IMF–TOOL

A TOOL FOR EDITING IMF PACKAGES

The development of this tool has kindly been sponsored by

Contact

Prof. Dr. Wolfgang Ruppel
Hochschule RheinMain
Unter den Eichen 5
65195 Wiesbaden
wolfgang.ruppel@hs-rm.de

July 2016

Abstract

IMF-Tool is a command line application for editing IMF App #2 packages: Users can modify CPLs, delete tracks, add audio and subtitle tracks.

The modified IMP can be written back to disk as either full package (Complete IMP) or supplemental package (Partial IMP). Note that Supplemental packages will be supported in a future version of IMF-Tool.

IMF-Tool features a timeline visualization of CPLs, a resource browser and metadata editors.

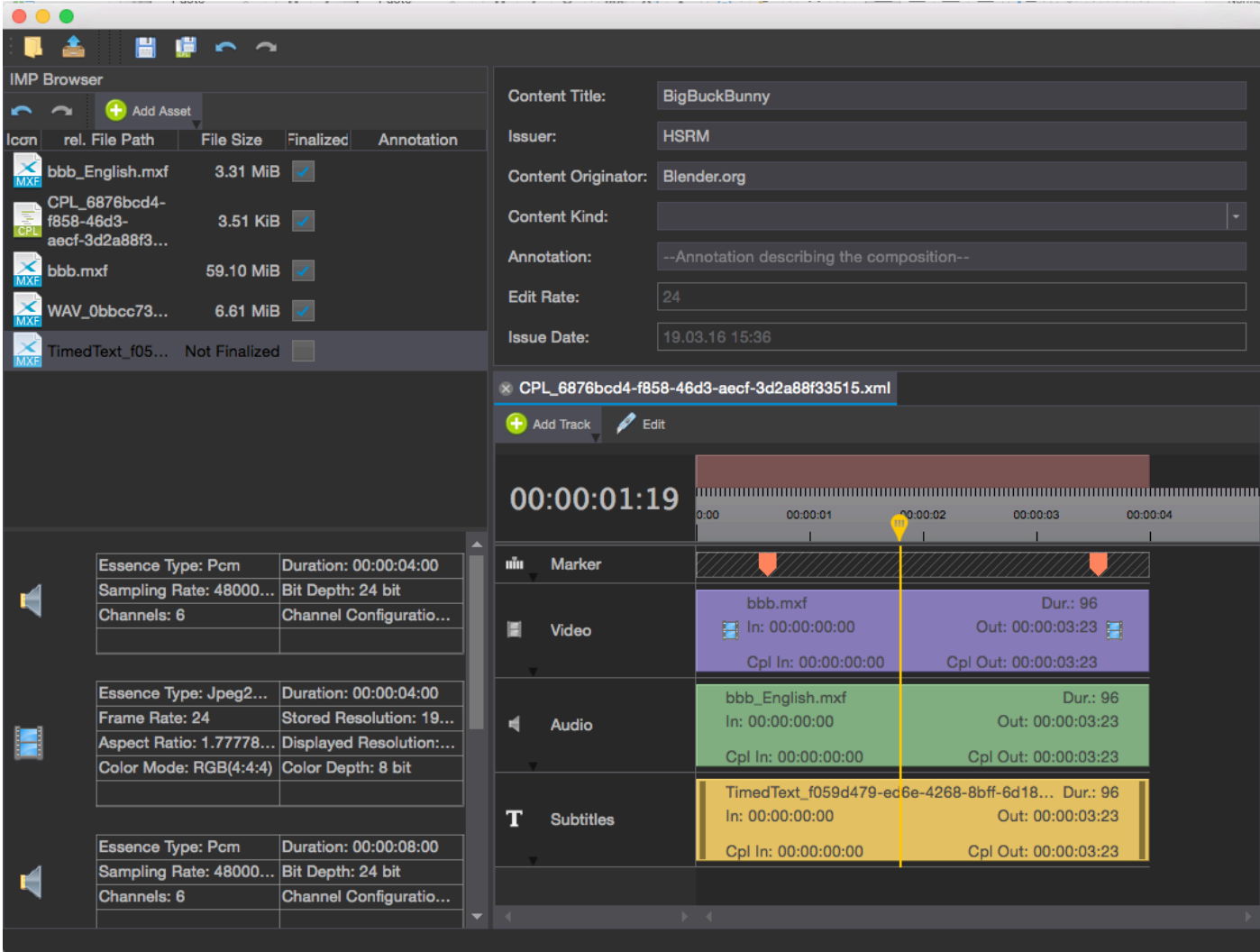IMF-Tool is written in C++ / Qt and builds under Linux, Mac OS X and Windows using CMake build configuration.

IMF-Tool is available under GPLv3 (GNU Public License Version 3) at http://www.github.com/IMFTool.

