

Digital PhotoManager & Facial Recognition

User Guide



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A Leader in Law Enforcement & Criminal Justice Technology

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About Us

Mission Statement

DataWorks Plus was formed in 2000 as a company with a mission to provide our customers with top-of-the-line products, versatile applications, and only the best customer service. DataWorks Plus' commitment to customer satisfaction is evident in the customization capabilities of its products. We realize no two law enforcement or criminal justice agencies operate under exactly the same set of circumstances. Because of this, DataWorks Plus' products can all be customized to meet an agency's individual needs and preferences. DataWorks Plus' products can be effective for any size agency, whether an agency is a small town sheriff's department or a nationwide organization.

DataWorks Plus was formed in 2000 as a company with a mission to provide our customers with top-of-the-line products, versatile applications, and only the best customer service.

Our knowledgeable and friendly support team is available by phone or e-mail to address any troubleshooting needs your agency may have at any time. DataWorks Plus also offers extensive and ongoing training for our products, utilizing a "train-the-trainer" approach, ensuring that your agency has someone on staff capable of training new users in all of the functionality of the installed DataWorks Plus systems.

DataWorks Plus' dedication to providing law enforcement and criminal justice agencies with the most cutting-edge technology, most intuitive and customizable applications, and most attentive and knowledgeable customer service/support staff in the industry is what the company is built upon. With such a strong foundation, DataWorks Plus is the premier solution provider in the industry today.

General Company Information

DataWorks Plus provides solutions to more than 1,500 criminal justice and law enforcement agencies, both large and small, in approximately 42 states and to the country of New Zealand. The DataWorks Plus' team is comprised of the most experienced executives, engineering, service and sales professionals in the business. More than 350 years combined experience stands behind the products and services that DataWorks Plus has to offer to the Law Enforcement and Criminal Justice markets. DataWorks Plus is a privately-held company headquartered in Greenville, SC, with satellite sales offices located in California, Pennsylvania, and South Carolina, and service offices in Alabama, California, Colorado, Florida, Minnesota, New Jersey, New York, North Carolina, Pennsylvania, Tennessee, and Virginia.



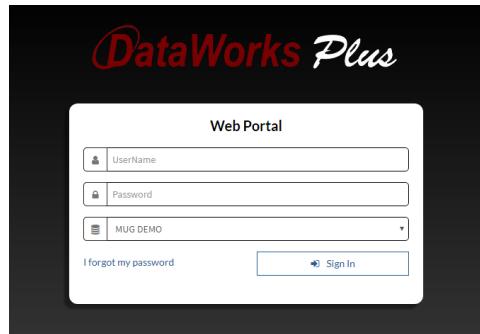
DataWorks Plus has developed strategic relationships with product hardware and software suppliers, such as MorphoTrak, Crossmatch, and 3M Cogent, in order to achieve a completely open approach when recommending the best possible hardware for all of our software solutions.

DataWorks Plus is positioned to assist all sizes of agencies with products and solutions for technology and service gaps. As experts in our field, DataWorks Plus can provide flexible solutions tailored to existing workflows and processes. This allows agencies to transition from existing systems to new or additional technologies without compromising current investments.

DataWorks Plus has five main departments: Sales, Marketing, Engineering, Development and Support. Our sales team makes contacts and obtains contracts for the company. In order to do so, they coordinate with the marketing department for promotional materials and RFP writing. Once an account is obtained, it is given to a project engineer/manager who oversees the implementation of the proposed and agreed upon plan between DataWorks Plus and the Agency. During the implementation phase, the project engineer/manager coordinates with our developers, who customize and create the software that the agency requires. Once the development is complete, the project engineer will install the software and hardware at the agency's site. After the installation is complete and the system is in use at the agency site, the project engineer or manager hands the account information over to our support team. The support team maintains and updates the system as required and helps with troubleshooting throughout the life of the system. Any issues that cannot be resolved remotely by the support team will be handled on-site by our regional support engineers, at strategic locations throughout the country.

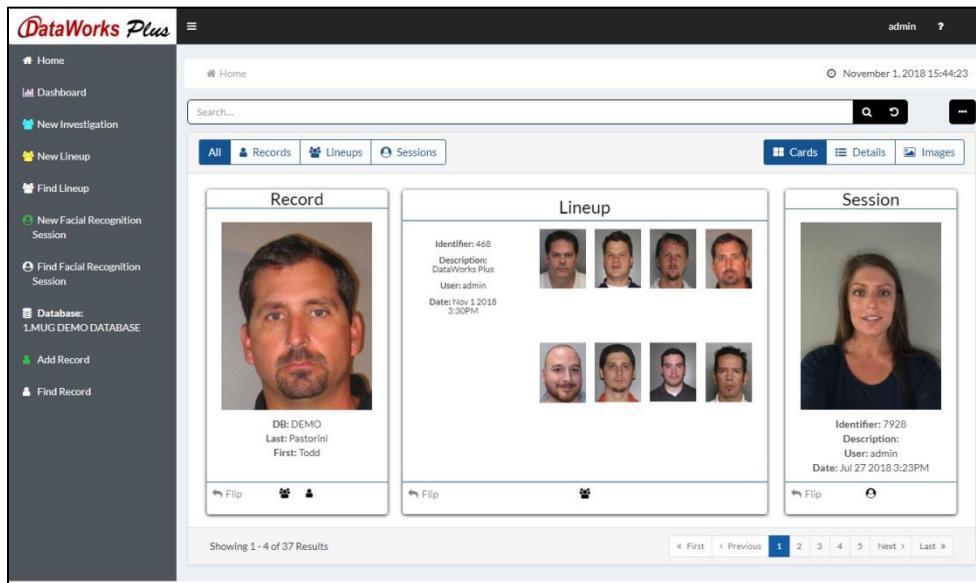
Logging In

To login to the application, you will need to navigate to the application URL within an industry-standard web-browser. Once you have entered the proper URL, the logon screen will prompt you for a user name, password, and site selection. The site can be selected by clicking on the drop down list. If there are multiple sites available, click the site you want to work with to select it. Your system's administrator will provide your logon information. Note that you may have access to one or more sites and you may have different logons per site. Enter your username and password in the fields provided, and click the **Sign In** button.



Home Screen Overview

Once you have entered your credentials and clicked the Sign In button, the Home Screen will be displayed. Several options are available to you from this screen. On the Home Screen, users will be able to see records, lineups, and sessions displayed in the center of the page. Users will be able to see all records and lineups accessed in the system but only their own facial recognition sessions. Users can create, retrieve, or edit records, lineups, or facial recognition sessions via the left sidebar, or directly from the appropriate flip card. The left sidebar can also be collapsed to maximize screen space. You may also use the breadcrumb trail for easy navigation between pages in the process. Click to reset display to the initial state and clear all searches and displays. For additional information, see the following page.



Left Sidebar

Allows you to create, retrieve, or edit records, as well as create lineups or facial recognition sessions. See page 13.

Breadcrumb Trail

Allows you to easily navigate to previously-viewed pages. See page 14.

Search Bar

Predictive search that allows you to enter any searchable data to find a particular record, lineup, or session. See page 21.

Modify the Type of Displayed Results

Allows you to display all, records only, lineups only, or facial recognition sessions only. See page 16.

Modify How Information is Displayed

Allows you to specify how the information is displayed – cards, details, or images. See page 17.

Admin

Allows you to Sign out or Change Password. See page 21.

?

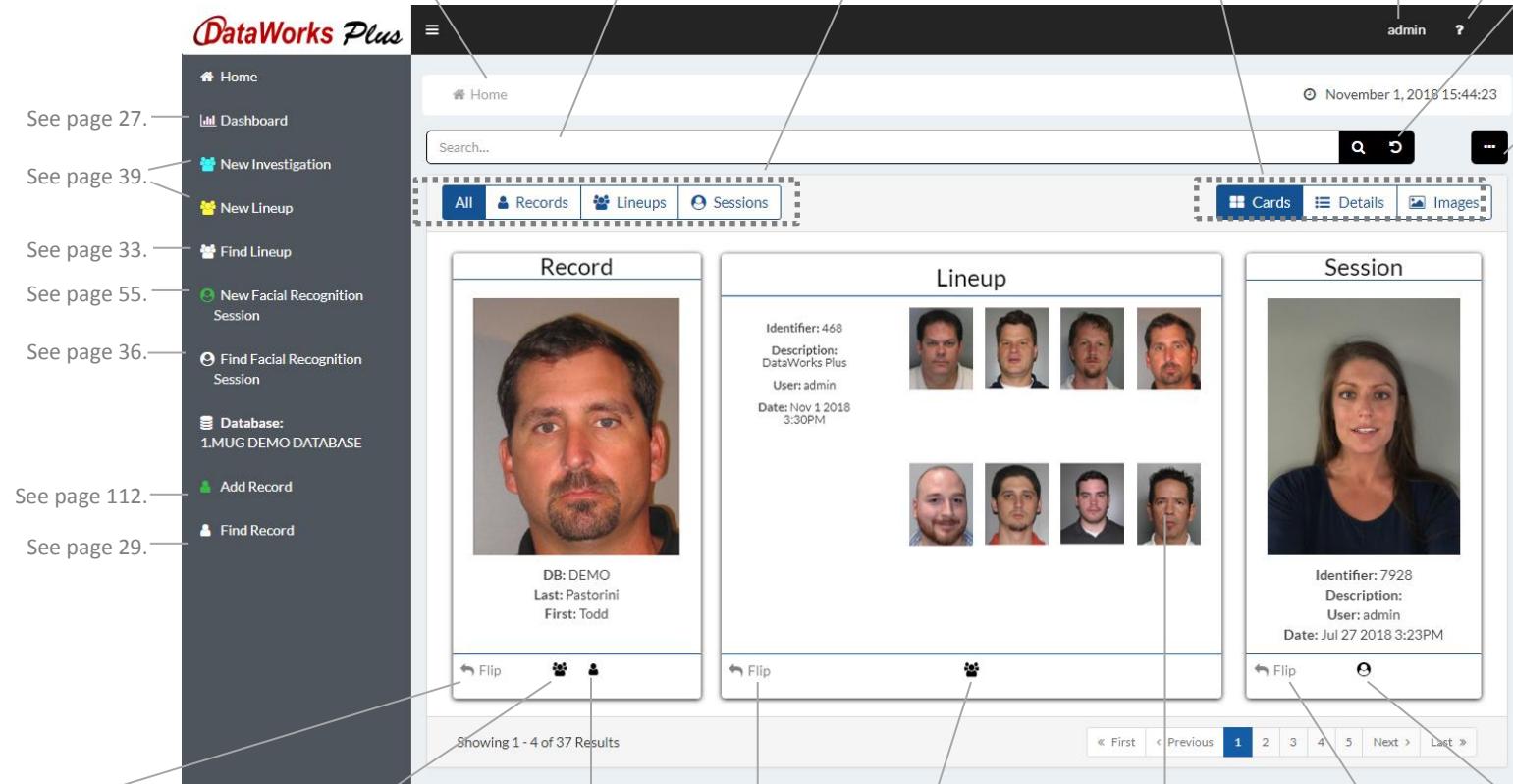
Provides quick links to Help Guides. See page 25.

Reset

Returns home page to its initial state. See page 25.

Additional Options

Allows you to perform searches. See page 21.



Flip
Displays primary data for this record. See page 17.

Create Lineup Using This Record
Allows you to create a lineup using this record as the candidate and generating a gallery of similar images you can add to the lineup. See page 39.

[Additional Record Options](#)

View Record
Allows you to view all data and photos for this record; you may also click the image to view all data and photos. See page 121.

Flip
Displays SID numbers for this lineup.

View Lineup
Allows you to view the lineup for this card; you may also click the image to view the lineup.

[Additional Lineup Options](#)

View Record
Click on any candidate in the lineup to view their record and all associated data and photos. See page 121.

Flip
Displays information for this session.

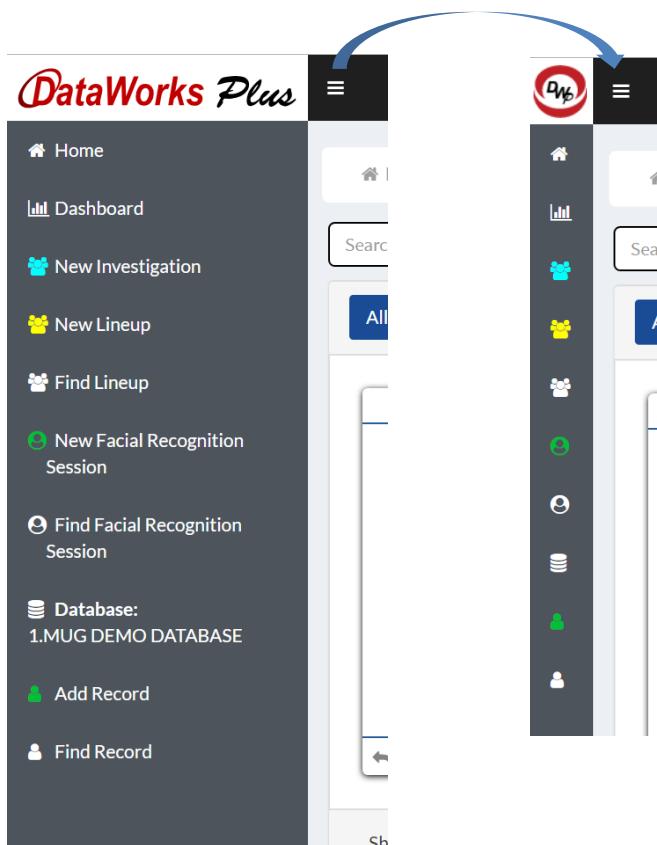
View Session
Allows you to view the facial recognition session for this card; you may also click the image to view the session.

[Additional Session Options](#)

Left Sidebar

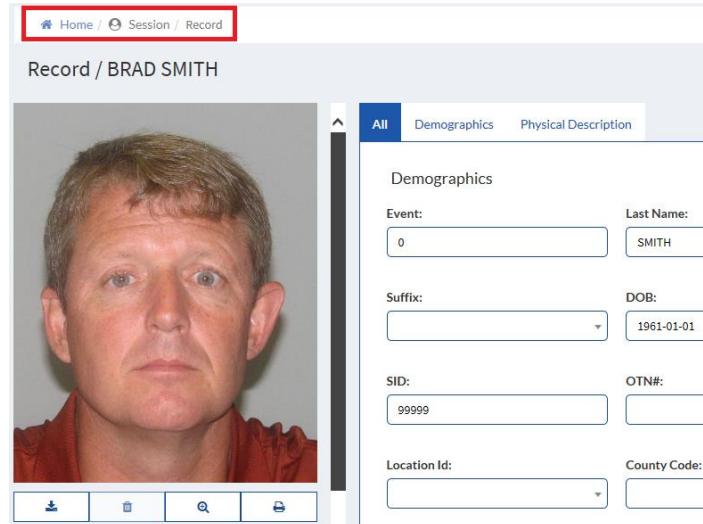
Using the Left Sidebar, you may create, retrieve, or edit records, as well as create lineups or facial recognition sessions. The left sidebar can be collapsed to maximize screen space.

After first log in, the left side bar will be in an open state. All other pages will default to a collapsed display (which can be opened). The application remembers preferences of the left side bar for the home screen. All other pages will default to a collapsed display (which can be opened), while the home screen will default to its last state upon return.



Breadcrumb Trail / Home

The system will maintain a “breadcrumb trail” for easy navigation to previously-viewed pages within the application. For example, if a user opens a record from within a lineup session, the breadcrumb trail at the top left of the screen will allow the user to immediately return to the lineup session.



Selecting the Home option in the breadcrumb trail will take the user back to the home screen with all previous searches and displays still intact. Any search that was performed, or any display filter added (records/lineups/sessions; cards/details/images) will remain.

 Click the reset button to return the home page display to the initial state and clear all searches. This will generally default to view All in a Card style display.



Modify Home Screen View

By default, the home screen displays “All” records, lineups and sessions in a “Card” style. You may use buttons near the top left (All, Records, Lineups, Sessions) to modify the type of results that are displayed. You may use the buttons near the top right (Cards, Details, Images) to specify how the information is displayed.

- Modify the Type of Displayed Results:** The All, Records, Lineups, and Sessions buttons at the top left of the screen allows you to select the type of result you wish to view. Users will be able to see the most recent records accessed in the system but only their own lineups and facial recognition sessions. Note: if you do not have rights to a particular category it will be grayed out.



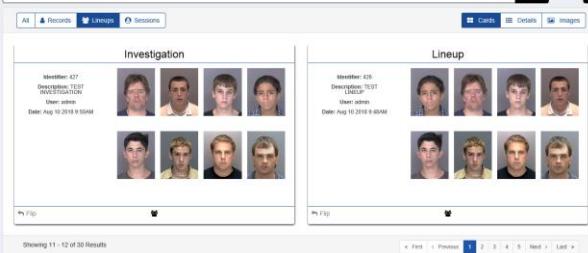
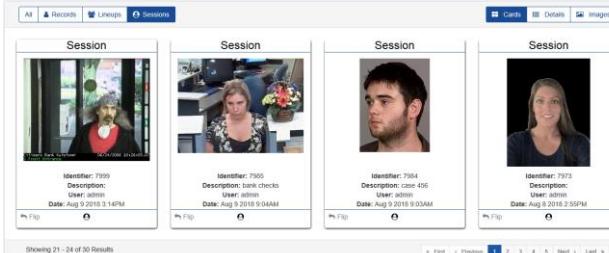
- Modify How the Information is Displayed:** At the top right of the screen, you can also select the type of view for the information displayed such as “Flip Cards,” “Details,” or “Images.”



Modify the Type of Displayed Results: All – Records – Lineup – Sessions	Modify How the Information is Displayed: Cards– Details– Images
<p>Allows you to select the type of results you wish to view.</p> <ul style="list-style-type: none"> All – Displays the most recent records accessed by the system; and the user’s lineups and facial recognition sessions. Records – Displays the most recent records accessed by the system. Lineups – Displays the user’s lineups. Sessions – Displays the user’s facial recognition sessions. <p>See page 16.</p>	<p>Allows you to select the type of results you wish to view.</p> <ul style="list-style-type: none"> Cards – Displays information as a flip card, with customizable additional information on the back. See page 17. Details– Displays information in rows and columns. Sort and filter result data. See page 19. Images– Displays images only. Change the number of images shown for strategic viewing. See page 20.

Modify the Type of Displayed Results using All – Records – Lineups – Sessions

You can select which type of search results are displayed on screen using the All-Records-Lineups-Sessions button at the top left of the screen. You can click on these options at any time to change the type of activity you wish to view. Users will be able to see all records accessed in the system but only their own lineups and facial recognition sessions. Note: if you do not have rights to a particular category it will be grayed out.

 <p>You may toggle result types using All, Records, Lineups, or Sessions near the top left of the screen.</p>	
All Displays all records and lineups accessed in the system, and the user's facial recognition sessions. You may page through using the arrows and/or page numbers at the bottom right corner.	
Records Displays all records accessed by the system. You may page through using the arrows and/or page numbers at the bottom right corner.	
Lineups Displays the user's lineups. You may page through using the arrows and/or page numbers at the bottom right corner.	
Sessions Displays the user's facial recognition sessions. You may page through using the arrows and/or page numbers at the bottom right corner.	

Modify How the Information is Displayed Using Cards – Details – Images

In addition to selecting the types of results displayed on the Home Screen, you may also change the manner in which data is displayed for review. You may toggle views by selecting **Cards**, **Details**, or **Images** near the top right of the screen.

Cards Details Images

CARDS

The Card display option allows you to see basic information without having to directly open a record, lineup, or facial recognition session. You may “flip” the cards by clicking on the **Flip** button at the bottom left of the card panel. The information displayed on the back of the card may be customized to meet the needs of your agency. To sort and filter data, try using detail view. Icons are also available at the bottom of the cards and perform different functions depending on the type of record.

Record Cards

A record flip card is a quick way to view several pieces of information about an individual in a compact format. The front view of a record card includes the mugshot and information that is customizable to what is most valuable per agency. On the back of the card, additional information is available that is also customizable to what is most valuable per agency.

The icons on the bottom of the card allow you to create a Lineup with “Search Similar” search results populating the Gallery Images or open the full record.

Record



Last: Gilbert
First: Mike
Incident:

◀ Flip

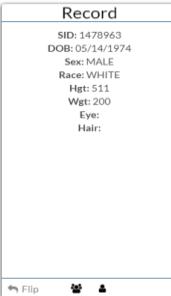
Record

SID: 1478963
DOB:
Sex: MALE
Race: WHITE
Hgt:
Wgt:
Eye:
Hair:

◀ Flip

Flip

Shows the primary data for the record.



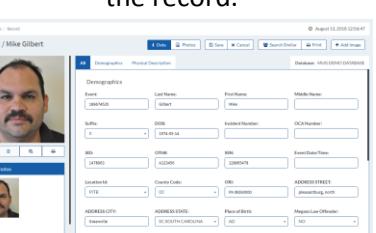
Lineup

Starts a lineup using the record as the candidate, and creates a set of photos to select for fillers.



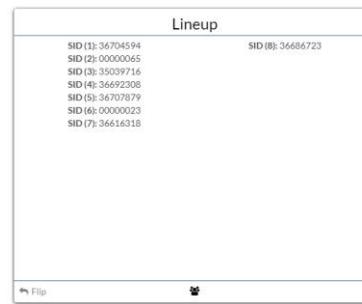
Details

Shows all the data and photos for the record.



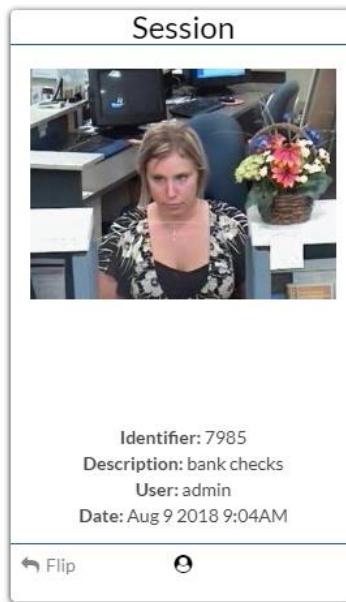
Lineup Cards

The front of the lineup flip card includes eight (configurable) mugshots within the lineup and information that is customizable to what is most valuable per agency. The back of the lineup card displays SID numbers for each of the individuals included in the lineup. The information displayed on the lineup card is customizable. You may view or edit the lineup by clicking the icon at the bottom center. You may click on any candidate in the lineup to view their record and all associated data and photos. This option is customizable per agency.



Facial Recognition Sessions Cards

The front of the facial recognition sessions card includes the probe image, session identifier number, description and user that performed the facial recognition search. You may view or edit the session by clicking the icon at the bottom center. The information included on the front and backs of the facial recognition sessions cards is customizable per agency.



DETAILS

Users can select the “Details” view to show key data field text from the result items. In the following charts, you will see examples of the Details view for records, lineups and sessions. Users may change the number of entries shown and also sort the entries by column. The Filter field allows you to narrow down results displayed.

Details

Record Details

Last:	First:	Incident:	SID:	DOB:	Sex:	Race:	Hgt:	Wgt:	Eye:	Hair:
Bing	Monica		3698745		FEMALE	WHITE	502	105	GREEN	BROWN
BUNBURY	JESS			06/21/1994	FEMALE	WHITE				
Gilbert	Mike		1478963	05/14/1974	MALE	WHITE	511	200		
Harding	Blaine		65469		MALE	WHITE	600	220		
SERRANO			1478963		MALE	WHITE				
smith	Tom		56984							
TESTEMPTY1	TESTFRONT									
TOTH			1478963		MALE	WHITE				BROWN
UPTON	MIKE			02/09/1967	MALE	WHITE				
Weiner	Andrew			09/22/1963	MALE	WHITE				
Last:	First:	Incident:	SID:	DOB:	Sex:	Race:	Hgt:	Wgt:	Eye:	Hair:

Show 10 entries Filter: _____

Showing 1 to 10 of 10 entries Previous Next

Lineup Details

Identifier:	Description:	User:	Date:	SID(1):	SID(2):	SID(3):	SID(4):	SID(5):	SID(6):	SID(7):	SID(8):
402	HAT/GLASSES	admin	Aug 1 2018 1:11PM	1231	00000095	22244311	PSP-7864	19331369	23136198	21017680	36703776
403	Gilbert Case	tpastorini	Aug 2 2018 12:59PM	30082419	35484302						
404	Terrance Smith	tpastorini	Aug 2 2018 2:12PM	14762604	12416903	35677101	31413877	23169959	13789002	19171248	12446632
405	Bandana Bandit	tpastorini	Aug 2 2018 2:17PM	1231	00000095	PSP-7864	36703776	1478963			
406	Sample Lineup for case 12345	tpastorini	Aug 2 2018 5:23PM	19035093	13050198	31413877	14762604	12214103	19171248	13601330	14596038
407	rh-Test 805	rhall	Aug 6 2018 8:08AM	13619271	36629541	30797329	36691557	36670461	33945035	36716444	29196125
408	Terrance smith lineup 1	tpastorini	Aug 6 2018 6:11PM	36664118	35677101	16928208	29432031	14762604	31413877	13278385	19171248
409	rh-Test 805 number 2	tpastorini	Aug 6 2018 6:23PM	13619271	36629541	30797329	36691557	36670461	33945035	36716444	29196125
410	Lineup 5	admin	Aug 8 2018 7:50PM	36704594	00000065	35039716	36692308	36707879	00000023	36616318	36686723
411	Lineup 5	admin	Aug 8 2018 7:57PM	00000065	36692308	36704594	36707879	35039716	36686723	36616318	00000023
Identifier:	Description:	User:	Date:	SID(1):	SID(2):	SID(3):	SID(4):	SID(5):	SID(6):	SID(7):	SID(8):

Show 10 of 10 entries Filter: _____

Showing 1 to 10 of 10 entries Previous Next

Sessions Details

The screenshot shows a table titled "Sessions Details" with the following data:

Identifier	Description	User	Date
7931		admin	Jul 31 2018 1:48PM
7932		admin	Jul 31 2018 2:42PM
7933		admin	Jul 31 2018 2:57PM
7972		admin	Aug 8 2018 2:54PM
7973		admin	Aug 8 2018 2:55PM
7974		admin	Aug 8 2018 3:04PM
7975	test	admin	Aug 8 2018 3:13PM
7976		admin	Aug 8 2018 3:38PM
7977		admin	Aug 8 2018 3:41PM
7978		admin	Aug 8 2018 4:32PM

Showing 1 to 10 of 10 entries

IMAGES

Users can select the “Images” view to show facial images from result items. The following charts provide examples of the Images view for records, lineups, and sessions. Users change the number of images shown by adjusting the “Number of Images Shown” setting direct above the image viewing pane.

Record Images

This view displays a grid of 10 small facial images of individuals. The images are arranged in two rows of five. Below the grid, a message says "Showing 1 - 10 of 10 Results".

Lineup Images

This view displays a grid of 20 small facial images of individuals, arranged in four rows of five. Below the grid, a message says "Showing 1 - 10 of 10 Results".

Facial Recognition Sessions Images

This view displays a grid of 10 small facial images, some showing people in different environments like a car or a room. Below the grid, a message says "Showing 1 - 10 of 10 Results".

Using the Search Bar

The “Search” bar at the top of the screen is a powerful “Google- Style” search that allows you to enter any searchable data to find a particular record, lineup, or session. This predictive search tool will query every data field within the database for the keyword entered, and display a list of results in order of relevance. The result list will show indicate record fields containing data that matched the keyword entered, such as “first_name” or “last_name.”



