

The screenshot displays the PM2GO interface. On the left, a video player shows a dance rehearsal in a studio with three dancers on stage. Below the video is a timeline with a playhead at 00:31:14.920. The timeline contains several colored bars representing annotations: a long black bar at the top, followed by grey, green, orange, and purple bars. On the right, a list of annotations is shown, each with a thumbnail, a time range, a user name, and an edit/update link.

00:02:06 – 00:05:26 [REMOVE]
PM2GO@motionbank.org
[EDIT] 24.05'14 - 12:46:43 | UPDATE 24.05'14

1. annotation in the timeline

00:02:58 – 00:10:13 [REMOVE]
PM2GO@motionbank.org
[EDIT] 24.05'14 - 13:51:09 | UPDATE 24.05'14

2. annotation in the timeline

00:06:19 – 00:18:32 [REMOVE]
PM2GO@motionbank.org
[EDIT] 24.05'14 - 13:50:48 | UPDATE 24.05'14

3. annotation in the timeline

Piecemaker is a multi-user application (app) initiated as a research project by David Kern to support the organisation and recall of materials created in The Forsythe Company rehearsal studio. PM2GO is an easy-to-install and intuitive-to-use adaption of this

app for use in dance creation and education. It is available for free as one of the research results of the first phase of Motion Bank. PM2GO is a tool to annotate a time-based situation, action, process or choreography either pre-recorded or live.

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Direction for use:

Keyboard shortcuts are highlighted in **Pink**

Buttons in the app are highlighted in **Turquoise**

Crucial contents have a grey background

Links are marked in **violet**

← indicates a jump back within the document

→ indicates a jump to another document outside the handbook

01. System Requirements

PC

Windows 2.33GHz or faster x86 compatible processor Microsoft® Windows® XP, Windows Server 2008, Windows Vista® Home Premium, Business, Ultimate, or Enterprise (including 64 bit editions) with Service Pack 2, Windows 7, or Windows 8 Classic 512MB of RAM (1GB recommended)

Mac

Mac OS Intel® Core™ Duo 1.83GHz or faster processor Mac OS X v10.6, v10.7, v10.8, or v10.9 512MB of RAM (1GB recommended)

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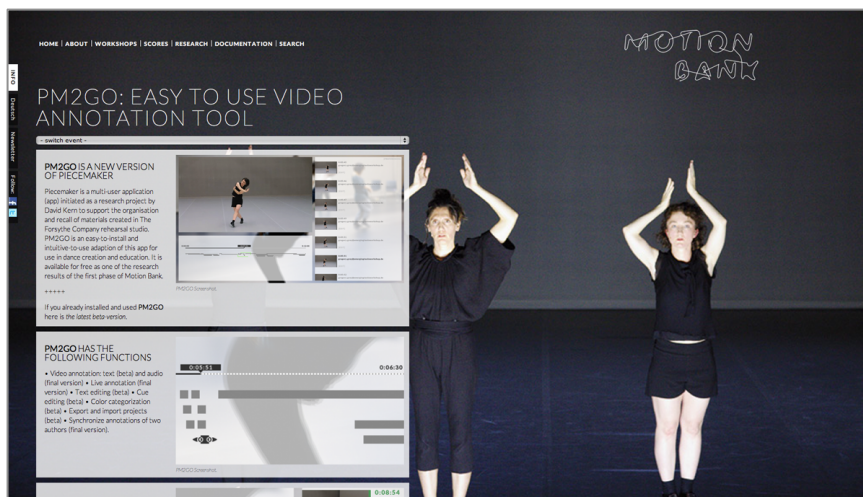
02. Installation

Get Adobe Air

If you don't have Adobe Air on your computer, please install it first.

[Get Adobe Air](#)

Download PM2GO



You can download the latest PM2GO version from the [Motion Bank website](#)→

...or get it directly from here:

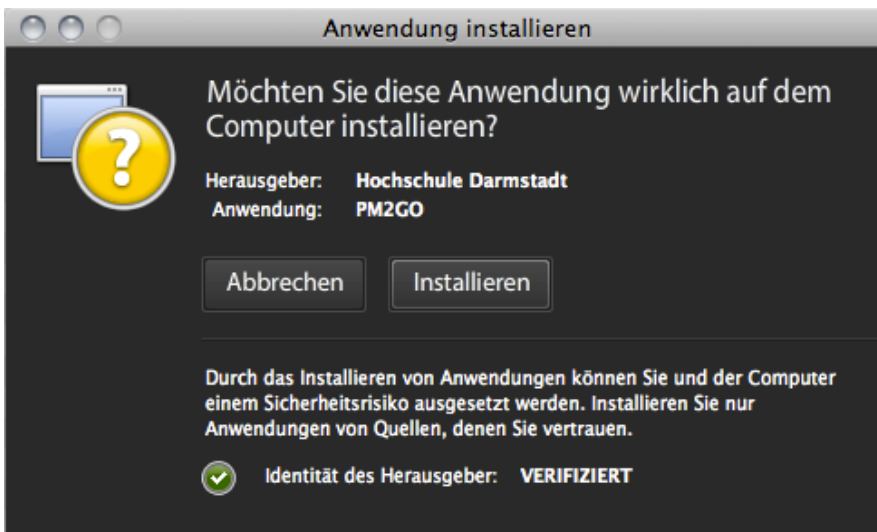
[Get PM2GO](#)

