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Overview

What is MMAVideo?

Multimodal Analysis Video (MMA Video) is an interactive software package for the annotation and analysis of videos. Within the software package, sample analyses and ready-made templates are provided to facilitate teaching and learning about language, image and audio resources in videos. Users can also use the new visualization feature to explore relative time in relation to combinations of multimodal choices based on the annotation and analysis of the video. MMA Video provides adaptable concepts and frameworks for systematic analysis and interpretation for critical thinking.
1. Basic Features

1.1 Basic User Guide

The above image is an example of a typical Analysis window.

<table>
<thead>
<tr>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Project Manager</td>
<td>Create or edit workbook and analysis.</td>
</tr>
<tr>
<td>3. Media Manager</td>
<td>Add/remove video clips.</td>
</tr>
<tr>
<td>Name</td>
<td>Function</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>4. Analysis Manager</td>
<td>Provides the platform for analysis. The above interface shows the Analysis Manager.</td>
</tr>
<tr>
<td>5a. Transcription Window</td>
<td>Displays the time-stamped dialogue, color-coded per Tab [9].</td>
</tr>
<tr>
<td>5b. Transcription Text Entry</td>
<td>Allows text to be entered and edited when a node in Dialog Strip [12] is created/selected.</td>
</tr>
<tr>
<td>6. Selected System Choice</td>
<td>Displays the System Choice(s) selected for a particular node.</td>
</tr>
<tr>
<td>7. Available System Choices</td>
<td>Lists all the System Choices available for a particular system, based on the catalog in your Library Manager [2].</td>
</tr>
<tr>
<td>8. Description</td>
<td>Shows the description of a particular System Choice, when selected in [6] and [7].</td>
</tr>
<tr>
<td>9. Tabs</td>
<td>Allows different tabs to be created, e.g. for different speakers.</td>
</tr>
<tr>
<td>10. Film Strip</td>
<td>Displays the Film Strip. Scale can be adjusted using ‘+’ and ‘-’ buttons.</td>
</tr>
<tr>
<td>11. Sound Strip</td>
<td>Displays the audio waveform.</td>
</tr>
<tr>
<td>12. Dialog Strip</td>
<td>Reflects the time-stamped instances of dialog that appear in the Transcription Window [5a].</td>
</tr>
<tr>
<td>13. System Strips</td>
<td>Show all the available systems based on the chosen catalog in the Library Manager [2].</td>
</tr>
<tr>
<td>14. Nodes</td>
<td>Reflect the time-stamped annotations of selected System Choices [6].</td>
</tr>
<tr>
<td>15. Free Strip</td>
<td>Allows Nodes to be created for free-text annotation.</td>
</tr>
</tbody>
</table>
1.2 Getting Started

1.2.1 Starting A New Project

1. Click New Project.

2. Enter a name for your project file.
3. Select the project location by clicking **Browse**. Click **Choose** when done.

4. Click **OK** to finish creating your project file.

5. If you wish to use the pre-defined Catalogs and Systems that have been used for the Sample Project included in the software, select **Use default library**. If you wish to create your own library, leave the box unchecked.
1.2.2 Adding a Video

1. Click Media Manager.

2. Click Add button under Media tab, and select a video.

3. Click Open when done.
4. Your video has now been inserted into the project.
1.2.3 Creating an Analysis

1. Click **Project Manager**.

2. Click **New** for a new analysis.

3. Enter a name for the analysis.
4. Select a video from the Media Workbook, then click **Next**.

5. Select a relevant Catalog, then click **Finish**.
6. Double-click on the created analysis icon to start your analysis.
2. Advanced Features

2.1 Library

Click the **Library Manager** icon to access the **Library**.

The **Library** is divided into **Library Browser** [1], **System Browser** [2], **Properties** [3], **Catalog** [4] and **Analysis** [5].

The software includes a comprehensive set of **Predefined Catalogs** [6] and **Systems** [7] for General Video Analysis and a Sample Analysis.

To utilize the **Predefined Catalogs** and **Systems**, open the **Sample Project**, or tick the box **Use default library** when creating a **New Project**. If you leave the box unchecked when creating a New Project, your Library will be empty.
2.1.1 Library Browser

The **Library Browser** lists all the **Catalogs and Sub-catalogs** that have been created.

You may **add** a new **Catalog**, **copy**, **paste** and **delete** existing **Catalogs** and assigned **Systems** by clicking on the following icons, or by right-clicking on a particular **Catalog**.

Deleting a **Catalog** removes it from the **Library Browser** and all the analyses in which the **Catalog** is used.

To edit the name of a **Catalog or Sub-catalog**, double-click the **Catalog or Sub-catalog** and rename it.
2.1.2 System Browser

The **System Browser** displays all the **Systems** and **System Choices** in your **Library**.

You may **add** a new, or **delete** an existing **System** or **System Choices** by clicking on the following icons, or by right-clicking on a particular **System** or **System Choice**.

Right-clicking also allows you to **duplicate** or **delete** a **System**, and to **copy** or **delete System Choices**.