1. Type Text in the Search Field

As you type text in the Search field, the system will automatically detect matching records in real-time. In the following example, “alex” has been entered. Please note that the results in the predictive text have all been displayed without actually opening any record or performing a full query.

ALEX first_name: ALEX middle_name: IRENE last_name: BYLENGA sex: FEMALE race: WHITE
ALEX first_name: ALEX middle_name: IRENE middle_name: IRENE sex: FEMALE race: WHITE
Alex first_name: Alex last_name: Bylenka sex: FEMALE race: WHITE
ALEX first_name: ALEX middle_name: Irene last_name: BYLENGA sex: FEMALE race: WHITE
ALEXANDER first_name: LAGRESSON middle_name: ALEXANDER last_name: WALKER sex: MALE race: BLACK
ALEXANDER first_name: CARLOS middle_name: M last_name: ALEXANDER sex: MALE race: BLACK
ALEXANDER first_name: MICHAEL middle_name: ALEXANDER last_name: GRIBBLE sex: MALE race: WHITE
ALEXANDER first_name: ALEXANDER middle_name: RICHARDS last_name: ESSIG sex: MALE race: WHITE

You may continue adding descriptive words as desired to dynamically filter down the items in the list. For example, by adding “female” to the search (e.g. “alex female”), the list will automatically be filtered to only show females containing “alex” in their data fields, as shown in the following example.

ALEX FEMALE first_name: ALEX middle_name: IRENE last_name: BYLENGA sex: FEMALE race: WHITE
ALEX FEMALE first_name: ALEX middle_name: IRENE middle_name: IRENE sex: FEMALE race: WHITE
Alex FEMALE first_name: Alex last_name: Bylenka sex: FEMALE race: WHITE
ALEX FEMALE first_name: ALEX middle_name: Irene last_name: BYLENGA sex: FEMALE race: WHITE
ALEX FEMALE first_name: OLYMPIA middle_name: ALEX last_name: RUMAYA sex: FEMALE race: BLACK
ALEX FEMALE first_name: ALEX last_name: PERELLA sex: FEMALE race: WHITE
ALEX FEMALE first_name: ALEX middle_name: ANDREA last_name: DEUTSCH sex: FEMALE race: WHITE
ALEX FEMALE first_name: JOANNA middle_name: ALEX last_name: BOYD sex: FEMALE race: BLACK
AI FX FFMAI F first_name: AI FX last_name: SI ANF sex: FFMAI F race: WHITF

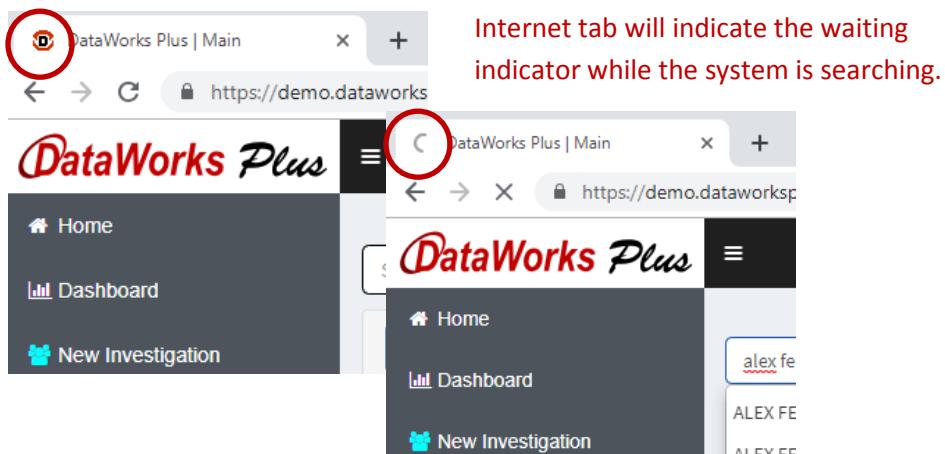
If needed, you may apply advanced search logic to predictive text searches, such as “AND,” “OR,” and “NOT.” These functions can be used to intelligently manage the filtered results within the list.

2. Apply the Search

Once you have sufficiently entered enough criteria to filter the results,

- Click on the desired result from the predictive drop-down list to view that specific result.
- Press [Enter] on the keyboard or click the search button to view all results of the searched criteria.

NOTE: You may have to wait several seconds for the search to return results. Currently the system does not display an additional “waiting” indicator immediately after you begin the search; however, the internet tab will be spinning.



After several seconds, the system will briefly display an additional spinning/waiting indicator, then the results will be displayed.

3. View Results

VIEW A SPECIFIC RESULT (SELECT FROM DROP-DOWN LISTING)

Once you have sufficiently entered enough criteria to filter the predictive text results, click on the desired result from the predictive drop-down list.

ALEX FEMALE first_name: ALEX middle_name: IRENE middle_name: IRENE sex: FEMALE race: WHITE
Alex FEMALE first_name: Alex last_name: Bylenka sex: FEMALE race: WHITE
ALEX FEMALE first_name: ALEX middle_name: Irene last_name: BYLENGA sex: FEMALE race: WHITE
ALEX FEMALE first_name: OLYMPIA middle_name: ALEX last_name: RUMAYA sex: FEMALE race: BLACK
ALEX FEMALE first_name: ALEX last_name: PERELLA sex: FEMALE race: WHITE

The user will see the selected corresponding result in the search result pane.

A screenshot of the Digital PhotoManager & Facial Recognition software interface. At the top, there is a search bar containing the text "Alex FEMALE first_name: Alex last_name: Bylenga sex: FEMALE race: WHITE". Below the search bar are three tabs: "All", "Records", "Lineups", and "Sessions". The "Records" tab is selected. At the bottom of the search bar are three buttons: "Cards", "Details", and "Images". The main content area shows a single search result card. On the left is a portrait photo of a woman with brown hair and blue eyes. To the right of the photo, the word "Record" is displayed. Below the photo, there are two columns of text: "Last: Bylenga" and "First: Alex", "Incident:" and "SID:", "DOB:" and "Sex: FEMALE", "Race: WHITE" and "Hgt: 506", "Wgt:" and "Eye: GREEN", and "Hair: BROWN". At the bottom of the card are three icons: a left arrow, a person icon, and a right arrow.

VIEW ALL RESULTS (ENTER OR SEARCH BUTTON)

Once you have sufficiently entered enough criteria to filter the results, press [Enter] on the keyboard or click the search button (without selecting from the drop down menu) to view all results of the searched criteria. Search Results will be displayed as Records, Lineups, and Sessions. If no result is available the category will be grayed out. In the following example, “Smith” has been searched.

A screenshot of the Digital PhotoManager & Facial Recognition software interface showing search results for "smith". At the top, there is a search bar containing the text "smith". Below the search bar are three tabs: "All", "Records", "Lineups", and "Sessions". The "Records" tab is selected. At the bottom of the search bar are three buttons: "Cards", "Details", and "Images". The main content area displays four search results cards, each showing a portrait photo and some identifying information. The first card shows a man with a beard and mustache, labeled "DB: DEMO Last: MCNAMARA First: WILLIAM". The second card shows a young man, labeled "DB: DEMO Last: SMITH First: JOE". The third card shows a woman with dark hair in a bun, wearing a leopard-print top, labeled "DB: DEMO Last: SMITH First: SHARON". The fourth card shows a woman with dark hair, labeled "DB: DEMO Last: SMITH First: DORIAN". Each card has three icons at the bottom: a left arrow, a person icon, and a right arrow. At the bottom of the page, it says "Showing 1 - 4 of 19 Results" and there are navigation buttons for "First", "Previous", "Next", and "Last".

Change the Database during a Search

If any search criteria was entered it will remain even if the database is changed. This allows the user to apply a search across multiple databases.



Any search that was performed will remain until the home page is reset. Click the reset button to return the home page display to the initial state and clear all searches.

Your system may be configured to search against multiple databases. Select **Database** from the left side bar to reveal the drop down menu of additional database options and specify a different database to search against. These databases will vary by agency.

The screenshot shows the DataWorks Plus interface with a sidebar on the left containing various navigation links such as Home, New Investigation, New Lineup, Find Lineup, New Facial Recognition Session, Find Facial Recognition Session, Database (with options like LMUG DEMO DATABASE, ARRESTEE DATABASE, D.O.C. INNATE DATABASE, PAROLE AND PROBATION DATABASE, LOCAL PAROLE AND PROBATIONS, SUSPECT DATABASE, TRAINING DATABASE), and Add Record. The main content area displays four search results under the heading 'Record'. Each result card shows a portrait photo, the database name (DB: DEMO), and the individual's last and first names. Buttons for 'Flip' and 'Details' are visible below each card. At the bottom, it says 'Showing 1 - 4 of 36 Results' and includes a navigation bar with buttons for First, Previous, Next, Last, and page numbers 2, 3, 4, 5.

Change the Image Category during a Search

If any search criteria was entered it will remain even if the image category is changed. This allows the user to apply a search to a specific type of result. Search Results will be displayed as Records, Lineups, and Sessions. Filter the image category by selecting Records, Lineups, or Sessions. This can be done pre or post search. If no result is available the category will be grayed out.

In the following example, “Smith” was searched. The image categories below show results with Smith occurring in Records, Lineups, and Sessions.

The three screenshots illustrate the search results for 'Smith' across different categories:

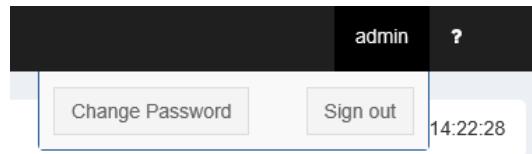
- Record:** Shows two results: "DB: DEMO Last: KISH First: ASHON" and "DB: DEMO Last: BYLENGA First: ALEX".
- Lineup:** Shows two groups of four results each, labeled "Lineup 1" and "Lineup 2".
- Session:** Shows one result: "DB: DEMO Last: Johnson First: Rick".



Any search that was performed will remain until the home page is reset. Click the reset button to return the home page display to the initial state and clear all searches.

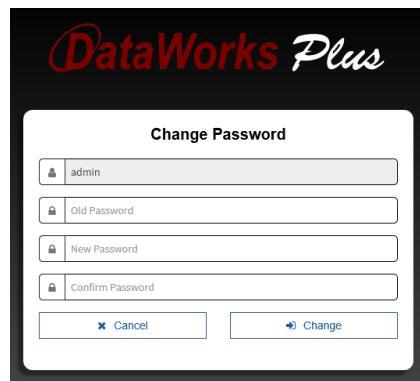
Admin

Select **Admin** for more options. This allows the user to change their password or sign out.



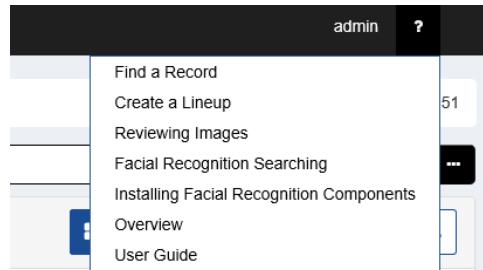
- **Sign out** logs you out of the system and returns you to the Logon screen.
- The **Change Password** button allows you to update your current password. Note that this does not allow you to update a password that has been forgotten. To change your password, click **Change Password** from the home screen's admin button.

Enter your old password. Enter and confirm your new password. Select **Cancel** if you would NOT like to change your password. Otherwise, select **Change** to proceed to accept the changes to your password.



? - Help Documents

Click the "?" icon to be taken to a list of quick links to help documents. Note that this is customizable per agency.



Reset

Click the reset button to return the home page display to the initial state. Selecting the Home option in the breadcrumb trail will take the user back to the home screen with all previous searches and displays

still intact. Any search that was performed, or any display filter added (records/lineups/sessions; cards/details/images) will remain.



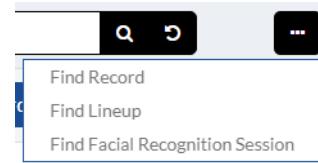
Click the reset button to return the home page display to the initial state and clear all searches.
This will generally default to view All in a Card style display.



Additional Options Menu - Find Record, Lineup or Facial Recognition Session

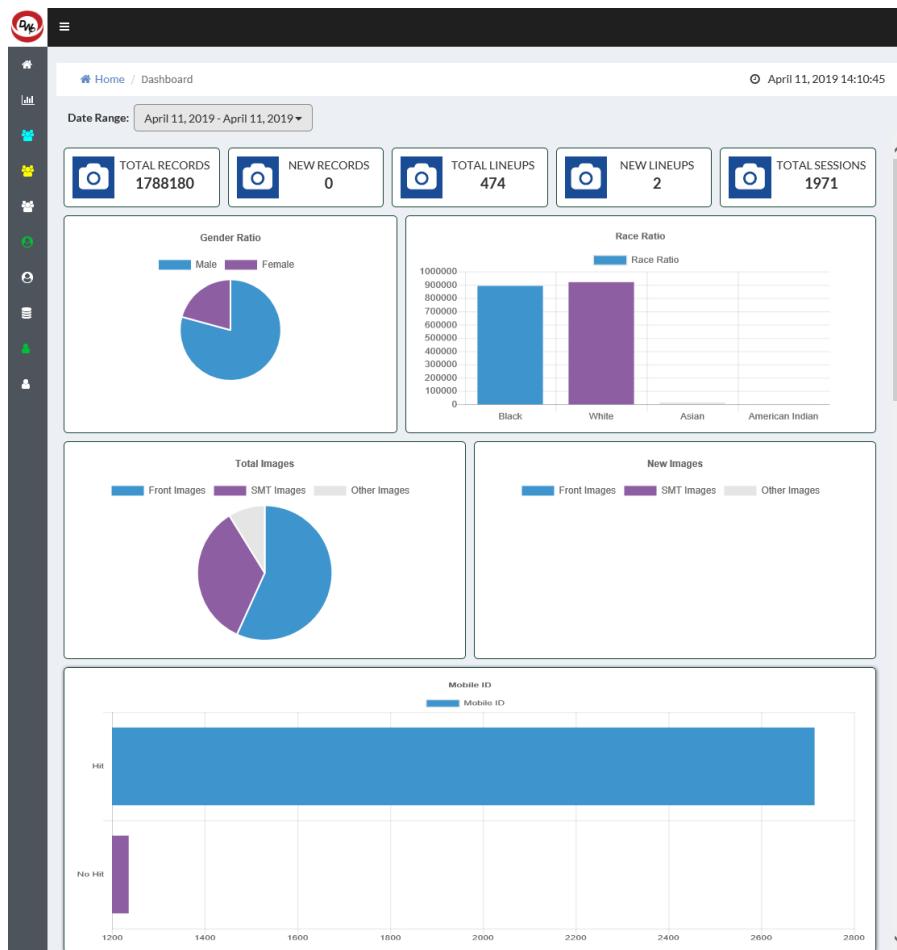
Clicking Additional Options Menu in the upper right corner of the home screen allows you to perform multiple types of search options, including:

- Find Record:** Search records by any combination of fields and return the entire record of all record matches.
- Find Lineup:** Search previously created lineups by date and description.
- Find Facial Recognition Session:** Search previously created Facial Recognition Sessions by date and description.



Dashboard

The Dashboard will provide usage statistics from the system's database for review. The Dashboard data is customizable by agency to provide key statistics for administrative use.



Filter data by a specific date range. Click on the current date range, select the desired range from the drop down menu, and select Apply.

View more information about each statistic by hovering over its chart.

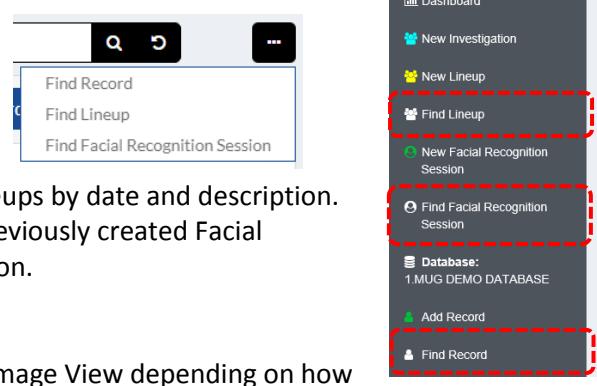
<p>Date Range: April 11, 2019 - April 11, 2019 ▾</p> <p>TC</p> <p>Today Yesterday Last 7 Days Last 30 Days This Month Last Month Custom Range</p> <p>Apply Cancel</p>	<p>Gender Ratio</p> <p>Male: 1454436</p>
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Finding Records, Lineups, or Facial Recognition Sessions

Search for Records, Lineups, Sessions

Use advanced searching to find records, lineups, and sessions using additional search criteria. Advanced searching is located in the upper right corner of the home screen, and in the Left Sidebar.

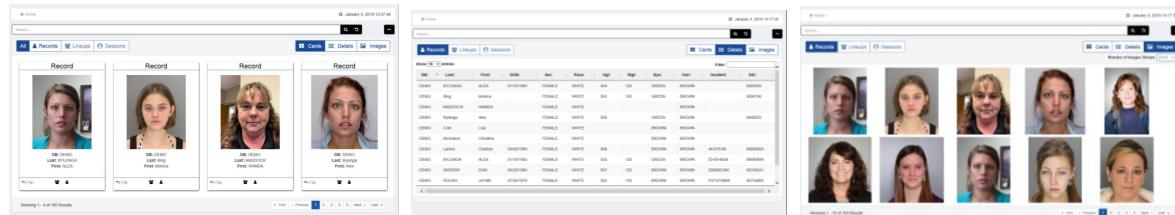
1. **Find Record:** Search records by any combination of data field identifiers and return records with matching results.
2. **Find Lineup:** Search previously created lineups by date and description.
3. **Find Facial Recognition Session:** Search previously created Facial Recognition Sessions by date and description.



View Results

Search results will be displayed in Card, Detail, or Image View depending on how you have decided to display the information. You may access the record, lineup, or session by:

- **Card View:** Click the card or the card's icon. Cards may be flipped for more information. While this information may not be tailored in the application by the user, it is customizable per agency.
- **Details View:** Click on the desired row. Sort and filter result data.
- **Images View:** Click the desired image. Change the number of images shown for strategic viewing.



Narrow Search Results

You may further narrow results and enter additional search criteria by selecting **Find Record**, **Find Lineup**, or **Find Facial Recognition Session** a second time. Note that criteria from previous searches will still remain. If you wish to start an entirely new search, clear the criteria by selecting **Reset** at the top right of the search menu. Enter additional criteria and select **Search**.

Home

Selecting the Home option in the breadcrumb trail will take the user back to the home screen with all previous searches and displays still intact. Any search that was performed, or any display filter added (records/lineups/sessions; cards/details/images) will remain.

 Click the reset button to return the home page display to the initial state and clear all searches. This will generally default to view All in a Card style display.



Find Record

Click **Find Record** from sidebar or click “...” and select **Find Record**.

Note that you can specify the database to be searched.

Record Search

You may search records by any combination of data field identifiers and review records matching results. Tabs such as “Demographics”, “Physical Description” allow easy navigation between sections of data. These tabs remain fixed so that you may quickly click on one tab to immediately navigate between sections. View All fields, only Demographics fields, or only Physical Description fields. Additional tabs can be added and customized per agency.

Enter specific search criteria such as sex, race, height, and other characteristics to narrow the search results. Added filters will be highlighted in blue (sex). Add a filter by clicking on the field (hair color).

Note that if a previous search has been performed, the search criteria will remain, select **Reset** if you wish to clear a previous search.

The screenshot shows a search interface for physical descriptions. In the 'Physical Description' section, there is a dropdown menu for 'Hair color'. The menu is open and displays several options: BALD, BLACK, BLONDE, BLUE, BROWN, and GREEN. The 'BROWN' option is highlighted with a blue selection bar at the bottom. Above the dropdown, there are other filter fields: Sex (FEMALE), Race (Race: [empty]), Hispanic/Latino ([empty]), Skin Tone ([empty]), Complexion (Complexion: [empty]), Hair Style (Hair Style: [empty]), Facial Hair (Facial Hair: [empty]), Facial Jewelry (Facial Jewelry: [empty]), Weight (Weight: [empty]), Eye color (Eye color: [empty]), Eye characteristics (Eye characteristics: [empty]), and Amputations (Amputations: [empty]).

Multiple filters may be added to the same field (hair color).

This screenshot shows the same search interface as the previous one, but with more filters applied. The 'Hair color' dropdown now has two items selected: 'BLACK' and 'BROWN', both highlighted with blue selection bars. The other fields remain the same as in the first screenshot.

Clear a filter from the field by selecting the (X) to the left of the filter.

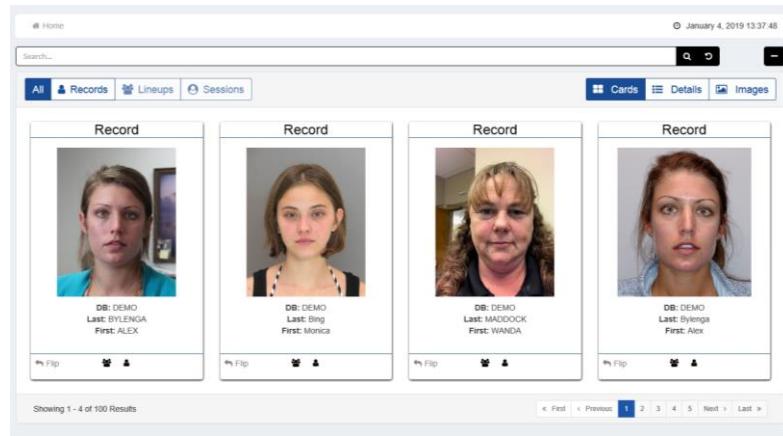
Two examples of the 'Hair color:' filter field. The left example shows two filters applied: 'BLACK' and 'BROWN', each with a clear button ('X') to its left. The right example shows only the 'BROWN' filter applied, also with a clear button ('X') to its left.

Click the “Search” button at the top right of the search menu to perform your query.

Search: apply the filter and return to the sessions screen.
Cancel: return to the sessions screen without applying a filter.
Reset: clear all applied filters from fields.

Record Search Results

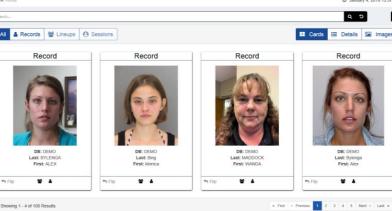
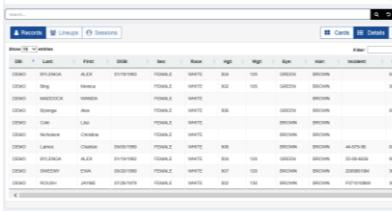
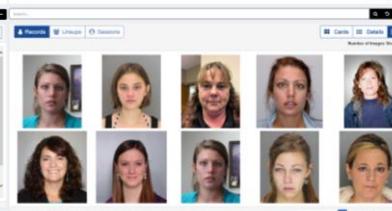
The search results will be displayed as the new gallery images on the home screen.



Lineups and Sessions will be grayed out and will not be accessible under Record Search.



View Record Results in Card, Detail, or Image view.

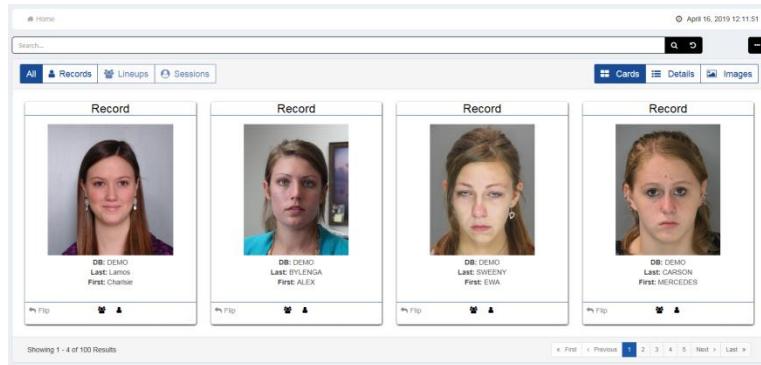
Card View	Detail View	Image View
 <ul style="list-style-type: none"> Click on the card or  to view the record. Click  on the card to add the individual to a lineup. Flip the card to view primary data for that record. 	 <ul style="list-style-type: none"> Click on the row to view the record. Sort and filter result data. 	 <ul style="list-style-type: none"> Click on the image to view the record. Change the number of images shown for strategic viewing.

Narrow Search Results with Additional Filters

You may further narrow results and apply additional filters to the search by selecting **Find Record** again. Note that filters from previous searches will still remain. If you wish to start an entirely new search, clear the filters by selecting **Reset** at the top right of the search menu. Clear a single filter by selecting the (X) to the left of the filter.

Enter additional filters and select **Search**.

The new record results will be displayed. In the following example the first data filter applied, filtered the results by females with brown hair. The second filter applied filtered the results by females with brown hair in their twenties.



Reset the Home Screen

Selecting the Home option in the breadcrumb trail will take the user back to the home screen with all previous searches and displays still intact. Any search that was performed, or any display filter added (records/lineups/sessions; cards/details/images) will remain.

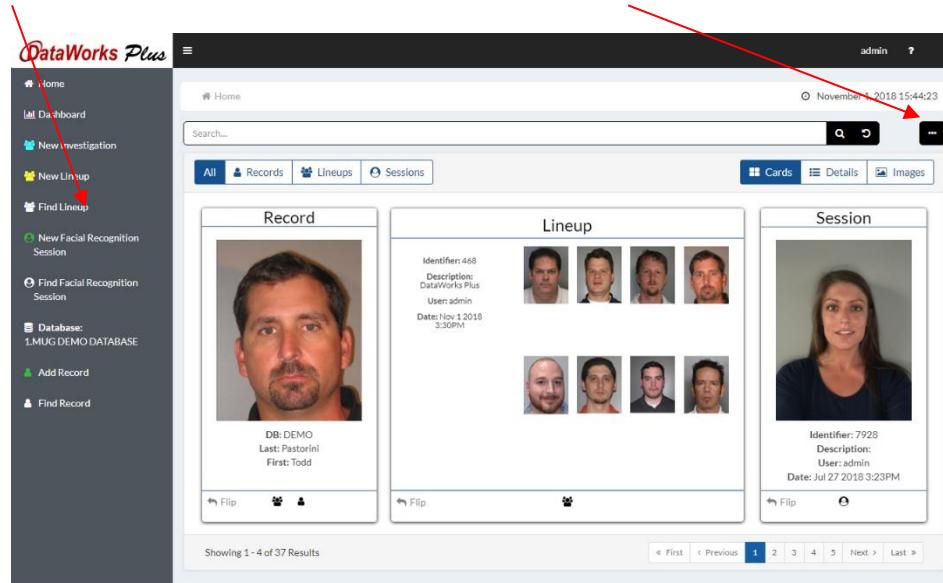
- Click the reset button to return the home page display to the initial state and clear all searches. This will generally default to view All in a Card style display.



Find Lineup or Investigation

Users can search previously created lineups by date and description. To search for a particular lineup:

Click **Find Lineup** from sidebar or click “...” and select **Find Lineup**.



Lineup Search

You may search Lineups or Investigations by any combination of data field identifiers and review matching results. Depending on your system's configuration, the choices may vary.

Enter the desired lineup criteria in the available search fields.

- Date/Time Created:** finds all lineups and investigations created within a specified date and time. Use the date/time field to search based on a variety of different timeframes (Today, Last 7 Days, Last Month, etc.). Select the timeframe you wish to search by and click **Apply** to add it to the search. Use a Custom Range search for more specific dates/times. Select Custom Range, a

calendar will be displayed. Select the dates and times from the calendar and click Apply to add it to the search.

