UK Visas & Immigration

Streaming App v3.0

Admin Guide

Owner: UKVI Central Operations Team
Date: 20 November 2017
Version: 1.0

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1. Innovation Apps Suite

Streaming App v3.0 is part of the Innovation Apps Suite launched by UKVI's Central Operations Team. The Apps suite aims to streamline UKVI's in-house software application development and delivery. This suite provides seamless and consistent user interface and will gradually replace numerous tools and scripts across UKVI.
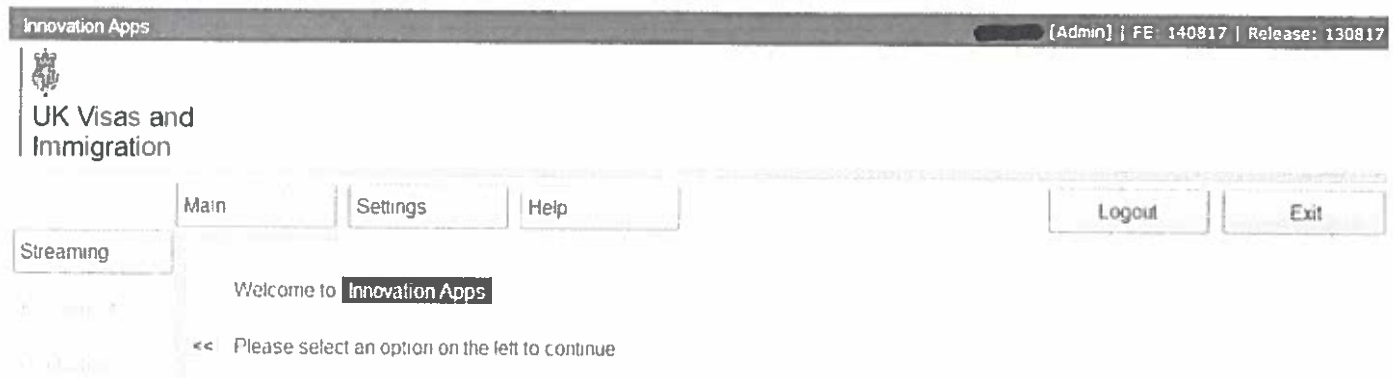

Figure 1: Innovation Apps Suite, main screen

1.1 Setup

To use Innovation Apps Suite, backend and frontend files should be saved as below,

	File name	Network Location	Type
1.	StreamingGeneral.mdb	V:\db_backend\	Backend
2.	StreamingGlobal.mdb	V:\db_backend\	Backend
3.	StreamingLocal.mdb	V:\db_backend\	Backend
4.	ReferenceData.mdb	V:\db_backend\	Backend
5.	InnovationApps.mdb	P:\	Frontend

All files will either be provided by a UKVI IT super user or can be downloaded from the following SharePoint page.

The first time you open "InnovationApps.mdb", a new folder named "Innovation Apps - Do not delete" will be created in your P: (Home) drive. A script will then run to copy essential files for Streaming App to this folder. Every time you open the App, updated version of these files will be copied to your P: (Home) drive.

As an admin you will receive a copy of the App with development mode enabled. This is to enable to you by pass user authentication until the right permissions have been assigned. The first time you open the dev-mode enabled frontend, you will see the following screen,

Figure 2: Innovation Apps Suite, Development mode prompt

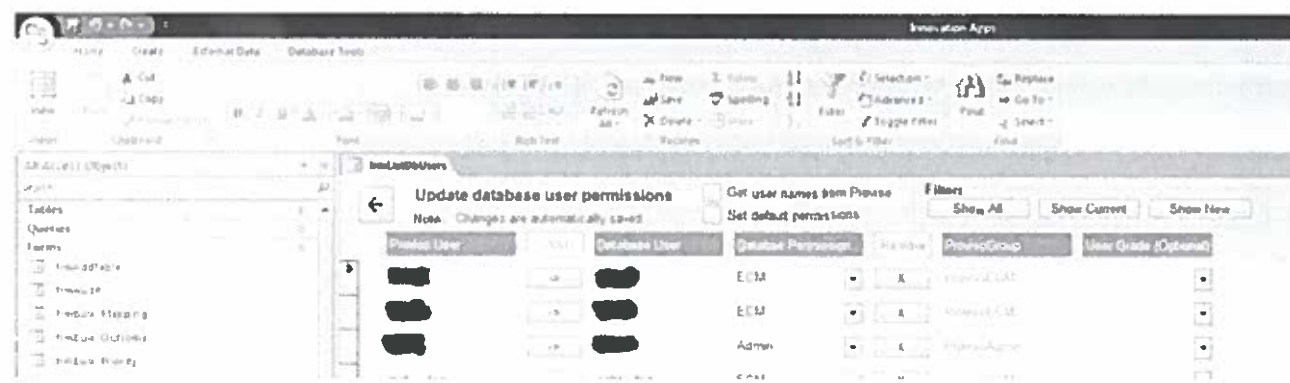Click "User List". This will open the following screen,

Figure 3: Innovation Apps Suite, Development mode user permission screen

Perform the following actions to assign permissions to users,

1. Click [ ] Get user names from Proviso to get a list of all users.
2. Click [ ] Set default permissions to assign users the same permission as on Proviso.
3. Change your permission to Admin ▾ in the Databse Permission field.

Once permissions have been assigned, click the back ← button to open the main form.

Users can download a locked version of the App from the SharePoint page below,

If you want to share your version with users, follow the steps below to disable developer mode,

1. Once one the main screen, go to "Settings",

2. Click ☐ Enable/Disable Developer Mode
3. Click "NO" to disable developer mode. The application will automatically close.
4. Re-open the application to ensure development mode has been disabled.

The front end application can now be shared with users who would need to copy it to their P: (Home) drive.

1.2 Settings

Innovation Apps Suite provides following admin configurable settings,

1. Setting up Proviso connection
2. Managing user permissions
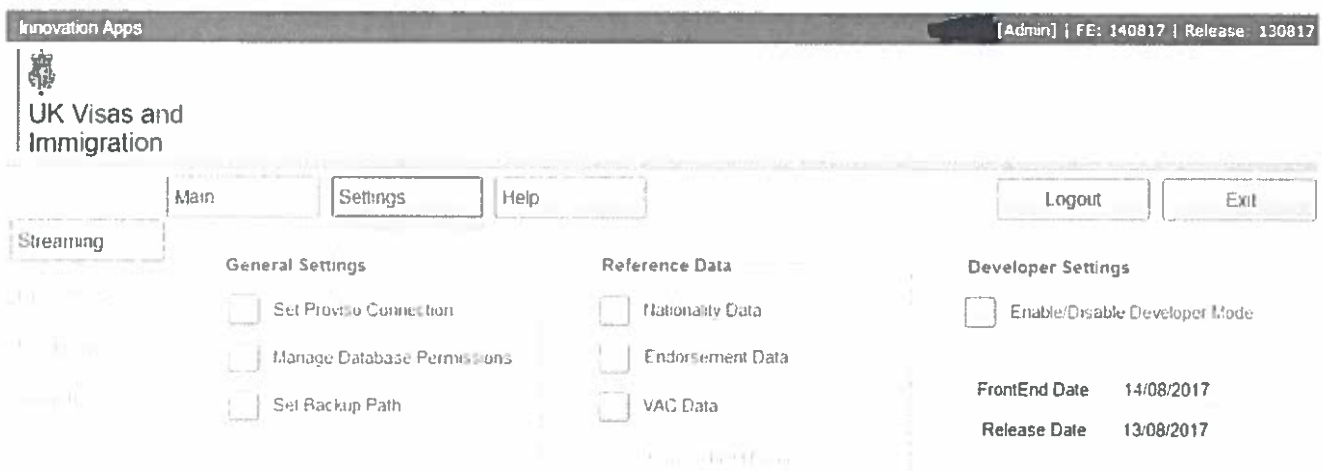3. Maintaining reference data

Figure 4: Innovation Apps Suite, Settings screen

1.2.1 Setting up Proviso connection

Proviso connection can be configured to be either a DSN (ODBC) or DSN less connection. Default option is DSN (ODBC) connection.