Supported workflows

- Opening an IMP, opening one or more CPLs, timeline visualization

- Adding PCM or Timed Text (IMSC1) resources to an IMP

- Duplicating an existing CPL and modifying it by

    o Adding one or more audio track

    o Adding one or more subtitles track

    o Adding a marker track

- Adding resources to a track by

    o Dragging & dropping assets from the IMP browser

- Modifying tracks

    o Visually editing EntryPoint and Duration on the timeline

    o Creating edit points (cuts)

Overview of the GUI

Picture 1 shows the GUI with an IMP opened and a CPL on the timeline. The individual elements in the GUI will be explained below.
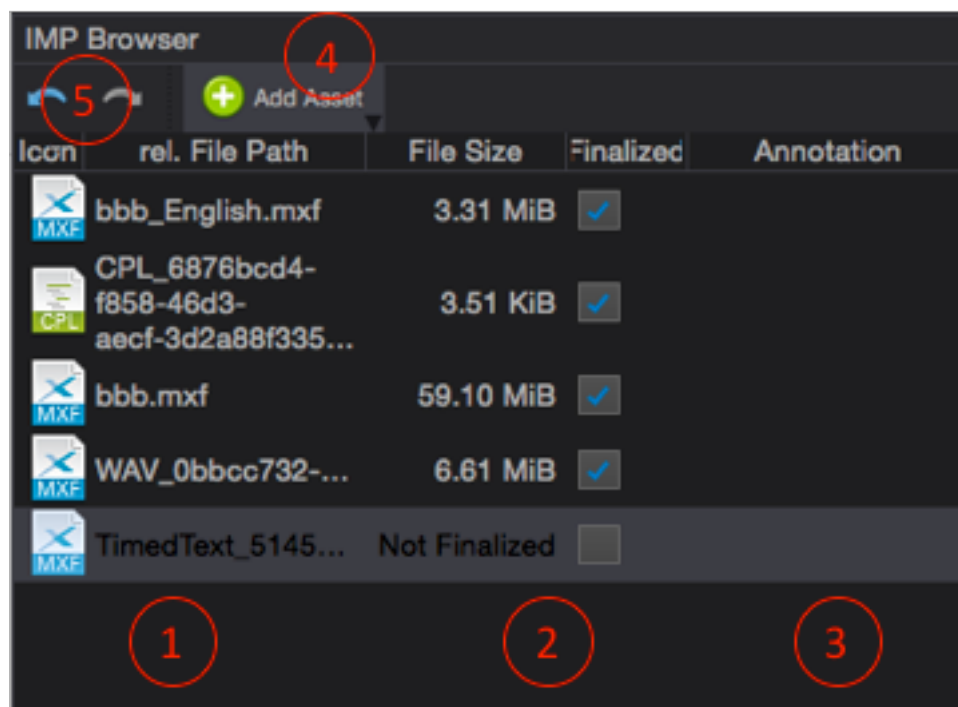

Picture 1: IMF-Tool GUI

Toolbar

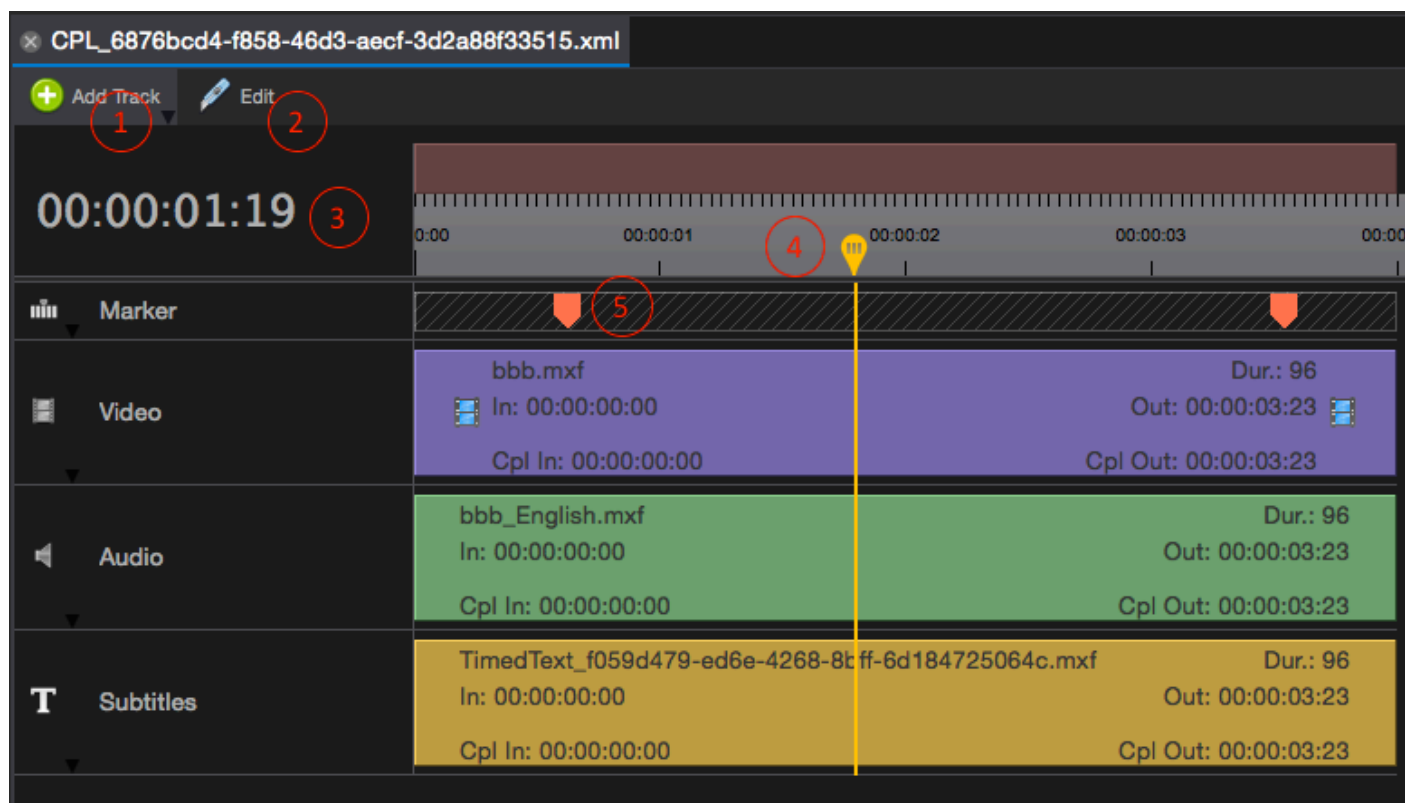| Element #	Function	More details
1	Open IMF package	Opens a file browser to select a folder with an IMP.
2	Write IMF package	Writes the modified package to the original location. Attention: ASSETMAP.xml will always be overwritten! A new PKL will be created and the former PKL will be kept (but not be referenced any more)
3	Save CPL	Saves the CPL currently visible in the timeline. Users will be alerted if an existing CPL is about to be overwritten. Button is only available when a CPL has been modified.
4	Save as new CPL	Save the CPL currently visible in the timeline with a new UUID under a new file name. The formerly edited CPL will still be present in the timeline.
5	Undo	Undo last CPL editing operation. "Save CPL" and "Save as new CPL" cannot be undone!
6	Redo	Redo last CPL editing operation

