

Ingest Application: Name - Parbhandan:

This application is going to be Windows application and to be installed independently. Validity of license will be checked through our main application which is not in scope here called MediaMatrix and we will count active **session too**. It means client can install this application on as many systems he likes but active session will be counted, and logins will be restricted as per session count subscribed by that client. In simple words the login validity will be returned as ineligible from MediaMatrix if user credentials are not correct or active session count limit is over. Response of our Parbhandan app will be accordingly.

To run this application, user profile must be created within MediaMatrix and login credentials and rights (roles) to be validated through MediaMatrix. Login is mandatory to run this application. Event logs and status report must always be passed back to MediaMatrix in real time. Though some event logs can reside (if only these can't be written back in MediaMatrix) within local machine and to be made accessible to Administrator.

Once the user is validated and authorized from login screen, he will be taken to next screen showing three menu items and user then must select one option from three. These menu options are:

Add Asset, Manage Asset and third, Manage Bucket

There will be a top band too which is fixed and will provide option for user to log out and Home button to jump back to this page anytime.

Now each menu button has action associated which is explained under-

1. Add Asset:

Here user has to select type of asset whereas there will be three categories – Video, Image and Document

1.1.a : Video

If user choose first option i.e. Video then he likes to **check-in** Video asset into our database, and we will create low-res file of this video through a transcoder which is a separate and independent application that we have to control using api. Please note that we are NOT going to move video from source location to our storage (which we call DAM controlled object store) but passing a copy of video to transcoder machine or it's local storage for generating low res. The low res copy once generated will be stored in our DAM object storage in a dedicated folder meant only for low-res video. User has option to initiate another action which we like to call “Send To Archive” whereas we will generate low res copy of video as explained above but in addition we will send a copy of original file to 3rd party archive system which is going to be integrated with us through API. This 3rd party tool will then transfer the file to deep storage such as LTO, ALTO or Cloud storage and send back acknowledgement and key id associated with that video for later usage or retrieval request. This information along with other data (metadata) that has to be input by user at this stage, will be written back into database as associated data with video asset. This data is important to search the asset later.

1.1.b: Image

If user chose asset type as Image then he likes to store the native file in our DAM controlled object storage as explained above. For this category we will not generate any low res copy which was done for video nor there is option to “send

to archive”. User will provide metadata same as the case of video and will be stored in database along with asset id

1.1.c: Document

If user chose asset type as Document then he likes to store the native file in our DAM controlled object storage same as the case of Image. For this category too we will not generate any low res copy nor there is any option to “send to archive”. User will provide metadata same as the case of video and Image and will be stored in database along with asset id

1.2 User workflow in detail:

After selecting the option Add Asset, user will have to:

1.2.1 Select Asset Type: There are 3 type of assets supported by us and basis the rights assigned to user option of these three assets will be displayed. Rights of user will be provided back at the time of verifying login credentials. User can select only one type of asset at a time. In case user role defines only one type of asset then by default asset type will be set to that and *user does not have to choose* and go straight to next tab

1.2.2 Select Source: Basis the asset type selected, and storages assigned in MediaMatrix, user will get to see and select one of the source storages to select the asset from. In case user role assigns only one storage then by default Source will be set to that and *user does not have to choose* and go to next screen/page tab

We must apply validation checks while selecting each type of source as explained under:

1.2.2.a Video: Source Name selection to appear as dropdown (if more than 1). These source locations are pre-defined in MediaMatrix. Here we will not allow user to browse and select video source using Windows local browser. After selecting source, we will only display the files from the source storage to user having supported video format and rest of the files will not appear on screen. Currently we support mp4, mov, jpeg, mxf formats only. User can select only one video file at a time. Second check to be applied when user selects a file and moves to next stage. We have to find if the selected file has already been checked-in the MediaMatrix. Here we must check **both** the file name and source location in the database and if there is an exact match then we will inform user that this file has already being checked in and he cannot create a duplicate entry. If we find a filename does not exist in database or a scenario whereas same filename exists in database, but source location is different then these both scenarios are valid, and user can move to next stage.

1.2.2.b Image: Source selection is dropdown (if more than 1) and must be pre-defined in MediaMatrix. Within the dropdown user has additional option called “Manual Browse” ONLY IF roles permit. If user does not have permission, then this option will not appear. But if user has permission and choose this option then we will have to provide window browsing option to select a file from any storage or location that user can locally browse on the network. After selecting source, all image files available within that folder will be visible. We will have to display only windows supported

image formats files and rest of other files should not appear. User can select only one image file at a time. In this case we will not apply any file name or source location validation check and allow user to go to next stage.

