Video Capturing Service with Social Networks Functionality for MeeGo

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Abstract

At present it is impossible to imagine a mobile device without the support of multimedia features such as playback of high-quality video and audio, video and photo cameras. The majority of present service provide opportunities for primary obtaining information (photo and video cameras) and it is reproduction (browsers, music and video players).

The project «Multimedia technologies» was created in Wireless Laboratory to develop software for the mobile operating system MeeGo, associated with the processing of audio and video streams. The project aims to increase the value of a custom device running MeeGo, creating convenient and efficient software to expand opportunities for working with audio and video.

The first program established under the project to capture video from a mobile device display, followed by uploads media files on youtube.com.

This program is ready-made solution for creating visual video manuals, recording snippets and achievements from mobile games, video recording with camera and sending in to youtube.com.

Index Terms: MeeGo, Video, Capturing, FFMpeg, Application, Multimedia, Wireless Laboratory.

I. INTRODUCTION

The program was created to expand the multimedia capabilities MeeGo: work with the camera, display, multimedia files and youtube.com. Functionality implemented in this version of the application:

- Capturing video from a mobile device display by pressing hotkeys
- Record video from a camera mobile device
- The ability to choose when writing: frame rate, video and audio codec
- Sending to youtube.com for any video files on your hard drive the mobile device
- Replacement skins for the GUI

Libraries used in the application:

- FFmpeg[1] – used to capture and record the video stream to a file
- PyQT[2] – on the basis of this library is built graphical user interface
- Gdata[3] – using for upload to server youtube.com
- Xlib[4] – for implementation global hot keys

II. MAIN PART

A) Applicaton

Video capturing service with social networks functionality for MeeGo will enable users to perform most video operations using only one interface.

The standard process of uploading the video on youtube.com is as follows:

Fig. 1

Our solution:

Fig. 2

This solution enables users to gain new experiences while working with the operating system MeeGo:

1. To save time for the opening and closing multiple applications
2. Users do not need to search for multiple software solutions, where there is one program that can do everything
3. Reducing the load on the system that increases battery life
4. The user receives the best possible quality video images at any resolution and the monitor diagonally
5. Full confidence that the application will operate under a new operating system MeeGo
6. Implementation of global key void the user's need to interrupt work and run the GUI to manage the program

B) Use case

User is using our application can:

1. Capture video from the monitor and write to file
2. Upload the recorded file on youtube.com
3. Upload any videos on youtube.com

C) Architecture

In developing the latest version of the program we gave up on the language of QT C++ in high-level language Python.

Advantages of this solution:

- Reducing software development time
- The possibility of using a ready framework for real video to youtube (Gdata)
- Simplification of the code (readability)
- The possibility of using FFmpeg (using Gstreamer video capture under MeeGo problems)
- All used libraries are present in the repositories MeeGo

Necessary packages for application:
- python (2.6 or higher)
- PyQT4 (4.8 or higher)
- ffmpeg (0.5.4)
- python-xlib (0.14 or higher)

D) Interface

Interface of our program is made in one concept with design of all system MeeGo. Integration out program in MeeGo is easier, this program and MeeGo look like the one. One of the most important ideas in interface of MeeGo is user-friendly interface, and this one is basis of our program interface. Interface of application is intuitive. Every user can use it.
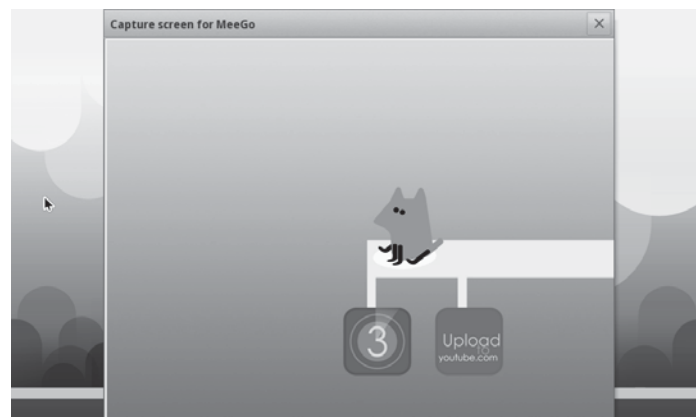