Timeframe Search

Date/Time Created:

Identifier:

User Created:

Custom Range

Apply Cancel

Custom Range Search

02/04/2019 12:00 AM - 02/07/2019 1:00 AM

None

Today Yesterday Last 7 Days Last 30 Days This Month Last Month Custom Range

Feb 2019 Mar 2019

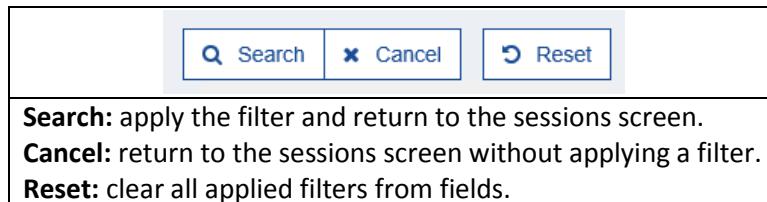
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
27	28	29	30	31	1	2	24	25	26	27	28	1	2
3	4	5	6	7	8	9	3	4	5	6	7	8	9
10	11	12	13	14	15	16	10	11	12	13	14	15	16
17	18	19	20	21	22	23	17	18	19	20	21	22	23
24	25	26	27	28	1	2	24	25	26	27	28	29	30
3	4	5	6	7	8	9	31	1	2	3	4	5	6

Custom Range

Apply Cancel

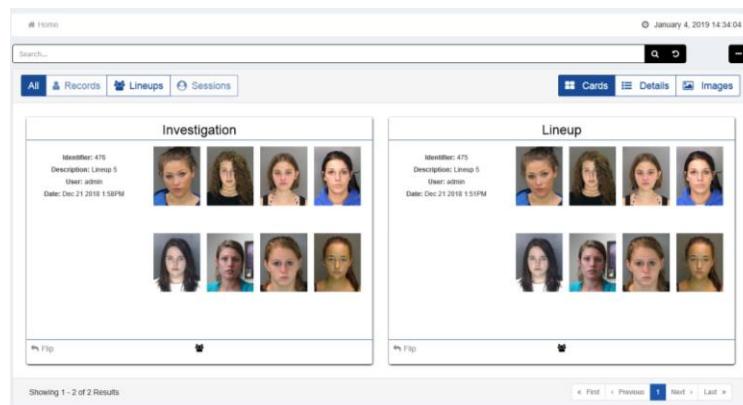
- **Date/Time Last Modified:** similar to Date/Time Last Created, finds all lineups and investigations modified within a specified date and time. Use the date/time field to specify a date/time range or use a custom range.
- **Identifier:** finds lineups and investigations by the unique number that has been automatically assigned to that lineup or investigation. Note that this number is preassigned.
- **Description:** finds lineups and investigations by the description given to that lineup or investigation.
- **User Created:** finds lineups and investigations by the user who created it.
- **User Last Modified:** finds lineups and investigations by the user who last modified it.

Click the “Search” button at the top right of the search menu to perform your query.



Lineup Search Results

The search results will be displayed as the new gallery images on the home screen. In this case all Lineups and Investigations created between 02/04/2019 12:00:00 AM and 02/07/2019 01:00:00 AM will be displayed.



Records and Sessions will be grayed out and will not be accessible under Lineup Search.



View Lineup Results in Card, Detail, or Image view.

Card View	Detail View	Image View
<ul style="list-style-type: none"> Click on the card, to view the lineup. Click on a candidate to view their record (customizable option). Flip the card to view SID numbers of the candidates. 	<ul style="list-style-type: none"> Click on the row to view the lineup. Sort and filter result data. 	<ul style="list-style-type: none"> Click on the image to view the lineup. Change the number of images shown for strategic viewing.

Narrow Search Results

You may further narrow results and enter additional search criteria by selecting **Find Lineup** again. Note that criteria from previous searches will still remain. If you wish to start an entirely new search, clear the criteria by selecting **Reset** at the top right of the search menu.

Enter additional criteria and select **Search**.

Reset the Home Screen

Selecting the Home option in the breadcrumb trail will take the user back to the home screen with all previous searches and displays still intact. Any search that was performed, or any display filter added (records/lineups/sessions; cards/details/images) will remain.



Click the reset button to return the home page display to the initial state and clear all searches. This will generally default to view All in a Card style display.



Find Facial Recognition Session

In addition to perform facial recognition searches, users can also search and retrieve previously-created facial recognition sessions. This allows users to find specific facial recognition sessions by date and description.

Click **Find Facial Recognition Session** from sidebar or click “...” and select **Find Facial Recognition Session**.

Facial Recognition Session Search

You may search Facial Recognition Sessions by any combination of data field identifiers and review matching results. Depending on your system's configuration, the choices may vary.

Enter the desired lineup criteria in the available search fields.

- **Identifier:** finds a session by the unique number that has been automatically assigned to that session. Note that this number is preassigned.
- **Date/Time Created:** finds all sessions created within a specified date and time. Use the date/time field to specify a date/time range or use a custom range. Use the date/time field to search based on a variety of different timeframes (Today, Last 7 Days, Last Month, etc.). Select

the timeframe you wish to search by and click **Apply** to add it to the search. Use a Custom Range search for more specific dates/times. Select Custom Range, a calendar will be displayed. Select the dates and times from the calendar and click Apply to add it to the search.

<i>Timeframe Search</i>	<i>Custom Range Search</i>																																																																																																		
<p>Date/Time Created:</p> <input type="button" value="Date/Time Created"/> <p>Description:</p> <input type="button" value="None"/> <input type="button" value="Today"/> <input type="button" value="Yesterday"/> <input type="button" value="Last 7 Days"/> <input type="button" value="Last 30 Days"/> <input type="button" value="This Month"/> <input type="button" value="Last Month"/> <input type="button" value="Custom Range"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/>	<p>02/04/2019 12:00 AM 02/07/2019 1:00 AM None</p> <p>12 :00 AM 1 :00 AM</p> <p>Feb 2019 Mar 2019</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>Su</td><td>Mo</td><td>Tu</td><td>We</td><td>Th</td><td>Fr</td><td>Sa</td> <td>Su</td><td>Mo</td><td>Tu</td><td>We</td><td>Th</td><td>Fr</td><td>Sa</td> </tr> <tr> <td>27</td><td>28</td><td>29</td><td>30</td><td>31</td><td>1</td><td>2</td> <td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>1</td><td>2</td> </tr> <tr> <td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td> <td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td> </tr> <tr> <td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> <td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td> <td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td> </tr> <tr> <td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>1</td><td>2</td> <td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td> </tr> <tr> <td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td> <td>31</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td> </tr> </table> <input type="button" value="Custom Range"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/>	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	27	28	29	30	31	1	2	24	25	26	27	28	1	2	3	4	5	6	7	8	9	3	4	5	6	7	8	9	10	11	12	13	14	15	16	10	11	12	13	14	15	16	17	18	19	20	21	22	23	17	18	19	20	21	22	23	24	25	26	27	28	1	2	24	25	26	27	28	29	30	3	4	5	6	7	8	9	31	1	2	3	4	5	6
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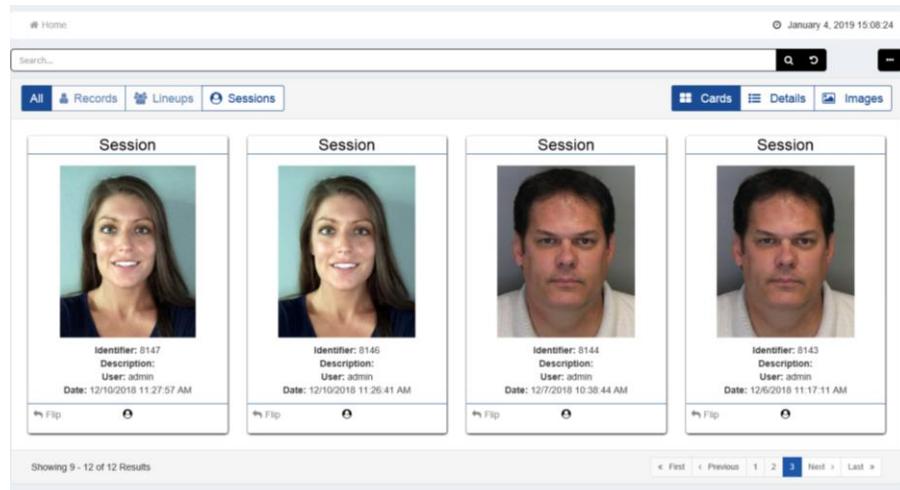
- **Username:** displays the user's username. This field may not be edited.
- **Description:** searches by description given to a session.

Click the "Search" button at the top right of the search menu to perform your query.

<input type="button" value="Search"/> <input type="button" value="Cancel"/> <input type="button" value="Reset"/>
<p>Search: apply the filter and return to the sessions screen.</p> <p>Cancel: return to the sessions screen without applying a filter.</p> <p>Reset: clear all applied filters from fields.</p>

Session Search Results

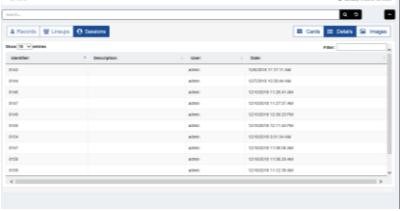
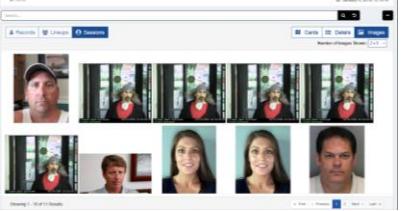
The search results will be displayed as the new gallery images on the home screen. In this example all Sessions created between 02/04/2019 12:00:00 AM and 02/07/2019 01:00:00 AM will be displayed.



Records and Lineups will be grayed out and will not be accessible under a Session Search.



View Session Results in Card, Detail, or Image view.

Card View	Detail View	Image View
 <ul style="list-style-type: none"> Click on the card to view the session. Flip the card to view additional session details. 	 <ul style="list-style-type: none"> Click on the row to view the session. Sort and filter result data. 	 <ul style="list-style-type: none"> Click on the image to view the session. Change the number of images shown for strategic viewing.

Narrow Search Results

You may further narrow results and enter additional search criteria by selecting **Find Facial Recognition Session** again. Note that criteria from previous searches will still remain. If you wish to start an entirely new search, clear the criteria by selecting **Reset** at the top right of the search menu.

Enter additional criteria and select **Search**.

Reset the Home Screen

Selecting the Home option in the breadcrumb trail will take the user back to the home screen with all previous searches and displays still intact. Any search that was performed, or any display filter added (records/lineups/sessions; cards/details/images) will remain.



Click the reset button to return the home page display to the initial state and clear all searches. This will generally default to view All in a Card style display.



New Lineup or Investigation

Lineups and Investigations are very similar applications. You may save each separately.

Lineup vs. Investigation	
Lineup	Allows a preselected number of candidates, depending on your agency's configuration.
Investigation	Allows an unlimited number of candidates.

Creating a Lineup or Investigation

Create a new lineup or investigation:

1. From a **Record** (recommended). This will take you to Lineup Mode. Toggle to Investigation Mode to use the record in an investigation. See Mode: Toggle to Investigations or Lineups Mode, page 53, for more information. A simple way to set up search preferences for a lineup is to find a specific record, then select “Search Similar” to create a lineup of image with similar descriptors (sex, race, hair color, etc.).
2. From the **Left Side Bar** on the Home Screen. Generate a filtered list to narrow gallery image results to add to the lineup or investigation.

Both methods are described in the following sections.

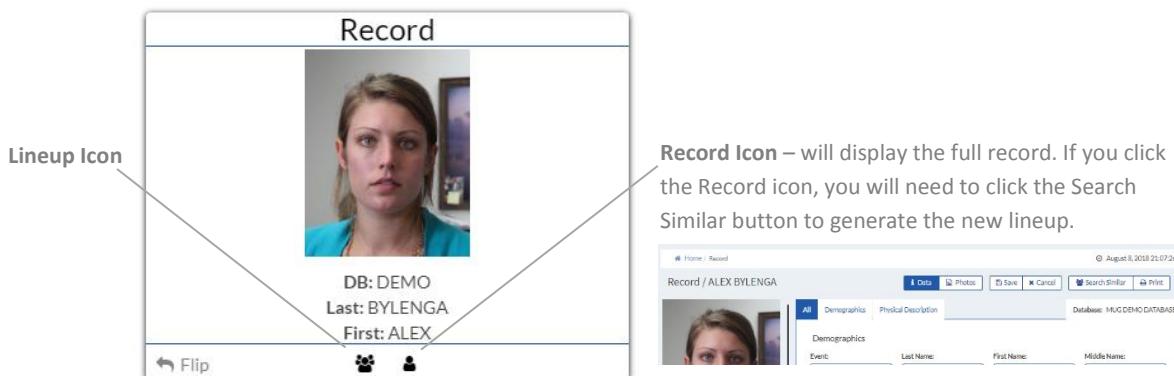
From a Record (Candidate)

1. Retrieve Desired Candidate.

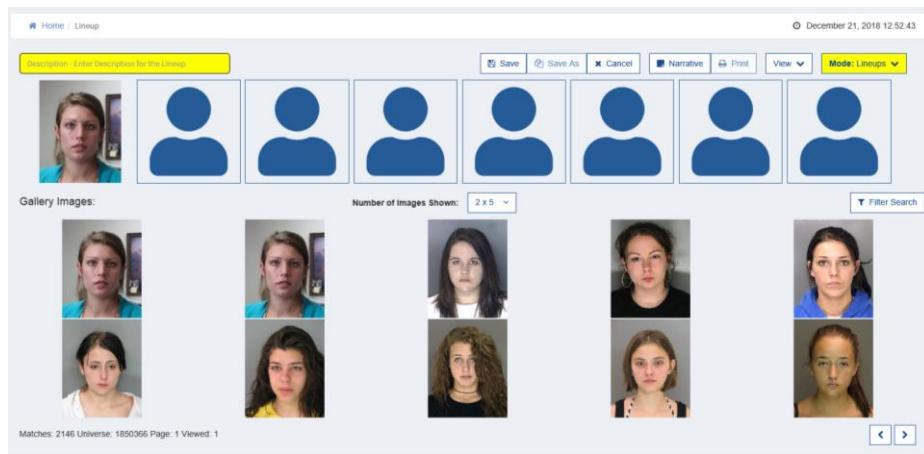
Enter text in the “Search” bar at the top of the screen to retrieve the particular record, then press [Enter] or click .

2. Click Lineup Icon.

Click the **Lineup Icon** at the bottom of the record you wish to use as the candidate image in the lineup. (You may also click the **Record Icon**, and click the **Search Similar** button from within the record.)



The selected image will be inserted into a new lineup and “Gallery images” will be pre-populated with images that are similar to the candidate image.



From the Left Side Bar (No Candidate)

From the Home Screen sidebar, click **New Investigation** or **New Lineup**.

- **Lineups** allow a preselected number of candidates, depending on your agency's configuration.
- **Investigations** allow an unlimited number of candidates. An empty lineup slot will always be available.

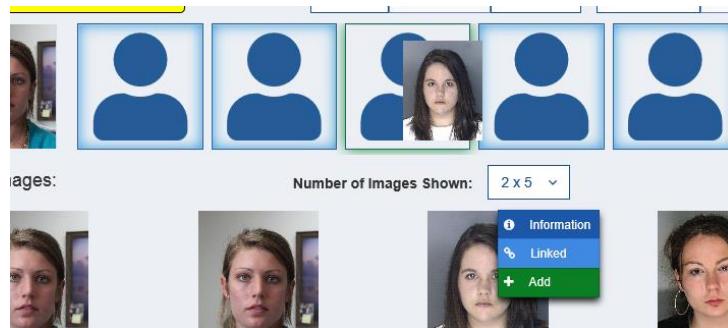
GENERATE A FILTERED LIST

Narrow gallery image results to add to the lineup or investigation. Select **Filter Search** in the right corner above the gallery images to start a filtered list. Search records by any combination of fields to return record matches of that field to add to the lineup or investigation. Generating a filtered list will include the number of images and the number of records in the database and is similar to the previous version of Digital PhotoManager Investigations and Lineups. See Filter Search, page 46, for more information.

Add Images to the Lineup or Investigation

Note that images will be inserted in random order.

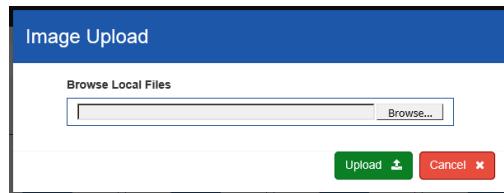
1. Drag and drop desired Gallery Image into a specific Lineup Slot – wait until the outline turns green before releasing the mouse button.



2. Hover over desired Gallery Image and click "Add" from the hover menu



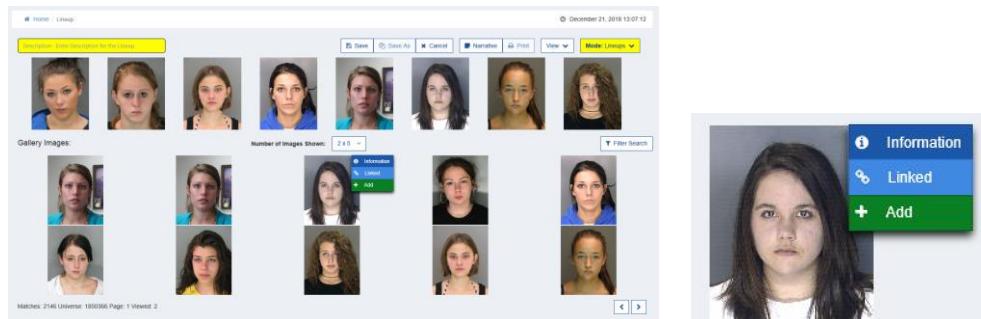
3. Upload an image by hovering over the empty lineup slot.



*Click **Browse** to locate the image to upload to the system. Select **Upload** to upload the image, or **Cancel** to return to the Lineup screen.*

Gallery Hover Menu

Users can access the Gallery Hover Menu by hovering their mouse over a Gallery image. This hover menu will allow users to perform key functions on the image, such as linking or adding that individual to the lineup or investigation.



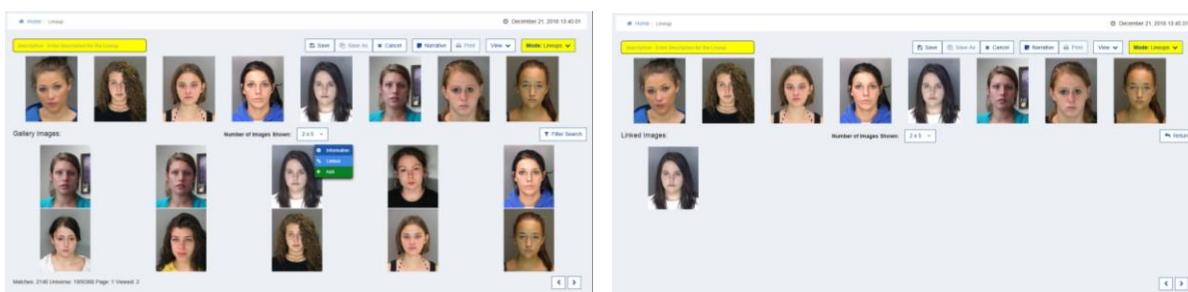
Information

You may view that individual's record by clicking **Information** after hovering over the appropriate image. The record display screen will show any images and data from the database for the currently-selected record. A record screen similar to the following will be displayed. In addition, you may view additional images for the record under recent photos or the photos tab. See , page, for more information.

Linked

Hover over the image and select **Linked** from the Lineup Hover Menu. This will show all linked images from any record associated with the person in the record based on SID.

Select the Return Arrow to return to the main view.

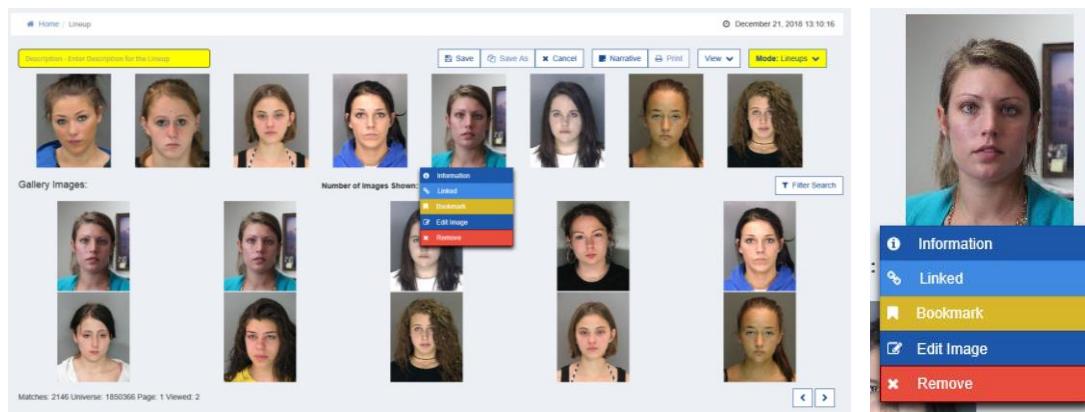


Add

Adds the gallery image to the lineup or investigation.

Lineup Hover Menu

Users can access the Lineup Hover Menu by hovering their mouse over a Lineup image. This hover menu will allow users to perform key functions on the image, such as linking, bookmarking, editing, or removing.

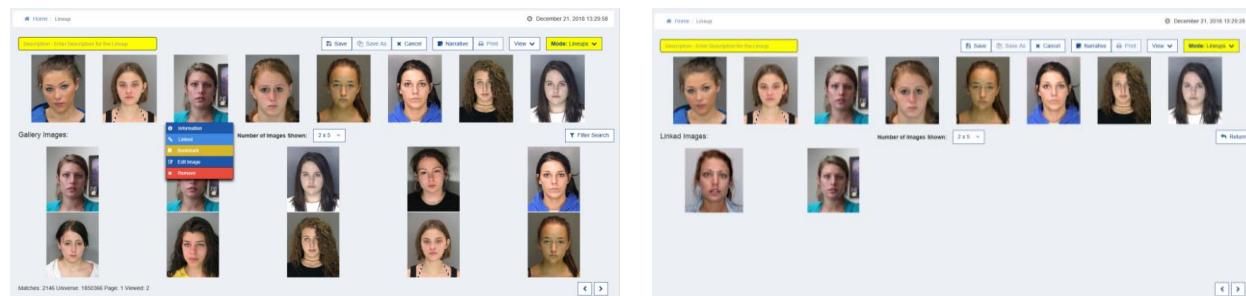


Information

You may view that individual's record by clicking **Information** after hovering over the appropriate image. The record display screen will show any images and data from the database for the currently-selected record. A record screen similar to the following will be displayed. In addition, you may view additional images for the record under recent photos or the photos tab. See Record Overview, page 121, for more information.

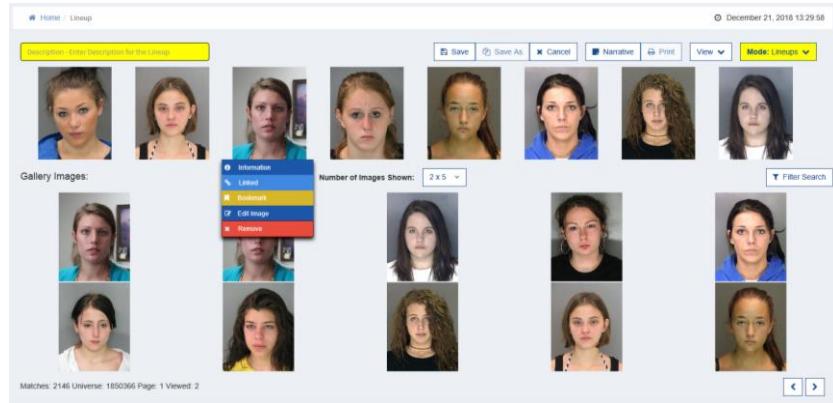
Linked

Hover over the image and select **Linked** from the Lineup Hover Menu. This will show all linked images from any record associated with the person in the record based on SID. Select the return arrow to return to the main view.

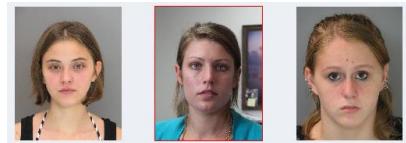


Bookmark - Mark Lineup Image as Candidate

Hover over the image and select **Bookmark** from the Lineup Hover Menu.

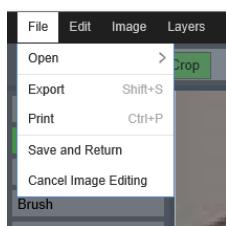
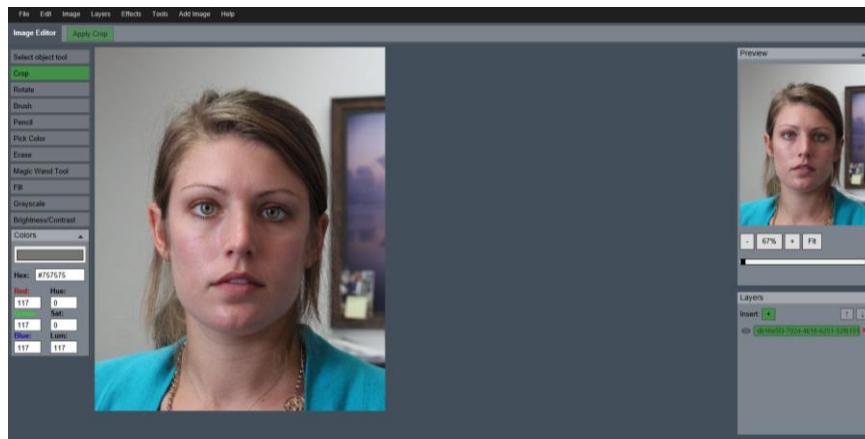


The bookmarked candidate image will have red outline.



Edit Image

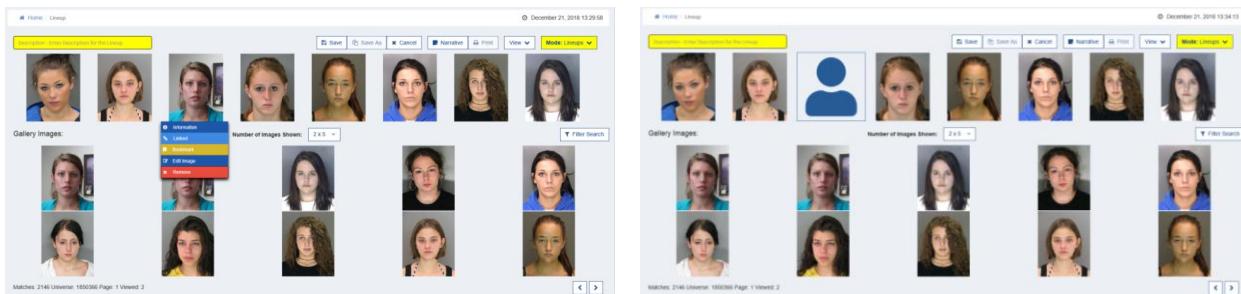
Hover over the image and select **Edit Image** from the Lineup Hover Menu. This will take you to the Image Editing Screen. You can preview and edit the image you have selected. Several options are available that allow you to adjust the image as needed. (See Using the Image Editor, starting on page 130.)



Once you have the desired image, go to the File menu and select **Save and Return**. Or Select **Cancel Image Editing** to go back to the previous screen and discard the image.