1.2.2.c Document: Workflow here is exactly the same as Image ie Source selection is dropdown (if more than 1) and must be pre-defined in MediaMatrix. Browse option is available only if roles permit within dropdown option and here user can choose any path to select file. After selecting source, supported format files available within that folder will be visible. We currently support PDF, Word doc, Notepad, Text or any other document supported by Windows. User can select only one file at a time. Here too we will not apply any file name or location validation check and allow user to go to next stage.

1.2.3Add Metadata: This is crucial step for user to check-in Video asset or to acquire Image or Document/PDF asset. Metadata is key to DAM to enable efficient search. We will maintain 4 sets of metadata associated with each asset.

- **System generated information**
- **Must enter fields**
- **Optional fields**
- **AI generated metadata fields (optional)**. This set is not part of the user form but will be added in DB directly if AI option is run AFTER asset is added into MediaMatrix

We have different UI and metadata fields for each type of asset which is explained as under. So according to user selection of type of asset:

1.2.3.a : If Asset type is Video: After user selects a video asset from source and press Next, then this new screen opens with video player integrated within. Along with player the same screen will have a form for user to punch in metadata related to that asset and to be saved in our database. Video Player should support to play video at variable speed or jogger mode. Player and metadata entry form must appear on same page. Associated metadata fields that application or user has to fill are:

- a. System Generated fields** – these fields to be filled by application automatically but will be displayed on screen for user reference
 - i. Video Resolution – this information, we have to identify and display for the user. Same detail has to be saved too in the database at final stage
 - ii. Height and Aspect Ratio – this again we have identify through app and display as well as store
 - iii. Source Location – this is the source path of file where from Video asset has been selected
 - iv. File Name and size - we will display and store the file name along with file size
 - v. MediaMatrix unique ID : This field will not be displayed in the form but to be assigned at final step while checking data in DB. This id will be generated by MediaMatrix

b. Use fields (Must enter): These fields has to be filled in by user and can't be skipped

- i. **Title :** Alphanumeric field to allow user to enter up to 200 characters to define context of video asset
- ii. **Keywords:** User must punch in at least one keyword associated with this asset. Character limit will be 40. Add button to be provided so user has choice to keep adding more keywords. He can add up to 39 more keywords. All keywords enter should be visible to user as CSV text
- iii. **Category:** User will have to choose at least one category from the dropdown. He has option to select more than one category. Categories are predefined inside MediaMatrix

c. Optional fields: These fields has to be filled in by user but can be skipped or not filled at this time

- i. **Description:** User can write or paste text associated with the asset. It is going to be alphanumeric field, and limit is 200 words or 1200 characters (whichever is *HIGHER*).
- ii. **Asset/Media Id:** User can mention the id associated to this video by the client. It's not the file name but id generated by production or other automation. Up to 40 characters limit to be applied. If user puts in any media id which exist in our DB then we should decline it and prompt user to

inform that media id already exists in MediaMatrix.

- iii. **People:** User has choice to enter names of personality or people he likes to tag with asset. He can enter one name or more just like adding keywords i.e. ADD button will be available to him to add up to 40 names. All names will be visible to him as CSV txt. Text limit of this field will be again 40 characters
- iv. **Add Subcategory:** This option will be available to user next to category tab and will be activated only if there is any subcategory option to choose from the categories selected by user. If any option is available, then user can select the subcategory. By default, value will be NULL.
- v. **Select Agency:** If asset is sourced from external source, then user can declare it by selecting an agency from the dropdown (such as Stringer, Reuters, ANI etc). All these agencies names are defined by Admin in MediaMatrix
- vi. **Name of Reporter/Producer:** User has option to tag a name of reporter/Stringer or producer to be associated with this asset. 40 characters limit – only alphabets.
- vii. **Location Tag:** User to use this field to define shoot location or to tag a location which client wants to associate with this asset. 80 characters limit -only alphabets

- viii. **Date of Shoot/Acquisition:** User can select a date using Date button (valid Date field)
- ix. **Syndication Allowed:** Though optional field but user can define if asset is allowed to be transferred or made available to sell outside the organization. It's Yes or No switch. We will apply a rule whereas if any agency is selected then switch will be disabled with value as NO. But if no agency is selected then switch is enabled with default value as YES and user has choice to switch it to NO

User has choice to Exit the form anytime through EXIT button (provided at bottom of screen which is always enabled or by windows close button (cross button on top-right) and if user chooses to press Exit or close button without saving the data first then prompt him and warn that this entry will be discarded and not saved. And ask user if he 'still want to exit – Yes or NO" whereas No is default value which means if user keep pressing Enter then he is not exiting accidentally and remains on this page.