Install PM2GO

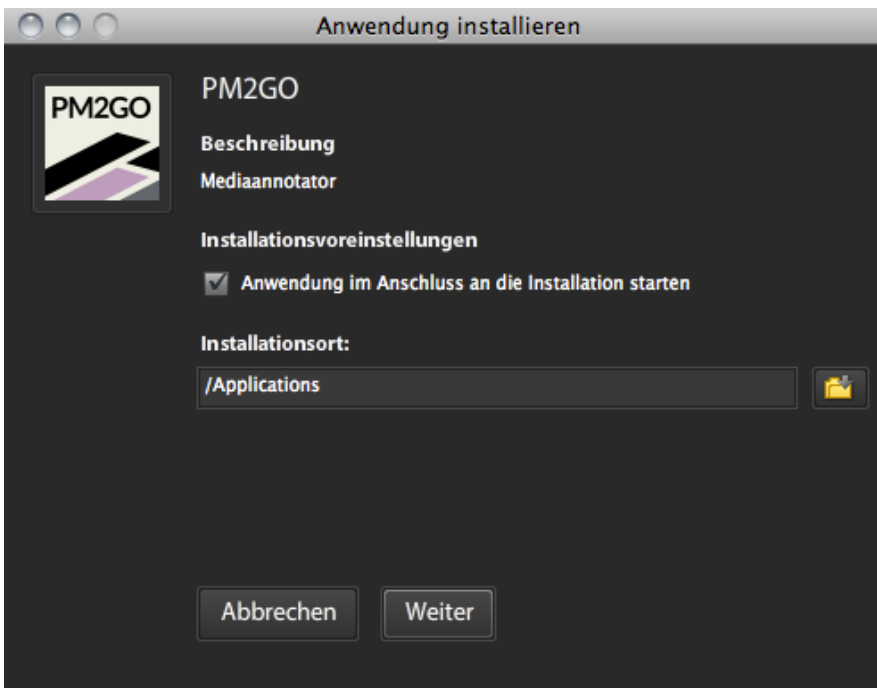


Once the download is finished, unzip the file and double click on the installation file.

Installation Instructions



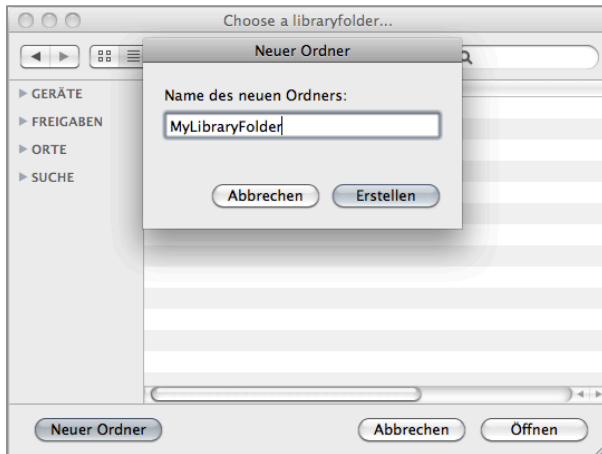
A wizard menu will accompany the installation process.



We recommend selecting the app-folder of your system to install the PM2GO app.

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03. First Setup



Library Folder

The app opens automatically after the installation. Now you will define where your library folder should be located. All Media (i.e. videos, text, etc.) will be sent there by the app. So select a location where you can find and access your data easily. Create the folder and label it. Hit the button [\[open\]](#) and your library folder is defined.

Naming Files

The names you choose for your projects and video files should be as machine readable as possible. **Allowed characters are A-Z, a-z, 0-9 and _**. Avoid spaces, mutated vowels, "ß", additional characters and any punctuation marks.

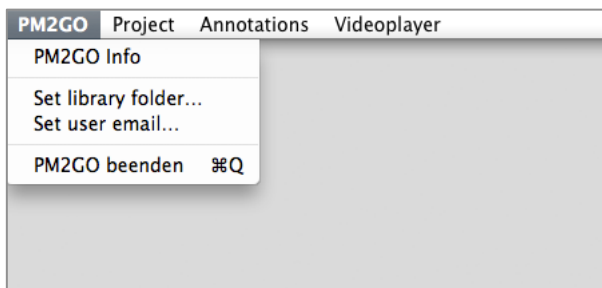
Renaming Files and Likewise

Don't rename or alter any files that are located in a project folder otherwise than via PM2GO. Altered files can lead to broken projects. When you know what you are doing, the project.xml file inside a project can be used to process/work with the data and its structure in other custom software products.



User eMail

So you can cooperate with other users, select a user mail address for yourself. It must be a real mail address. This address will be recorded in every annotation you make to note you as the author of the annotation. In case you cooperate with others, the authors of the different annotations will be identified this way.

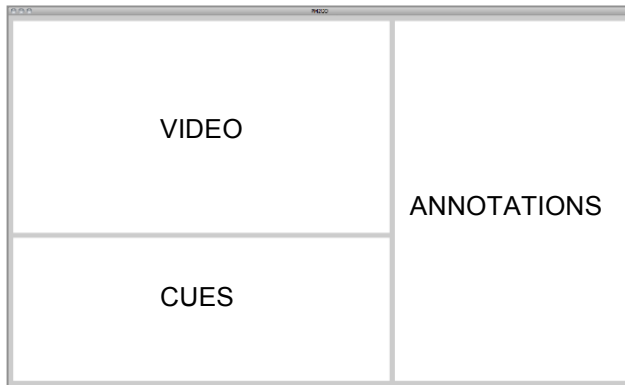


Settings Change

The library folder as well as the user email can be changed at any time necessary.