A DSN connection cannot be established to Proviso if ODBC drivers are missing from workstation. If a user cannot connect to Proviso, setting connection type to DSN-less connection and then selecting Proviso server name from the drop-down list might help mitigate the problem.
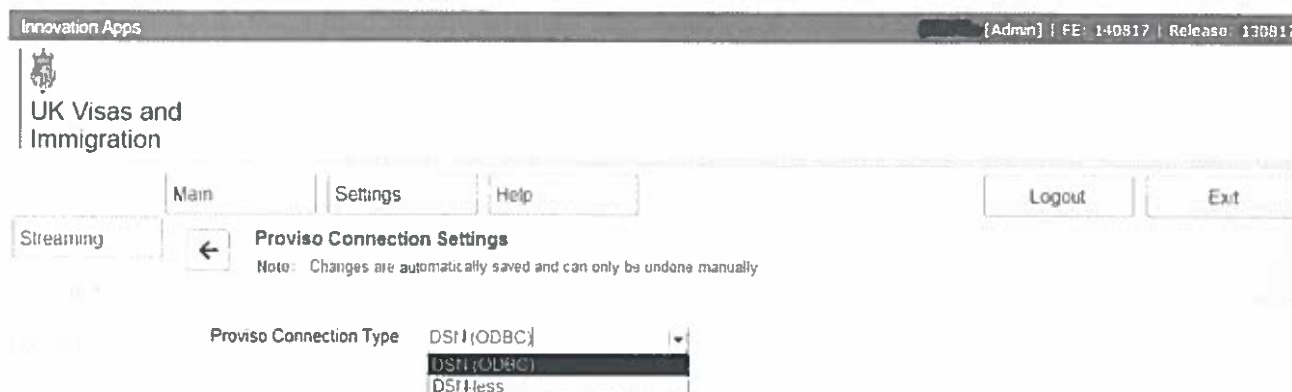
Figure 5: Innovation Apps Suite, Proviso Connection Settings

1.2.2 Managing user permissions

User permission groups have been aligned to Proviso permissions. To assign permission,

1. Click 'Get user names from Proviso' to obtain updated list of user names from Proviso.
2. Click 'Set default permission' to assign permission in line with Proviso permissions.

Only users with 'Admin' permission can update settings and setup streaming tool profiles. To add a user to the 'Admin' group, simply change "Database Permission' from the drop-down list. User grade is an optional field.

When adding new user,

1. Click [ ] Get user names from Proviso

2. Click [Show New] to show name of only new users.

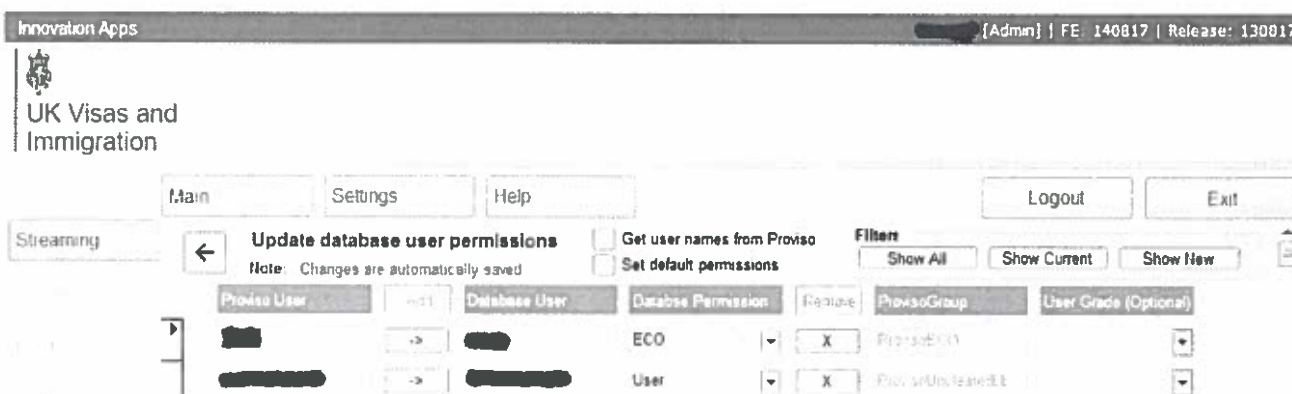3. Click [->] to assign the users default permissions, one by one.

Figure 6: Innovation Apps Suite, Update user permissions

1.2.3 Managing reference data

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Reference data defines the set of permissible values to be used by other data fields. Innovation Apps Suite provides a single repository for reference data to ensure use of standardized terms, codes, value and other unique identifiers. The following three data sets, common across UKVI, is provided,

1. Nationality data
2. Endorsement data (*maps endorsements to endorsement categories*)
3. Visa application centre (VAC) data (*maps VAC codes to VAC names and countries*)

Reference data will be updated centrally and made available to all Posts via SharePoint. There could sometimes be a delay in cascading updates to all posts. To mitigate this problem and to ensure business continuity, new Endorsements and VACs can by be added locally by a user with 'Admin' permissions using the screens shown below,
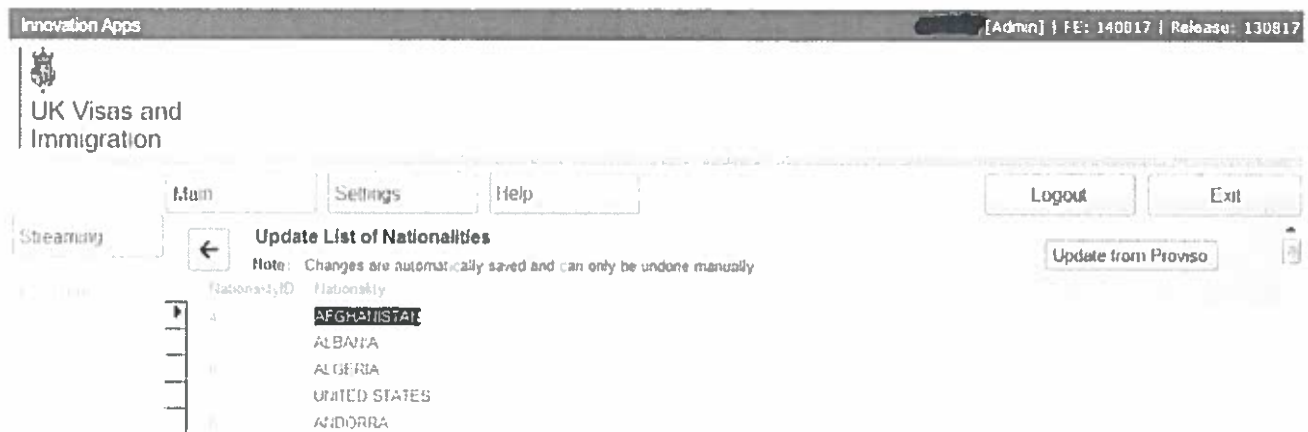

