area. This parameter predefines a single shift value in pixels, which is applied every time the new image fragment is selected. It has to be selected manually. The default value of the shift is –20px.

5 – **Video position X**. This parameter determines the total shift of the camera image in pixels on the horizontal axis. When the user moves the image to the right, the shift value is increased by this number. Respectively, when the user moves it to the left, the shift value is decreased. When moving it to the left, the variable can become negative. This parameter is changed in real-time when the user presses a hotkey or selects corresponding menu items. The default value of the variable after the first launch is 1, and the image is located in the upper left corner of the program window.

6 – **Video position Y**. Everything works the same as in the previous paragraph, but the shift is made on the vertical axis. When the working area is moved up, the variable is decreasing; when it goes down, it's increasing. The default value of this parameter is 1.

7 – **Video window width**. When the user closes the program, it automatically adds **ECTcamera** window size information to the configuration file. During the next launch of the program, the **Video window width** parameter shows the width of the program window. This value can be changed manually. The window width will change during the next start of the program or when the user selects the **Set Current** menu item. The user can also pull the frame of the main window of the program by holding the left mouse button and changing the size of the window; in that case, the new value is saved automatically. An updated value of this parameter will appear after reopening of the settings panel. The default window width of **ECTcamera** is 320px.

8 – **Video window height**. The very same principles as in the previous paragraph are involved in window height changing. The default window height is 200px.

9 – **Video window position X**. When the user closes the program, it automatically adds information about the window position to the configuration file. During the next launch, the **ECTcamera** reads this data and

opens the window of the same size and at the same position as before. This feature allows the user to avoid selection of the position of the window with every new start of the program. The **Video window position X** parameter contains information about the shift of the program window of the horizontal axis. This value is changed in real-time when the user moves the program window. The default value of this parameter 1.

10 – **Video window position Y**. Everything works similarly to the previous paragraph, but the shift is made on the vertical axis. When the program window is moved up, the variable is decreasing; when it goes down, it's increasing. The default value of this parameter is 0.

11 – **Auto start video**. This parameter can have two values: 0 or 1. If it's equal to 0, the program will not start the video capturing process immediately after its launch. This allows the user to make additional changes, such as selecting another camera or resolution. If it's equal to 1, the video stream from the previously selected camera is going to be shown automatically after the launch of the program. The resolution and the format of the video are also saved from the previous time or loaded from an additional configuration file when the user launches the program through the command prompt and indicates the additional .ini file. The default value of this parameter is 0 (video is not captured immediately after the launch of **ECTcamera**).

12 – **Flip video**. This parameter can have several values: 0, 1, 2, or 3. If it's equal to 0, video is not flipped and is shown in its original format, as it comes from the camera. If it's equal to 1, the video is flipped horizontally. If it's equal to 2, the video is flipped vertically. If it's equal to 3, the video is flipped both vertically and horizontally. The default value of this parameter is 0.

13 – **JPEG compression %**. This parameter is manually set by the user and its value can range from 0 to 100. It determines the size and quality of screenshots, which are saved in .jpg. The higher the value of **JPEG compression %**, the better the quality of the file. However, higher quality results in increased file size and more storage space needed. The lower the value of this parameter, the higher the compression. However, it also results in low quality of screenshots. The recommended value is 70+. The default value of this parameter during the first start of the program is 100.

14 – **Make shots in selected format**. This parameter can have several values: 0, 1, or 2. If it's equal to 0, screenshots are saved in BMP. Unlike JPEG, which involves compressing and decimating algorithms, files in BMP provide more precise color accuracy. However, they require more space on the storage device. For example, a screenshot of a web camera on a laptop made with 640x480 resolution and saved in JPEG with 80 compression ratio has a total size of around 40Kb, while the same screenshot in BMP has around 500Kb. If it's equal to 1, screenshots are saved in JPEG with a compression ratio selected by the user. If it's equal to 2, screenshots are saved in PNG. This variant is the most convenient because, unlike JPEG, it allows the user to avoid image quality loss. This format of screenshots also requires less space on the storage device, especially in comparison with BMP. The default value of this parameter is 0 (screenshots are saved in BMP).

