

Qeve – a free vj application made in Puredata

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ABSTRACT

In art production the tool you use determine result of your work in many ways. Only by using **free** software you will not reproduce **closed** mind. For this reason I developed my own free vj app in a open environments.

Keywords

Qeve, vj, video, wiimote, Iphone

1.INTRODUCTION

Qeve is a free tool for live performance and vjing developed by Estereotips collective with economic support by Catalan independent video maker association *Telenoika* and *Center of visual arts productions Hangar* from Barcelona. This software try to obtain the same usability of similar commercial applications (resolume, modul8, vdmx) adding some unique feature.

It was principally developed for Gnu/linux Ubuntu operative system (7.04, 7.10, 8.04), but it will also work on Mac os X (Tiger, Leopard), using Puredata programing language, some Bash script and some Python script. We choose this Operative System because it is very easy to set and to admin. It does not require high technical knowledge; at the same time it guarantee typical Unix system stability and security with the support of an international community.

GNU/Linux Ubuntu Operative System is an open source system which most part is released under GPL license; this license let users modify and re- distribute software.

Puredata (aka PD) is a visual programming language that make easy to design interactive environments, to synchronize audio and video with real world events; it is also freesoftware, each program create by PD can be modify through his clone-kind behavior license.

Combination of Gnu/Linux and Puredata is perfect to develop an application that want to improve through user's use.

A vjing application let user manipulate video contents in real time. With Qeve is it possible to mix different videos at the same time, control them by external devices (like Midi, Wiimote, iPod touch/Iphone, Nintendo DS, others computers or sound machines) and synchronize them with an external audio stream.

Qeve has simple but functional graphic user interface; it is made by PD's internal graphic objects in conjunction with some new ones created for it (like videogrid 0.2).

The installation process has been thought for no expert users , using typical debian's package system. It is possible to install Qeve with a double click and update it through synaptic (apt-get). Qeve's goal is to recreate the same kind of commercial application experience, in an open and collaborative community. For who needs proprietary software for vj demand Qeve could be an attractive option to migrate to an open operative system.

2.Qeve's feature

Listed below are the Qeve's goals:

- 3 independent layers
- 5 kind of players (video, 3d, photos, text, paint)
- mix 3d and 2d graphix in real time
- a video step-sequencer
- live streaming through giss.tv servers
- text animation path and draw tool
- Audio analysis in real time
- simple midi configuration
- totally controllable by OpenSoundControl
- Wiimote support to control 3d movements
- Support for Nintendo DS as Wifi controller

- Save and load your preferred videodeck
- Mouse control position for each layer
- Different transitions
- it's free

3.Qeve's modules

3.1 Master CLock

With BPM (beats per minutes) control is very easy to synchronize video behaviour to music tempo. User can connect to master clock tempo every player's property. He/she can select to leave it at the same velocity or reduce it for equal fractions.

3.2 Channel type

Qeve has three different layers organized into a hierarchy relation from the first layer to the third. User can choose between five different players (called channel type) for each layer and switch them from one to another in real time:

1. Video
2. 3d
3. Text
4. Image
5. Paint

1. Video player is for regular footage content. During playback user can scratch video frames, select loop point, add color from a color palette GUI, play it in slow mode or in invert color mode, and he/she can add digital effect from freeframe effect gallery.

2. 3d player is for OpenGL contents. User can create until 200 cubes or Spheres, choose size and color, add movement behavior to them from three different kind: rotation, randomwalking and explode. The first one is a circular rotation movement on Y and Z axis; the second one is a random movement on X and Y axes with settable speed and object distance; the third is an explosion movement, like a bomb, from epicenter to outside. User can also choose to use some video as background texture of 3d object.

3. Text player is a concept shooter that let user put his/her own text in real time or read it from a file. In case of a textfile, Qeve will render one word for every BPM. User can choose font type, size, color, rotation angle and position in the screen. Besides, user can animate text choosing until 10 key animation points,

from which one text will move depending on master clock velocity or audio analysis.