There should be SAVE button on the bottom alongside EXIT button which will get enabled only after all "must Entered fields" are punched in. Asset id parameter is to be validated at this stage again. If not corrected, then user will be prompted and taken to field or multiple fields (one by one) to correct it to defined parameters (parameters to be prompted to user). User has choice to Save and initiate process to check-in asset into MediaMatrix DB without entering optional field values. Once pressed we will write the metadata into DB and copy native video to transcoder system for creation of low-res (with same name as media id

defined by user in the form and if media id is not available then we will use file name of native video). A thumbnail too will be created and returned by transcoder application. Additional fields that will be written in dB will have information such as DURATION of clip, low-res file path, thumbnail path etc. Most importantly unique ID will be generated by MediaMatrix and assigned to this asset.

There is 3rd button which will also get enabled along with SAVE after key parameters are filled in and it will say “Save & Send to Archive”. This button will appear only if user role has right to send video to archive AND 3rd party archive is defined in the configurator. If either of these criteria doesn't match, then this button will not be visible. If button is enabled and user press it then two actions will be performed in sequence, first will be same as Save (as defined above) and second will be to pass native video details to archive manager to copy asset to archive. We will get acknowledgement of archive completion along with other details from 3rd party over api and it has to be write back into DB. While archive is happening, we will allow user to go back to main menu to perform other action. Archiving status can be seen by user through tab which we need to provide on Home screen (top menu) and status of archive will be fetched from 3rd party archive tool through api

Details sent back by archive tool will be used to retrieve the content from archive. We will also flag “archived” field while displaying the assets with MediaMatrix to all users, so they are aware if video asset is ARCHIVED or NOT!

1.2.3.b If Asset type is Image - App will open a preview window where user can preview image. Image viewer should support all formats as listed above. Image viewer and metadata entry form should stick together

& appear on same page. Associated metadata fields are:

a) System Generated fields – these fields to be filled by application automatically but will be displayed on screen for user reference

- i. Image Resolution – this information, we have to identify and display for the user. Same detail has to be saved too in the database at final stage
- ii. Height and Aspect Ratio – this again we have identify through app and display as well as store
- iii. Source Location – this is the source path of file where from Video asset has been selected
- iv. File Name and size - we will display and store the file name along with file size
- v. MediaMatrix unique ID : This field will not be displayed in the form but to be assigned at final step while checking data in DB. This id will be generated by MediaMatrix

b) User fields (Must enter): These fields has to be filled in by user and can't be skipped

- vi. **Title** : Alphanumeric field to allow user to enter up to 200 characters to define context of video asset
- vii. **Keywords**: User must punch in at least one keyword associated with this asset. Character limit will be 40. Add button to be provided so user has choice to keep adding more keywords. He can add up to 39 more keywords. All keywords enter should be visible to user as CSV text

- viii. **Category:** User will have to choose at least one category from the dropdown. He has option to select more than one category. Categories are predefined inside MediaMatrix

c)Optional fields: These fields has to be filled in by user but can be skipped or not filled at this time

- ix. **Description:** User can write or paste text associated with the asset. It is going to be alphanumeric field, and limit is 200 words or 1200 characters (whichever is *HIGHER*).
- x. **Image Id:** User can mention the station id associated to this Image. Up to 40 characters limit to be applied. If user puts in any media id which exist in our DB then we should decline it and prompt user to inform that media id already exists in MediaMatrix.
- xi. **People:** User has choice to enter names of personality or people he likes to tag with asset. He can enter one name or more just like adding keywords i.e. ADD button will be available to him to add up to 40 names. All names will be visible to him as CSV txt. Text limit of this field will be again 40 characters
- xii. **Add Subcategory:** This option will be available to user next to category tab and will be activated only if there is any subcategory option to choose from the categories selected by user. If any option

is available, then user can select the subcategory. By default, value will be NULL.

- xiii. Select Agency:** If asset is sourced from external source, then user can declare it by selecting an agency from the dropdown (such as Stringer, Reuters, ANI etc). All these agencies names are defined by Admin in MediaMatrix
- xiv. Name of Event:** User has option to tag a event to be associated with this asset. 40 characters limit – only alphabets.
- xv. Name of Photographer:** User can define the name of photographer who has captured this image
- xvi. Location Tag:** User to use this field to define shoot location or to tag a location which client wants to associate with this asset. 80 characters limit -only alphabets
- xvii. Date of Shoot/Acquisition:** User can select a date using Date button (valid Date field)
- xviii. Syndication Allowed:** Though optional field but user can define if asset is allowed to be transferred or made available to sell outside the organization. It's Yes or No switch. We will apply a rule whereas if any agency is selected then switch will be disabled with value as NO. But if no agency is selected then switch is enabled with default value as YES and user has choice to switch it to NO

There should be SAVE button on the bottom alongside EXIT button which will get enabled only

after all “must Entered fields” are punched in. Asset id parameter is to be validated at this stage again. If not corrected, then user will be prompted and taken to field or multiple fields (one by one) to correct it to defined parameters (parameters to be prompted to user). User has choice to Save and initiate process to check-in asset into MediaMatrix DB without entering optional field values. Once pressed we will write the metadata into DB AND copy the asset from source location to MediaMatrix object store storage. Destination storage where we need to copy the asset will be provided by MediaMatrix and we have to ask for it at this stage.