15 – **Capturing mode**. This parameter can have one of the values: 0, 1 or 2. If it's equal to 0, the screenshot is saved in the original resolution. If it's equal to 1, the screenshot contains only the visible part of the image in the main window of **ECTcamera**. If it's equal to 2, the screenshot contains all the desktop of the operating system (including notifications bar and all other open windows). The default value of this

parameter is 1. This value is highly recommended for the user because it uses less space on the storage device and only makes screenshots from the video stream in the main window of the program.

^{PRO}16 – **Display form borders**. This parameter can have two values: 0 or 1. If it's equal to 1, the standard window of the program is shown. If it's equal to 0, the window is shown without the header and outer borders. This feature allows the user to add more space to the desktop and can be useful to run **ECTcamera** on computers with low resolution of the display. This mode is also really convenient for simultaneously working with several copies of the program in order to capture video from several devices at the same time. It affects the appearance of the program (see fig. 21).
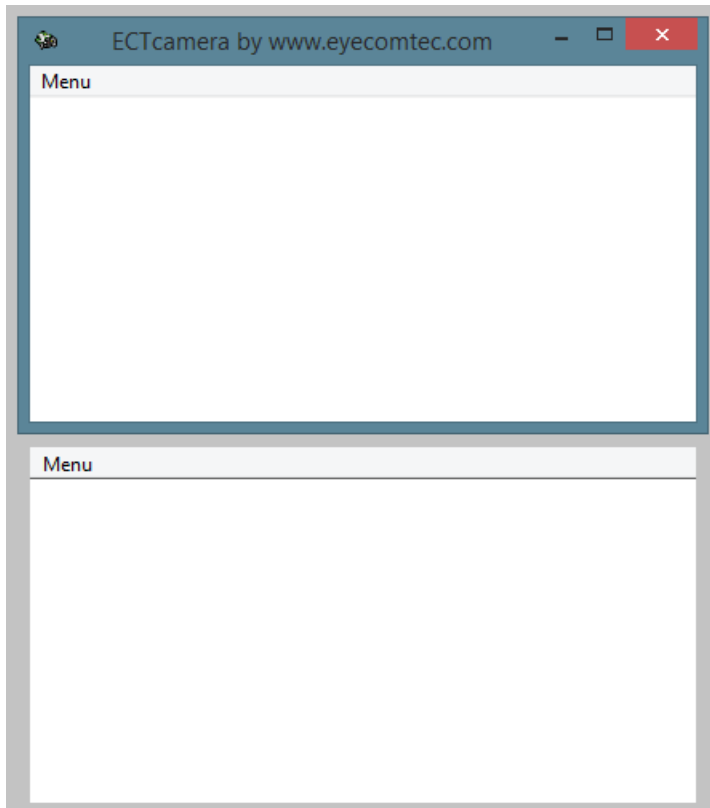
(Fig. 21. **ECTcamera** with the frame (up) and without it (down))