4. Image player is for control static images. User can choose size, rotation angle, color background and add digital effects from freeframe gallery.

5. Paint player is a free paint tool. User can choose size of pencil, color and create layer mask to apply on the layer below it.

3.3 MediaGrid

Qeve has a grid (resolume style) to visualize media contents. Mediagrid shows the first frame of video. It is possible to load until 25 videos or images, choose a single video or an entire directory. User can create and save his/her own desk with favorite videos/images and load it at anytime.

3.4 Sequencer

This is an 8 step sequencer with 8 different memories channels. User can put videos from mediagrid to one of the eight memories for re-use it later in sequencer mode. When sequencer is on it works like an audio step-sequencer but video. At each step it sends to the output user's selected memory, in one of four action's mode: play, stop, random play, rewind. Sequencer also depend on Master clock tempo.

3.5 Audio Analysis

Qeve can analyze audio frequencies, dividing them in bass, middle and high. For each player user can connect one frequency to a property.

3.6 Midi

User can control all Qeve's features by an external midi controller. By a specific window user can easily assign a rotary or button for every desired property

3.7 OpenSoundControl

Qeve support OSC [1] communication protocol. Through this it could be controlled or can control others multimedia applications and works synchronized with them.

3.8 Video Streaming

This is a Qeve's specific feature. It can stream over http his video sessions using free g.i.s.s. servers [2]

3.9 External Controls

Qeve let user to control part of visual editing by three different kind of external controllers: Nintendo Wiimote, Apple Ipad touch/Iphone and Nintendo DS. The first one is a remote control that works with bluetooth[3]. It has three accelerometers. Through Wiimote movement user can move 3d camera in a 3d player; turn on or off texture; control alpha level; change size.

The second one is a palm wireless computer with a *nix like operative system. Through Ipad touch/iPhone[4] user can change videos, move position setting and work on alpha channels.

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The third one is a portable game console that through a home made software[5] (that needs a special cartridge to run, not included in NDS), that let to create simple gui element connected to a Puredata program. These let the user the chance to control all player's properties through a cheap wireless controller. Qeve became a performance software that invite the user to not be linked to the machine. The vj can concentrate on the performance space.

3.10 Positions, Mouse Controls

Qeve has a set of transitions, connected to the master clock, that give more variety to video editing. It has also three position's preset that position video layers in different way in the screen space. User can always control the position of a single layer by moving mouse cursor on the preview output. m.

4. Team

Luca Carrubba: project maintainer, coder
 Matteo Micalella: GUI designer, tester
 Sergi Lario: media grid coder
 Valentina Messeri: documentation
 Gianluca Saporito: tester

5. Future prospects

Looking towards the future we would like to create a free/open software - hardware solution for video and audio editing in real time.

We started with an experiment prototype that could be the starting point of the next step. The project's name is MesaQ, a tangible user interface that let many users to control audio/video contents at same time. Qeve is the audio/video render engine of the table. It is all created with freesoftware. The hardware project, based on Reactable project, will be open, cheap and documented. It is possible to see a demo by entering the address below:

<http://www.estereotips.net/?p=188>

6. Screenshot.



7. REFERENCES

- [1] OpenSoundControl (OSC) is a protocol for communication among computers, sound synthesizers, and other multimedia devices that are optimized for modern networking technology.
- [2] G.I.S.S – Global Independent Streaming Support is a free streaming services for free media <http://www.giss.tv>

- [3] In order to use it you have to compile a puredata external, wiimote from Mike Woz, <http://mikewoz.com/index.php?page=pd-stuff>
- [4] In order to use it you have to install MrMr application in your Ipod touch/iPhone. On other side Qeve use PdiPod

patch to get OSC message from MrMr,
<http://pissypaws.tumblr.com/>

- [5] KnobsAndSliderDS by Cris McCormik,
<http://mccormick.cx/projects/KnobsAndSlidersDS/>