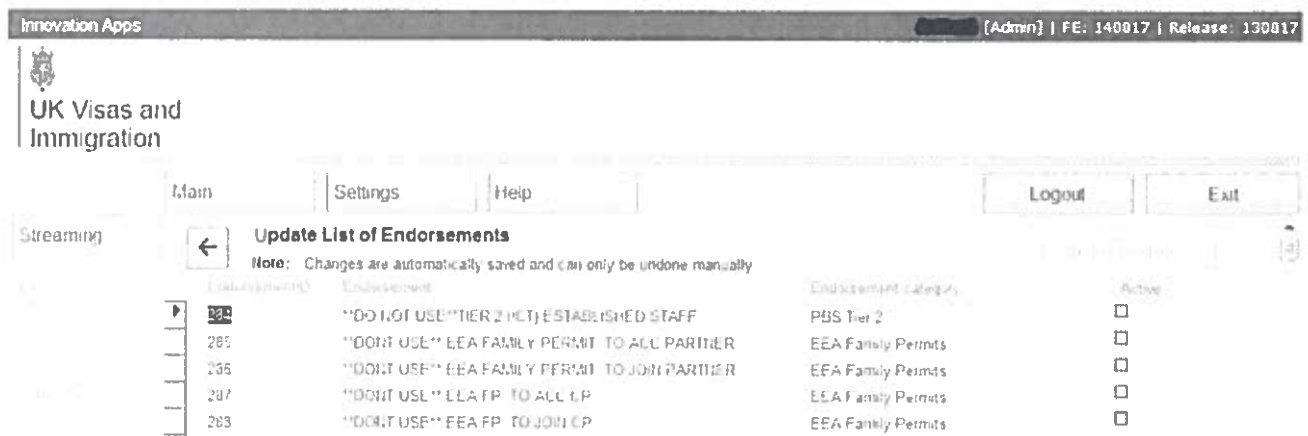**Figure 7:** Innovation Apps Suite, Update Nationality reference data

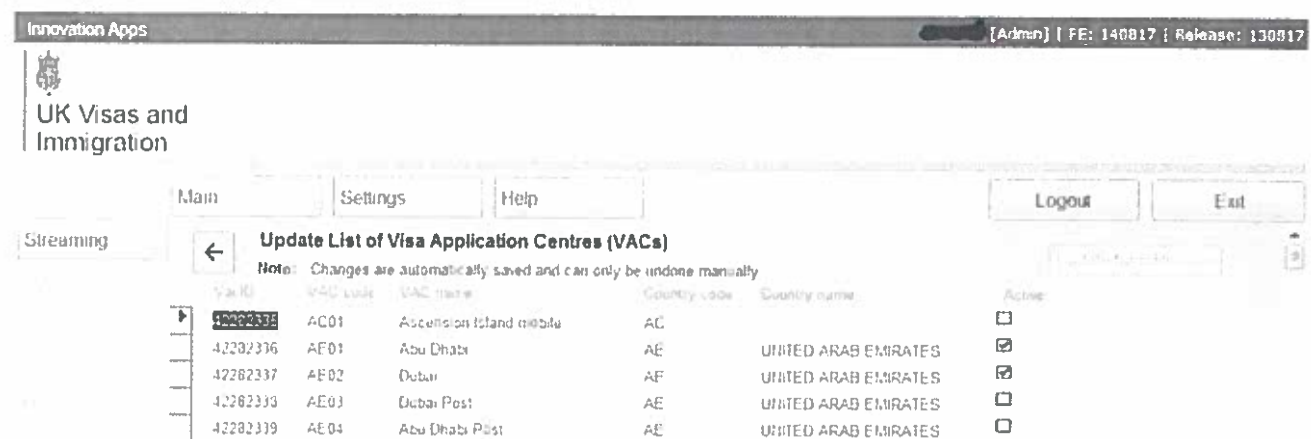**Figure 8:** Innovation Apps Suite, Update Endorsement reference data

Figure 9: Innovation Apps Suite, Update VAC reference data

After adding Endorsements and VACs, ensure new records are marked active.

Reference data is used for matching GVRS-G data and applying profiles and Question tree filters. Any changes to Reference Data should be carefully considered in terms of impact on GVRS data matching.
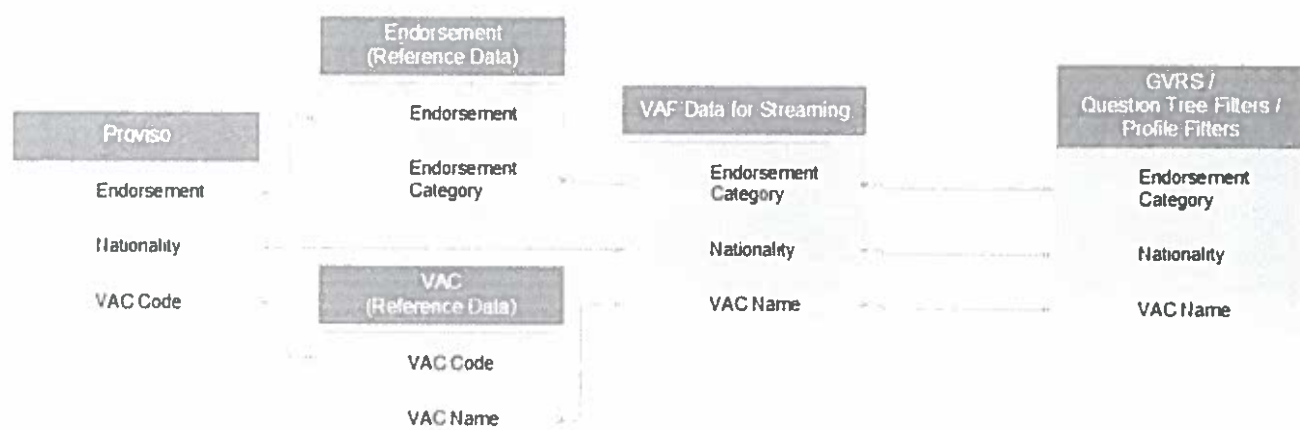
Notes:
1. Any changes to the way "Endorsements" are grouped into "Endorsement Categories" and "VAC Codes" are linked to "VAC Names" in Reference Data tables will impact data matching for GVRS, Question Tree filters and Profile filters

2. Any changes in Reference Data tables that deviate from "Endorsement Categories" and "VAC Names" used in GVRS data will results in no GVRS match

Updated 19/11/2017

Figure 10: Innovation Apps Suite, Reference Data Usage

1.2.4 Developer Settings

Please do not change these settings. See "Developer Guide" for details.

2. Streaming App v3.0

The new Streaming App consolidates functionality of previous versions and adds in a number of new features. The App has been built to address following high level business needs,

1. Provide a less resource intensive/more flexible way to update both Global Visa Risk Streaming (GVRS) and Local risk profiles, which users can complete with minimal effort
2. Provide a risk based narrative for users, to enhance decision making
3. Provide MI and Audit functionality
4. Provide a more efficient and user-friendly interface

Additional functionality has also been added to upload risk data in bulk

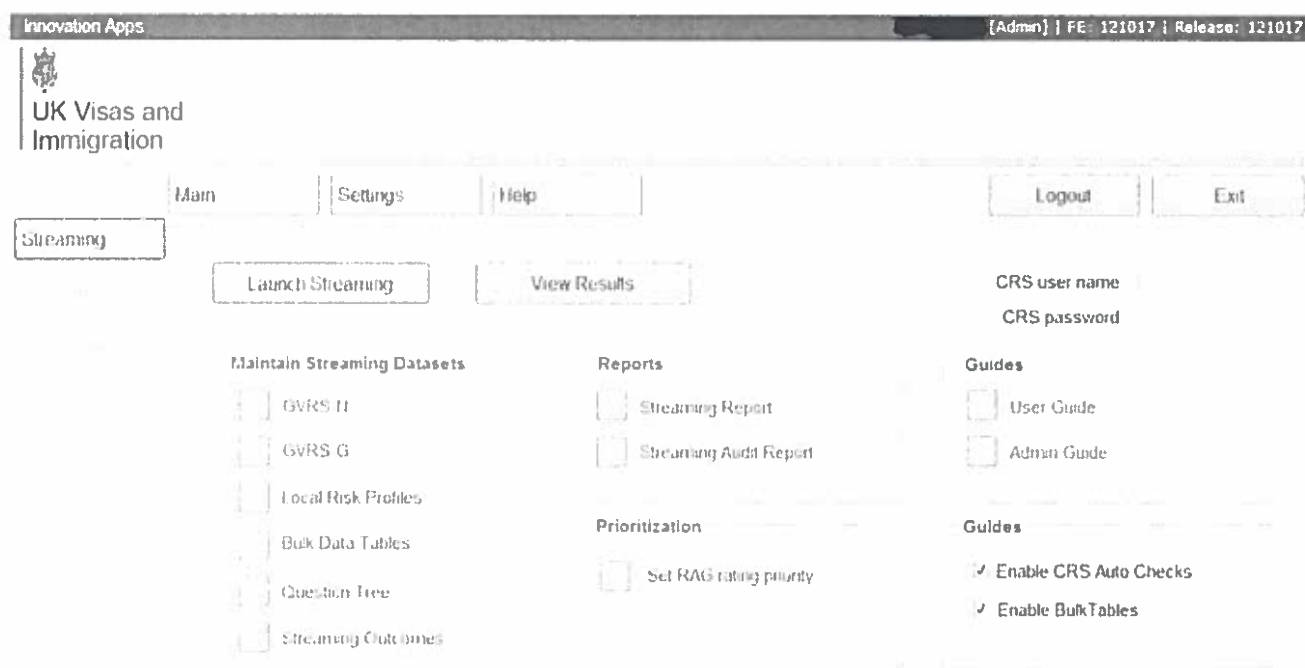As an Admin, you will have access to all features of the Streaming App v3.0.