Fig. 3. First step

This is the start-window of our program. Two keys mean two blocks in application: record-block and upload-block. It is most comfortable for user. In this step users make a choice, why for they use a program.
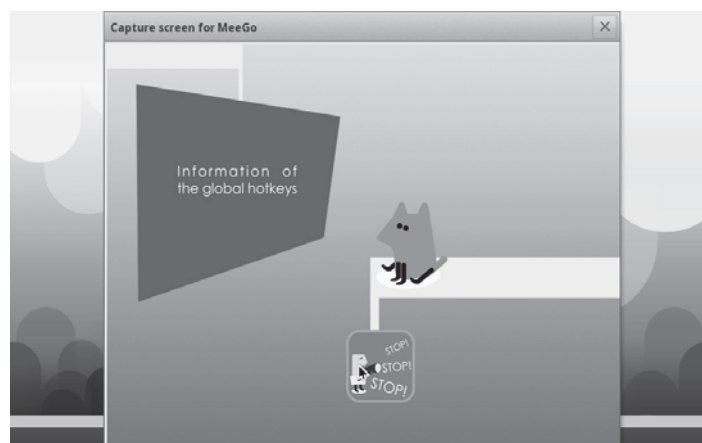

Fig. 4. Second step

Now program are recording video. During this step user can do only one action – to stop record. When user put the button "Stop", video is saved automatically in default folder.
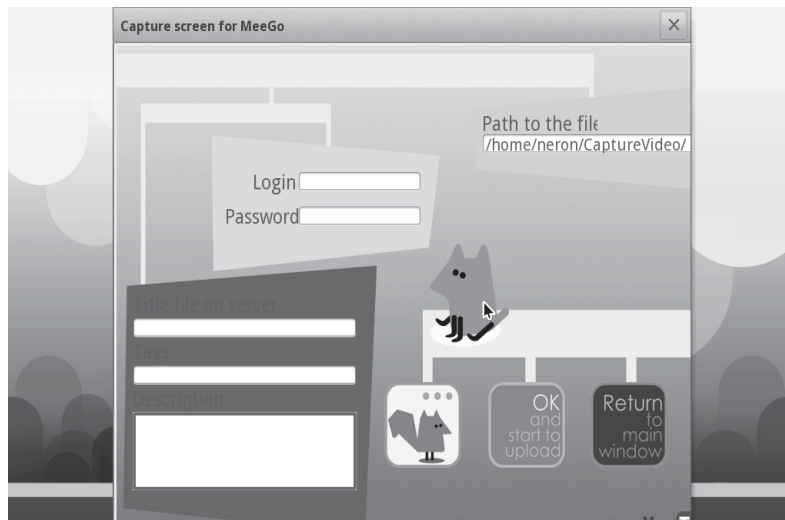
Fig. 5. Third step

This is a window of upload-block. We have a few buttons too. By this buttons user can do three actions: to choose file from HDD (just recording or other file), to start uploading and to return to main page. Information, which user write in form, is information about his YouTube-account. It is used for uploading video without using internet-browser.

E) Future improvements

We plan to implement the following functions:
1. Capture video part of the screen
2. Capture video in the selected window
3. The ability to upload to other video hosting (rutube, etc.)

Also in the near future the use of Public/Community MeeGo Build Service with which to create the rpm package and placed in a repository MeeGo.

III. CONCLUSION

The presence of different means for work with multimedia is a great opportunity for expansion of MeeGo devices market. It is important that these programs provide ready-made solutions for the users to obtain new experience of interaction with devices.

Video capturing service with social networks functionality for MeeGo is a ready-made program for creating visual video manuals, recording snippets and achievements from mobile games, video recording with camera and sending it to social networks. This solution allows using all opportunities to work with resulting video at a mobile device.

REFERENCES

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