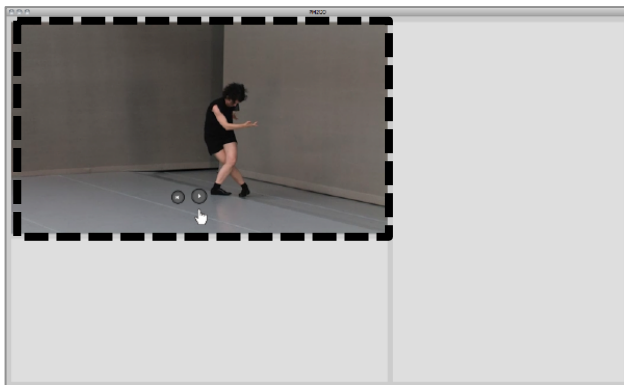
[←back to index](#)

04. Interface Principles

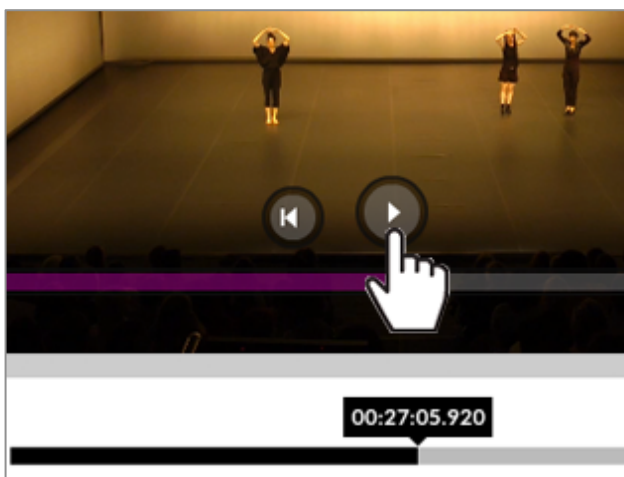


PM2GO consists of the three areas "**Video**", "**Cue**" and "**Annotation**".

Video Area

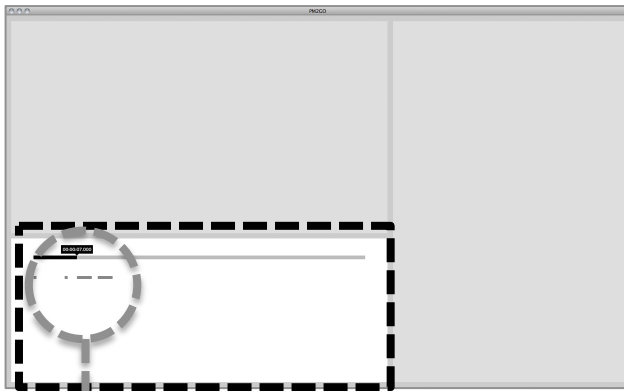


In the **video area**, the imported video you would like to annotate is shown.

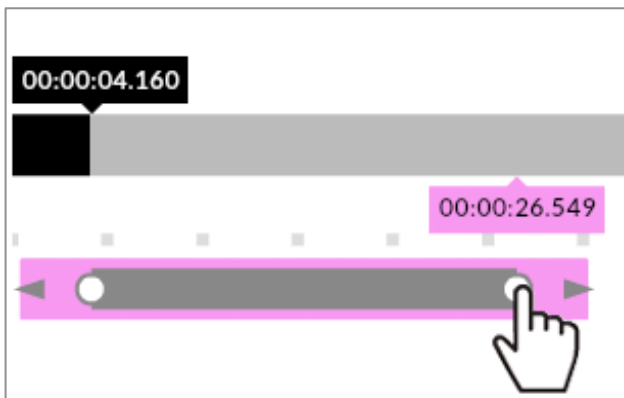
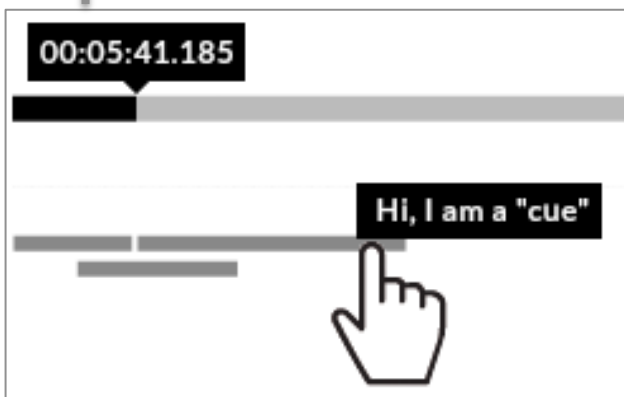


You can view the video using functions you know from most video players, e.g. clicking the **[play]** button or hitting the **[space]** bar to start and pause the video, click the return button to go to the start or drag the **[scroll bar]** along the bottom. (One small difference: the scroll bar will appear not to jump to the start when clicking the return button – you have to click play first).