Figure 11: Streaming App v3.0, main screen

2.1 Setup

As part of the initial setup up process, streaming data sets need to be updated. Global Visa Risk Streaming (both GVRS-N and GVRS-G) data will be updated centrally and provided to all posts. Local changes MUST NOT be made to these datasets.

Local Risk Profiles, Bulk Data Tables and local questions in the Question Tree will need to be setup locally.
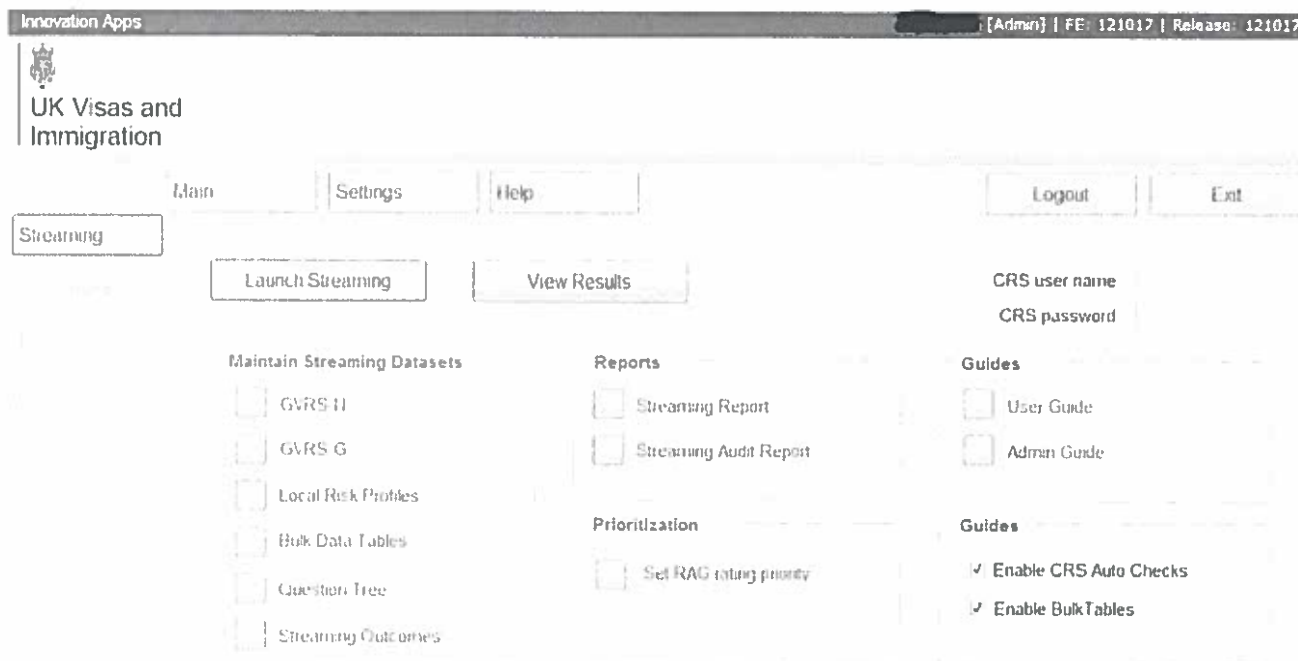

Figure 12: Streaming App v3.0, main screen

2.1.1 Update Local Risk Profiles

To update local risk profiles, click [ ] Local Risk Profiles button on the main Streaming screen which will take you to the following screen,
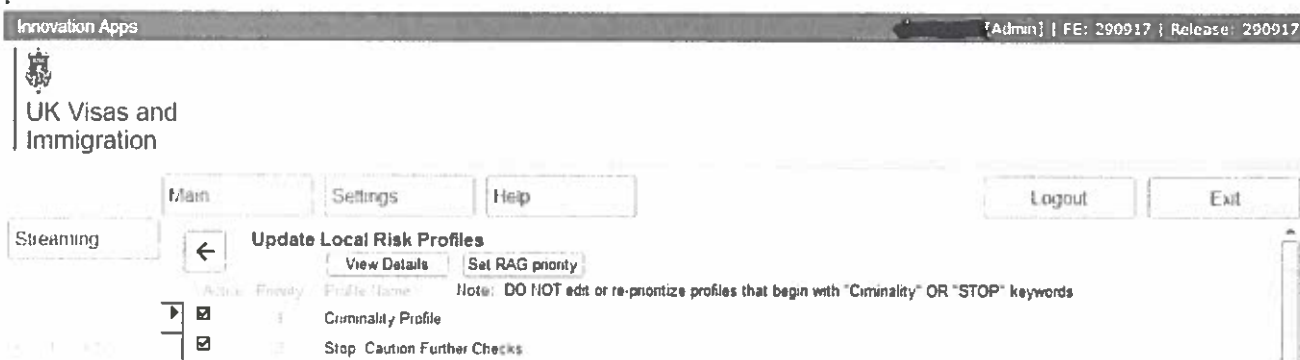

Figure 13: Streaming App v3.0, Update Local Risk Profiles

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Create/Edit a local profile: On the "Update Local Risk Profiles" page, enter a profile name after any existing Global profiles. To view details of a profile, select profile name and click

[View Details] .

This will take you to the "Update Local Risk Profiles" page as shown in the screen shot below,

Figure 14: Streaming App v3.0, Update Local Risk Profiles

Profile name: Enter a Profile name to begin. Name should be brief but descriptive. Ensure profile is marked active.

Profile Parameters: You can set up any combination of unique parameters in "Profile Parameters" section. Click on 🔲 to view a bigger screen for updating parameters

Note: You can only use a combination of unique fields and cannot use the same field twice is a single profile. To use multiple values for a single field, either create multiple profiles or use Bulk Tables.

Note: Similar questions are worded differently in Visa4UK and AccessUK online VAFs. Where selecting automated parameters from the VAF (rather than PROVISO), you will need to consider whether the route is applied for through Access UK, Visa4UK or both. Where both Access UK and Visa4UK are in use, you will need to build 2 separate profiles. You may find it helpful to name them accordingly e.g.

(i) False Company Ltd (Access) and
(ii) False Company Ltd (Visa4UK)

Profile Narrative: Enter a brief narrative which will be visible to the ECOs.