^{PRO}17 – **Menu**. This parameter is responsible for the appearance of the main menu in the window of **ECTcamera**. It can have four values: 0, 1, 2, and 3. If it's equal to 0, the menu is hidden from the user. If it's equal to 1, the user will see the standard menu of the program, which can be open with a left-click on **'Menu'** or the **'Alt'** button, followed with **'Up'**, **'Down'**, or **'Enter'** buttons. If it's equal to 2, the user can open a pop-up menu by making a right-click on the working zone of the **ECTcamera** window. If it's equal to 3, the user will be able to use both standard and pop-up menus (see fig. 22). The default value of this parameter is 1 (the user is able to work only with the standard version of the menu).
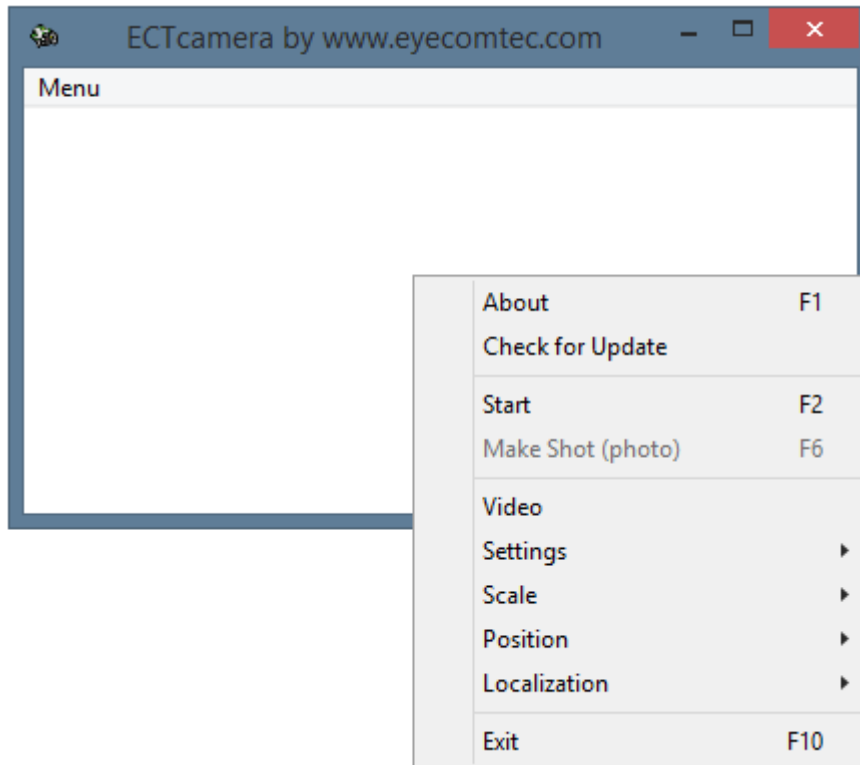
(Fig. 22. The interface of the program with both standard and pop-up menus)

18 – **Date Time format**. This parameter allows the user to define the format of date and time that are used by the program (e.g., the time format is used to create names for screenshots). The default value of this parameter is – YYYY_MM_DD-HH_NN_SS-ZZZ (current date: full year, month, and day; current time: hours, minutes, seconds, and hundredths of seconds).

19 – **File mask for saving shots**. In order to provide more convenient browsing, storage, and sorting of screenshots, all of them are saved with special names. This parameter allows the user to define a mask (template) for new screenshots. The default value of this parameter is ECTcamera_* ('*' symbol is changed with the current date and time). Please note that the file extension is not indicated here: the program will automatically add it during saving of a screenshot in the desired format. The format of screenshots can be chosen in the 14th parameter.

PRO 20 – **Make multiple shots in a row**. ECTcamera allows the user to make multiple screenshots in a short period of time. By changing the value of this parameter, the user can select any desired amount of screenshots, which the program will make after the user selects **'Make Shot (photo)'** or presses the **F6** hotkey**. The default value of this parameter is 1 (only one screenshot is made; the multiple screenshot feature is disabled).

PRO 21 – **Delay between shots in milliseconds**. When **ECTcamera** makes multiple screenshots, it makes predefined intervals between them. This parameter allows the user to change the interval. For example, if the user needs to make 10 screenshots per second, it's necessary to set this parameter to 100ms. The multiple screenshot feature is disabled by default. This parameter is equal to 0 during the first launch of the program.

PRO22 – **Buffer all images before saving to disk**. This parameter can have two values: 0 or 1. If it's equal to 1, buffering is enabled. The program will save all screenshots to data storage only after taking all of them. This approach avoids pauses for file saving, thus increasing FPS rate (amount of frames per second). The multiple screenshot feature is disabled by default. This parameter is equal to 0 during the first launch of the program.

PRO23 – **Video resolutions listing mode**. This parameter allows the user to disable redundant or unsupported modes of video devices. Thus, the list of modes and resolutions becomes shorter, making it easier for the user to make a choice. This parameter can have the following values: 0 – all modes are shown; 1 –VideoInfo2 modes are hidden; 2 – VideoInfo modes are hidden. The default value of this parameter is 1.