IMP Browser

Element #	Function	More details
1	File names of assets	To edit the timeline of a CPL, double-click on the CPL asset or right-click and select "Edit CPL".
2	File size of assets	"Not finalized" indicates that a freshly added asset has not been written to disk yet. It can be written selecting "Write IMF package" from the control panel.
3	AnnotationText from Packing List	Only if AnnotationText element is present in Packing List
4	Add Asset	Allows to select a "PCM resource" or "Timed Text Resource". In addition, an empty IMSC1 resource can be created which may be used for filling gaps on the timeline. Selected essence files will appear as MXF assets in the IMP browser,
5	Undo / Redo	Undo / redo last operation in the IMP browser.

CPL metadata editor

Content Title:	BigBuckBunny
Issuer:	HSRM
Content Originator:	Blender.org
Content Kind:	
Annotation:	--Annotation describing the composition--
Edit Rate:	24
Issue Date:	29.07.16 14:08

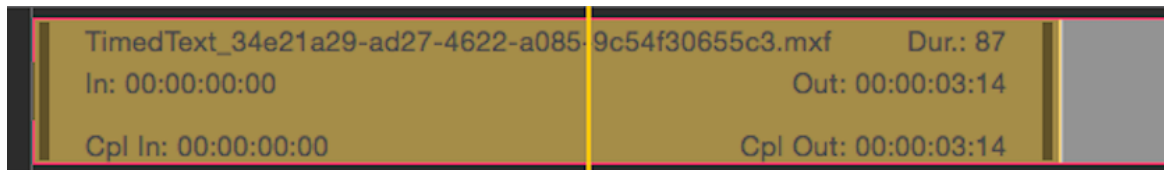Edit the metadata of the CPL currently visible on the timeline. Edit Rate and Issue Date cannot be edited.

CPL Editor: Overview

Element #	Function	More details
1	Add an additional track	Multiple **audio tracks** and multiple **subtitle tracks** can be added. If not already present, a single **marker track** can be added.
2	1st click: Create a cut for the currently selected resource 2nd click: Create a cut for all other resources	The resource currently selected will be cut at the current timeline position, i.e. it will be divided into two resources, both referencing the same track file with adapted EntryPoint and Duration. Can be undone using the "Undo" button on the control pane. Clicking "Edit" twice will also cut all other resources at the very same timeline position
3	Media time code	HH:MM:SS:FF
4	Timeline cursor	
5	Marker editing	Right-click to add or remove markers on an (optional) marker track. (Add marker track first → 1, if not present.)

CPL Editor: Editing EntryPoint and Duration of a resource

EntryPoint and Duration can be edited by dragging and moving the IN or OUT point of a resource, respectively:

In this example, the duration of the timed text resource has been reduced to 87 frames by moving the OUT point.

Known issues / bugs as of 2016-07-28

- CPL / ContentKind is not displayed and cannot be edited
- CPL / ExtensionProperties (EIDR) are not processed yet