Profile Type: An AND profile will be hit if all profile parameters are matched in combination with Nationality, VAC and Endorsement filters. An OR profile will be hit if any profile paramter or any of the Nationality, VAC or Endorsement profile filter is matched.
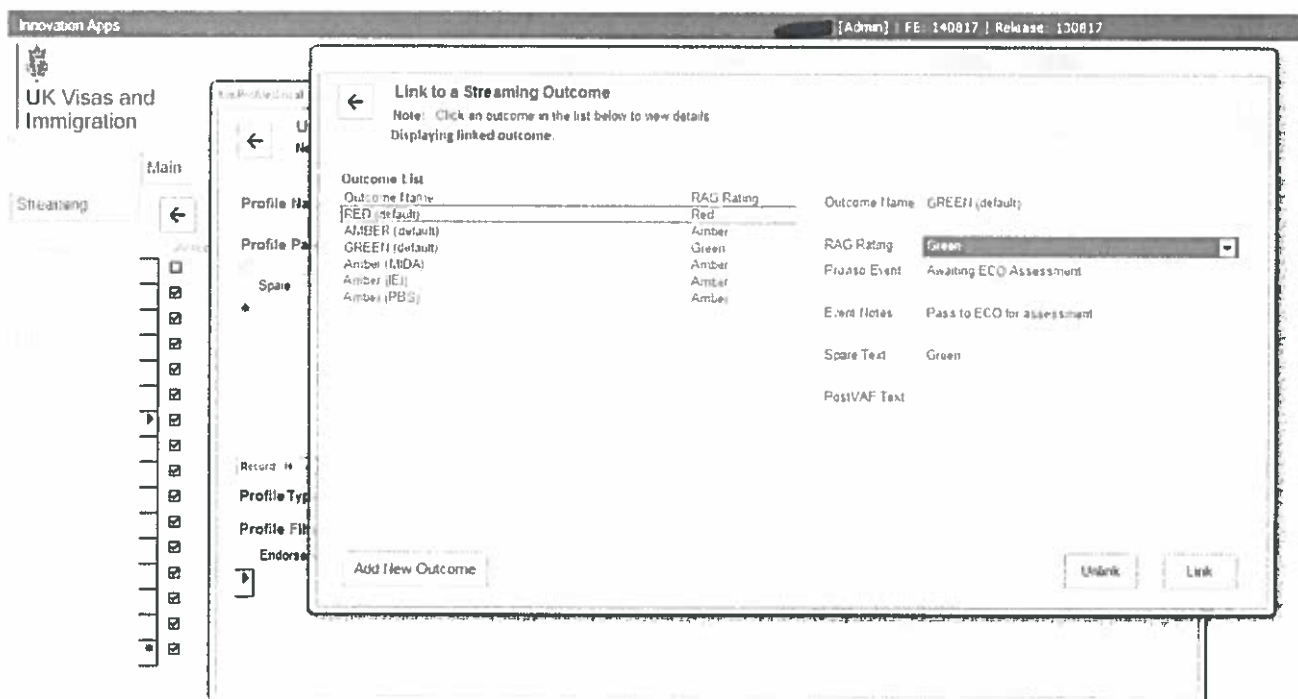
Note: If a profile has no Profile Parameters and only has Profile filters, Profile Type can be set to AND or OR. Profile type should always be set to AND if a profile has both Profile Parameters and Profile Filters.

Profile Filters: Any combination of Endorsement, Nationality and VAC filters can be added for each profile.

Profile Outcome: A profile will need to be linked to an outcome so that a profile match results in an appropriate RAG rating.

Note: Profiles can also be used as a workflow management tool. For example, certain actions need to be taken when a profile is hit but without impacting RAG rating. To achive this, simple create a profile and link it to an outcome without a RAG rating.

To link an outcome to a profile or update a linked outcome, click [Update Outcome] button. This will bring up the "Link to a Streaming Outcome" screen.

Figure 15: Streaming App v3.0, Link local profile to a streaming outcome

Select an outcome from the Outcome List and click on "Link" to link the selected outcome to the profile. To unlink, simply click the "Unlink" button.

You can also create a new Outcome by clicking "Add New Outcome" button. When creating a new outcome from this screen, click Ctrl + S to save the outcome before linking it to the profile.

RAG Priority: Streaming App goes through all local profiles, GVRS data and bulk tables to find possible matches. RAG priority determines which RAG rating is to be returned when multiple matches are found. RAG Priority can be changed by going to Streaming main screen and selecting [ ] Set RAG rating priority . From 'Update RAG Rating priority' screen, select a profile and use [▲][▼] buttons to increase or decrease priority.

Note: When creating new profiles, you will need to click [ ] Set RAG rating priority after entering profile name to ensure that profile stays visible. You can always change the priority later.

Figure 16: Streaming App v3.0, RAG rating priority screen

1. If a profile is hit whose name begins with "Stop" keyword, streaming will stop. "Stop" profiles should always be at the top of RAG rating priority list so that the RAG rating associated with that profile becomes the final RAG rating.

2. The App reads the priority from the top-down. GVRS-N will always appear at the bottom with GVRS-G immediately above. STOP and CRIMINALITY profiles should appear at the very top. When creating a new profile therefore, ask yourself where in the priority list, between GVRS-G and STOP profiles, it should sit.

3. **Sheffield Specific:** If multiple profiles are matched and one of them is a MIDA profile, MIDA will override RAG rating from previous step, only if the previous RAG rating was not Green.

Note: 'Global' and 'Stop' profiles should always have higher priority than other profiles.

Deleting Risk Profiles: To delete a risk profile, select a profile by clicking on the record selector as shown below and press "Delete" on the keyboard.
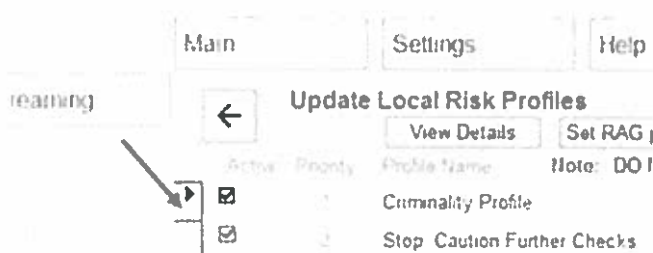

Figure 17: Streaming App v3.0, Selecting and Deleting a profile

2.1.2 Update Bulk Data Tables

To update or create bulk data table, click [ ] Bulk Data Tables button on the main Streaming screen.

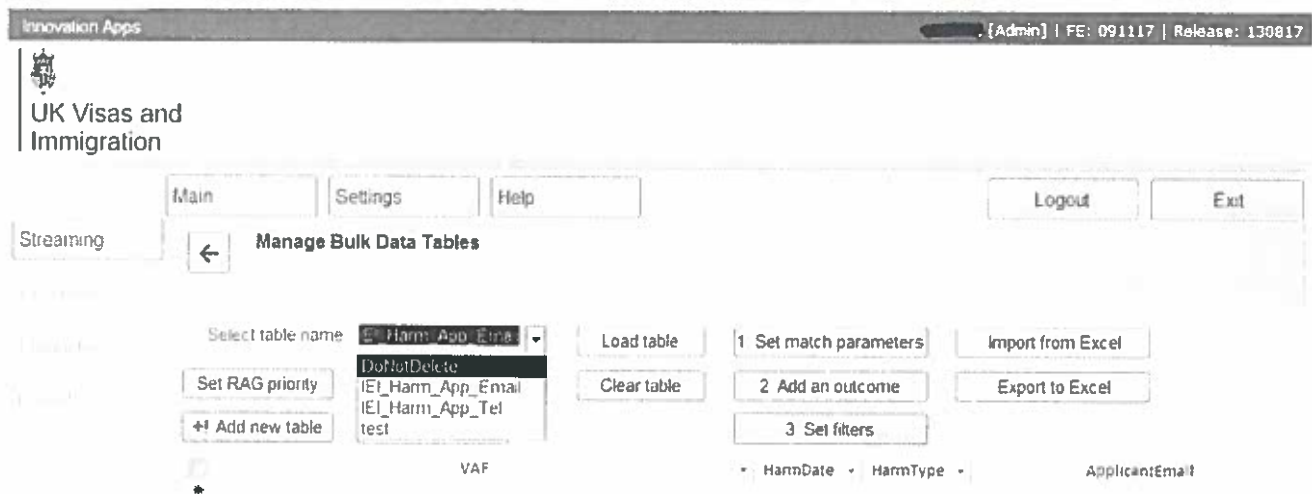Note: Please do not delete the default bulk table titled "DoNotDelete"

Figure 18: Streaming App v3.0, Bulk Data Tables main screen

Add New table: Click [+1 Add new table] to bring up the following screen,

Figure 19: Streaming App v3.0, Add new bulk data table

Enter a table name and column names. All column names are mandatory and have to be **unique** even if you do not have data for all columns. Please note that column 2 can only contain date values.Where the table only contains one column, you can enter "2", "3","4", "5" and "6" into the respective columns in lieu of column names.