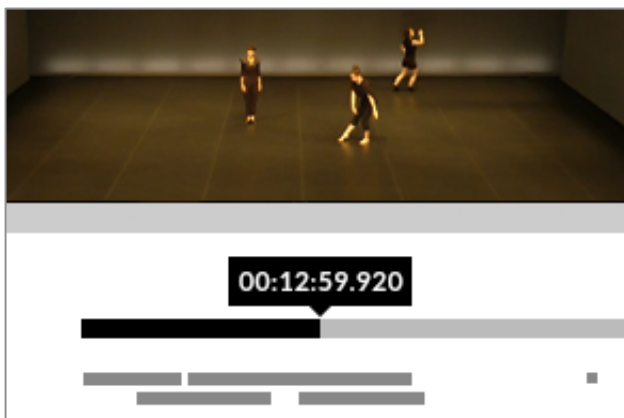
Cue Area



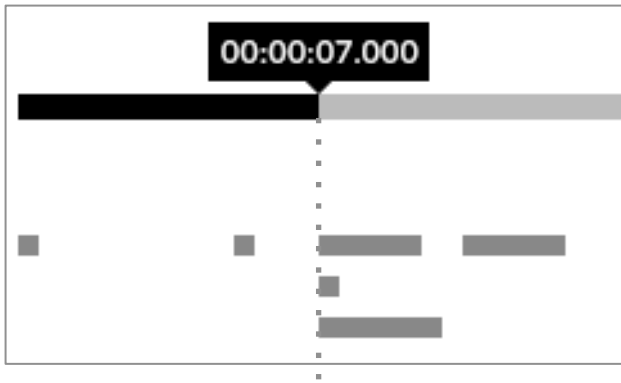
Beneath the video field – in the **cue area** – the cues are presented. Cues are markers for points in time and/or time spans of a piece to be annotated. Cues are set by hitting the **TAB [->]** key.



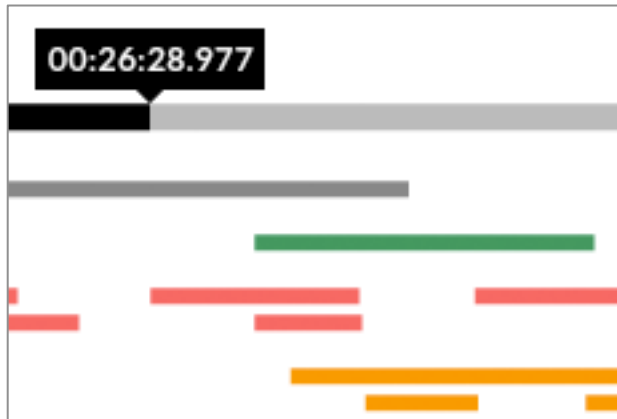
Cues indicate an event in a video with a particular starting point and time span. When in edit mode, you can change the time span of a cue by clicking on it and dragging the start- and end-markers to the left or right.



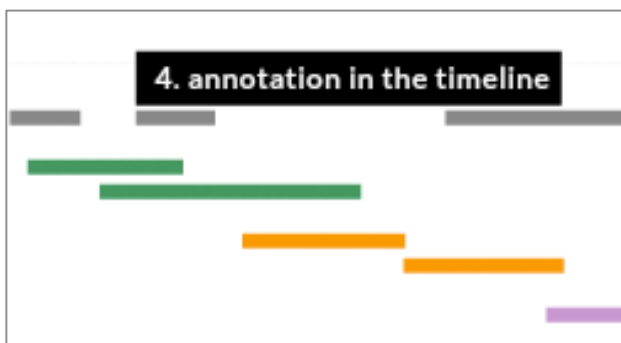
Cues are presented along the video timeline. They are arranged according to the chronological order of their starting points.



In case two cues have the same starting point, they are presented one below the other.



In case cues and annotations have been colour coded the cues will be arranged in groups of the same colour. (Go to [“Interface Principles/Annotation Area”](#) to learn how to colour-code your annotations.)

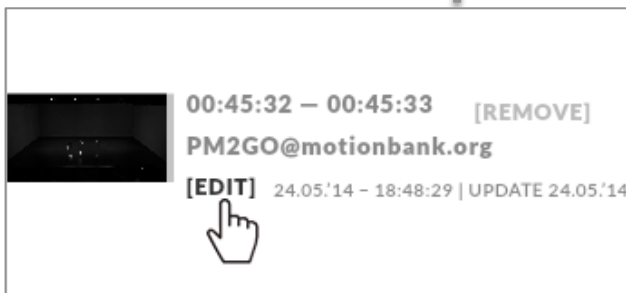


Even when cues are arranged in grouped lines of the same colour, they are arranged according to the chronological order of their starting points in total.

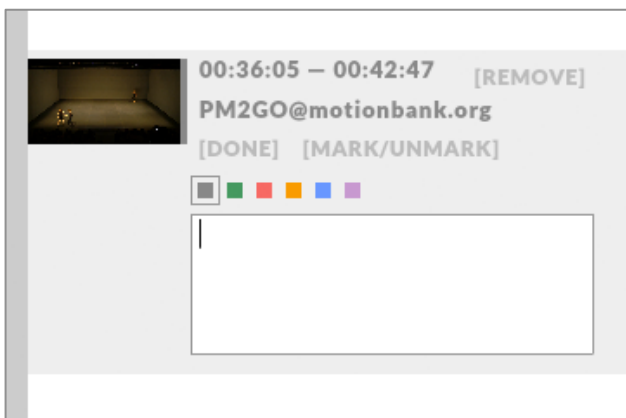
Annotation Area



This is the annotation area, where texts can be inserted and edited.



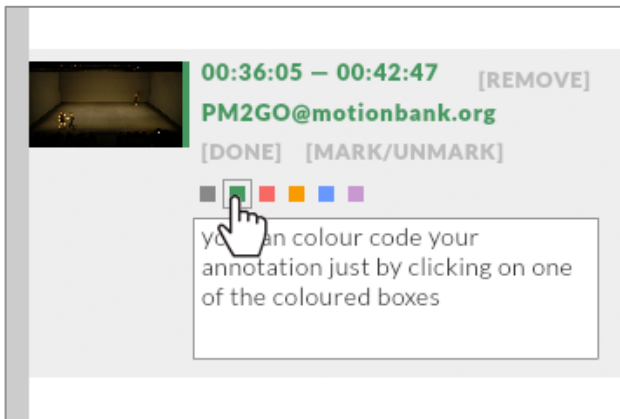
When you set a cue in the cue area, in the annotation area a respective annotation field will be created. It shows the thumbnail of the starting point of the cue in the video, the valid time-of the cue, the address of the author as well as creation and update date. The annotation is empty, when created at first. You can enable the editing mode by clicking on the **[EDIT]** button (there is also a keyboard shortcut – these can be found in the drop down menus along the top).