24 – **Current language file name**. This field allows the user to manually set the full path to a localization file for the program.

25 – **ID**. This field is used to save the information about the hardware code of the system the program runs in. This parameter is necessary for activation of **ECTcamera**.

Additional features of the program

ECTcamera also supports command prompt launch with additional parameters (i.e., selection of a configuration file and time for camera initialization). In order to choose one of the configuration files, the user has to enter '−c' key, following with a name of the desired file in quotes. Another key is '−screenshot', which allows the user to define the delay in milliseconds. This is required for camera initialization. Different cameras require different time, from tenths of a second up to several seconds. The precise setting of this parameter makes it possible to set a desired delay time and avoid missing of the video stream, especially when making a screenshot. The full syntax of the program launch commands is shown in fig. 23.
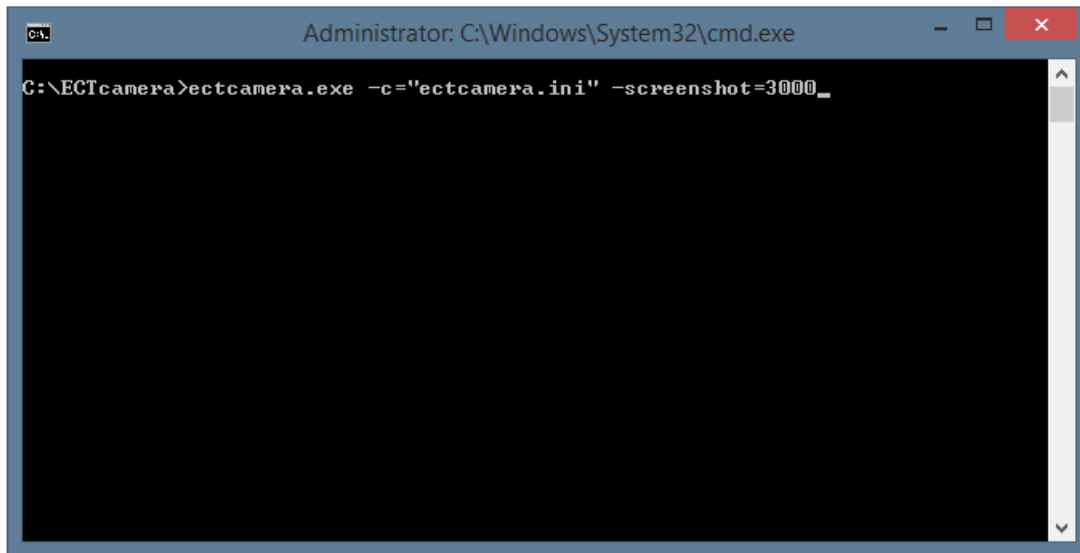
(Fig. 23. The syntax of the program launch commands through command prompt)

It's more than possible to use the automatic launch of the program (e.g., for taking screenshots periodically) with consequent termination of it. This approach allows the user to keep RAM of the computer free from **ECTcamera**, which can be really essential for some systems (e.g., for budget laptops).

Furthermore, **ECTcamera** can be used in conjunction with any scheduling application and associated with a specific event (e.g., keystroke, incoming e-mail, etc.), as well as used with different cameras or configurations. The ability to choose configuration files through the command prompt allows the user to switch between all settings on the fly.

All these features make **ECTcamera** incredibly easy to use. It's an astonishingly convenient software solution.

Downloads

The latest version of the program can be downloaded from the EyeComTec website, using the following link:
https://eyecomtec.com/ECTcamera.zip

Registration and activation of EyeComTec software products

In order to complete the registration process, it's required to fill in a short form, which contains contact information and reasons to use assistive technologies.

- [The registration form for private users (non-commercial use). For people having a physical need for our products](#)*
- [The registration form for medical companies (commercial and non-commercial organizations: hospitals, rehabilitation centers and doctors)](#)**
- [The registration form for commercial customers from non-medical fields (involved in the processes of production, assembling, quality control and manufacturing)](#)**

* The registration is not obligatory for private users, however, it's still recommended.
** The registration is obligatory for any legal entities and commercial customers.