Remove

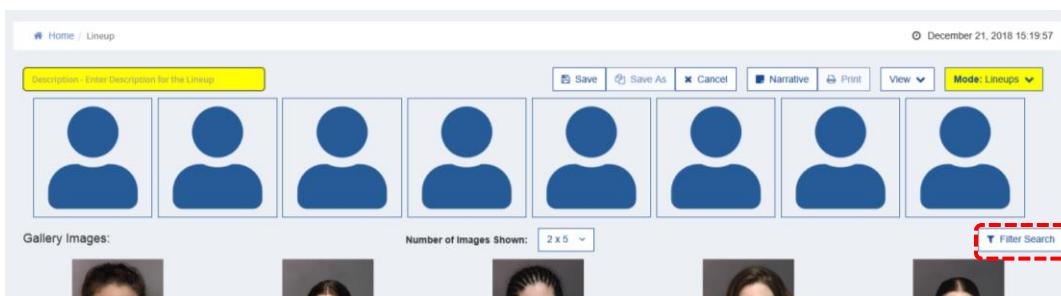
Hover over the image and select **Remove** to remove the image from the Lineup.



Filter Search

Narrow gallery image results to add to the lineup or investigation. Select **Filter Search** in the right corner above the gallery images to start a filtered list. Search records by any combination of fields to return record matches of that field to add to the lineup or investigation. Generating a filtered list will include the number of images and the number of records in the database and is similar to the previous version of Digital PhotoManager Investigations and Lineups. A simple way to set up search preferences for a lineup is to find a specific record, then select “Search Similar” to create a lineup of image with similar descriptors (sex, race, hair color, etc.).

1. Click **Filter Search**.



2. Enter Search Criteria and Click Search.

Enter desired search criteria in the appropriate field(s), then click the **Search** button, located near the top right corner. The filtered results will be displayed as the new gallery images.

In this example, results were filtered to show white females with brown hair.

Note that 109,617 records were returned out of a total of 1,850,311 records.

Matches: 109617 Universe: 1850311 Page: 1 Viewed: 10

3. Narrow Results Additionally if Desired.

You may further narrow the results if needed by clicking the **Filter Search** button again, entering additional search criteria in the appropriate field(s), and clicking the **Search** button.

The screenshot shows a search interface with various filters applied. On the left, there's a sidebar for 'Demographics' with fields for Event, Last Name, First Name, Middle Name, Suffix, DOB, Incident Number, OCA Number, SID, Location ID, and ADDRESS CITY. A date picker is set to '08/09/1989'. Below the sidebar is a grid of nine mugshot photographs of women, labeled 'Teen' and 'Twenties' in the filter dropdown. The interface includes a 'Gallery Images:' section, a 'Number of Images Shown:' dropdown set to '2 x 5', and a 'Filter Search' button. At the bottom, it says 'Matches: 4895 Universe: 1850311 Page: 1 Viewed: 10'.

In this example, results were narrowed to show individuals in their twenties.

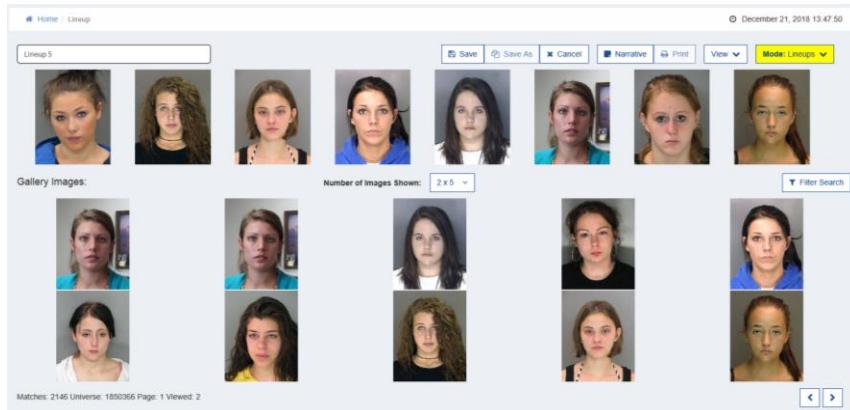
Note that after adding the DOB criterion, 4,895 records were returned.

Search filters are not saved within saved lineups. Once a lineup is saved and the user exits the lineup, the search filter will be reset. To view which search filters were used the user can display the search criteria by printing a lineup report. Select **Print** in the lineup display, and select **Lineup Report**.

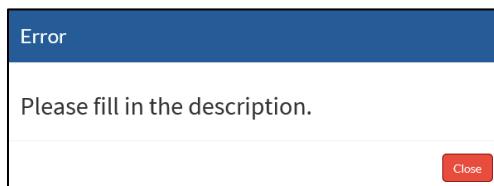
The 'Lineup Report' page has buttons for Print, Previous, Next, and Return. It displays the title 'MUG DEMO(CPIN)' and the subtitle 'Lineup Report'. Below this is a 'Date' field. The 'Photos Displayed:' section lists 8 matches from the '1.MUG DEMO DATABASE'. The 'Last Database Searched' section shows 109619 matches in the 1850384 universe. A red box highlights the 'Search Criteria' section, which includes fields for Hair color (BROWN), Race (WHITE), and Sex (FEMALE).

Enter Description

At the top left of the lineup screen, you can enter a description for the lineup, which can later be used for reference and retrieval of your lineup. In the following example, a description of "Lineup 5" has been entered.

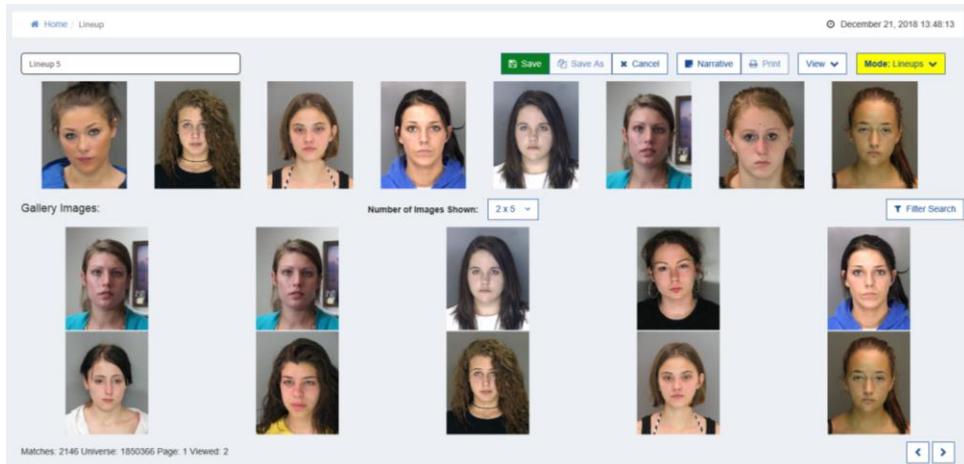


Please note that a description is required before saving a lineup.

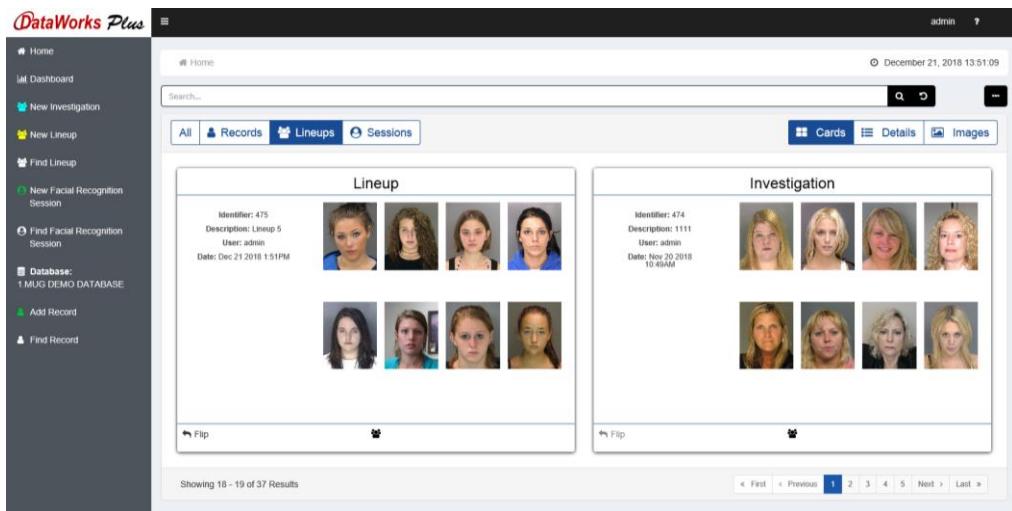


Save

To save your lineup, click the “Save” button at the top of the screen. The lineup will be saved to the database.



The saved lineup can be found under Lineups in the Results Toolbar of the Home Screen.

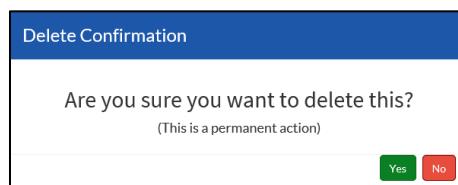


Delete

Selecting **Delete** will delete the lineup permanently. You may or may not have this option depending on your agency's configuration.



This option will only be available once a full lineup has been created. Select **Yes** to confirm deletion, or select **No** to go back to the lineup.

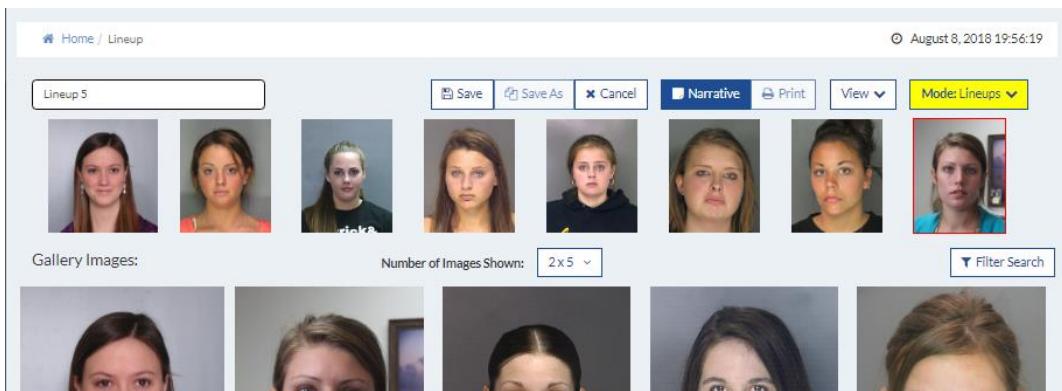


Cancel

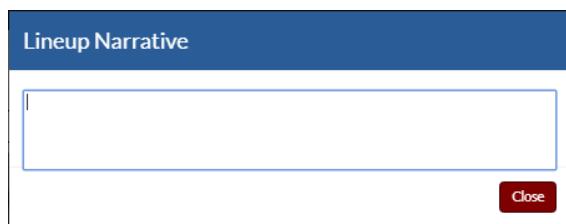
Selecting **Cancel** will discard any changes to that lineup or investigation, and take the user back to the home screen.

Enter Narrative

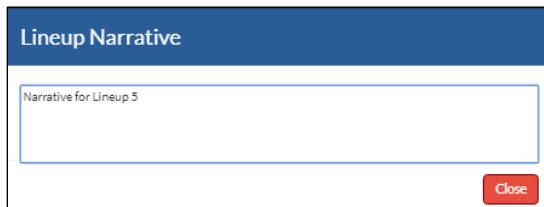
Users can enter narrative text for any lineup as desired by clicking on the **Narrative** button above the images viewing panel.



When you click on the “Narrative” button, a text entry pane will be displayed.



Enter the narrative text you wish to save to the record, and click the **Close** button to save the changes.



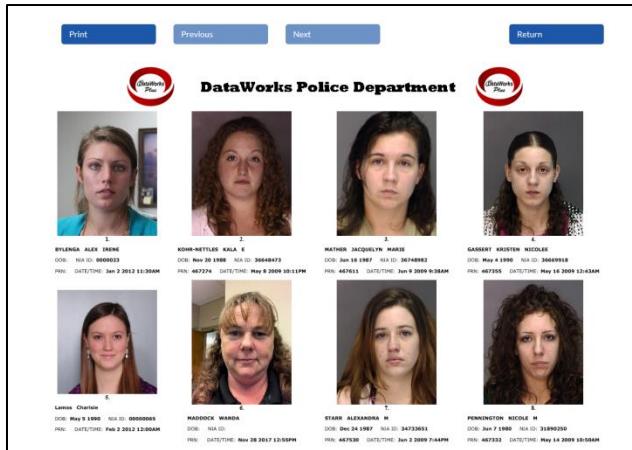
Print

Select **Print** to print the Lineup.

Print options will be displayed. Select which type of report you would like to print, or select **Return** to go back to the record without printing the report.



This will take you into a print preview for the report. Select **Print** to print the report, or select **Return** to go back to the record without printing the report.



View: Toggling Between Views

When in a lineup or investigation, you may view Lineup and Gallery images, Lineup Only, or Gallery Only.

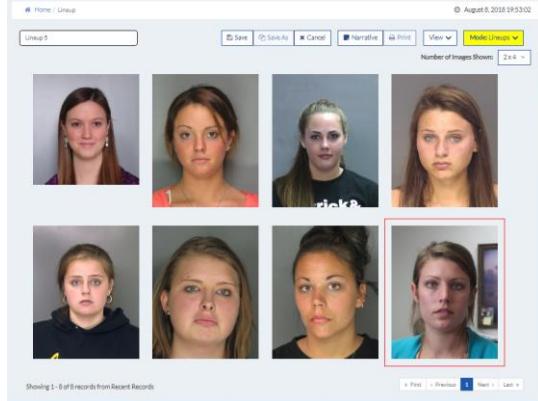
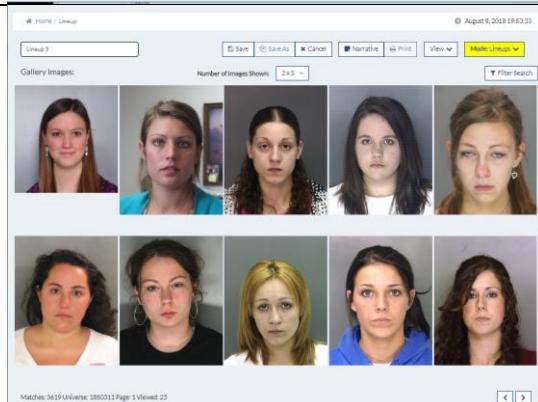
The screenshot shows a 'Lineup 5' interface. It features a grid of five mugshots in the main area. Below the grid, there are buttons for 'Save', 'Save As', 'Cancel', 'Narrative', 'Print', 'View', and 'Mode: Lineups'. A dropdown menu is open over the 'View' button, showing three options: 'Lineup and Gallery' (highlighted in yellow), 'Lineup', and 'Gallery'. There are also buttons for 'Filter Search' and 'Number of Images Shown' (set to 2x5).

Use the View drop down menu to toggle between views.

Lineup and Gallery

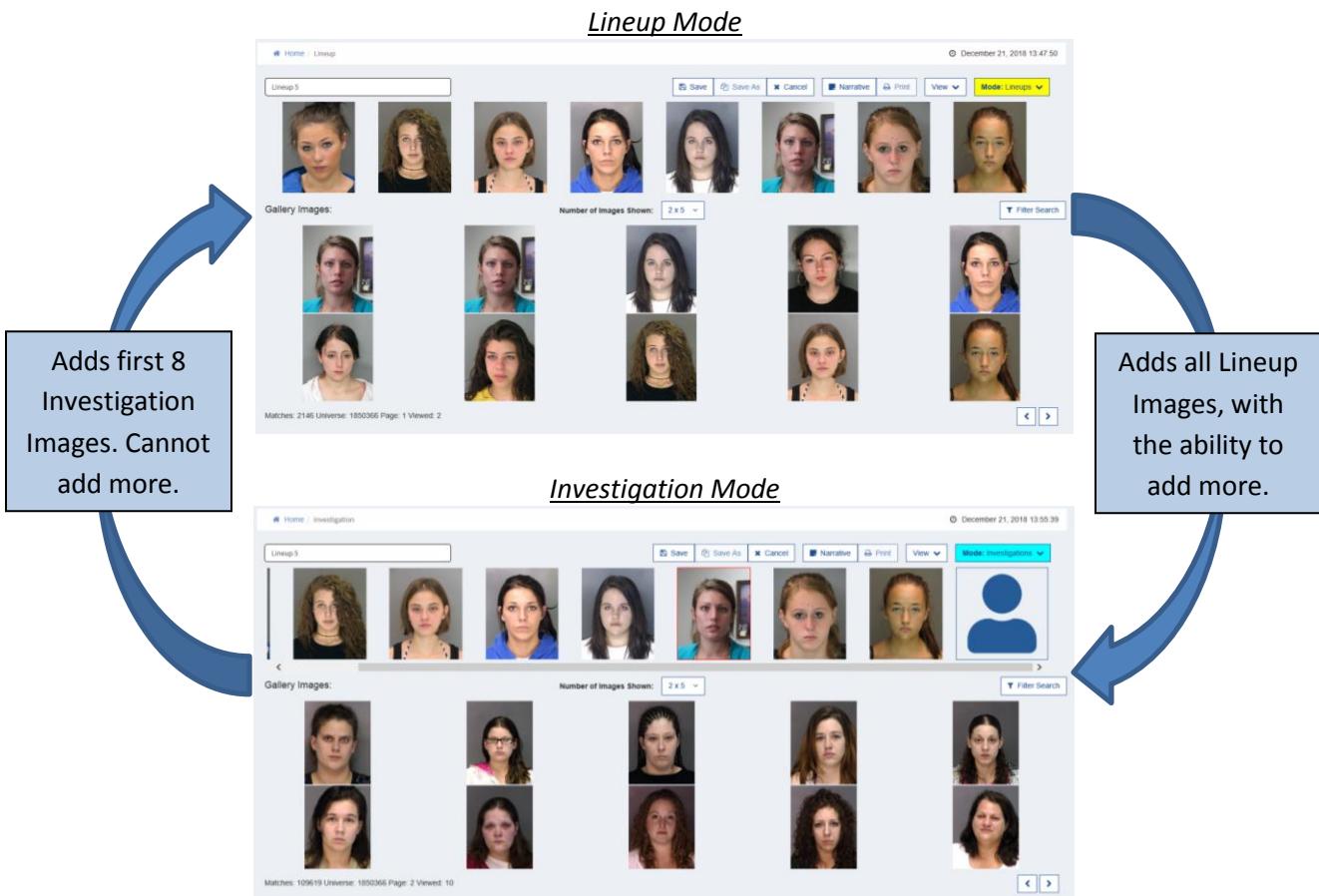
Lineup and Gallery displays the lineup images as well as the Gallery images.

The screenshot shows the 'Lineup and Gallery' view. It features a grid of ten mugshots. Below the grid, there are buttons for 'Save', 'Save As', 'Cancel', 'Narrative', 'Print', 'View' (which is selected and highlighted in yellow), and 'Mode: Lineups'. There are also buttons for 'Filter Search' and 'Number of Images Shown' (set to 2x5). At the bottom of the grid, it says 'Matches: 3619 Universe: 1880311 Page: 1 Viewed: 23'.

<p>Lineup Lineup displays the lineup images only</p>	
<p>Gallery Gallery displays the Gallery images only</p>	

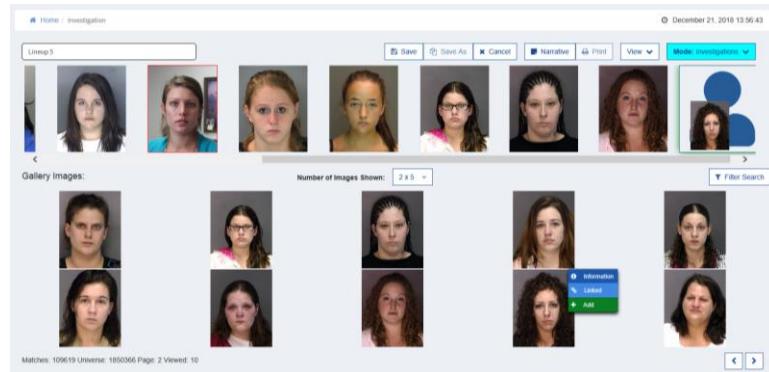
Mode: Toggle to Investigations or Lineups Mode

You may toggle between the “Lineups” and “Investigations” modes at any time by selecting the desired mode from the mode drop-down list at the top right corner of the screen.

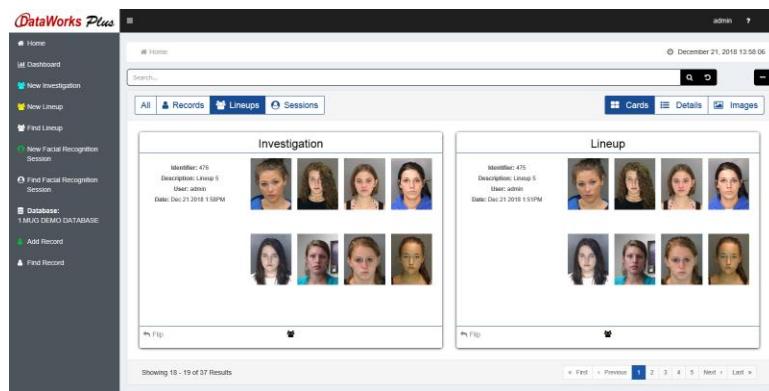


Investigation Mode is distinct from the traditional lineup mode in that it allows you to add more than the predetermined number of images to the photobook and will allow duplicate records to be added. The mode is differentiated with an aqua-colored background on the “Mode” button in the top right corner. You will have all of the traditional lineup options available in Investigation Mode and be able to add an unlimited number of images to the photobook. After all slots are filled in for a photobook, additional slots will appear. Note that toggling back to “Lineup Mode” will remove the additional images and only the first eight will be displayed.

Add additional images to the investigation.

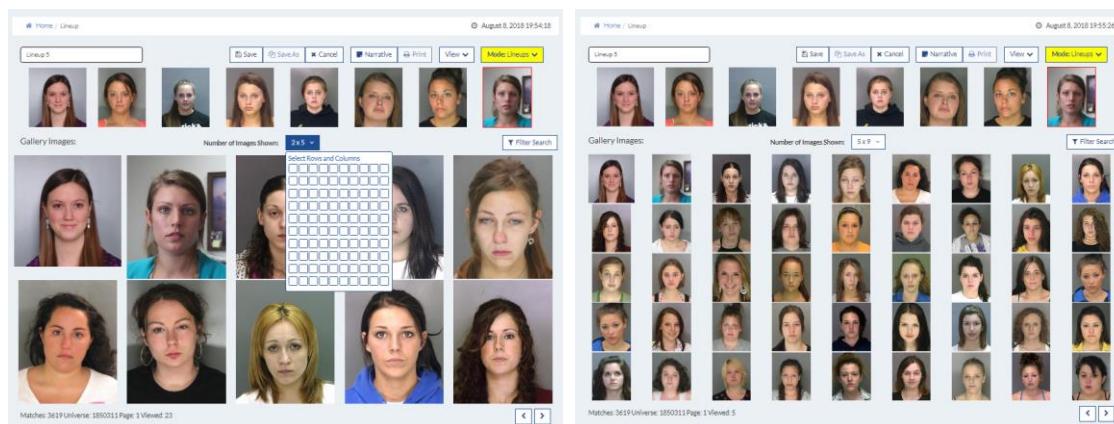


To save your investigation, click the “Save” button at the top of the screen. The investigation will be saved to the database. The saved investigation can be found under Lineups in the Results Toolbar of the Home Screen. These will look similar.



Change the Number of Images Shown

Users can configure the quantity of images shown at once on screen using the “Number of Images Shown” drop down menu directly above the images viewing panel. Users can define the number of columns and rows as desired.



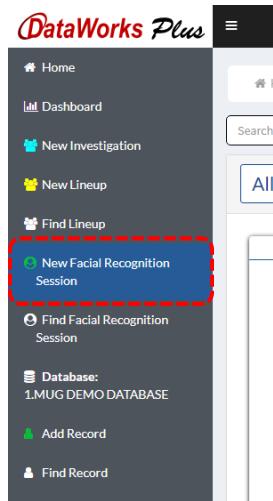
FACE Plus – Facial Recognition Case Management

FACE Plus provides accurate, reliable identification with the latest and greatest in facial recognition matching accuracy and tools to manipulate images and compare images.

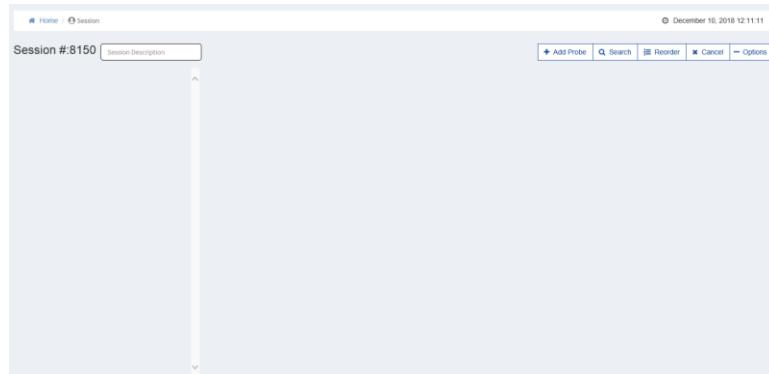
Starting a New Facial Recognition Session

Users can perform facial recognition searches using probe images as well as data filtering.

From the Home Screen, select **New Facial Recognition Session** from the left sidebar.



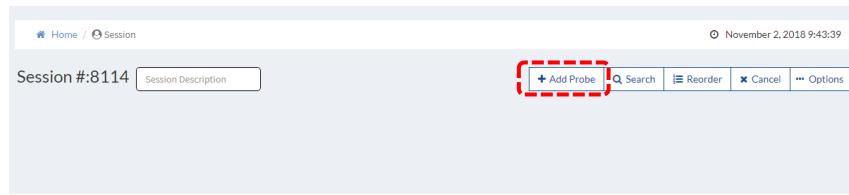
A new Facial Recognition Session screen will be displayed. You may upload a single JPEG image file or you may extract a frame from a video file to search on.



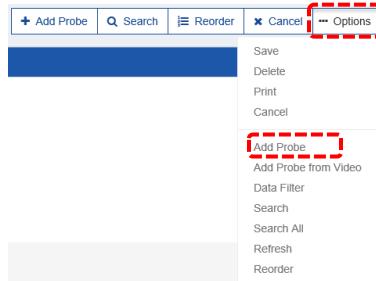
Upload Single Image File

To upload a probe image click **Add Probe**, this can be found in 2 locations.

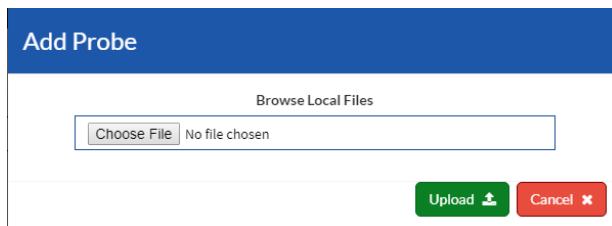
1. To upload a probe image click **+ Add Probe** on the blank Sessions Screen.



2. You may also select **Add Probe** under **Options** in the Quick Click Toolbar.

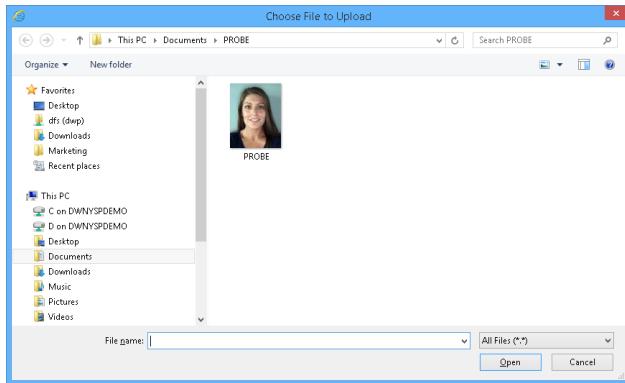


The “Image Upload” screen will be displayed.