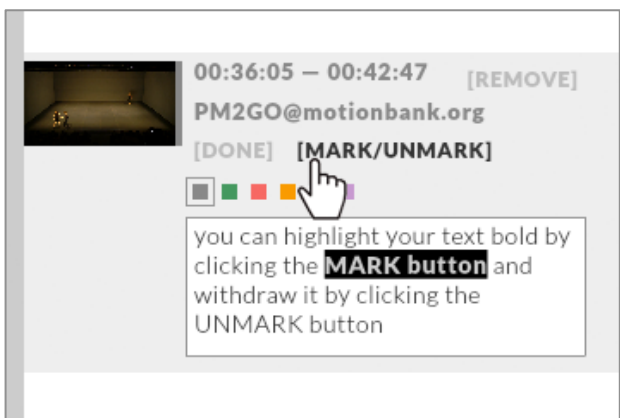
Enabled annotation fields have a grey background, and only annotation fields that have a grey background can be edited. As long as you did not start the editing process (writing / deleting text / highlighting / colour-coding) you can leave it by clicking any other cue or annotation.



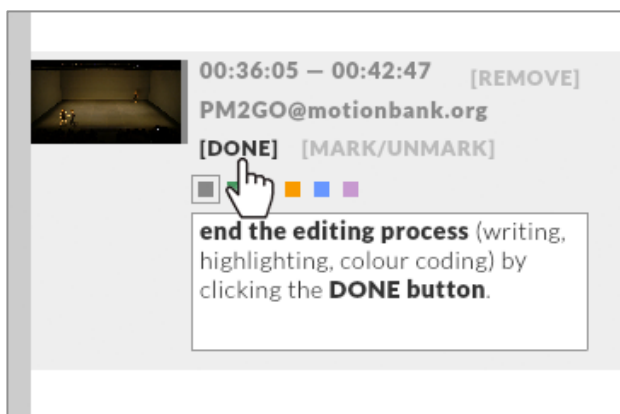
The [text \[fields\]](#) have a fixed size to show as many different annotations as possible. Nevertheless, you can insert as much text as you wish. When the text exceeds the size of the field, it becomes scollable.



To discriminate between annotations according to e.g. authors, addressees, topics, etc., you can colour-code them by clicking on one of the [coloured \[boxes\]](#). The respective cues will be coloured accordingly. After being coloured, cues will be rearranged in the cue area in colour groups.



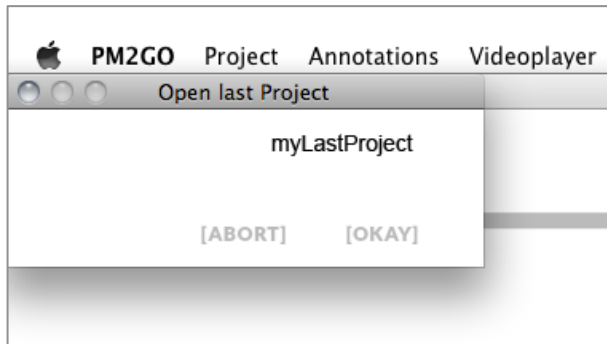
If you want to emphasize particular word or text passages, you can highlight them bold by marking them with the cursor and then clicking to the [\[MARK/UNMARK\]](#) button. You undo it by marking the text again and then click again to the [\[MARK/UNMARK\]](#) button.



To save your annotations and exit the edit mode, please click the [\[DONE\]](#) button (there is also a keyboard shortcut – these can be found in the drop down menus along the top).

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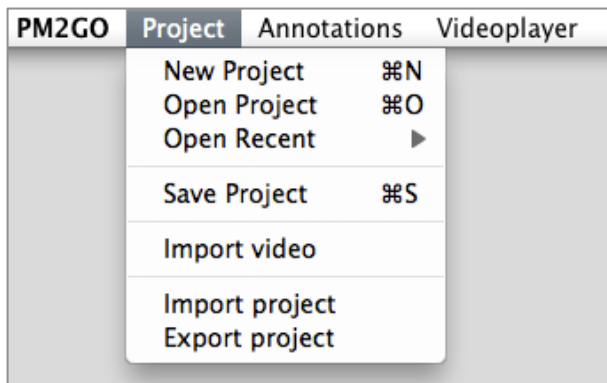
05. Options



Opening the App

Whenever you start the app, it offers you the chance to open the last edited project (click on **OKAY**). Alternatively you can choose to not work in the last edited project (click **ABORT** button) and instead either

- Set up a **new project**
- **Open** an existing project



New Project

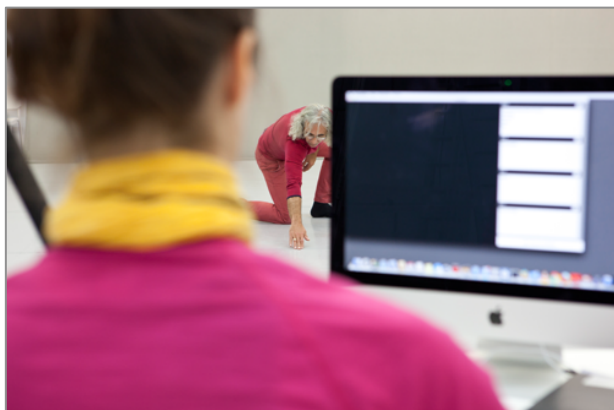
The complete set consisting of a video and its related annotations is called "project". If you want to create a new project, select "new project" from the drop down menu.