Attention! *Free licenses for EyeComTec software products may be issued for customers with a real physical need of assistive technologies of this type (to get more information, please check the '**Free license**' section of the '**License agreement**' chapter). The more information is provided about a disease that caused full or partial loss of mobility, the higher the chances of getting approval and receiving a free license for EyeComTec products. All the information received from customers is thoroughly checked by our staff, thus all application forms with no information about the disease of the patient (C1 and C2) will be rejected.*

The registration form contains several blocks with various questions:

A. Information about the patient: the full name, an e-mail address, a phone number, a country and a city of residence;
B. Information about an assistant or a caregiver of the patient: a full name, an e-mail address and a phone number;
C. Information about the disease or situation that caused reduced mobility. It's recommended to use the C2 field to provide some additional information (e.g. possible reasons of the disease, current state of the patient, chances for rehabilitation and so on);
D. Additional information: the date of birth of the patient, sex, native language (if the patient knows any other language, it can be indicated in the D3 field);
E. In this section the customer has to select one or several EyeComTec program products required for the patient;
F. Feedback section. In case the customer had already used EyeComTec program products, he or she is offered the chance to evaluate their usability. The customer can also indicate how they first heard about the EyeComTec Company, as well as provide us with any other information that is considered important according to the user.

It's recommended to fill in all the fields of the form.

Registration verification

After submitting all the information into the registration form and providing all required data, the customer will receive a verification request to the e-mail address that was indicated on the registration form.

Attention! *It's required to confirm this verification request; otherwise the registration process will be stopped.*

After completing the verification process, the EyeComTec staff will check the completeness and accuracy of the provided information. After that, the customer will receive a serial number for the required software to the e-mail address that was indicated on the registration form.

Serial number activation and key obtaining

It's required to activate the received serial number. In order to do that, the user has to follow the following link: https://eyecomtec.com/25-Activation.

A page with the activation form will be opened. The user has to indicate:

- User Name – the full name of the user (this name can be different than the name of the serial number owner);
- User E-Mail – an email address, which will be used to link the license;
- Serial Number – the serial number that was received by the e-mail address indicated during the registration process;
- Hardware ID – a hardware code, which can be obtained directly in the program.

*Attention! It's really important to indicate a correct and working main e-mail address, because all technical support will be provided exclusively to this address. We kindly recommend you to check all the provided information. Mistakes in the e-mail address can be changed only once and such a change will be considered as a hardware change (in order to get more information, please check the '**License hardware linking**' section).*

Attention! In case an expected email from EyeComTec hasn't arrived within a reasonable period of time (usually up to 48 hours), it is recommended that users check their 'Spam' folder, as the email might have been directed there in error.

*Attention! Only Latin symbols can be used in order to fill this form in (A...Z, a...z)! All non-Latin symbols will be automatically filtered. E.g. the user has to write '**Strasse**' instead of '**Straße**', or '**Michele**' instead of '**Michèle**' and so on.*

In versions of programs that were published starting from July 2016, the hardware code can be found in the **About** window, within the **Hardware ID** section.

Attention! The user has to check the hardware code by launching the program only on the very same computer and hard disk partition where the user is going to launch the program in future. If the user performs the activation on one computer, but wants to work on another, all program copies will work as non-registered applications and won't be considered as properly licensed software!

After filling in all the fields of the activation form, the user has to press the button to submit the information. A new page with a key code will appear. An email containing this code will also be sent to the e-mail address that was indicated during the registration process. The user has to copy this code and save it to the folder of the program. The name of the key file has to be the same as the name of the main file of the program with the .key extension (e.g. the key for the **ECTkeyboard** application has to be saved as ECTkeyboard.key).

In versions of programs that were published starting from July 2016, the user has a more convenient way of key adding. The user can just copy the key code (including the following symbols ' === '), paste it into a text

field of the About window and press OK. The program will automatically save the key file in its folder. After that, the user has to restart the program.