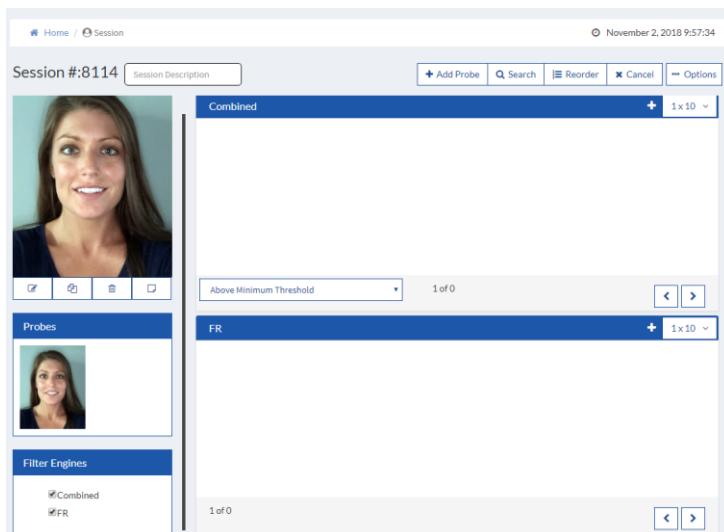


To upload a single JPEG image file, click **Upload** to locate the image. You will be prompted to select the image.

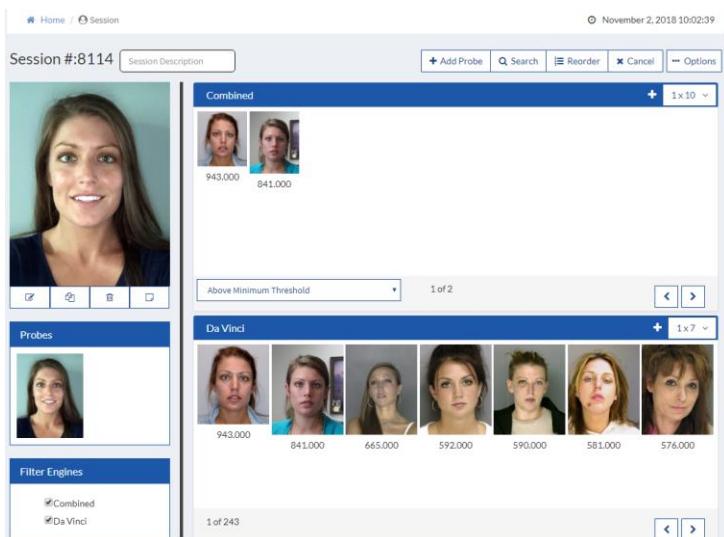
Note: Only JPEG images are supported for facial recognition searches. If you are using a non-JPEG image type that is natively supported by Windows, such as a bitmap image, then the system will automatically attempt to convert the image into JPEG format before searching.



Browse to the appropriate location, select the desired file and click **Open**. The probe image you selected will be displayed.

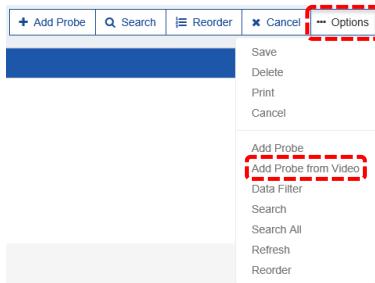


Click **Search**. Results will be displayed.



Upload Image from Video

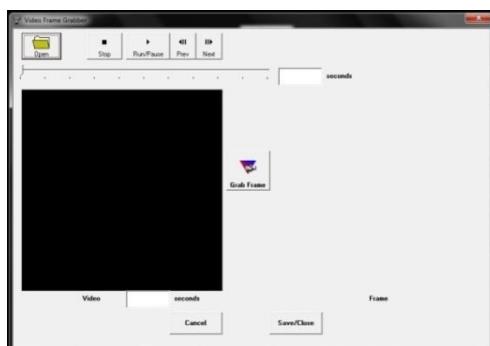
To upload an image from a video, click **Add Probe from Video** under **Options** in the Quick Click Toolbar.



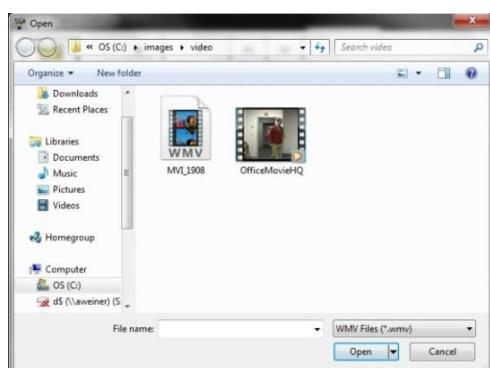
Make sure you have installed Facial Recognition Components for the software to work. (See [Installing Facial Recognition Components, page 139](#).) If components are installed open the comparison software.



The “Video Frame Grabber” screen will be displayed. Click **Open**.



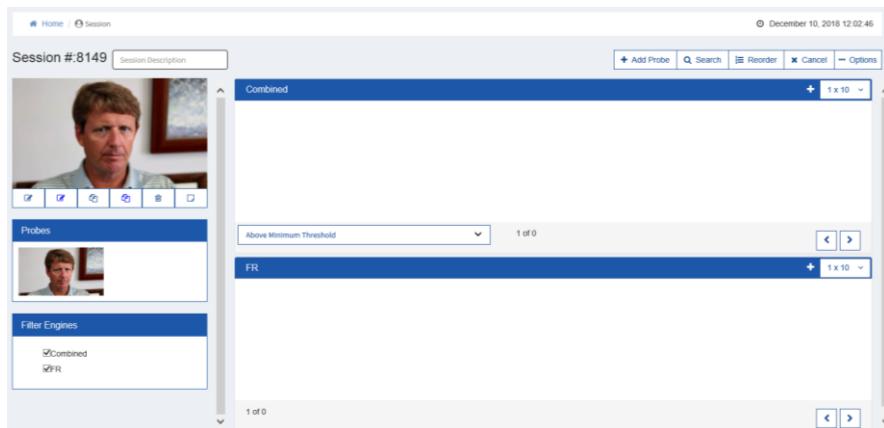
Browse to the desired file and click **Open**.



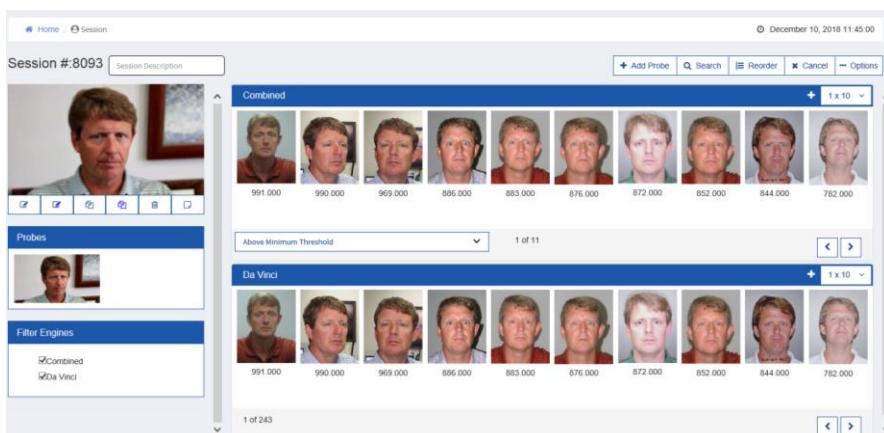
The video will automatically play. Click the **Grab Frame** button to extract a particular frame. The frame you have captured will be displayed on the right side of the screen. You may use the playback buttons to replay or pause the video until you get the frame you wish to use.



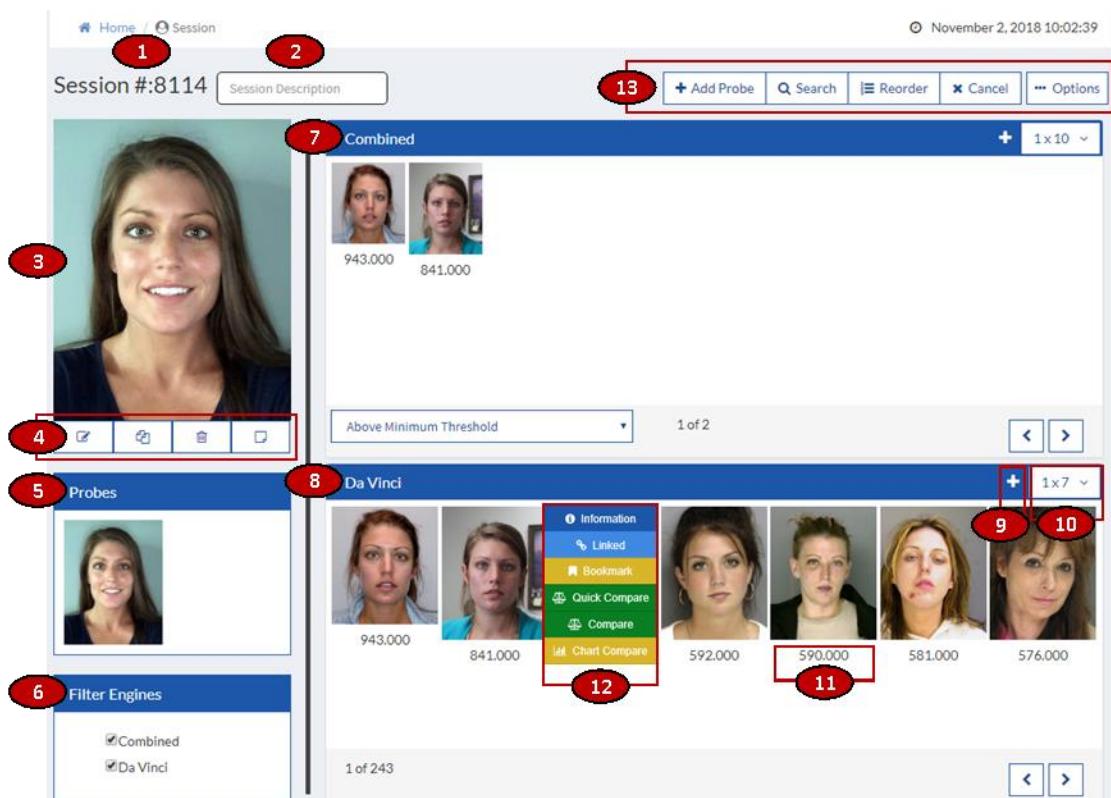
When satisfied, click **Save/Close** to upload the frame as a probe image. The probe image you selected will be displayed.



Click **Search**. Results will be displayed.

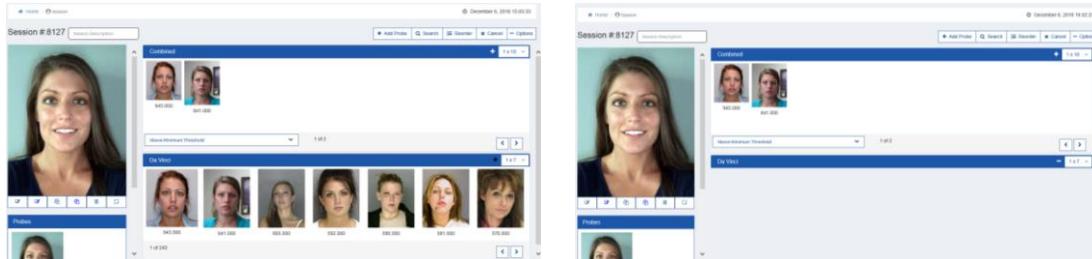


Results Screen Overview

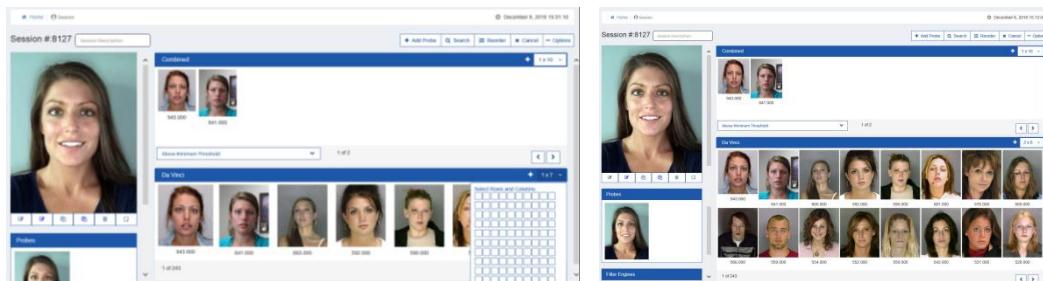


1. **Session #:** displays the unique number that has been automatically assigned to this session. You may not edit this field.
2. **Description:** allows you to enter a description for the session. Click **Save** to save your information. (Everything else in the session will auto save).
3. **Selected Probe:** the original uploaded probe will be displayed here. Only the selected probe may be edited. To change the selected probe click on a different probe image under probes (#5), you might only have one image here in which case that will be the selected probe, if multiple images have been uploaded a probe can be selected.
4. **Probe Editing Tools:** probe images can be edited to provide even more accurate results by marking the eye locations, cropping the images to be similar, correcting image brightness, pose correction, light normalization and other basic editing functions. See [Editing Probes](#), page 102, for more information.
5. **Probe Images:** all uploaded probes will be displayed here. Click on a probe to make it the selected probe (#3) for image editing.
6. **Filter Engines:** displays all engines the system is searching against. From here you may filter which ones you would like to view.
7. **Combined Results Row:** displays results based on specified parameters from the combined results drop-down menu. Depending on your system's configuration, the choices may vary. See [Combined Results Row](#), page 65, for more information.

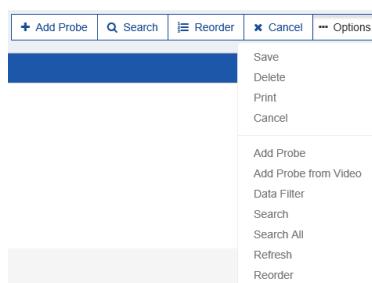
8. **Search Engine Results Row:** displays potential matches from each search engine. You may have more than one result row if you are searching against multiple engines. See Search Engine Result Row, page 65, for more information.
9. **Minimize/Maximize Result Rows:** use the (+) or (-) to minimize or maximize result rows.



10. **Change # of images shown:** configure the quantity of images shown at once on screen using the “Number of Images Shown” drop down menu directly above the images viewing panel. Users can define the number of columns and rows as desired.

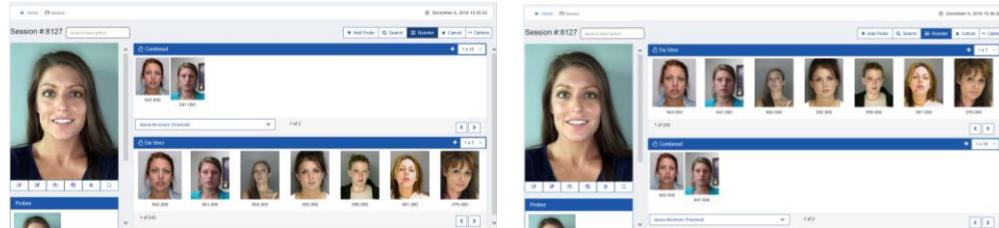


11. **Threshold #:** comparison number for how likely the system thinks the result is a match. Sort by threshold number in the combined results menu (#7).
12. **Result Hover Menu:** access the Result Hover Menu by hovering their mouse over a Result image. This hover menu will allow users to perform key functions on the image, such as linking, bookmarking, or comparing. See Results Hover Menu, page 70, for more information.
13. **Quick Click Toolbar:** allows the user to perform basic facial recognition functions. Additional functions can be found under options (some functions will be found in both the Quick Click Toolbar and under Options).

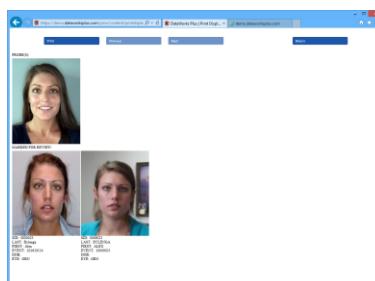


- **Add Probe:** allows you to locate the desired probe image to be used for the facial recognition search. See Starting a New Facial Recognition Session, page 55, for more information.

- **Search:** searches the database for possible matches to the probe image(s). If you have added another probe to a saved session, clicking “Search” will retain the results of the original search and only add the matches from the new probe.
- **Reorder:** allows you to reorder result rows.



- **Cancel:** returns you to the home screen.
- **Options:** additional options are available under options.
 - **Save:** All sessions are automatically assigned an Identifier and saved. However, if you wish to add a description, be sure to click Save to save the description you entered for the session.
 - **Delete:** will delete the session.
 - **Print:** prints a report with the probe and any results “marked for review” and their associated data.



- **Add Probe from Video:** allows you to upload a probe image from a video using the Video Frame Grabber. See Starting a New Facial Recognition Session, page 55 for more information.
- **Data Filter:** allows you to include additional search criteria, such as name or gender in order to narrow your results. See Add a Data Filter, page 66, for more information.
- **Search All:** searches the database for possible matches to the probe image(s). It differs from “Search” in that it will perform a new search on all probes, overwriting the original search results. Generally, you will not perform a “Search All” unless you have added many new records to the database and want to overwrite the previous search results.
- **Refresh:** returns the result screen back to its initial state.

Understanding Result Rows

After you have uploaded and edited the probe image(s), click **Search** to find potential matches. 3 different types of result rows will be displayed. Combined results, Search Engine Results, and Data Filter Results (depending on if you add a filter this may or may not be part of the session). Note that these options are customizable per agency.

1	Combined Results: displays results based on specified parameters from the combined results drop-down menu. Depending on your system's configuration, the choices may vary.
2	Search Engine Results: displays potential matches from each search engine. You may have more than one search engine result row if you are searching against multiple engines.
3	Data Filter Results: Enter specific search criteria such as sex, race, height, and other characteristics to narrow the search results. This row will not be displayed until a data filter is added.

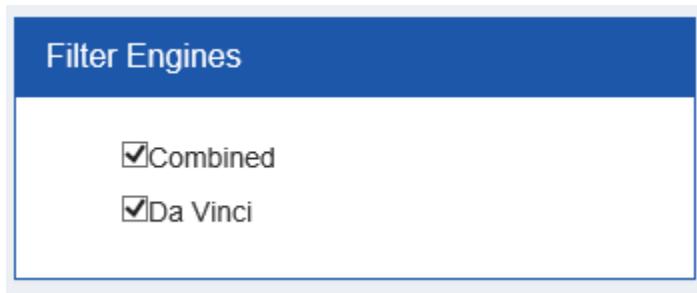
The screenshot shows the software interface with three main result rows highlighted by red circles and numbered 1, 2, and 3.

- Row 1 (Top):** Labeled "Combined". It shows two thumbnail images of women with their scores: 943.000 and 841.000. A dropdown menu above the thumbnails shows "Above Minimum Threshold".
- Row 2 (Middle):** Labeled "Da Vinci". It shows a grid of 10 thumbnail images of women, each with a score below it: 943.000, 841.000, 665.000, 592.000, 590.000, 581.000, 576.000, 569.000, 566.000, and 559.000. Below the grid, it says "1 of 243".
- Row 3 (Bottom):** Labeled "Da Vinci Sex: F Hair color: BRO". It shows a grid of 10 thumbnail images of women, each with a score below it: 943.000, 841.000, 665.000, 592.000, 581.000, 576.000, 569.000, 554.000, 552.000, and 543.000. Below the grid, it says "1 of 146".

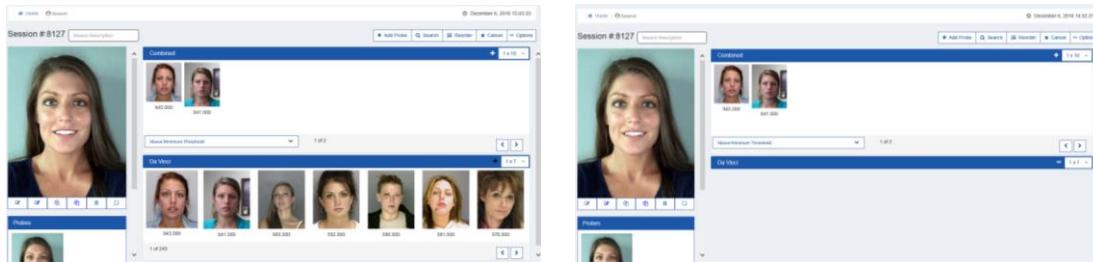
The interface also includes a sidebar with "Probes" (one image), "Filter Engines" (checkboxes for "Combined" and "Da Vinci"), and a top navigation bar with "Home / Session", "December 7, 2018 11:25:18", and various search and filter buttons.

Result Row Options

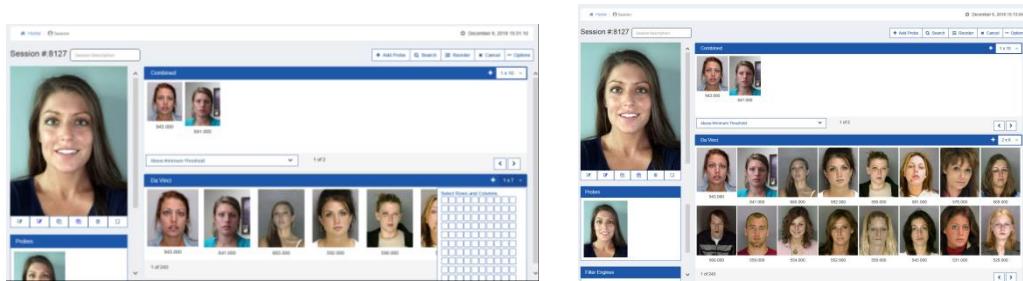
1. Use the filter engines toolbar to filter which engines you would like to view.



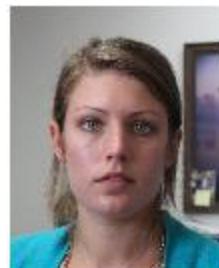
2. Minimize/Maximize Result Rows using the (+) or (-) to minimize or maximize result rows.



3. Change the number of images shown on the screen using the "Number of Images Shown" drop down menu directly above the images viewing panel. Users can define the number of columns and rows as desired.



4. Use threshold numbers as a comparison number for how likely the system thinks the result is a match. Sort by threshold number in the combined results menu.



841.000

Combined Results Row

The combined Results Row displays results based on specified parameters from the combined results drop-down menu. Choices are Above Minimum Threshold, In All Results, In All But One, In All But Two, and Marked for Review. Depending on your system's configuration, the choices may vary. The images that are included in Combined Results will change depending on which option you select.

A screenshot of the Digital PhotoManager & Facial Recognition software interface. At the top, there is a blue header bar with the word "Combined". Below the header, there are two small portrait photos of women. The first woman has a threshold value of 943.000 below her photo. The second woman has a threshold value of 841.000 below her photo. To the right of the photos is a button labeled "+ 1 x 10" with a dropdown arrow. Below the photos is a dark blue sidebar containing the following options: "Above Minimum Threshold", "In All Results", "In All But One", "In All But Two", and "Marked For Review". On the right side of the main area, there is a page navigation bar showing "1 of 2" and left and right arrows. The overall interface is clean and modern, designed for easy navigation and comparison of facial recognition results.

- **Above Minimum Threshold:** displays all results with threshold numbers above a certain value (set by your agency).
- **In All Results:** displays results that show up in all result rows.
- **In All But One:** displays results that show up in all but one result row.
- **In All But Two:** displays results that show up in all but two result rows.
- **Marked for Review:** displays all results marked for review. Hover over a result and select bookmark or hover over quick compare and bookmark to mark the individual for review. See more on Bookmark, page 72.

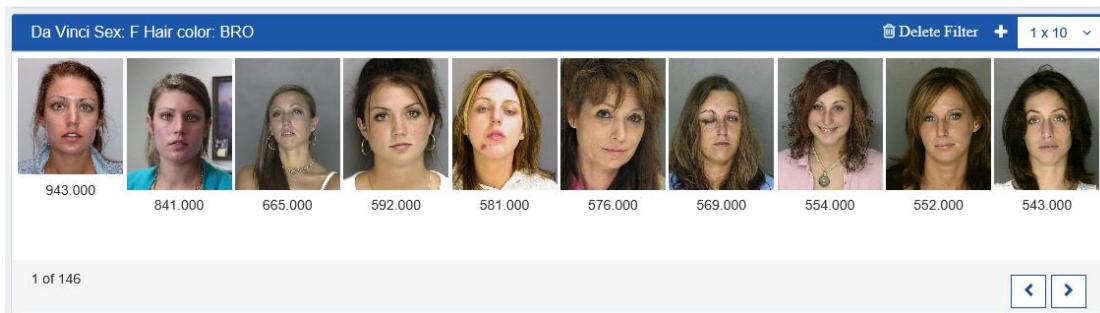
Search Engine Result Row

FACE Plus can provide a multiple engine approach, which uses more than one search engines to deliver optimal facial recognition accuracy. When the search has completed, the potential matches from each engine will be displayed. You may have more than one search engine result row if you are searching against multiple engines. If you do not wish to view a row, turn the view off or on with the filter engines toolbar.

A screenshot of the Digital PhotoManager & Facial Recognition software interface showing a search engine result row for the "Da Vinci" engine. The interface features a blue header bar with the engine name "Da Vinci" and a button "+ 1 x 10" with a dropdown arrow. Below the header, there is a grid of ten small portrait photos of individuals. Each photo is accompanied by its corresponding threshold value: 943.000, 841.000, 665.000, 592.000, 590.000, 581.000, 576.000, 569.000, 566.000, and 559.000. The photos are arranged horizontally. At the bottom of the main area, there is a page navigation bar showing "1 of 243" and left and right arrows. The overall layout is organized and allows for easy comparison of multiple search results.

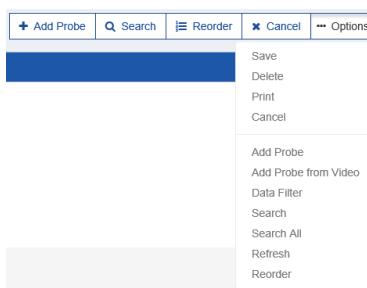
Data Filter Result Row

A Data Filter can be applied during the session. Note that a data filter result row will not appear unless a data filter is added. Once a filter is applied the Data Filter result row will appear.

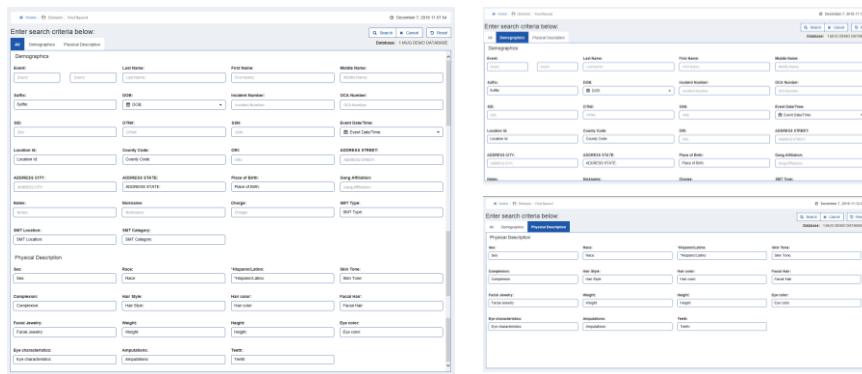


Add a Data Filter

To narrow your search results, you may enter additional search criteria such as sex, race, height, and other characteristic. Click **Data Filter** under **Options** in the Quick Click Toolbar.