User also has choice to Exit the form anytime through EXIT button (provided at bottom of screen which is always enabled or by windows close button (cross button on top-right) and if user chooses to press Exit or close button without saving the data first then prompt him and warn that this entry will be discarded and not saved. And ask user if he ‘still want to exit – Yes or NO” whereas No is default value which means if user keep pressing Enter then he is not exiting accidentally and remains on this page.

1.2.3.c If Asset type is Document: In this case preview window is available only for PDF. If user likes to open other format files, then native app should be installed on that machine to open to those files. For non-PDF files metadata form is independent without nay previewer and user just needs to key in data. Data fields are:

a) System Generated fields – these fields to be filled by application automatically but will be displayed on screen for user reference

- i. Source Location – this is the source path of file where from Video asset has been selected
- ii. File Name and size - we will display and store the file name along with file size
- iii. MediaMatrix unique ID : This field will not be displayed in the form but to be assigned at final step while checking data in DB. This id will be generated by MediaMatrix

b)User fields (Must enter): These fields has to be filled in by user and can't be skipped

i)Title : Alphanumeric field to allow user to enter up to 200 characters to define context of video asset

ii)Keywords: User must punch in at least one keyword associated with this asset. Character limit will be 40. Add button to be provided so user has choice to keep adding more keywords. He can add up to 39 more keywords. All keywords enter should be visible to user as CSV text

iii)Category: User will have to choose at least one category from the dropdown. He has option to select more than one category. Categories are predefined inside MediaMatrix

c)Optional fields: These fields has to be filled in by user but can be skipped or not filled at this time

iv)Description: User can write or paste text associated with the asset. It is going to be alphanumeric field, and limit is 200 words or 1200 characters (whichever is *HIGHER*).

v)Add Subcategory: This option will be available to user next to category tab and will be activated only if there is any subcategory option to choose from the categories selected by user. If any option is available, then user can select the subcategory. By default, value will be NULL.

There should be SAVE button on the bottom alongside EXIT button which will get enabled only after all “must Entered fields” are punched in. Asset id parameter is to be validated at this stage again. If not corrected, then user will be prompted and taken to field or multiple fields (one by one) to correct it to defined parameters (parameters to be prompted to user). User has choice to Save and initiate process to check-in asset into MediaMatrix DB without entering optional field values. Once pressed we will write the metadata into DB AND copy the asset from source location to MediaMatrix object store storage. Destination storage where we need to copy the asset will be provided by MediaMatrix and we have to ask for it at this stage.

User also has choice to Exit the form anytime through EXIT button (provided at bottom of screen which is always enabled or by windows close button (cross button on top-right) and if user chooses to press Exit or close button without saving the data first then prompt him and warn

that this entry will be discarded and not saved. And ask user if he 'still want to exit – Yes or NO" whereas No is default value which means if user keep pressing Enter then he is not exiting accidentally and remains on this page.

2. Manage Assets

Here user has option to select an asset already stored in database and edit/add metadata fields. User cannot modify system generated fields and must entered fields. He can only edit or add input in optional fields. User should also have an option to put a video asset to archive (send to archive) only if that asset has not been moved to archive earlier

3. Manage Bucket

In this tab user can add two type of assets ie Image or document/ PDF to a predefined storage folder called a bucket. He cannot add Video assets to bucket. There will be further options within this tab as under:

1.1 Add to Bucket (for Bulk Upload)

1.1.1 Select Asset Type (Image or Document)

1.1.2 Select Bucket (the list of bucket will be fetched from MediaMatrix which will be provided basis user role and type of assets so these two information has to be passed to MediaMatrix to get the list)

1.1.3 Select Source (this is same workflow and validation criteria as defined above in 1.2.2)

1.1.4 Select & Add Assets: Here user can select one or multiple files of same asset type and the format approved. Once selected, Add button

should pop which in turn will copy all files from the source location to bucket path provided by MediaMatrix. User should also have option of Exit button whereas he can Exit without adding the files selected

1.2 Manage Assets in Bucket

User will use this tab to work upon assets stored in a bucket. Simple workflow is :

1.2.1 Select Bucket

1.2.2 Select Asset and Add to DB – here the workflow is same as define above in Add asset through section 1.2.3.b or 1.2.3.c as per the type of asset. Once all details are filled and stored in database along with asset copy moved to MediaMatrix object store then delete the asset from bucket

1.2.3 Select Asset/s and Delete – here user can select one or more files to delete it from bucket without moving the copy to object store. We need to prompt and warn user twice before executing as this cannot be reversed and asset once deleted from bucket cannot be retrieve back