After entering a table name and names for all columns, click "Create table" to create a new bulk data table.

Note: After adding a bulk table, perform the following actions in squence,

1. Set match parameters
2. Add an outcome
3. Set filters

1. Set match parametes: Once the table has been created, select table name from the drop down list and click ⌐1. Set match parameters⌐ . This will bring up "Set Match Parameters" screen.

Figure 20: Streaming App v3.0, Set match parameters for a bulk data table

Select a Proviso field, match type and a field in the table that is to be matched to Proviso field. Click "Save" to close this screen.

2. Add an outcome: The next step is to add an outcome to the newly created table. Click ⌐2 Add an outcome⌐ to bring up the following screen.

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Figure 21: Streaming App v3.0, Link bulk data table to a streaming outcome

Select an outcome from the Outcome List and click on "Link" to link the selected outcome to the profile. To unlink, simply click the "Unlink" button. You can also create a new Outcome by clicking "Add New Outcome" button. When creating a new outcome from this screen, click Ctrl + S on the keyboard to save the outcome before linking it to the bulk table.

3. Set filters: Bulk tables can be filtered based on Endorsement, Nationality and Visa Application Centre. To apply filters, click [3 Set filters]. This will bring up the following screen,

Figure 22: Streaming App v3.0, set filters for Bulk Tables

Note: De-activating a filter is the same as "Select All". Selecting all will have a negative impact on performance. It is, therefore, recommended to de-activate a filter instead of using "Select All".

Import from / Export to Excel: Once a bulk table is created, you can enter data in the following ways,

1. Manual data entry
2. Import from Excel

    Note: To import data from excel, it is recommended to export an already created bulk table to an excel file. Once the file is exported, open the file, paste data into the exported file and then import data from the same file to the bulk table. This will help avoid any potential problems caused by formatting in Excel.

Set RAG priority: To improve performance, Streaming App will stop matching bulk tables as soon as first match is found. To ensure that important data is matched first, you can prioritize bulk tables by clicking [Set RAG priority] button. This will bring up the 'Update RAG Rating priority' screen, from this screen select a bulk table and use ▲▼ buttons to increase or decrease priority.

Figure 23: Streaming App v3.0, Set match priority for bulk data tables

2.1.3 Update Question Tree

Question tree has been redesigned to provide an intuitive user interface for the following tasks,

1. Adding questions
2. Changing question order
3. Creating a question path
4. Setting filters
5. Searching for questions related to specific cohorts of applications
6. Deleting questions

Add a question: To add a question, simply type into the next empty question field.

Change order of questions: To change order, select a question and use ▲▼ buttons to move questions up or down in the question tree.

Create a question path: A question can lead to another question or an outcome.

As questions are entered in the "Question" field, they also appear in the "Next Question" drop down list, making it easier to build a question tree. If a newly added question does not show up in the drop down, click "Refresh" button the top.

Set filters: Questions can be filtered based on Endorsement, Nationality and Visa Application Centre. To apply filters, select a question and then click "Set Filters". This will bring up the following screen,

Figure 24: Streaming App v3.0, set filters for questions

Note: De-activating a filter is the same as "Select All". Selecting all will have a negative impact on performance. It is, therefore, recommended to de-activate a filter instead of using "Select All".

Search for questions:

Because filters are not visible on the main screen, a "Search" functionality has been provided to search for a cohort of questions based on specific filters. You can search using ay combination of filters. The drop-down values will only show active filter values and not all values.

From the question list, double clicking on a question will take you to that question.
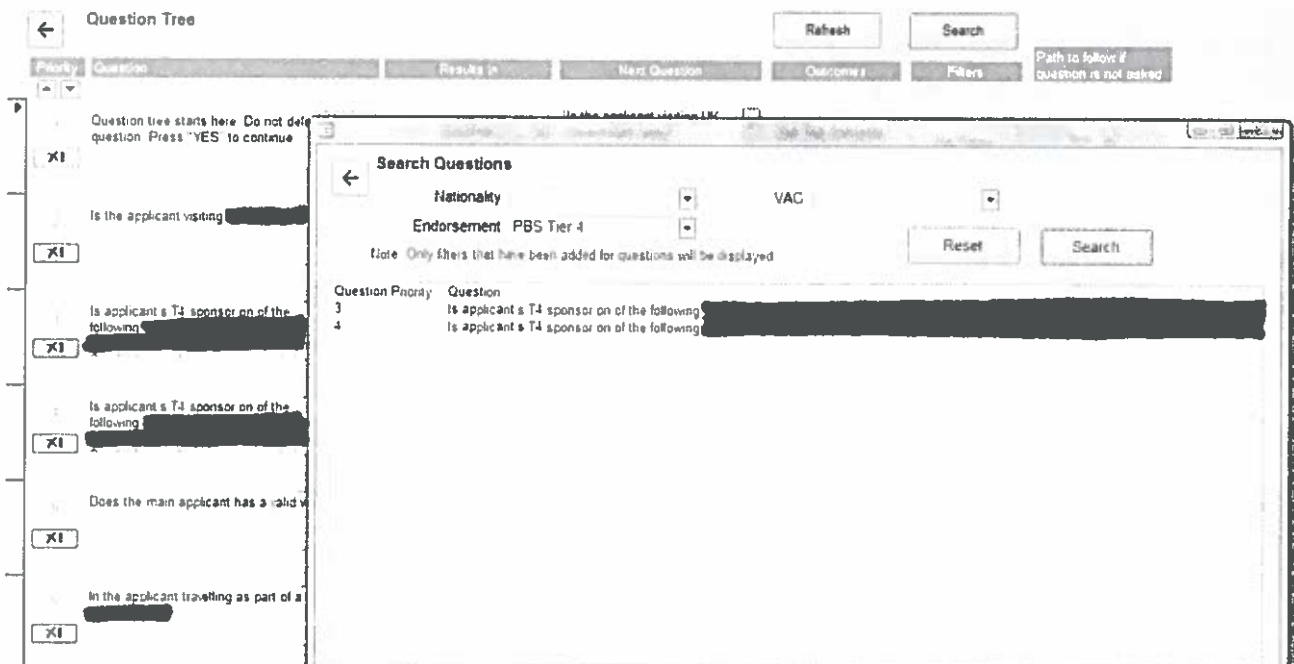
Figure 25: Streaming App v3.0, search for questions

Delete a question:

To delete a question, select a question and click the delete ⌈✕!⌉ button.

If the question is not linked to any other question, a delete confirmation message will show up.