(Opening an existing project, opening recent projects and saving projects are functions that work just as you might expect from any other software.)

Video Annotation

If you want to annotate a new video, please select "Import video" and select your desired video using your computer's file selection system to import it into your new project. The storage source of your video can be anywhere on your pc, dropbox or other storage capacity. Only a new copy will be imported into PM2GO and your original video will remain where it is.

Attention: Due to the size of the video, the import process can take a while.



Live Annotation

Beyond the annotation of an existing imported video, you can also annotate live events. In this case you have the possibility to separately annotate the event and take a video of the event with a camera. You can afterwards synchronise your annotations with the video of the respective event.

Live Annotation Procedure

- 1) Start the PM2GO app
- 2) Create "new project"
- 3) Start the timeline with the [space] key of your keyboard
- 4) When you feel ready simultaneously hit the [tab] key of your keyboard and the start button of your camera. PM2GO will line up all of your annotations with this first cue when you later import the video into the project so doing this simultaneously is important.
- 5) You are now watching and recording the live event (could be a performance, lecture, interview, rehearsal, etc.). By using the TAB [->] key you will be either setting your cues/ annotations with PM2GO or by using the [cmd] + [T] key you will be setting a cue and directly writing a text annotation. In this case you must leave the editing mode with the [cmd] + [D] key before you can set the next cue/annotation.
- 6) If the app is new to you or if you have a lot to annotate it is recommendable that at this point in the process, you are only hitting a marker when there is a moment in the event you wish to mark. You will add text, colour code, etc. this annotation after the event. If there are only a few annotations to create or if you are a multitasking talent or a PM2GO-professional, you might wish to set a marker and add text simultaneously.
- 7) When the event is finished, stop the video recording and then hit the [space] key of your keyboard (you do not have to do this simultaneously).
- 8) Save the project
- 9) Import the recorded video (after conversion, see below) of the respective event into the project



Camera

Please note that there is no connection between your camera and the PM2GO app. The app will import the video recording of the event (in certain digital formats) and align the cues/ annotations you made with the timeline. It does this by aligning with the first cue you set at the same moment you started the video camera recording. You can use any camera that creates digital formats, but in most of the cases you will need to convert the videos before you can import them.

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The “Right” Video Format

PM2GO **works best with MPEG4 files**. But a lot of other video formats work as well. When choosing a video you want to import you can use the mime types ".mp4", ".m4v", ".mov" and ".avi". However, because a lot of video formats like .mov and .avi are just container formats, it is possible that certain types of video files with the extension .mov or .avi play back perfectly while other refuse to work at all. We therefore recommend the .mp4 format.

The right format not only determines if a video can be opened with PM2GO or not, the quality of the imported video influences the operating quality of PM2GO. For instance the smoothness of video-playback, video-scrubbing and precision of cue placement. Here the keyframe rate of the video is essential. The video playback as well as setting certain events at a certain time will work best, if the video has as many keyframes as possible.

Here are **some basic parameters** that will help to optimize your experience of using PM2GO.

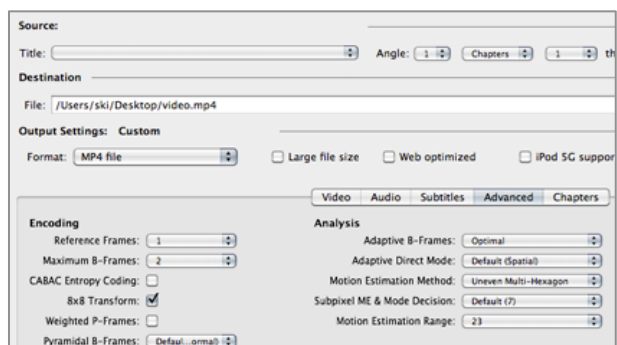
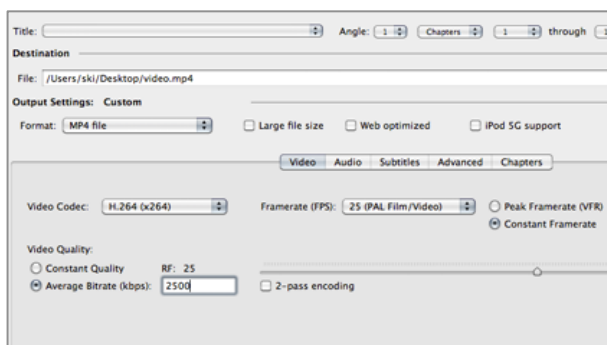
Format,	mp4
Codec	H.264 FPS, 25 ("Constant")
Bitrate,	"Variable", and let your encoder suggest the number*
Keyframes	Every 25 frames a keyframe** or better
Data size	< 4GB

* Good quality requires a bitrate of 1800 kbits/sec for standard definition 4:3 video, 2500 kbits/sec for widescreen DV, or 5000 kbits/sec for high definition. Note: Making these numbers higher will increase both quality but as well size. Don't let your video become larger than 4GB.

** Navigation through the timeline of an imported video, with pm2go works in keyframe-steps. A value of "every 25 frames a keyframe" for a 25fps-video means a keyframe every second. With this value scrubbing and cue positioning can be done in acceptable 1sec-steps.

A **recommendable video transcoder** from and to nearly any format using a selection of modern, widely supported codecs is the tool **handbrake** → .