Tabs such as “Demographics”, “Physical Description” allow easy navigation between sections of data. These tabs remain fixed so that you may quickly click on one tab to immediately navigate between sections. View All fields, only Demographics fields, or only Physical Description fields. Additional tabs can be added and customized per agency.



Enter specific search criteria such as sex, race, height, and other characteristics to narrow the search results. Added filters will be highlighted in blue (sex). Add a filter by clicking on the field (hair color). Note that if a previous search has been performed, the search criteria will still remain; select **Reset** if you wish to clear a previous search.

Enter search criteria below:

All Demographics Physical Description

Physical Description

Sex: * FEMALE Race: * Hispanic/Latino: Skin Tone:

Complexion: Hair Style: * Hispanic/Latino: Skin Tone:

Facial Jewelry: Weight: Hair color: BALD

Eye characteristics: Amputations: BLACK

Hair color dropdown menu open, showing options: BALD, BLACK, BLONDE, BLUE, BROWN (selected), GREEN.

Facial Hair: Eye color:

Multiple filters may be added to the same field (hair color).

Enter search criteria below:

All Demographics Physical Description

Physical Description

Sex: * FEMALE Race: * Hispanic/Latino: Skin Tone:

Complexion: Hair Style: * Hispanic/Latino: Skin Tone:

Facial Jewelry: Weight: Hair color: * BLACK * BROWN

Eye characteristics: Amputations: BALD

Hair color dropdown menu open, showing options: BALD, BLACK (selected), BLONDE, BLUE, BROWN, GREEN.

Facial Hair: Eye color:

Clear a filter from the field by selecting the (X) to the left of the filter.

Hair color:

* BLACK * BROWN

Hair color:

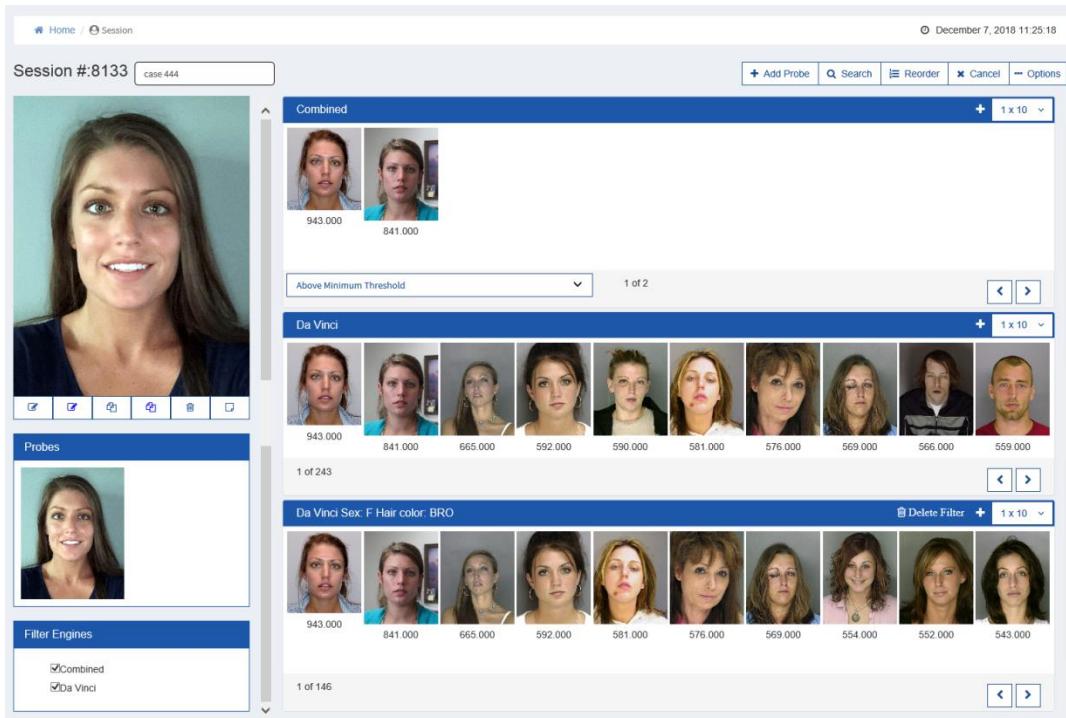
* BROWN

Once all desired filters have been added, select search.

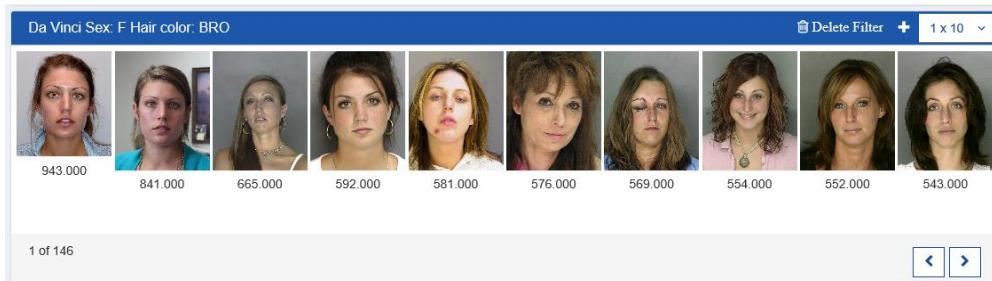
<input type="button" value="Search"/> <input type="button" value="Cancel"/> <input type="button" value="Reset"/>
Search: apply the filter and return to the sessions screen. Cancel: return to the sessions screen without applying a filter. Reset: clear all applied filters from fields.

DATA FILTER RESULTS

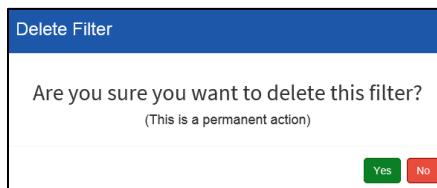
The filtered results will be added in their own data filtered row (bottom row).



The Data Filtered Row will show the filter engine (Da Vinci), the applied filter (Sex: F Hair color: BRO), the Delete Filter option, and the filtered result images. Notice only females with brown hair are being displayed.



Delete the Data Filter by Selecting **Delete Filter** in the upper right corner of the result row. Note that this is a permanent action.



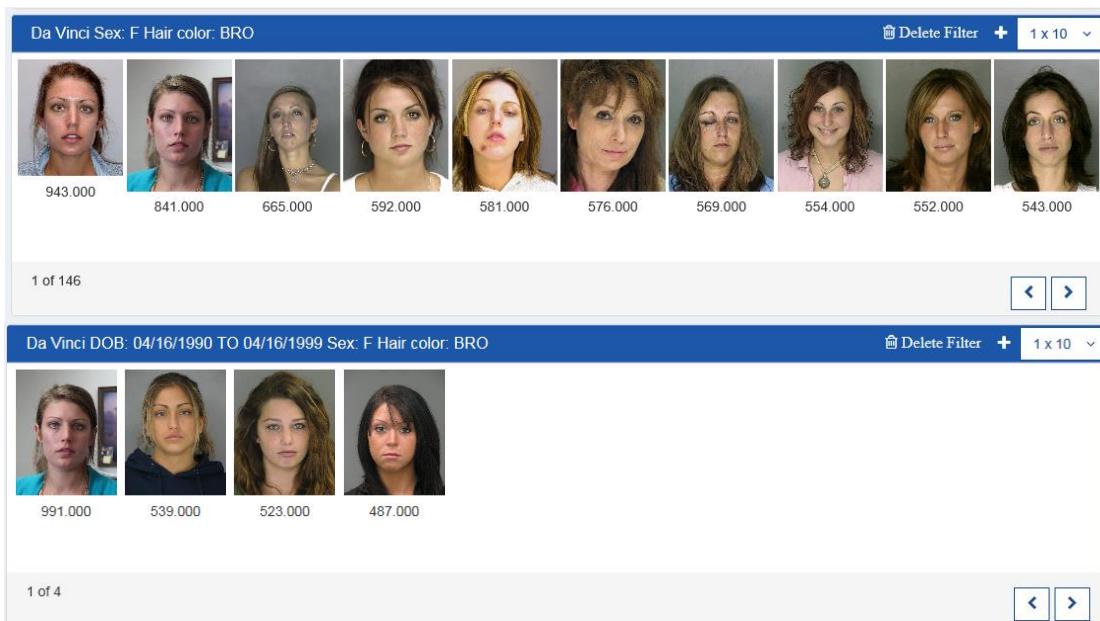
APPLY MULTIPLE DATA FILTERS

Add additional data filters by selecting **Data Filter** again under the **Options** in the Quick Click Toolbar. Note that filters from previous searches will still remain. If you wish to start an entirely new search, clear the filters by selecting **Reset** at the top right of the search menu. Clear a single filter by selecting the (X) to the left of the filter.

Enter additional filters and select **Search**.

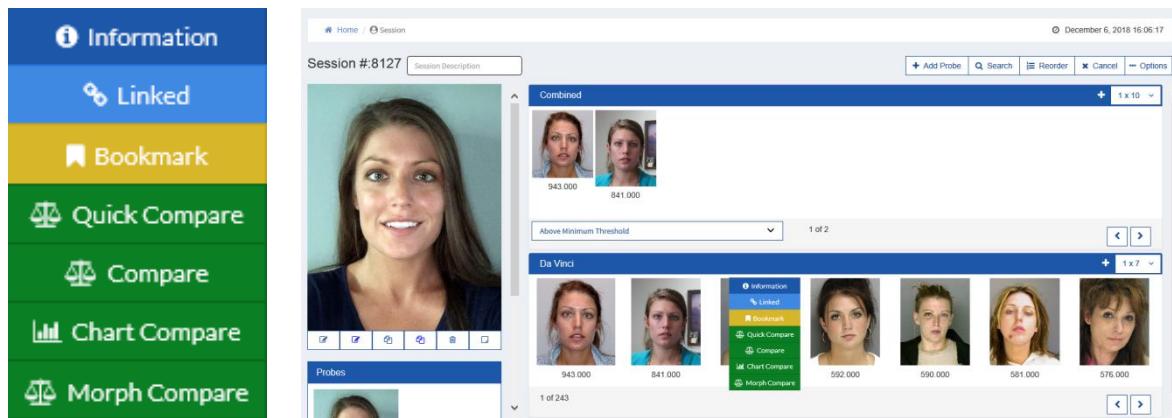
The left screenshot shows the initial search criteria entry screen with various demographic fields like Event, DOB, SSN, and ADDRESS STREET. The right screenshot shows the results after applying two filters: a date range from 04/16/1990 to 04/16/1999 and a hair color of Brown. The search results list 10 individuals matching these criteria, each with a photo and a numerical ID below it.

The new data filter row will be displayed directly under the previous one with the new filter. In the following example the first data filter applied, filtered the results by females with brown hair. The second filter applied filtered the results by females with brown hair in their twenties.



Results Hover Menu

Access the Results Hover Menu by hovering the mouse over a Result image. This hover menu will allow users to perform key functions on the image, such as linking, bookmarking, and comparing. You may also view more information on the individual.



- **Information:** will take you to that result image's record.
- **Linked:** shows linked images from any record associated with the person in the record.
- **Bookmark:** marks an individual for Review. This image will then be included in the Combined Results – “Marked for Review” list.
- **Quick Compare:** view a side-by-side comparison of the selected probe image and each image in that result row.
- **Compare:** compare the probe with the result image using a variety of comparison tools (compare, composite, curtain, 3D, and align).
- **Chart Compare:** make annotations and measurements on the probe and result image.
- **Morph Compare:** perform facial morphological comparisons based on FISWG’s “Guidelines for Facial Comparison Methods” standards.

Information

Hover over any result image and select **Information** to view that individual's record. The record display screen will show any images and data from the database for the currently-selected record. A record screen similar to the following will be displayed. In addition, you may view additional images for the record under recent photos or the photos tab.

The screenshot shows a detailed view of a record for "ALEX BYLENGA". The main area contains demographic information such as Last Name (BYLENGA), First Name (ALEX), Middle Name (RENE), DOB (1993-01-19), Incident Number, OCA Number, SID (0000023), OTN# (0000023), SSN (000-00-0000), Event Date/Time (2012-01-02 11:30), Location ID, County Code, OR#, ADDRESS STREET (728 N. Pleasantburg Dr.), ADDRESS CITY (Greenville), ADDRESS STATE (SC SOUTH CAROLINA), Place of Birth, Megan's Law Offender (NO), and Gang Affiliation (DataWorks). Below this is a "Physical Description" section with fields for Sex (F), Race (W), Hispanic/Latino (NO), Skin Tone (LIGHT), Complexion (ACNE), Hair Style (HIGHTOP/BOXTOP), Hair color (BRO), Facial Hair (NONE), Facial Jewelry (PRICKED EARTS), Glasses (NO), Weight (120), Height (504), Eye color (GRN), Eye characteristics (NORMAL), Amputations (NO), and Teeth (NORMAL).

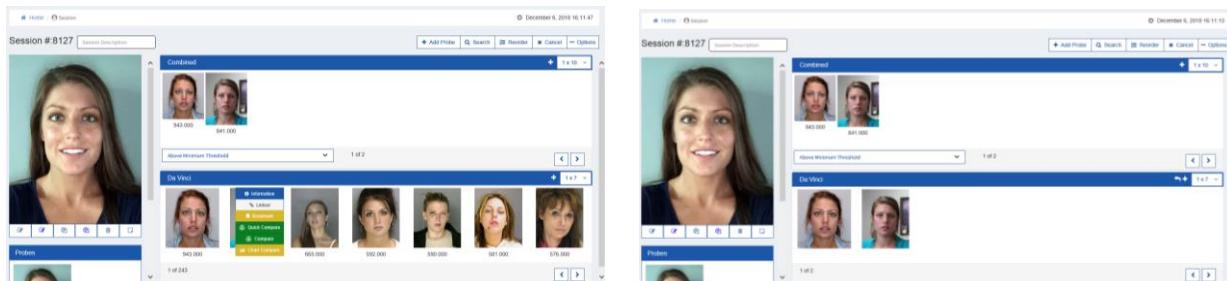
Below the main record view are three linked record sections:

- Charge:** Shows 0 entries. Fields include Charge, Instance, Filter, Previous, Next, Delete, Update, Add.
- Nickname:** Shows 1 of 1 entries. Fields include Nickname, Instance, Filter, Previous, Next, Delete, Update, Add. One entry is listed: Alexandra.
- SMT:** Shows 1 to 4 of 4 entries. Fields include SMT Type, SMT Location, SMT Category, Instance, Filter, Previous, Next, Delete, Update, Add. Entries include TATTOO (LEFT LEG), TATTOO (LEFT ARM), MARK (BACK), and MARK (RIGHT LEG).

Linked

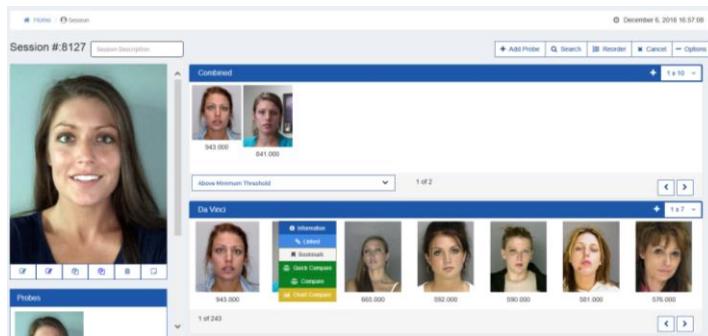
Hover over and select **Linked** to view linked records associated with that record based on SID.

Select the arrow in the result row header to return to the main view.

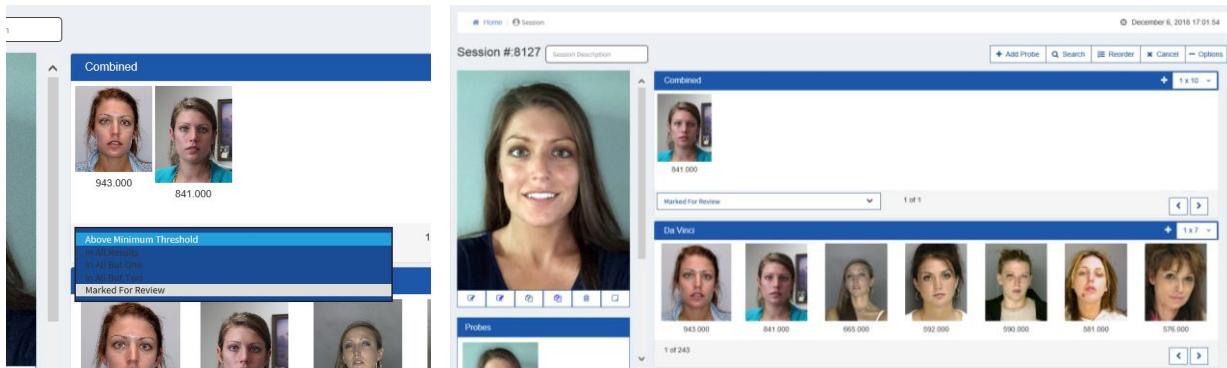


Bookmark

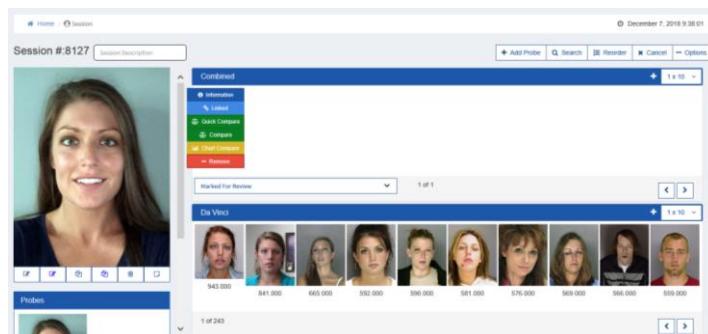
Hover over and select **Bookmark** to Mark an individual for Review. This image will then be included in the Combined Results – “Marked for Review” list.



Combined Results automatically default to “Above Minimum Threshold”. Use the Combined Results drop down list to view all “Marked for Review” images.



Remove the result from Marked for Review by hovering over the image and selecting remove.

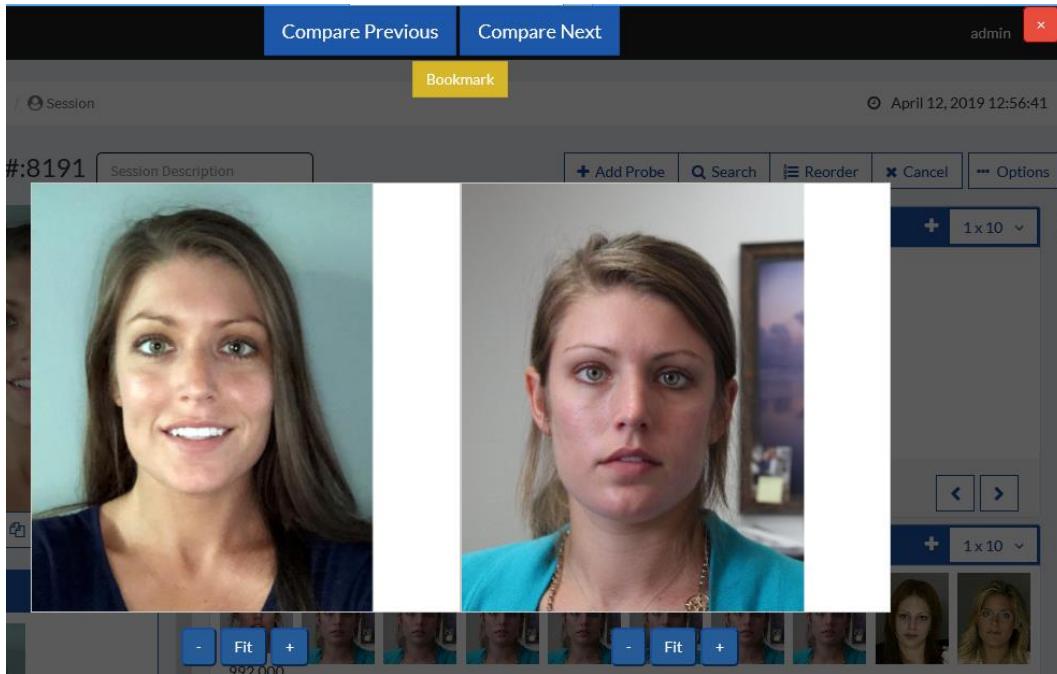


Quick Compare

Hover over and select **Quick Compare**, to view a side-by-side comparison of the selected probe image and each image in that result row by selecting **Compare Previous** or **Compare Next**.

Use the options (-, Fit, +), or your mouse wheel to zoom in/out on the images, or fit the images to the viewing window. Left click and drag to move a zoomed-in image to different sections of the viewing window.

You may bookmark result image(s) for review by selecting **Bookmark**. This image will then be included in the Combined Results – “Marked for Review” list.



If a result is Marked for Review. A yellow box in the upper right corner will denote the amount of individuals marked for review. Select **Unmark** to unmark the individual. Select the red X to go back to the session.



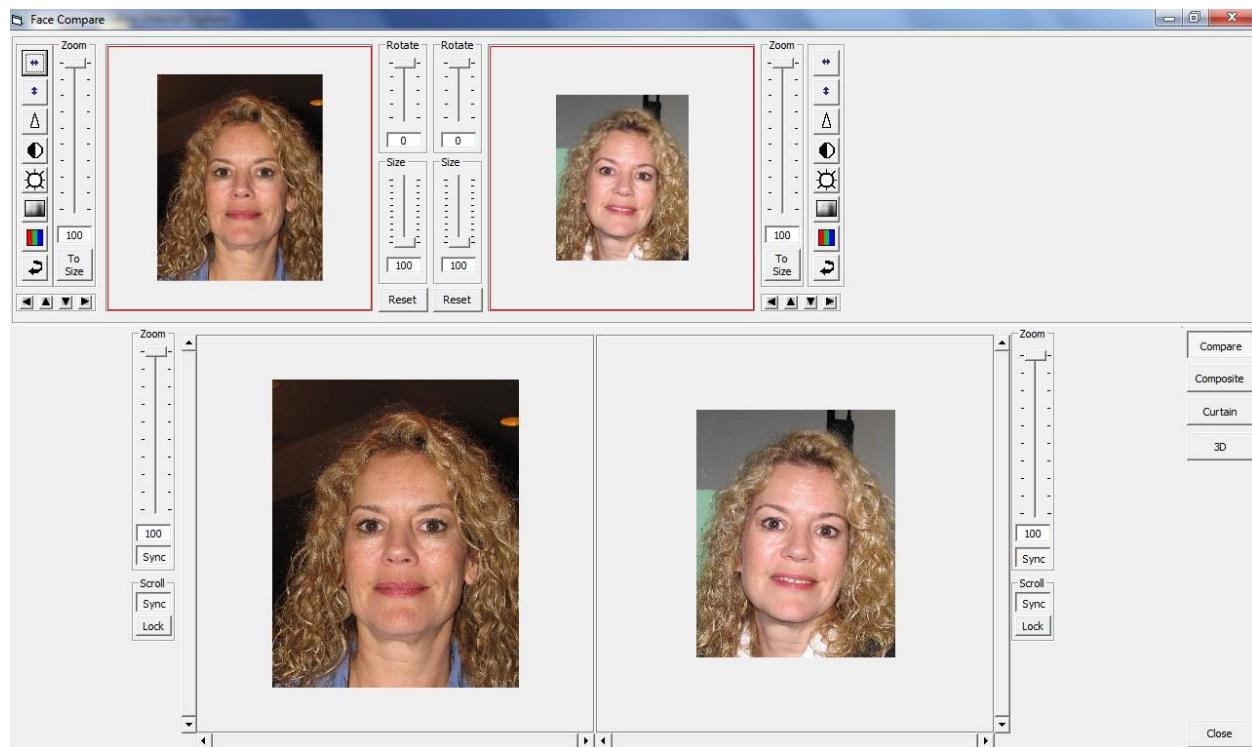
Compare

FACE Plus allows you to compare the probe image to one of the search result images. Hover over and select **Compare** on the result image that you wish to compare to the probe image to.

Make sure you have installed Facial Recognition Components for the software to work. (See [Installing Facial Recognition Components](#), page 139.) If components are installed open the comparison software.

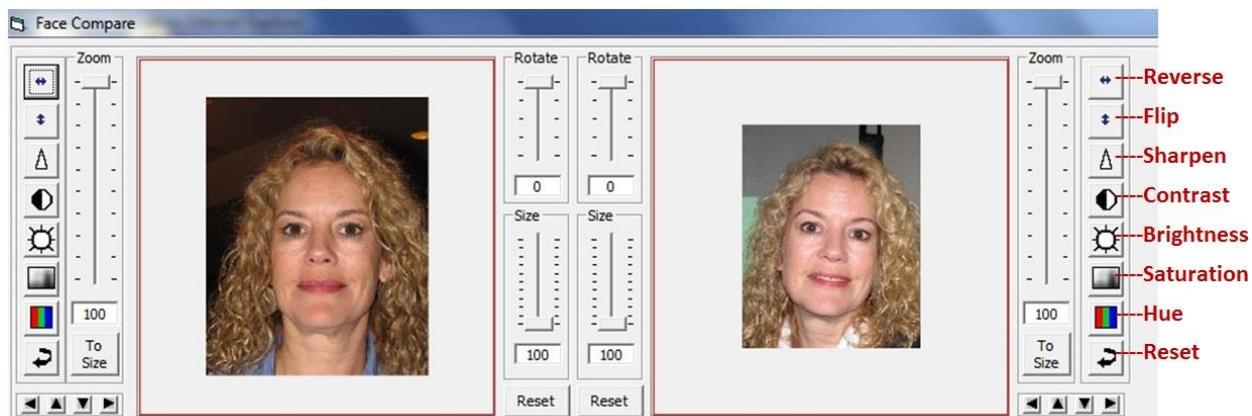


A screen similar to the following will be displayed.

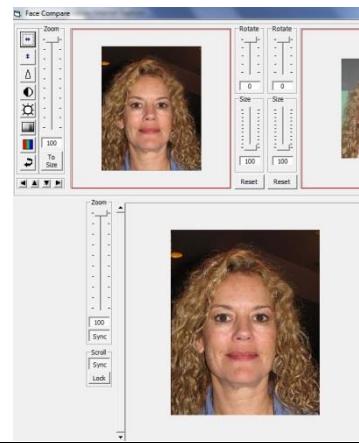


TOP PANEL OPTIONS

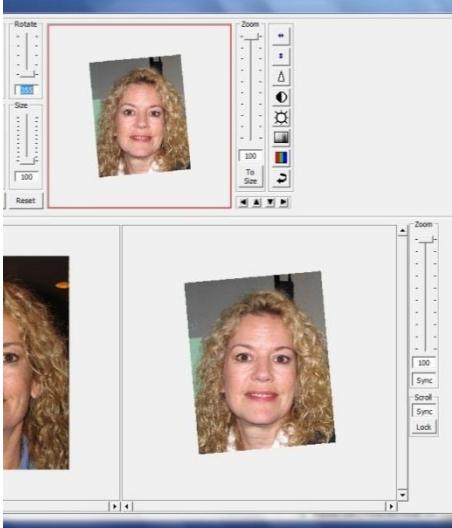
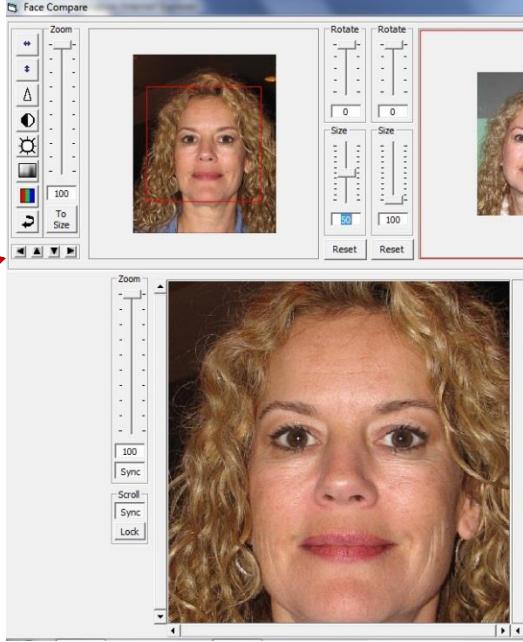
Several options are available at the top of the Face Compare screen. Unless otherwise noted, all of the actions available in the top portion of the screen will affect the larger corresponding image at the bottom of the screen.