**System Choices** can be rearranged in the **Systems Browser**, but not the **Systems** themselves. **Systems** can only be rearranged after they have been assigned to a **Catalog** or **Sub-Catalog** in the **Library Browser**.

New **Systems** are always added to the bottom of the list in the **System Browser**.

To assign a **System** to a **Catalog**, highlight the **System** and drag it to the respective **Catalog** in the **Library Browser** on the left.

To edit the name of a **System** or **System Choice**, double-click the **System** or **System Choice** and rename it. **Systems** and **System Choices** can only be edited in the **System Browser**.

Deleting a **System** or **System Choice** from the **System Browser** will also remove it from all **Catalogs** and **Analyses** which use it.
## 2.1.3 Summary of Library Browser and System Browser Functionalities

<table>
<thead>
<tr>
<th>Library Browser</th>
<th>System Browser</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Add a new <strong>Catalog</strong> or <strong>Sub-Catalog</strong>,</td>
<td>• Add a new <strong>System</strong> or <strong>System Choices</strong></td>
</tr>
<tr>
<td>• Copy <strong>Catalog</strong> or <strong>Sub-Catalog</strong>,</td>
<td>• Duplicate <strong>System</strong></td>
</tr>
<tr>
<td>• Paste <strong>Catalog</strong> or <strong>Sub-Catalog</strong>,</td>
<td>• Copy <strong>System Choices</strong></td>
</tr>
<tr>
<td>• Delete existing <strong>Catalog</strong> or <strong>Sub-Catalog</strong></td>
<td>• Paste <strong>System Choices</strong></td>
</tr>
<tr>
<td>• Edit name of <strong>Catalog</strong> or <strong>Sub-Catalog</strong></td>
<td>• Delete existing <strong>System</strong> or <strong>System Choices</strong> (This deletes <strong>Systems</strong> and <strong>System Choices</strong> from the <strong>Library</strong>)</td>
</tr>
<tr>
<td>• Delete assigned <strong>Systems</strong> (This does not delete <strong>Systems</strong> from the <strong>System Browser</strong>)</td>
<td>• Edit name of <strong>System</strong> or <strong>System Choices</strong></td>
</tr>
<tr>
<td>• Rearrange <strong>Catalogs</strong>, <strong>Sub-Catalogs</strong> and <strong>Systems</strong></td>
<td>• Rearrange <strong>System Choices</strong></td>
</tr>
</tbody>
</table>
2.1.4 Properties

You can enter the description of a System or System Choice in the Description window of Properties. The name of the selected System Choice will appear above it.

Changing the Background color or Background opacity, and Border color or Border thickness will change the appearance of the node.
2.1.5 Catalog and Analysis

The Catalog panel displays the names of the respective Catalogs and Sub-Catalogs to which a particular System has been assigned.

The Analysis panel displays all the analyses that use a particular Catalog, Sub-Catalog or System.

Both panels allow you to keep track of the Catalogs and Analyses that utilize particular Systems in your Library. Please consult these panels before making any changes to your Library.
2.2 System Strip and Nodes

System Strips correspond to the Systems assigned to the Catalog in the Library. This Catalog would have been assigned when you first created your Analysis.

Each Node entered in the System Strip marks the duration of a particular System Choice realized in the video.

2.2.1 Manipulating System Strips

You can hide individual System Strips by clicking on the grey area at the bottom right-hand corner of each System Strip. The same can be done for the Film Strip, Sound Strip, Dialog Strip and Free Strip.

2.2.2 Creating new Nodes and assigning System Choices

To create a Node, double-click a part in the System Strip where you wish to place your Node. Use the red Indicator Line as a guide.

After the Node has been entered, select an appropriate System Choice from the list in the Available system choices window by double-clicking it. After the System Choice is selected, the Node appears in the same color as the System Choice.

You can assign more than one System Choice to a Node, although only the last System Choice selected will be reflected in the Node color and label. All System Choices assigned to a particular Node are shown in the Selected system choices window and on mouse-over.
To remove a **System Choice** from a **Node**, right-click the **System Choice** in the **Available system choices** window and select **Remove**.
2.2.3 Manipulating Nodes

You can resize a Node by dragging the left or right border of the Node. You can move a Node by clicking the hand tool on mouse-over.

You can enter additional free-text annotations on a Node by right-clicking the Node [1] and entering a description in the Properties window [2]. The description will be shown on mouse-over [3].

You can delete a Node by right-clicking the Node and selecting Delete in the pop-up menu.

You can copy and paste individual time-stamped Nodes from one Strip to another by right-clicking the Node and selecting Copy in the pop-up menu. Right-click anywhere in the Strip you want to paste the Node, and select Paste. An empty Node will be pasted in the same location and for the same duration as the copied Node.

You can Copy, Paste and Delete All Nodes in a Strip by right-clicking the selected Strip.
2.3 Tabs

Tabs allow you to segregate the analysis according to individual speakers, objects or other phenomena.