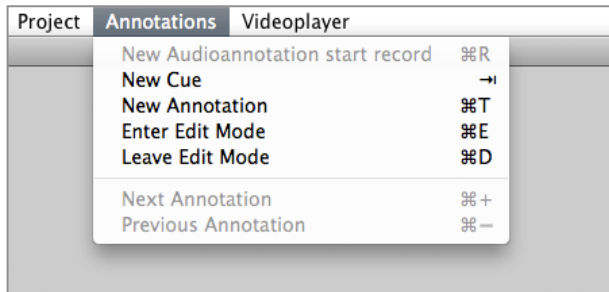
This open source free tool works for many platforms like Mac OS, Windows, Ubuntu and even others.



Click on these pictures (screenshots from "handbrake") or scroll to the last page to see some basic recommendable settings in handbrake.

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06. Functions



Cue and Annotation Editing

(Short reference)

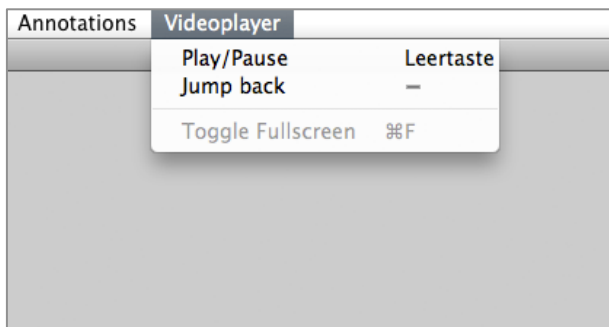
Set New Cue: **[tab]** key - sets the next cue, while the video continues playing

Set New Text Annotation: **[cmd] + [T]** key sets a cue and opens the annotation text editor so that you can directly type in your text. The video stops in case a video is imported.

Enter Edit Mode: **[cmd] + [E]** key or **[Edit]** button enables the edit mode for editing text or cues

Leave Edit Mode (Done): **[cmd] + [D]** key or **[Done]** button disables the edit mode.

Remove Annotation: **[Remove]** button in the annotation area



Videoplayer

(Short reference)

Play/Pause: **[space]** key or **[space]** button that fade-in when you hover over the video

Jump back (approx. 5 sec*): **[-]** key

Jump to start: **[I<]** button that fade-in when you hover over the video

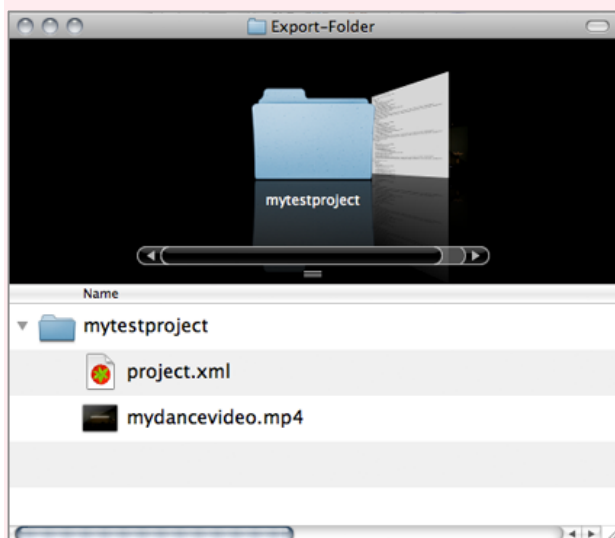
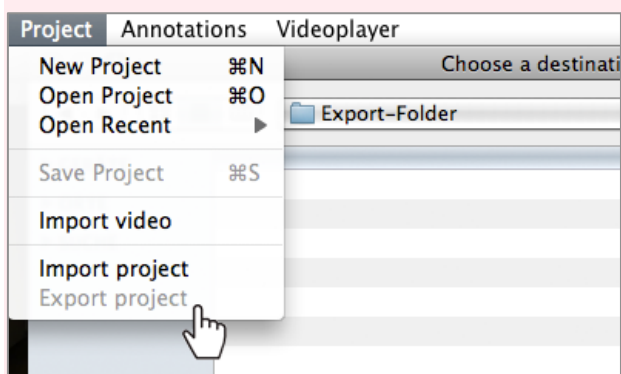
*depending on the keyframerate of the video

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07. Special Note for Users and Developers

In the original concept, projects can be exchanged with other users by export and import. The functions are already applicable in the menu-bar.

ATTENTION: This functions are just in Beta mode. It is available in the menu, but is currently under risk of causing problems with data overflow.



We will offer the code for the app for the further development of this and other functions on Github.

The following descriptions demonstrate the original concept of the functions Export and Import.

Export Project

In the original Concept, projects can be exchanged with other users by export and import. To export a project, click the “export project” button in the project menu. The system asks you where to place the export folder, which will take same name as your original project. Don't use your Library folder as the export folder or you can corrupt the existing project file.

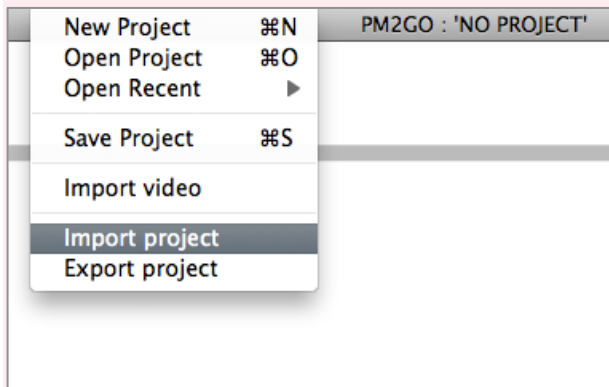
Like your original project folder the export folder consists of two files:

- The video that has been annotated
- The xml-file with the annotations

Don't open or change these files outside of PM2GO if you don't want to corrupt or damage your project unless you have adequate programming skills and know what you are doing.