If the question is linked to other questions, a list of links will show up. You can export the list to MS Excel for reference. You will need to remove all links before the question can be deleted.
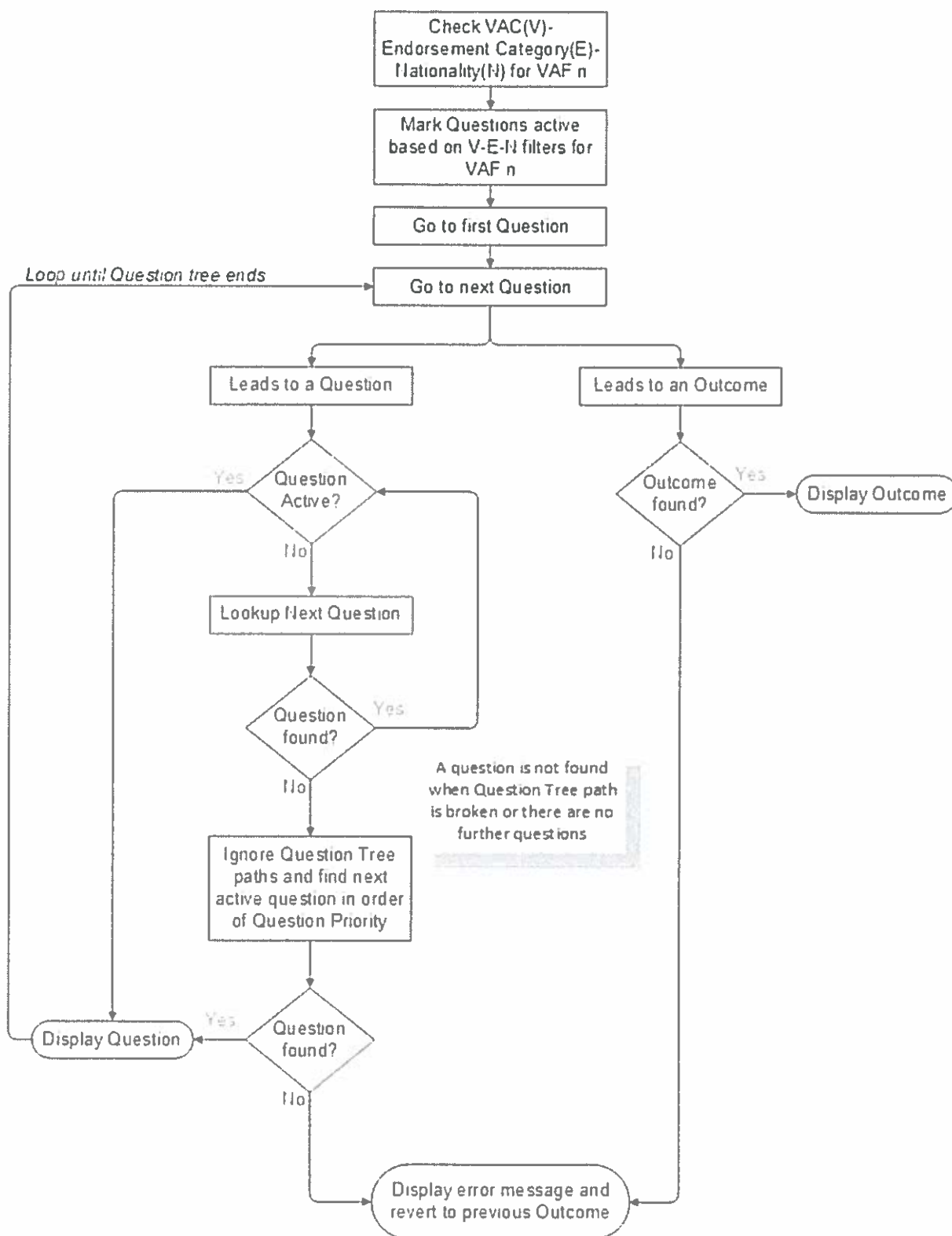
Note: Do not use the delete key on the keyboard to delete any question. This can break the links between questions.

Business rules for question tree

1. Question tree will always start at the first question. Note: Do not delete the first question
2. Questions are asked in order (taking filters into account)
3. If next question in order is filtered out, the path defined in the last column is used to move to next question or outcome.
4. "Path to follow if question is not asked" determines which path to follow if a question is skipped. If this is not set, Question Tree will follow the "No" path of the skipped question.
5. If questions lead to no outcome, streaming will revert back to outcome from the previous step.

Please see Question Tree flow chart on the next page for details.

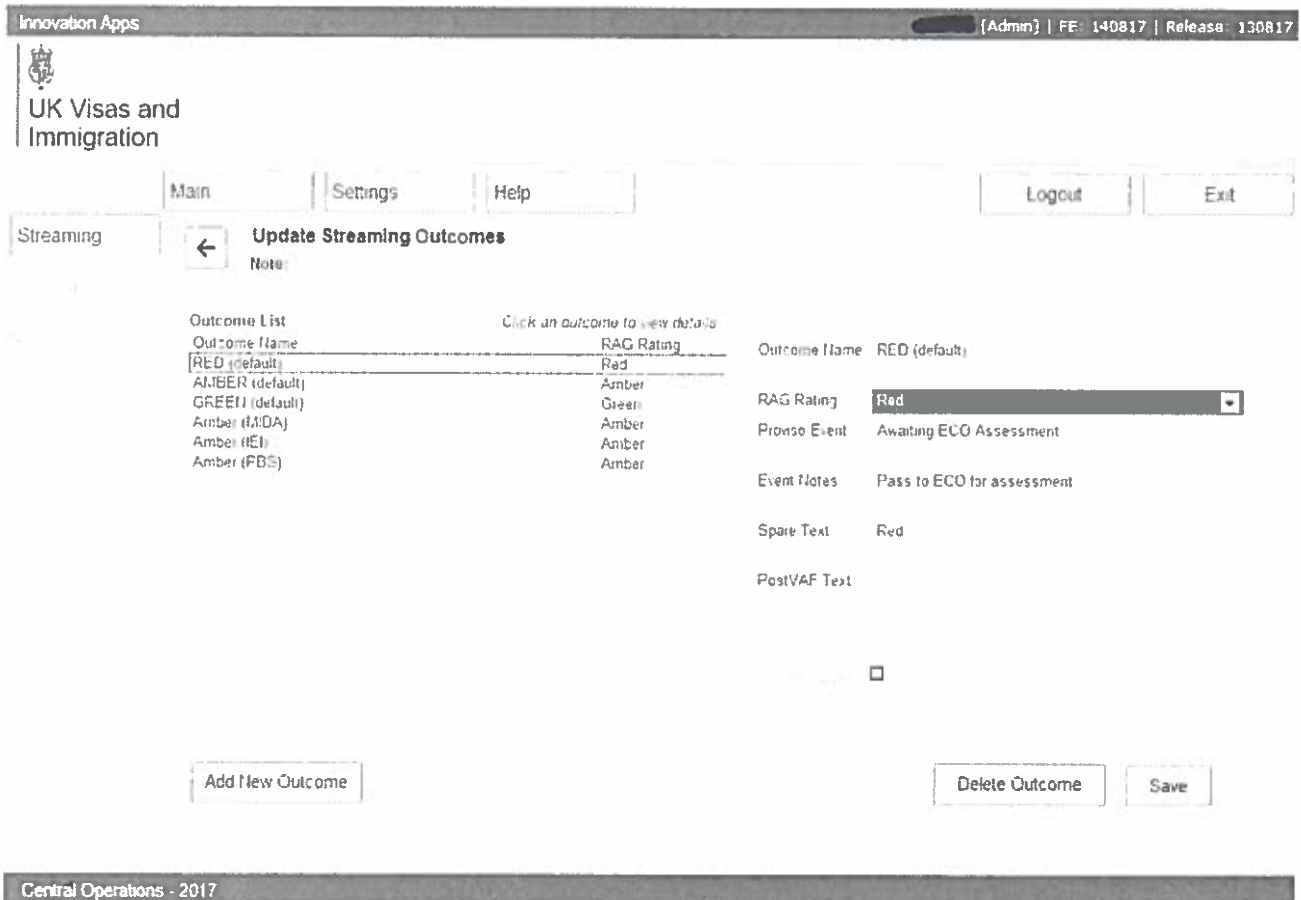# UKVI - Streaming App v3.0 - Question Tree Flow Chart

```
                    ┌──────────────────────┐
                    │   Check VAC(V)-       │
                    │ Endorsement Category(E)-│
                    │  Nationality(N) for VAF n│
                    └──────────┬───────────┘
                               ▼
                    ┌──────────────────────┐
                    │  Mark Questions active │
                    │ based on V-E-N filters for│
                    │        VAF n          │
                    └──────────┬───────────┘
                               ▼
                    ┌──────────────────────┐
                    │   Go to first Question │
                    └──────────┬───────────┘
                               ▼
   Loop until Question tree ends ┌──────────────────────┐
                    │   Go to next Question  │
                    └──────────────────────┘
```

Leads to a Question   Leads to an Outcome

Question Active?   Outcome found?   Display Outcome

Yes / No   Yes / No

Lookup Next Question

Question found?   Yes

A question is not found when Question Tree path is broken or there are no further questions

No

Ignore Question Tree paths and find next active question in order of Question Priority

Display Question   ← Yes   Question found?