2.3.1 Adding a new Tab

When creating a new analysis, only one Tab is displayed. To add a new Tab, click on the Tab with the ‘+’ sign. By default, the program assigns colors to the first nine Tabs: red, blue, yellow, green, purple, orange, cyan, magenta and brown. You may edit the color or Tab name by right-clicking the Tab.

Once a default-colored Tab is deleted, it will not reinstate any of the default colors. Note that deleted Tabs cannot be restored.

The Tab Indicator helps to distinguish Nodes belonging to a particular Tab, as it is of the same color as the circle in the associated Tab.
2.3.2 Working with Tabs

When opening an existing analysis, the appearance of the Tabs will depend on how the analysis was displayed when it was last saved.

In order to create or edit Nodes in Dialog Strip, System Strips and Free Strip, you need to make a Tab ‘active’ by clicking on the Tab itself, which will turn a darker shade of gray than inactive Tabs.

Nodes of inactive Tabs are visible but translucent, and cannot be edited.

To make a Tab visible or invisible, click the Tab Selector Button (colored circle) for each Tab. The presence of a black dot in the circle indicates that a Tab is visible.
2.4 Dialog Strip & Transcription Tool

Unlike other strips, a Node in the Dialog Strip is connected to the Transcription Window. The Transcription Window shows a transcript of the dialog in the video.

2.4.1 Transcription Text Entry and Transcription Window

1. Double-click in the Dialog Strip to create a Node (the entered Node will have a dotted appearance as it is by default the selected Node).

2. Time-align the Node to the utterance by adjusting the left and/or right boundaries of the Node.

3. Type text in the Transcription Text Entry box and press Enter. The Transcription Window will display the time-stamped dialogue, color-coded according to the corresponding Tab.

4. To edit text, select the corresponding utterance in the Transcription Window or select the corresponding Node. The selected text will be highlighted in the Transcription Window and appear in the Transcription Text Entry box. Edit the selected text in the Transcription Text Entry box and press Enter.
2.5 Free Strip

You can create a **Node** in the **Free Strip** by double-clicking anywhere in the **Free Strip**.

Note that there are no **System Choices** available in **Free Strip**.

You can enter a free-text description for a **Node** in the **Free Strip** by right-clicking the **Node**. A **Properties** window will pop-up.

Enter your text in the **Description** box. You may also edit the appearance of the **Node** in this pop-up window.

The description of the **Node** appears when you hover your mouse over the **Node**.
2.6 Visualization (State Machine)

The **State Machine** allows you to visualize the annotations made in the **System Strips** in the **Analysis Window** in the form of a **State** diagram. A **State** reflects the combination of **System Choices** utilized for a particular **System** or combination of **Systems** in the Analysis.

The above image is a typical example of a **State Machine**.

<table>
<thead>
<tr>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Visualization Window</td>
<td>Displays the visualized annotations in the form of a State diagram.</td>
</tr>
<tr>
<td>2. Player Window</td>
<td>Allows for synchronized playback of States and Transitions between States in the State diagram.</td>
</tr>
<tr>
<td>3. State View</td>
<td>Displays the selected Tabs, System Strips and combination of System Choices utilized at a particular time as shown in the State diagram.</td>
</tr>
</tbody>
</table>
4. Tab(s) Displays the selected (Speaker) Tab(s).
5. System(s) Displays the selected System(s).
6. System Choice(s) Displays the combination of System Choices utilized for a particular System.

2.6.1 Creating and Saving a New State Machine

1. Select **Visualization > State Machine** in the top menu bar.

2. Select **New** in the **State Machine** wizard.
3. Enter the **State Machine Name**.

4. Select **System Strips** to be used. Check the **Select All** box to use all **System Strips**.
5. Select **Tabs** to be used. Check the **Select All** box to use all **Tabs**.

6. Adjust the threshold for duration filtering. The default is set at 100 milliseconds.
7. Click Done and your **State Machine** is created.

Right-click on any selected state to **Assign Color**.

8. To save your **State Machine**, select **Save** or **Save As** in the top menu bar.
2.6.2 Opening a Previous State Machine

1. Select **Visualization > State Machine** in the top menu bar.

![State Machine Wizard](image)

2. Select an available **State Machine** from the list in the **State Machine** wizard.

3. Click Ok or double-click on the selected **State Machine**.
2.6.3 State Machine Layout

The State Machine has three different diagram layouts to choose from: Circular, Spring force and Gursoy-Atun. These layouts can be adjusted in Layout View. The default layout is Circular.
Quick Questions

Can I change a video during an analysis?

It is not possible to change video when an analysis has started. You need to start a new project.

Can I change a catalog during an analysis?

It is not possible to change a Catalog when an analysis has started, but it is possible to edit it to include the Systems that you like by pulling the Systems from System Browser to the Library Browser.

Can I open two projects at the same time?

Only one project can be open at the same time.

Can I use a previous library or a video for a new project?

Every project has its own Library. To access the Default Library, check the Use Default Library when creating a new project.

Every project has its own collection of media. To use a previous video for a new project, the media must be imported into the project.