Face Compare Screen – Top Panel Options

	<p style="text-align: center;">Original Image</p> 
	<p>Reverse Image: This will reverse the image, flip the image horizontally. Note that reversing the image also reversed the image's display at the bottom of the screen.</p> 

Face Compare Screen – Top Panel Options	
	Flip Image: This will Flip the image vertically/turn it upside down. Note that flipping the image also turned the image's display upside down at the bottom of the screen.
	Sharpen Image: This allows you to sharpen the image. Sharpening seems to bring out image detail that wasn't there before by emphasizing the edges of an image. It increases the contrast between each pixel and its neighbors. You will be prompted to enter a sharpening value. Move the slider on the bar to the left or right or type in a percentage to sharpen the image by. Select OK to apply to adjust the image.
	Contrast: This allows you to adjust the contrast of the image. Contrast is the difference in brightness between light and dark areas in an image. You will be prompted to enter a contrast setting. Move the slider on the bar to the left or right or type in a percentage. Positive values increase the contrast of the image; negative values decrease the contrast. Select OK to adjust the image.
	Brightness: This allows you to adjust the brightness of the image. Brightness adjusts how light or dark and image appears. You will be prompted to enter a brightness setting. Move the slider on the bar to the left or right or type in a percentage. Positive values will lighten the image; negative values will darken the image. Select OK to adjust the image..
	Saturation: This allows you to adjust the saturation of the image. Saturation is the "purity" of the color. Fully saturated colors are very rich and bright. Less saturated colors are more gray. You will be prompted to enter a saturation value. Move the slider on the bar to the left or right or type in a percentage to change the saturation of the image. Click OK to apply the adjustment.
	Hue: This allows you to adjust the hue, or color, of the image. You will be prompted to enter a hue angle. Depending on what number you enter, the color will be adjusted across the hue circle by that many degrees. Click OK to apply the adjustment
	Reset Image: This button will reset the image to its original size and rotation.
	Zoom: These sliders allow you to zoom in or out on the image. This zooming affects only the image at top of the screen, not the image preview below. The percentage that you are zoomed in will be displayed in the box below the slider. You can also type in the percentage that you want to zoom in the box.

Face Compare Screen – Top Panel Options	
 To Size: This button displays the image so that it fits in the preview window. Essentially this acts as a reset button if you have zoomed in on the image.	<p>To Size: This button displays the image so that it fits in the preview window. Essentially this acts as a reset button if you have zoomed in on the image.</p>
 Rotate: These sliders allow you to rotate the image. The degree that you have rotated the image will be displayed in the box below the slider. You can also enter the degree that you would like to rotate the image in the box.	<p>Rotate: These sliders allow you to rotate the image. The degree that you have rotated the image will be displayed in the box below the slider. You can also enter the degree that you would like to rotate the image in the box.</p> <p>In this example, the result image was rotated 355 degrees to correct the slight tilt of the head, so that it more resembles the angle of the probe image.</p> 
 Size: The “Size” slider will adjust the size of the red box around the image. For example, if you move the slider to 50 (or type 50 in the box below the slider) the red box will be reduced to outline 50% of the image as shown in this example. The preview image at the bottom of the screen will display the portion of the image in the red box.	<p>Size: The “Size” slider will adjust the size of the red box around the image. For example, if you move the slider to 50 (or type 50 in the box below the slider) the red box will be reduced to outline 50% of the image as shown in this example. The preview image at the bottom of the screen will display the portion of the image in the red box.</p> <p>You may drag the box to change the view or use the arrow buttons to make more precise box movements.</p> 

BOTTOM PANEL OPTIONS

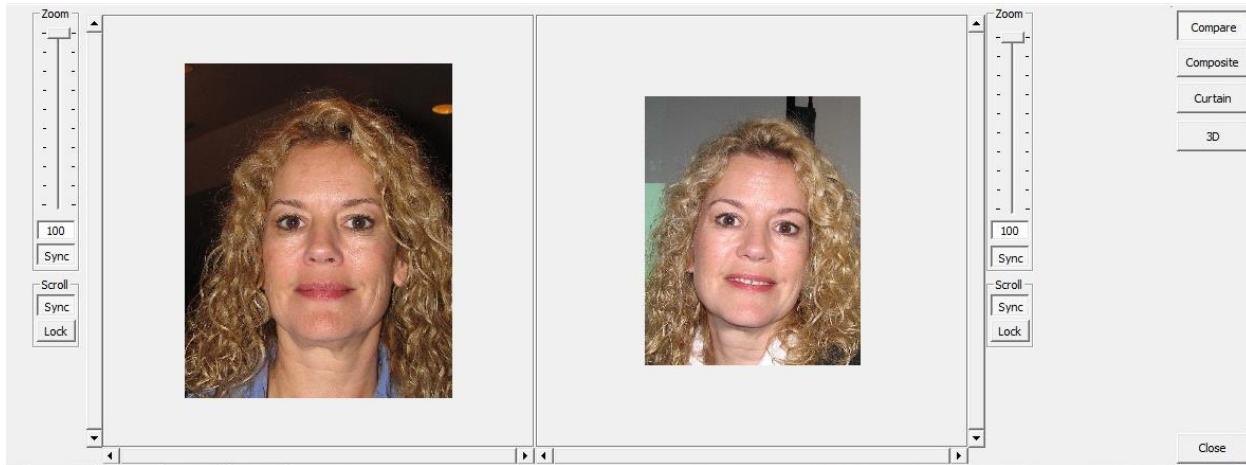
The bottom of the screen provides several tools that you can use to further compare the images. They include:

- Compare
- Composite
- Curtain
- 3D

The following sections describe these tools in more detail.

Compare

When the **Compare** button is selected, the images will be displayed side-by-side and you may compare the images by zooming and scrolling them.



Compare: Zoom

These sliders allow you to zoom in and out of the image. You can also enter the percentage that you would like to zoom in the box underneath the zoom slider. Click **Sync** to zoom the images simultaneously.

Note in the top screen, **Sync** was not clicked (pressed) before zooming to 217%, so only the left image was zoomed.



In the second screen, **Sync** was clicked (pressed) before zooming, so both images were zoomed simultaneously to 211%.

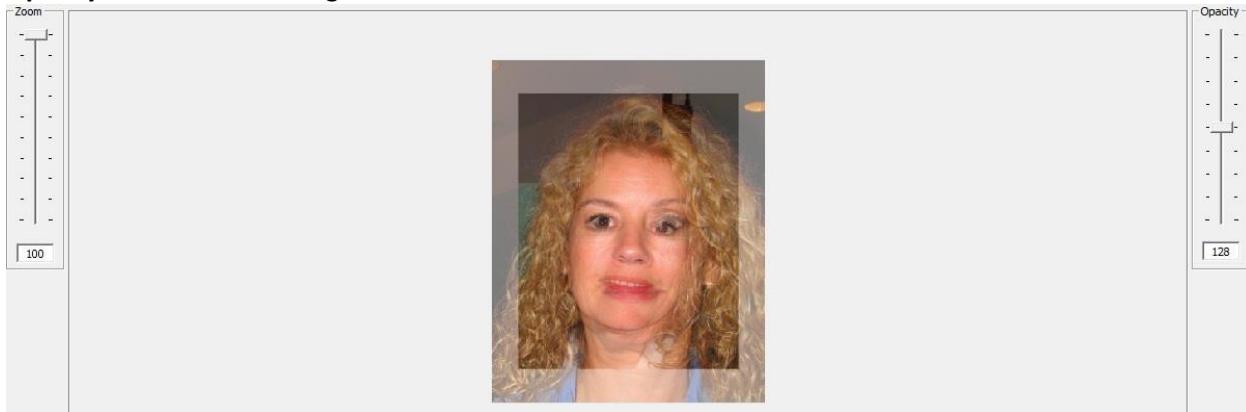
Scrolling

You may move the image around by clicking on the image and holding down the left mouse button while you move the mouse. The two Scroll buttons, **Sync** and **Lock** affect how the images move in relation to one another. When **Sync** is pressed, the images will be brought in line with each other and moved simultaneously. When neither button is pressed, you may move each image individually. When **Lock** is

pressed, the images will be locked at their current positions and you can then scroll them simultaneously.

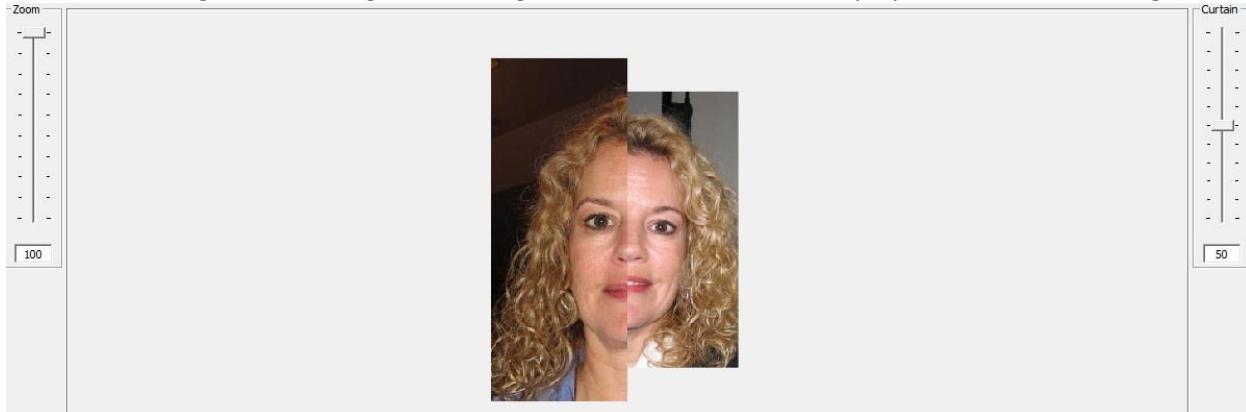
Composite

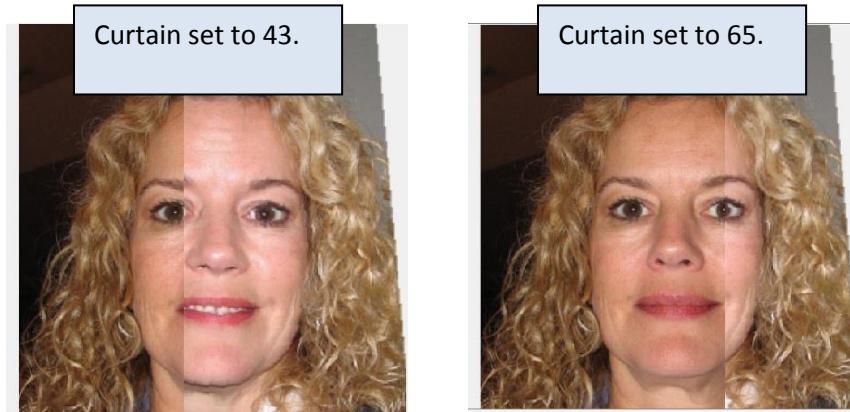
When **Composite** is selected, the images will be overlaid on each other. You may zoom in on the composite image by using the zoom slider bar. You may adjust the opacity of the images by using the **Opacity** slider bar on the right.



Curtain

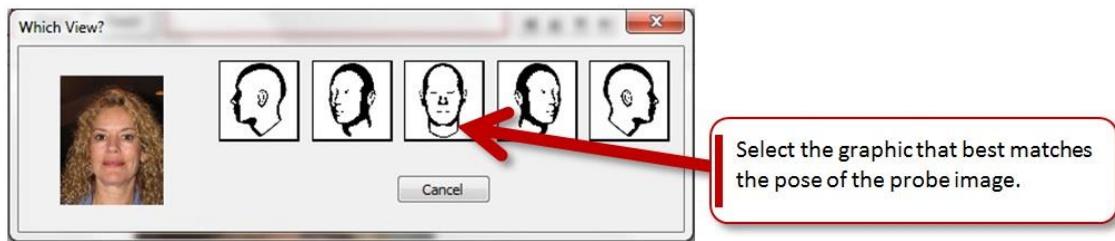
When **Curtain** is selected, the left portion of the probe image and the right portion of the result image will be displayed. You may adjust how much of each image is shown by changing the "Curtain" slider located to the right of the image. Increasing the curtain number will display more of the left image.



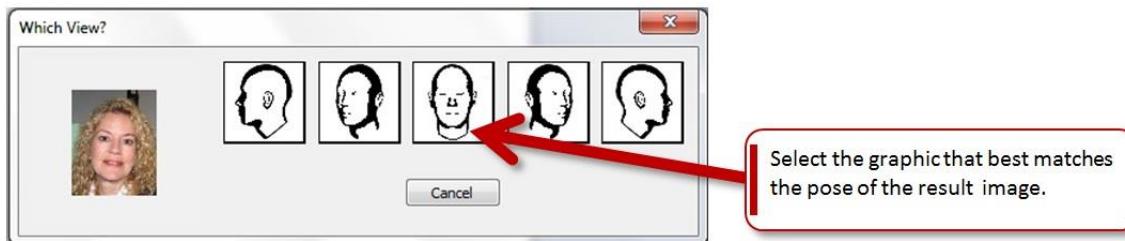


3D

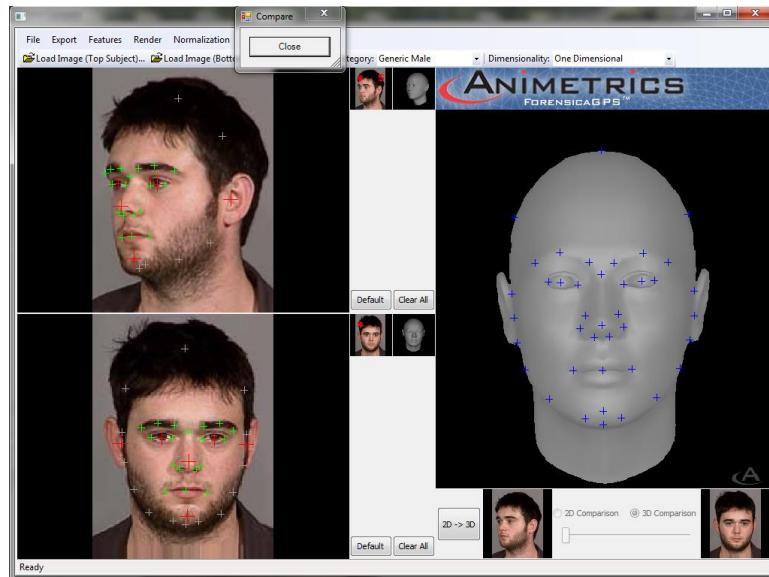
The **3D** option allows you to generate a 3D model, which is comprised of both the probe image and the result image. When you click the 3D button, you will be prompted to select the view that best matches the probe image's pose.



Click the graphic that best matches the pose of the probe image. You will then be prompted to select the view that best matches the result image's pose.



Click the graphic that best matches the pose of the result image. Both images will be displayed as shown on the following screen.



The accuracy of the 3D models generated is dependent upon the accuracy of the 2D feature points that overlay the original images. The features points are displayed on the image as red, green, and gray/blue crosshairs. Verify that the red crosshairs are in the correct place (eyes, chin and ear). The green and gray crosshairs may be moved if you wish to fine-tune the image. If you wish to move the feature points, refer to the following section: “*Adjusting Features*” on page 81; otherwise, proceed to “*Generating the 3D Model*” on page 82.

Adjusting Features

The images will load onto a screen with a feature map on the right showing correct feature point placement. Under the menu item “Features”, check the option to **Display Feature Map**. The Feature Map displays the proper anatomical locations for each point. You may refer to it while adjusting the location of the selected crosshair. When you click one of the crosshairs on the probe image, the crosshair on the Feature Map model will be highlighted in green to show you the proper placement. The green and gray/blue crosshairs may be moved if you wish to fine-tune the image by selecting the option **Activate Advanced Features**. To reset the feature points to their original locations, select the **Reset Features** dropdown in the “Features” menu item.

Primary (Red) Points

Click and drag any of the red feature points to their proper location. When the mouse is released, the green and gray/blue “secondary” features are recalculated in real time based on the “primary” red features. This method of feature point adjustment will be sufficient to generate an accurate 3D model in most cases.

Feature Fine Tuning

The green and gray/blue secondary features can also be moved if desired. To enable the secondary features, select the **Activate Advanced Features** dropdown in the “Features” menu item. The secondary features may now be adjusted by clicking and dragging with the mouse. The red primary features may also be moved, but if you adjust them when the “**Advanced**” box is checked, they system will not automatically recalculate the green and gray/blue feature points. The green features indicate the subset that have either been detected or manually adjusted by the user. The blue/gray set is projected from the generated 3D model.

Resetting Features

To reset the feature points on an image to the original detected locations, select the **Reset Features** dropdown in the “Features” menu item.

Hiding/Showing Features

To toggle hiding/showing of the feature points on an image, select the **Show Features** dropdown in the “Features” menu item.

Proceed to “*Generating the 3D Model*”.

Generating the 3D Model

Once the feature points have been adjusted (if necessary), it is time to generate the 3D model.

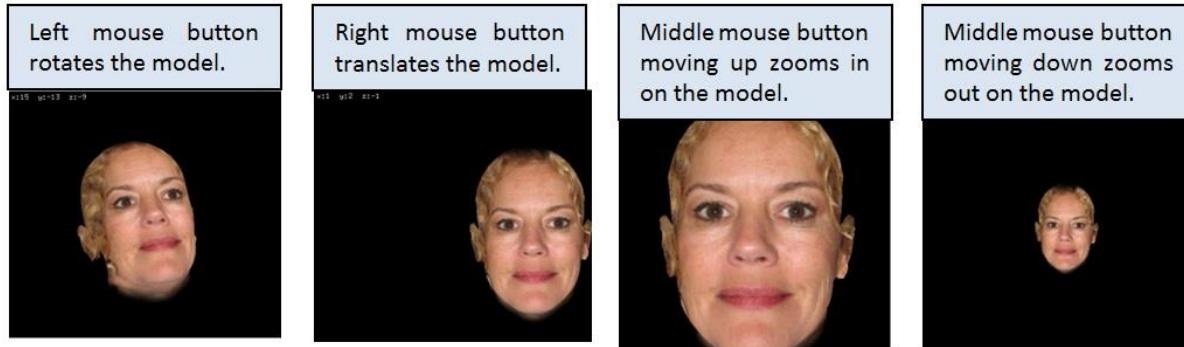
- **Category:** Select the category from the dropdown list that best represents the subject in the photograph.
- **Dimensionality:** This parameter affects the variability and statistics used in generating the 3D geometries. Choose “One Dimensional” for a smooth, generic geometry, “Infinite Dimensional” for a more variable geometric structure. “Hundred Dimensional” is a compromise between the generic and specific choices. Note: all dimensionality choices may not be available for the selected metadata category.
- **2D ->3D Model:** Once the metadata category and dimensionality selections have been chosen, click on the **2D -> 3D** button to proceed with the 3D geometry generation. A 3D model comprised of both images will be generated.



The 3D model is comprised of both the probe and result images. You may use the slider bar to adjust the view to show more of the probe or result image.

Rotating and Translating the 3D Model

You may rotate and translate the 3D model with your mouse. Click the left mouse button, hold and drag to rotate the model. Click and drag the right button to translate the model. Click and drag with the middle button to move the model towards or away from you (zooming in and out).

*Creating a Splitview of the 3D Model*

You may also create a splitview of the 3D model. Select **Split Viewport** from the “Render” menu.



The red line may be rotated. Place your mouse pointer near the top or bottom portion of the line. When the pointer changes to a circular arrow, hold down the left mouse button and drag.



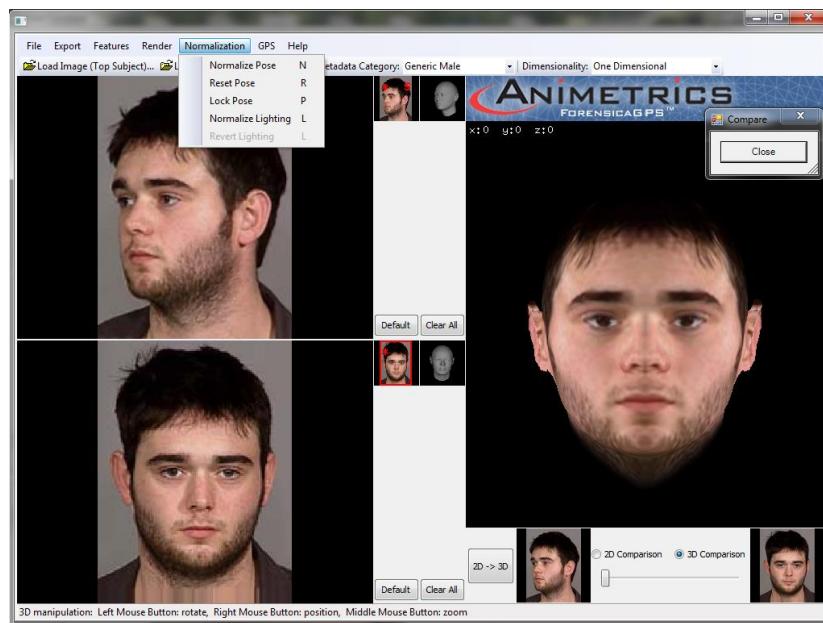
Click **Close** when you have finished comparing the 3D models. You will be returned to the Compare screen.

Normalizing the 3D Model – Poses and Lighting

The **Normalization** menu contains tools for visualizing the 3D geometries of both subjects simultaneously as well as normalizing the lighting in the primary photographs. The Normalization tools are not active until a model has been generated with the **[2D -> 3D Model]** button. Click the **Normalization** menu. From here, you may change the pose of the 3D model and normalize the lighting of the image.

Choosing a reference image/pose

Clicking on the image thumbnails directly to the right of the subject viewports will change the reference pose to match that of the selected image. The 3D model will be rotated to match the selected pose. In the following example, the top thumbnail was clicked. Clicking **Normalize Pose** will return the 3D model to a neutral pose. **Reset Pose** will return the 3D model to its previous position, while **Lock Pose** will keep the model in the current pose.



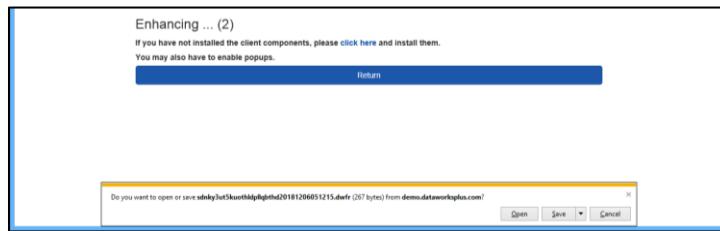
Normalize Lighting

Clicking **Normalize Lighting** item in the “Normalization” menu will compute the lighting field on each primary view and attempt to normalize the lighting effects on the 3D texture. To toggle between the normalized and original lighted textures, select **Revert Lighting** or **Normalize Lighting** in the menu.

Chart Compare

Chart Compare allows you to make annotations and measurements on the probe image and the result image. Hover over **Chart Compare** on the result image that you wish to compare to the probe image too.

If components are installed open the comparison software. (See [Installing Facial Recognition Components](#), page 139.)



A Facial Markup screen similar to the one below will be displayed.



SET EYE LOCATIONS

First set the eye locations for both the probe and result images.

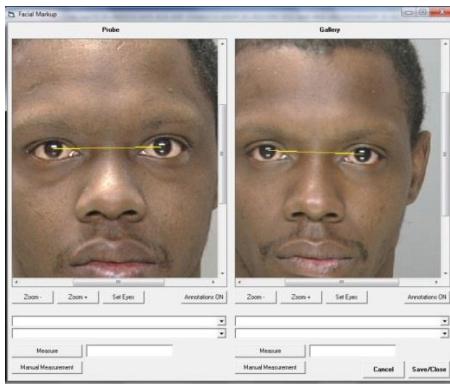
Set Eye Locations for Probe Image

Click **Set Eyes**. If you'd like to zoom on the image, click **Zoom**. You should draw a line between the pupils on the image. On the probe image, go to the left pupil, click and hold the left mouse button, and drag to the right pupil's location. Release the mouse button. The line you drew will be displayed.



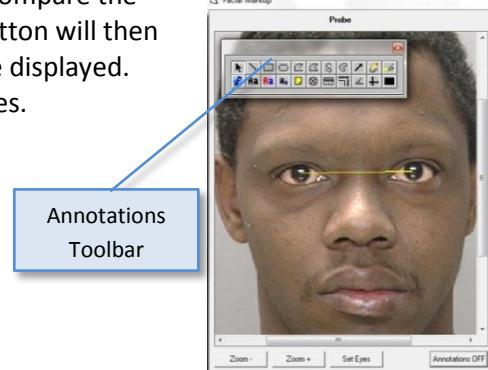
Set Eye Locations for Result Image

Set the eye locations for the result image on the right side of the screen. Click **Set Eyes**. If you'd like to zoom on the image, click **Zoom**. Go to the left pupil, click and hold the left mouse button, and drag to the right pupil's location. Release the mouse button. The line you drew will be displayed.