No

Display error message and revert to previous Outcome

Figure 26: Streaming App v3.0 – Question Tree flow chart

2.1.4 Setup Streaming Outcomes

The Streaming App provides a central place to manage all possible streaming outcomes. To go to "Update Streaming Outcomes" screen, click on [Streaming Outcomes] from the main streaming screen.

Figure 27: Streaming App v3.0, Streaming Outcomes main screen

Default outcomes: The first three outcomes, RED (default), AMBER (default) and GREEN (default) will be pre-set.

Note: Do not delete the pre-set outcomes and do not change their RAG ratings. You can make changes to other fields.

Add new outcome: You can add a new outcome by clicking "Add New Outcome" button. Outcome Name, RAG Rating, Proviso Event are mandatory fields. Spare Text and Post VAF Text are optional.

Delete an outcome: To delete an outcome select an outcome from the list and click "Delete Outcome".

Note: First three default outcomes cannot be deleted. You should not delete an outcome once it has been linked to a profile, question or bulk table.

2.2 Streaming Reports

Streaming App provides following types of reports,

1. Streaming Reports
2. Streaming Audit Report

2.2.1 Streaming Reports

There are three streaming reports available as shown in the screen shot below,

Figure 28: Streaming App v3.0, Streaming reports

Final streaming outcomes: This report will list final outcomes for streamed applications along with user and time details

All streaming outcomes: This report will list all outcomes for each step of the streaming process for streamed applications along with user and time details.

Streaming vs Proviso RAG rating: This report will compare RAG rating on the streaming tool with that recorded on Proviso and will highlight differences.

2.2.2 Streaming Audit Report

Streaming App provides comprehsive Audit reporting. Report can be run for actions shown below,

Figure 29: Streaming App v3.0, Streaming audit report

2.3 Streaming Process

The following figure shows streaming process and how a final RAG rating is determined. Please note multiple streaming end points and how RAG rating is prioritized.
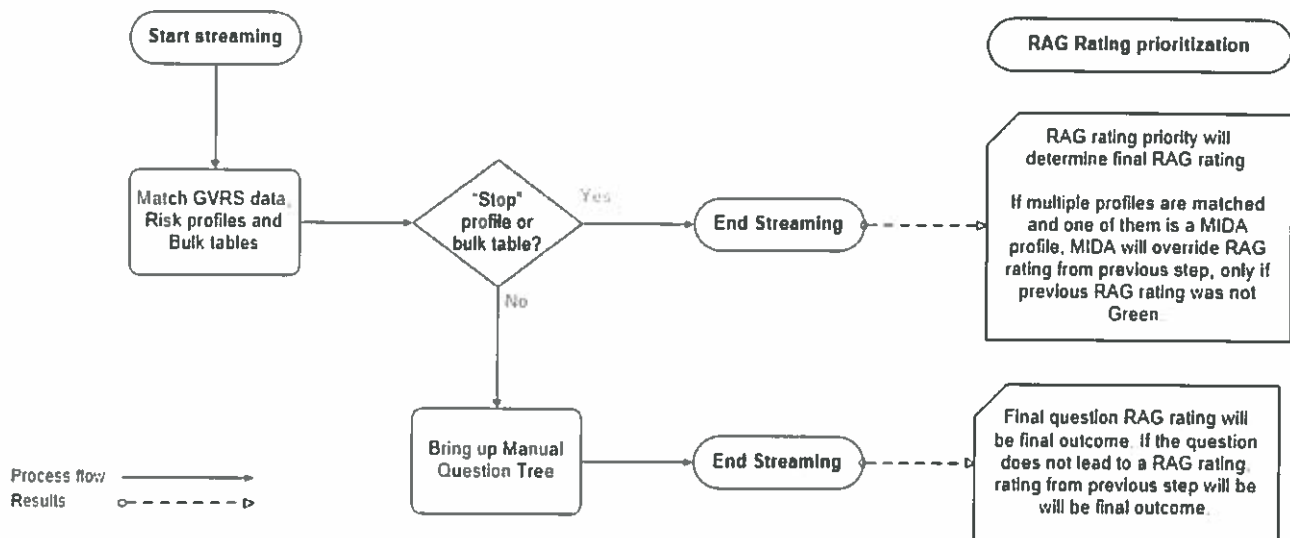

Figure 30: Streaming Process and RAG prioritization

The following business rules have been implemented to prioritize streaming outcomes,

1. Streaming stops at Local Profiles or Bulk Tables when a profile or bulk table is hit whose name starts with "Stop".

2. If the final question in the question tree does not lead to an outcome, the RAG rating from the previous step becomes the final RAG rating.

2.3.1 Streaming Applications with Admin permissions

When you are logged in with Admin permission, you will see also see risk parameters and time taken to stream along with RAG Rating as shown in the screen shot below,

Figure 31: Streaming screen for Admin user group

Users (with ECO permissions or above) can view detailed streaming results using "View Results" button on the main streaming screen. Profile narrative entered in Local Risk profiles will also be displayed on this screen.

Figure 32: View streaming results screen

2.4 Backup and Restore

2.4.1 Backup

Daily backups of the following backend files should be made to a folder in the S: (Shared) drive.

	File name	Network Location	Backup Location
1.	StreamingGeneral.mdb	V:\db_backend\	Any sub folder on the S: (Shared drive) under the UKVI main folder
2.	StreamingGlobal.mdb	V:\db_backend\	Same as above
3.	StreamingLocal.mdb	V:\db_backend\	Same as above
4.	ReferenceData.mdb	V:\db_backend\	Same as above

Note: Backup files older than a week should be deleted on a regular basis.

2.4.2 Restore

Due to limitations with MS Access and network problems, the backend file "StreamingGeneral.mdb" can become corrupt over time.

If this happens, users will not be able to the run Innovation Apps Suite. To resolve this problem, simply copy "StreamingGeneral.mdb" from the latest backup folder and paste in "V:\db_backend\" overwriting the original file.

Streaming profiles and Question tree is saved in "StreamingLocal.mdb". Changes made to profiles and questions tree can easily be undone by restoring a previous copy of "StreamingLocal.mdb" file from the latest backup folder and paste in "V:\db_backend\" overwriting the original file.

2.5 Performance Improvement Solutions

To improve performance, database backend files are copied to a user's P: (Home) drive and data is washed against these files.

When you log-in with Admin permissions, connection is made to database backend files in V:/db_backend/ instead of your P: (Home drive). This enables you to update profiles, questions and other data in the shared backend file.

Once you've made changes, users will need to exit and re-open Innovation Apps Suite to get a copy of updated backed files.

3. Frequently Asked Questions

1. I am logged into CRS but the Streaming App is still asking me to log in again?

Please ensure that you have entered the correct CRS user name and password on the main streaming screen. The App will then automatically log you in. If, as part of the local upload process, you view CRS auto checks results through Internet Explorer, you can uncheck "Enable CRS Auto Checks" option on the Streaming screen to skip this step.

2. The app sometimes slows down and takes over 40 seconds to stream an application?

A number of performance optimizations have been made to the Streaming App. Based on test data, a single application takes 10 to 15 seconds, on average, to stream. If the application is taking longer than this, exiting the Innovation Apps Suite and re-opening should resolve the problem.

3. For some applications, Questions screen does not show and the streaming outcome is displayed instead?

This is expected. Depending on how profiles and bulk tables are setup at your post, you will either see the manual questions screen (along with online VAF) or you will go straight to the streaming outcome screen. Please refer to "**Figure 30:** Streaming Process and RAG prioritization.

Streaming stops at Local Profiles or Bulk Tables when a profile or bulk table is hit whose name starts with "Stop".