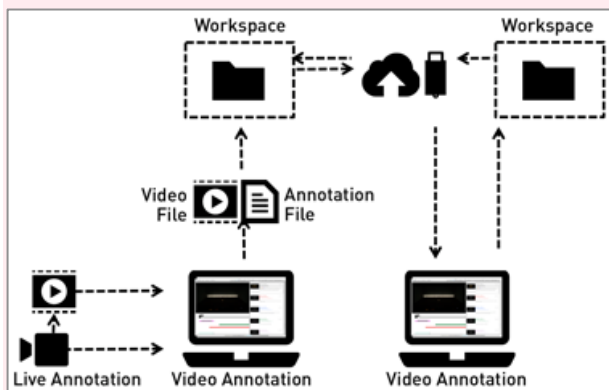
Dependent on the size of the video like the import, the export can take a while. Please remain patient.

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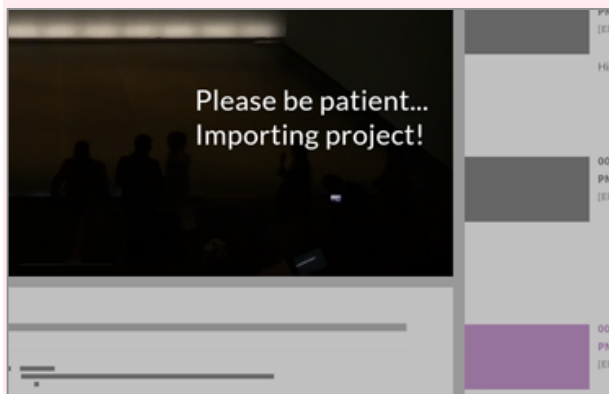


Import Project

To import a project, please select „Import project“ from the “project” menu and select the desired project folder, which you may have received from another PM2GO user, using your computer's file selection system to import it. The storage source of the project can be anywhere on your pc, dropbox or other storage capacity. Please note that a new copy will be imported into PM2GO Library, leaving the original project data where it is. If the videos to be annotated are very large, it is suggested that you store this original data at an external location (or delete it after import).



Asynchronous collaboration of two or more people on the same annotation project is possible as follows: Author A annotates a video. Then she or he sends the project to author B to revise the annotations and/or add his or her own annotations. Author B then exports the project and sends it back to Author A. Author A re-imports the project. This reimport (as long as the name of the project folder remains the same) overwrites the existing project in the PM2GO Library. Projects cannot be merged in this version of PM2GO. Author A and Author B have to work sequentially on the material, taking turns and passing the folder back and forth (using dropbox, a USB stick or any other file transfer medium or process).



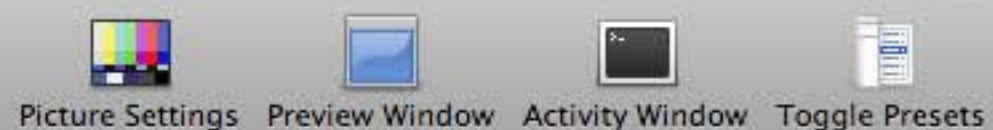
If you plan to import a project, the PM2GO app does need at least one project already existing in the library to be able to import another project. So just create a project. There is no need for any video or annotations.

Please stay patient, when you import a project. Dependent on the video size embedded in the project folder, it can last a while until the project can be edited

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Our mailing address is:
PM2GO@motionbank.org →

PM2GO is a project in the framework of the motionbank project. For more information about this project, please visit the [motionbank website](#) →.



Source:

Title: Angle: Chapters through Duration: 00:50:44

Destination

File:

Output Settings: Custom

Format: Large file size Web optimized iPod 5G support

Video Codec: Framerate (FPS): Peak Framerate (VFR)
 Constant Framerate

Video Quality:

Constant Quality RF: 25

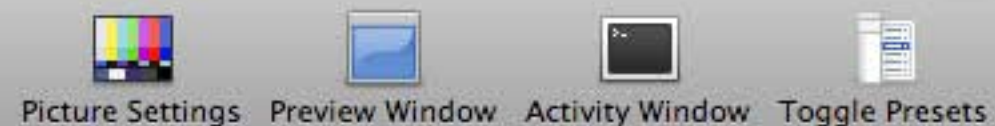
Average Bitrate (kbps):

2-pass encoding

Picture Size: Source: 1280x720, Output: 1280x686, Anamorphic: 1280x686 Strict

Picture Cropping: Auto 34/0/0/0

Video Filters:



Source:

Title: Angle: Chapters through Duration: 00:50:44

Destination

File:

Output Settings: Custom

Format: Large file size Web optimized iPod 5G support

Video Audio Subtitles **Advanced** Chapters

Encoding

Reference Frames:
 Maximum B-Frames:
 CABAC Entropy Coding:
 8x8 Transform:
 Weighted P-Frames:
 Pyramidal B-Frames:

Psychovisual

No DCT Decimation:

Analysis

Adaptive B-Frames:
 Adaptive Direct Mode:
 Motion Estimation Method:
 Subpixel ME & Mode Decision:
 Motion Estimation Range:

Adaptive Quantization:
 Psychovisual Rate Distortion:
 Psychovisual Trellis:

Partition Types:

Trellis:

Deblocking:

Current x264 Advanced Option String:

`ref=1:weightp=0:rc-lookahead=10:bframes=2:cabac=0:b-adapt=2:me=umh:merange=23`