Attention! *If there is an old key in the program folder, it's going to be removed and replaced with the new one. A copy of the old key will be saved as a backup file with the .bak extension. The name of this file will contain the name of the program and the date and time of saving in the YYYYMMDD-HHMMSS format (e.g. ECTkeyboard.key_20160615-130722.bak).*

The registration of the user and program activation processes are considered as completed at this stage.

License hardware linking

A free license for a program is valid for 1 year from the moment of activation. The user has the possibility of re-activating the license in case of a hardware or hard disk failure. Such re-activation can be done only once. To do that, the user has to contact the technical support of the EyeComTec Company, indicating the reason of the required license re-activation. The user can also contact technical support in order to change mistakes in the e-mail address that was indicated during the activation of the program, however, in that case the user won't be able to re-activate the program in case of a hardware failure. In both cases, such requests will be processed by the company's staff on a first-come first-served basis.

In case the user is trying to activate one serial number on a different computer, an error window is going to be shown.

The EyeComTec Company issues various types of software licenses. Depending on the license type, there can be the following options of the software use:

1. A license is linked to the serial number of the C: partition of a hard disk, the processor identification number, the computer name and the user name. This license has the strictest type of license hardware linking. It doesn't support the transfer of the program not only to any other computer, but even to a different partition of a hard disk. This type of license is offered for all patients who have a real physical need for EyeComTec assistive technologies.
2. A license is linked to the serial number of a hard disk and the processor identification number. This license type allows the user to transfer the program to any partition of the hard disk in the boundaries of only one computer.
3. A license is linked to the serial number of the storage device that was used during activation process. This option allows the user to link a program to a portable storage device and use it on various computers.
4. A partner license. In that case, the license is not linked to any computer parameters. Such programs will be considered and work as properly licensed on any equipment. There's no need to re-activate it. EyeComTec issues this type of license only for partners who are responsible for the safety of the license key and can guarantee impossibility of its compromising.

License agreement

General terms

This license agreement establishes substantive provisions, as well as describes the permitted and prohibited ways of use of the software developed by EyeComTec. The licensee has the right to use software products of EyeComTec only under the conditions described in this License Agreement.

All the software and all related intellectual assets (copyrights, algorithms, source code and technical documentation) are fully owned by the EyeComTec (LAZgroup SA) company. EyeComTec can provide a free exclusive and non-transferable license to any entities which are involved in charity or non-profit activities. In order to use software for commercial purposes, such a company has to contact EyeComTec directly and purchase a license. Any commercial use (with pecuniary interest) of the software developed by EyeComTec without license is strictly prohibited.

During the determination of the conditions and restrictions of use, the copyright holder provided all the information on a limited warranty basis as well as provided the rejection of any liability. This project is totally voluntary, and the parent company is not liable for any issued support packs or updates in front of those users who use software products of EyeComTec free of charge.

All users are obligated to observe and follow the requirements of this License Agreement.

Restrictions on use

The end user is not allowed to use or permit the use of EyeComTec software products in any manner that may affect their functionality, including: modification of program binary source code, or participation in any operation that aimed at reverse engineering (decompilation) of software for personal or professional gain.

Also, the end user of the software under no circumstances has the right to change copyright information or use the names of software products in an inappropriate manner in order to obtain financial or material benefits. The user has no right to change, make copies of, sell, sublicense, advertise or distribute EyeComTec software products in any manner that is not allowed by this license agreement. As a charitable gesture from the company, all users are allowed to share EyeComTec software product installation packages amongst themselves and with other people.

Upon receipt of the license, the user does not receive any right to own copies of the software, and the copyright holder may prohibit subsequent sales.

All licensees have no right to re-pack the software and distribute it by including the software in a huge variety of installation packages that contain malicious programs or advertisement in any form.

User registration

The registration of EyeComTec program products is mandatory for commercial customers and legal entities. Programs can be purchased directly from EyeComTec, as well as from partner companies. When the customer completes payment for software products, the company sends separate serial numbers for each copy of the purchased software. In case there are advanced versions available, the customer also receives links to download such versions.

Those users who have a physical need for EyeComTec assistive technologies can also complete the registration process. In that case, they can receive license keys for free versions of programs (to get more information, please check the '**Free license**' section of the '**License agreement**' chapter).

Private users can work with published versions of EyeComTec programs without registration or obtaining a license key. But in that case, such customers won't be able to use the technical support of the company. Furthermore, the 'About' window with various information will be shown during every launch of the program, offering the user to complete the registration process.

EyeComTec can issue free licenses for private or charity non-commercial use. Such companies are required to complete the registration process and indicate information about the planned use of the program products (field of use, aims and goals).

Any commercial use of published software without obtaining a license will be considered as an infringement of the User Agreement (to get more information, please check the '**Restrictions on use**' and '**Paid commercial license**' sections of the '**License agreement**' chapter).

User registration is the easy and safe way to provide feedback between the development company and consumers: patients and medical centers.

Collection of such statistical data is extremely important for EyeComTec, because it allows the company to get detailed information about the needs of specific users, and improve the software in accordance with these needs. The program complex is developed continuously and many features of current versions were invented due to feedback from users.

In addition, a database of contacts allows for informing patients promptly about new and yet unpublished software products and updates of the EyeComTec program complex. Furthermore, users are able to receive information on the functionality of basic and advanced versions in a timely manner.

Differentiation of commercial and noncommercial licenses

1. Noncommercial License

1.A. Noncommercial license for clients with physical needs.

(this type of license does not apply to customers, who are undergoing a paid rehabilitation course – see section 2.2, paragraph A)

EyeComTec software products are provided free of charge to all people who are experiencing a physical need in the use of such a category of programs. This group of people includes all those patients who suffer from various forms of paralysis or other muscular activity restrictions. All software products are free for non-

commercial use. E.g. when the patient uses our software for text typing, he or she is not obligated to purchase a commercial license.

1. B. Noncommercial license for charitable organizations.

Charity companies and rehabilitation centers can use all EyeComTec software products free of charge if they provide their services to patients on a free basis.

2. Paid commercial License

2.A. Commercial license for paid clinics and rehabilitation centers.

A commercial license for program products of EyeComTec is necessary in any case of paid services provided by medical companies or rehabilitation centers. Such a commercial license is required for each separate copy of the program in use. Only one copy of each licensed program may run at the same period of time.

All the assistants and third-party specialists who provide paid services to their patients and involve EyeComTec software products in their work are also obligated to purchase a commercial license.

In any case where the user is undergoing paid treatment, involved in a rehabilitation program in a commercial institution or uses the paid services of any third-party medical specialist, he or she is not allowed to use a personal non-commercial license. The user is strictly not allowed to use any EyeComTec software product to communicate directly with any paid healthcare specialist or representative of a commercial establishment. In such cases, the rehabilitation facility or attending specialist are obligated to use and provide to the patient their own commercially licensed copy of the software. This restriction extends over the entire period of treatment or rehabilitation of the patient.

2.B. Commercial license for software integrators and resellers.

All the companies and experienced specialists who provide paid services for the installation and integration of EyeComTec software products to third parties, as well as maintenance and technical support for such programs, are obligated to purchase a commercial license. The sale of software products to customers with a physical need of them is strictly prohibited (see section 2.1, paragraph A).

2.C. Commercial license for extended program versions that are intended to use in a non-medical environment.

The EyeComTec Company developed extended versions of their programs (in particular, ECTtracker), which are successfully used in factories, shops, automated assembly lines and quality control systems. Such program versions are distributed on individual licenses and are not intended for public distribution. In order to get the full information about features of programs, a full quotation including price of purchase and support, as well as the cost of specialist training, please contact the EyeComTec Company.

Furthermore, our company developed various additional applications that can significantly enhance the functionality of our programs. When such applications are in use with extended versions of our programs, they can be used for additional automation of analyzing and controlling manufacturing processes.

Specialists from the EyeComTec Company are ready to create an individual system that is best suited for your needs. The system is going to be created on software modules that were created taking into account all the distinctive features of the processes.