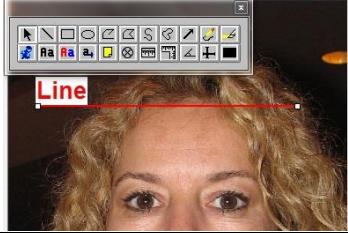
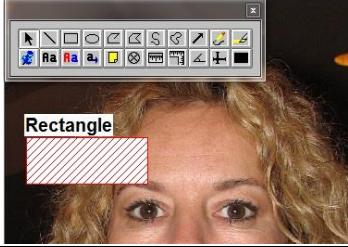


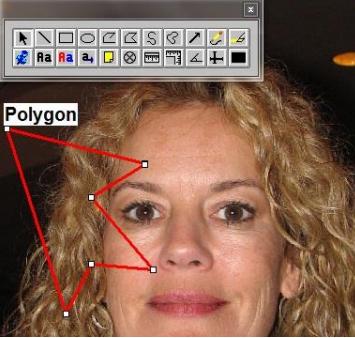
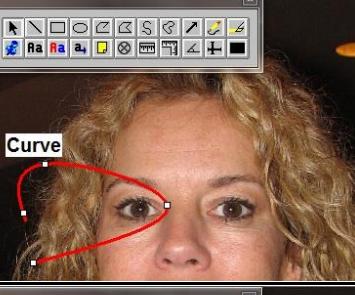
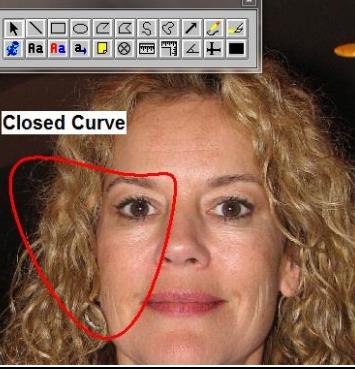
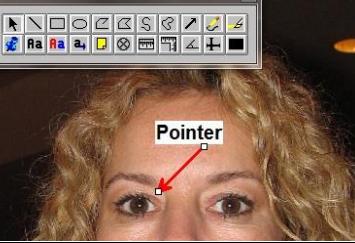
ADDING ANNOTATIONS

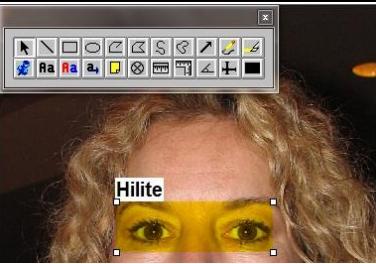
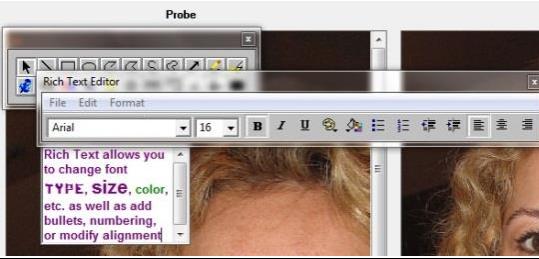
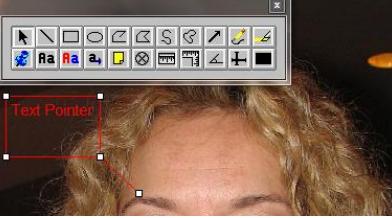
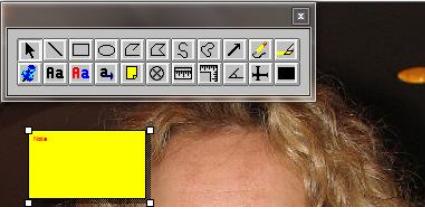
You may add annotations or make measurements to further compare the two images. Click **Annotations ON** beneath the image. The button will then display "**Annotations OFF**" and the Annotation Toolbar will be displayed. Several tools are available for adding annotations to the images.

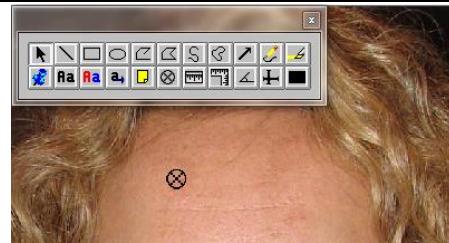
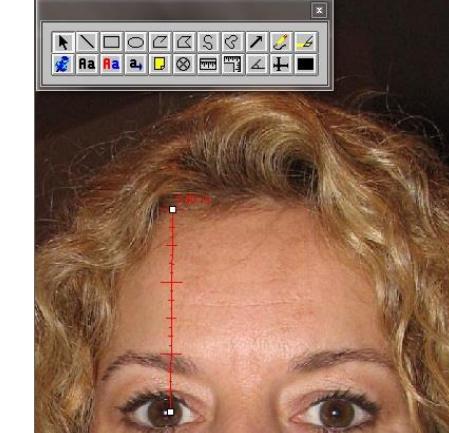
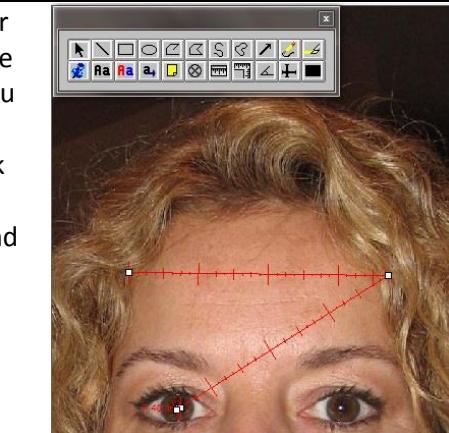
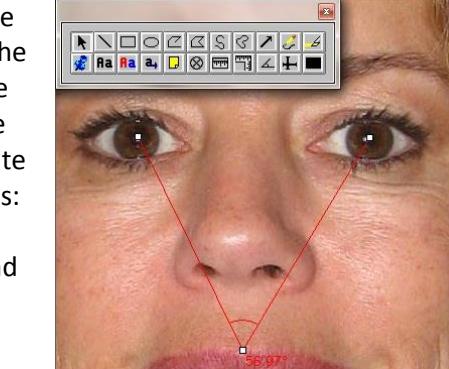


Annotation Toolbar

Annotation Toolbar	
	Select allows you to select drawn objects or selected areas on the image.
	Line allows you to draw a line. After the line is drawn, you may right-click the line and modify the properties of the line, including its color and width. You may also name the line. Available property options are Name, Line, ROP2, Fill, Foreground Color, Background Color, and Font. 
	Rectangle allows you to draw a rectangle. After the rectangle is drawn, you may right-click the rectangle and modify the properties, including its color and width. You may also name it. Available property options are Name, Line, ROP2, Fill, Foreground Color, Background Color, and Font. 
	Ellipse allows you to draw an ellipse. After the ellipse is drawn, you may right-click the ellipse and modify the properties, including its color and width. You may also name it. Available property options are Name, Line, ROP2, Fill, Foreground Color, Background Color, and Font. 
	Polyline allows you to draw connecting lines. Click on the image to start the first line, and then click where you want to change direction. Do this until you have drawn the shape you need. Double click to see the completed drawing. Right click for polyline properties: Name, Line, ROP2, Fill, Foreground Color, Background Color, Font, and Nodes. 

Annotation Toolbar	
	<p>Polygon allows you to draw lines, and then closes the image by connecting the first and last points. Click on the image to start the first line, and then click where you want to change direction. Do this until you have drawn the shape you need. Double click to see the completed drawing. Right click for polygon properties: Name, Line, ROP2, Fill, Foreground Color, Background Color, Font, and Nodes.</p> 
	<p>Curve allows you to draw a curve. Click on the image to start the first line, and then click where you want the curve to be. Move the mouse and click again to create another curve. Do this until you have drawn the shape you need. Double click to see the completed drawing. Right click for curve properties: Name, Line, RPO2, Foreground Color, Nodes, Fixed.</p> 
	<p>Closed Curve allows you to draw a closed curve. Click on the image to start the first line, and then click where you want the curve to be. Move the mouse and click again to create another curve. Do this until you have drawn the shape you need. Double click to see the completed drawing – the curve will automatically be closed for you. Right click for closed curve properties: Name, Line, ROP2, Fill, Foreground Color, Background Color, Nodes, Fixed.</p> 
	<p>Pointer allows you to draw an arrow. Right click for pointer properties: Name, Line, ROP2, Fill, Foreground Color, Background Color, and Font.</p> 
	<p>Freehand allows you to draw a freehand shape. Right click the shape for freehand properties: Name, Line, ROP2, Fill, Foreground Color, Background Color, Font, and Nodes.</p> 

Annotation Toolbar		
	Highlighter allows you to highlight the selected area. Right click highlight properties: Name, Foreground Color, Background Color, and Font.	
	Pushpin allows you to add a note with a push pin graphic. Right click for pushpin properties: Name, Foreground Color, Background Color, Font, Bitmap, Text, and Secondary Bitmap.	
	Text allows you to add text to the image. Click and hold down the mouse button to create the text box. Type the desired text.	
	Rich Text allows you to add text to the image, and provides additional options for modifying the text, such as changing the font, size, and/or attributes of the text.	
	Text Pointer allows you to add a note field that you can type text in and then extend a pointer line. Click on the image and hold the mouse button and drag to create the text box. Release the mouse button. Move the mouse to create the pointer line. Click the left mouse button to set the ending point of the pointer line. Right click the text box for text pointer properties: Name, Line, ROP2, Fill, Foreground Color, Background Color, Font, Text, and Fixed.	
	Note allows you to add a note field that you can type text in. Click on the image and hold the mouse button and drag to create the note box. Type the desired text in the box. Right click for note properties: Name, Fill, Foreground Color, Background Color, Font and Text (this option lets you change the text that is shown in the note).	

Annotation Toolbar		
	Point allows you to draw a crosshair point. Right click for point properties: Name, Transparent, Transparent Color, Fill, Foreground Color, Background Color, Font, and Bitmap.	
	Ruler allows you to draw a ruler with a measurement. Click and hold the mouse button and drag to create the ruler. Right click the ruler for properties: Name, Line, ROP2, Fill, Foreground Color, Background Color, Font, Ruler, and Fixed.	
	Polyruler allows you to draw connecting ruler lines with a measurement. Click on the image to start the first line, and then click where you want to change direction. Do this until you have drawn the shape you need. Double click to see the completed ruler. Right click for properties: Name, Line, ROP2, Fill, Foreground Color, Background Color, Font, Ruler, Nodes, and Fixed.	
	Protractor allows you to find the angle degree between two points. Click where you want the vortex to be and then move the mouse to the first location and click. Then move the mouse to the second location and click again to create the angle. Right click for protractor properties: Name, Line, ROP2, Fill, Foreground Color, Background Color, Font, Ruler, Protractor, and Fixed.	

Annotation Toolbar	
	Crossproduct allows you to draw perpendicular rulers with measurements. Click and hold the mouse button and drag to create the rulers. Right click for properties: Name, Line, ROP2, Fill, Foreground Color, Background Color, Font, Ruler, and Fixed.
	Redact allows you to draw a rectangle that is filled with a color. Right click for Redact properties: Name and Background Color.

The “Text Pointer”  and “Point”  tools will be described in more detail in the following section because they are used to assign points on the image(s), which are then used with the assigned points measuring tool.

MAKING MEASUREMENTS

Before making a measurement, be sure that the eye locations have been set. See Set Eye Locations for Probe Image on page 86 for more information. You may either measure between two assigned points on the image or measure the length of a line you draw on the image (no assigned points).

Assigned Point Measurements

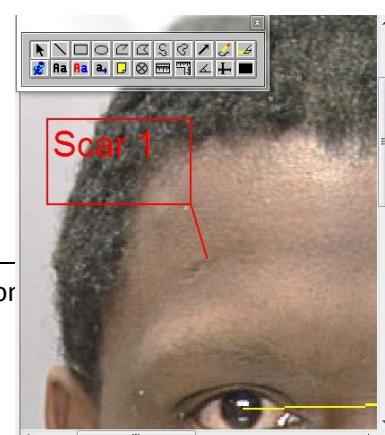
In order to measure between assigned points on an image, you must first designate the point(s). You will need two or more points for measurements.

Assigning Points

Two tools allow you to assign points on the image:

- Text Pointer 
- Point 

To access the annotations toolbar, first click **Annotations ON**. The toolbar will be displayed. Click  to access the Text Pointer tool. Click near the point you'd like to reference, hold the left mouse button and drag to draw the text box. When you release the left mouse button, drag the mouse to the location of the point on the image that you wish



to reference. When you reach the desired location, click the left mouse button. A line from the bottom right corner of the text box will be drawn. Type the text you wish to use to describe this point and press [Enter].

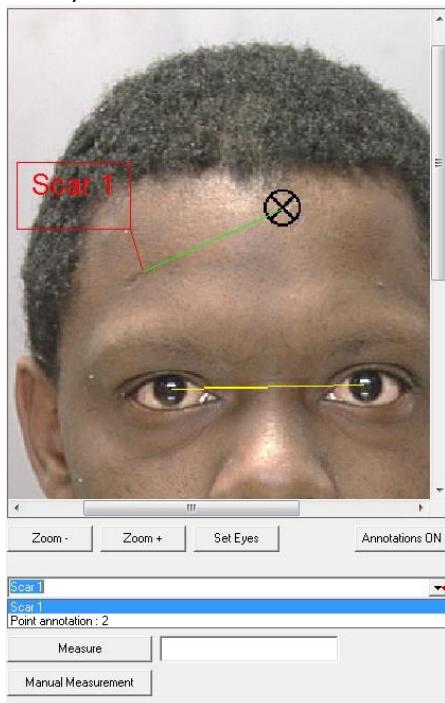
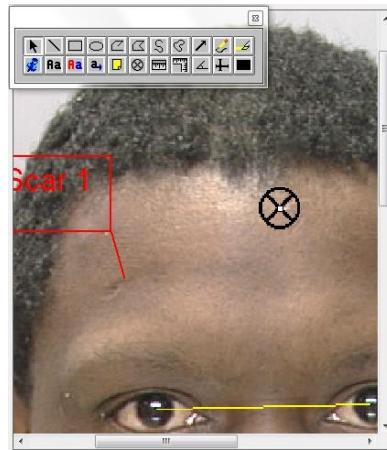
In the previous example, we typed "Scar 1" to designate the right end mark of the scar. Set at least one other point on the probe image. You may use the Text Pointer tool again or the Point tool. In the following example, we'll use the Point tool. Make sure Annotations are active.

Click  to access the Point tool. Click on the point you'd like to reference.

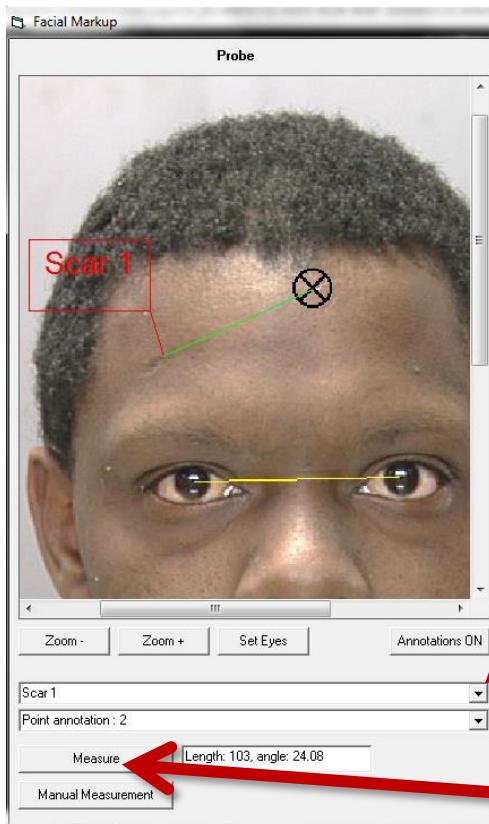
Assign similar points on the results image.

Measuring the Distance Between the Points

You may then measure the distance between the points. Below the "Zoom", "Set Eyes" and "Annotations" buttons are two fields that have a down-arrow button signifying a drop-down list. Click the drop-down arrow in the top field and select the starting point of the measurement (all assigned points will be listed).

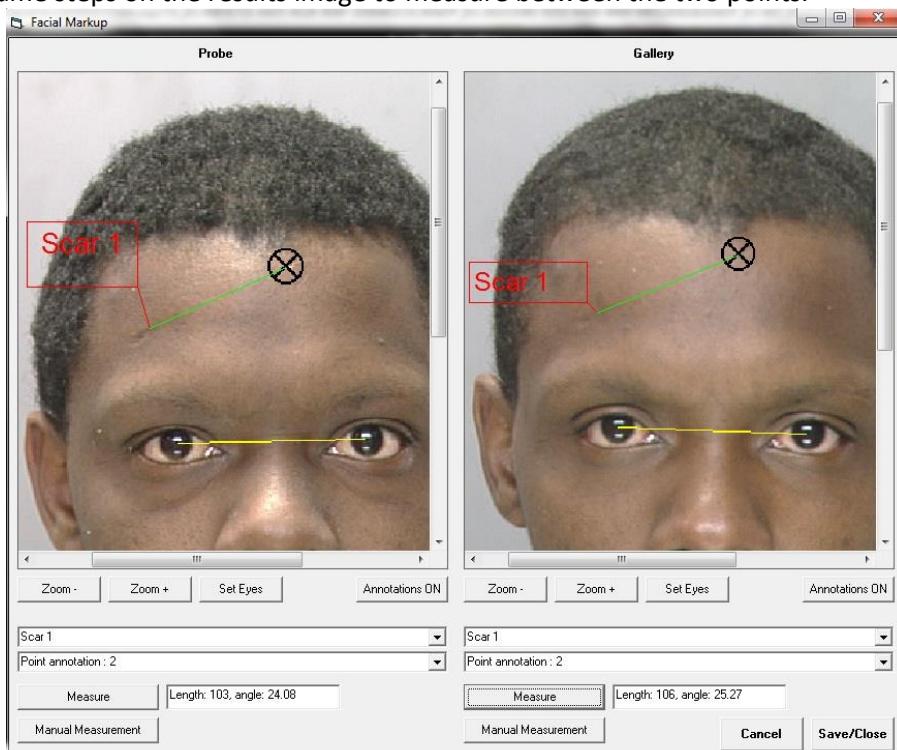


Click the bottom drop-down arrow and select the ending point of the measurement. Click the **Measure** button. The length and angle between the two points will be displayed.

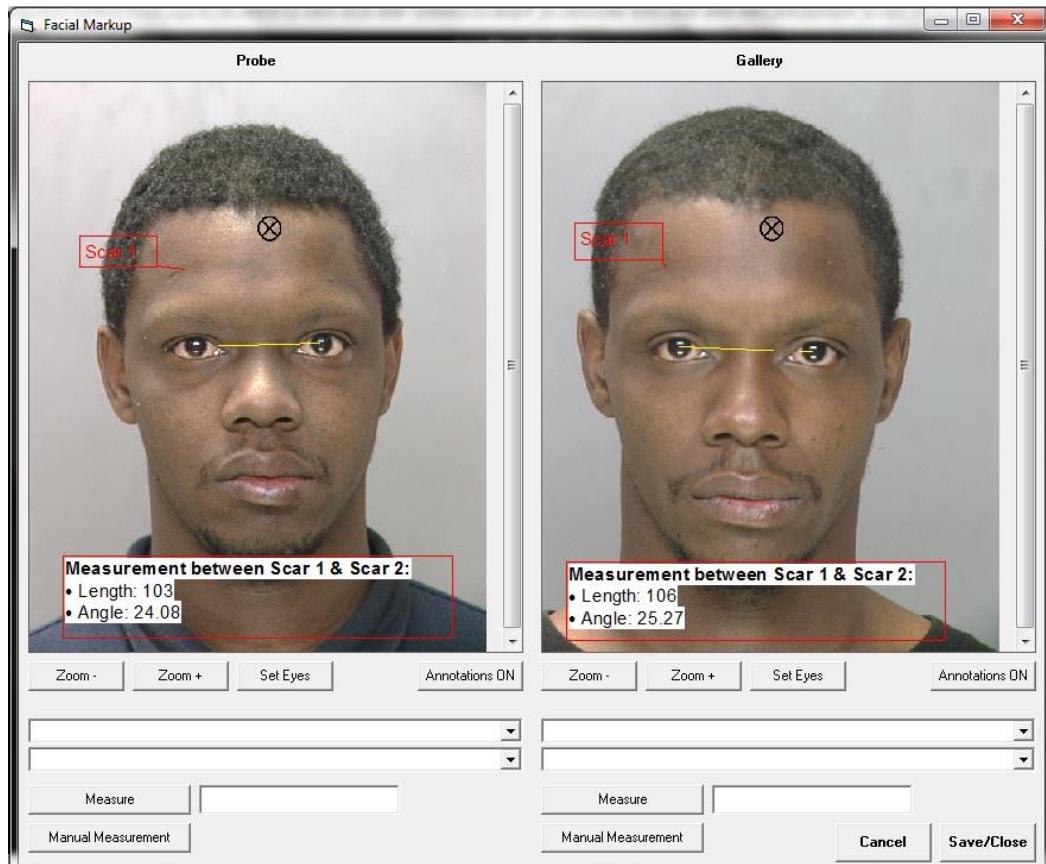


Then click **Measure** – the length and angle between the two points will be displayed.

Perform the same steps on the results image to measure between the two points.



The measurements are not saved, so you may want to create a text box to make notes of the measurements, as shown in the following screen.



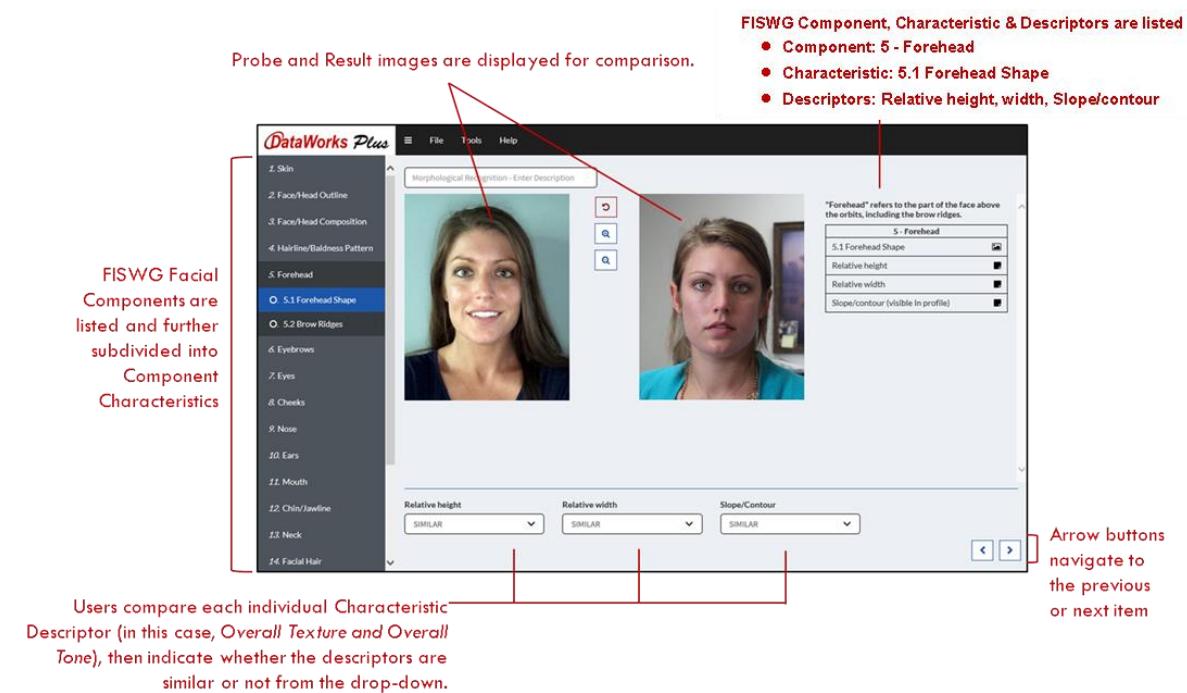
Manual Measurements/No Assigned Points

You may still make measurements even if you haven't assigned particular points, by using the **Manual Measurement** tool. Click the **Manual Measurement** button, then click on the image at the starting point and hold down the mouse button to drag to the ending point. A green line will appear on the image and the measurement will appear in the box to the right of the **Measure** button.



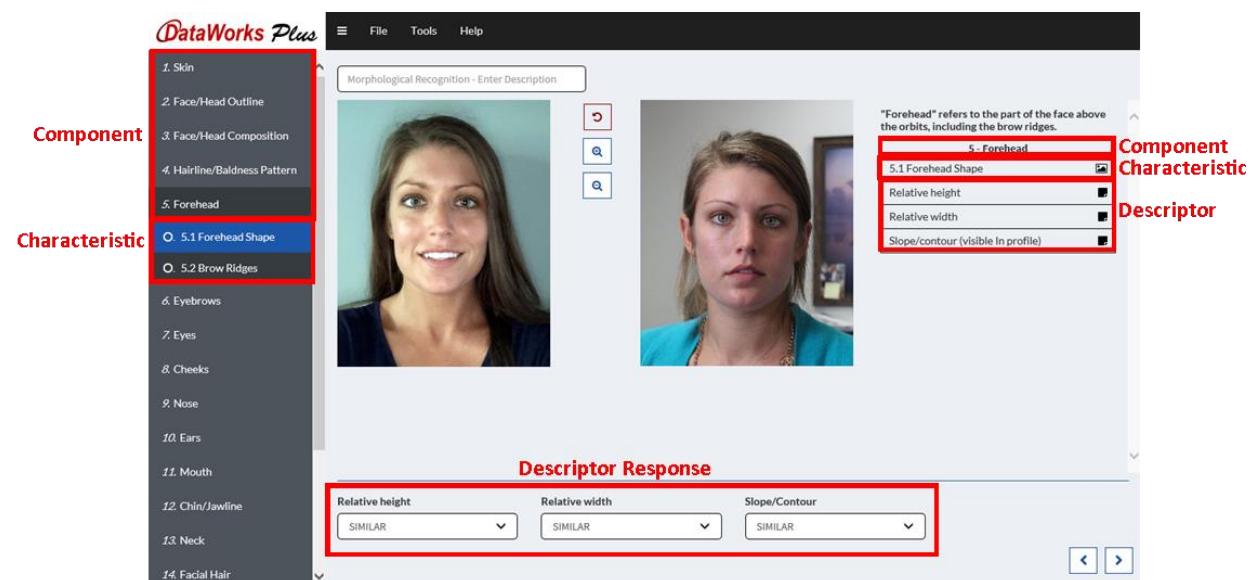
Morph Compare

Perform facial morphological comparisons based on FISWG's "Guidelines for Facial Comparison Methods" standards. This powerful tool will aid investigators when performing facial comparisons and analysis. Morph Compare is structured upon the FISWG document, which subdivides the face into a list of "Facial Components" to be compared. Users are guided step-by-step through the analyzation of each component characteristic and descriptors. Hover over **Morph Compare** on the result image that you wish to compare to the probe image too.



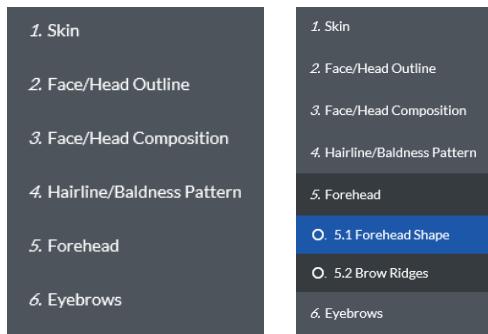
MORPH COMPARE OVERVIEW

There are 19 FISWG guidelines for facial comparison components, all listed in the left side panel. Each component is further sub-divided into Characteristics, which are further subdivided into Descriptors. Click on a facial component to view all characteristics associated with the Component in the left side panel. Click on the Characteristic to reveal the Characteristic Comparison screen for that Characteristic. Each Characteristic will have a list of descriptors associated with it, listed in the Characteristic Table on the right. The application will request a comparison of the two facial images using these descriptors. Indicate whether they are similar, not similar, or undetermined with the Descriptor Response drop down menu below the images.



NAVIGATE TO THE COMPARISON SCREEN

Click on the facial component (5. Forehead) in the left side panel to reveal its characteristics (5.1 Forehead Shape, 5.2 Brow Ridges). Navigate through Morph Compare using the arrows at the bottom right corner of the comparison screen or the left side panel, clicking through different components and their characteristics.



Click on a characteristic (5.1 Forehead Shape) to reveal its comparison screen. In the following example characteristic 5.1: Forehead Shape has been selected. The Characteristic Table will display a list of all descriptors that will be used to compare the two images. These descriptors are displayed at the bottom of the comparison screen with a drop down menu for comparison indication.

Characteristic Comparison Screen

Characteristic Table

"Forehead" refers to the part of the face above the orbits, including the brow ridges.

5 - Forehead
5.1 Forehead Shape
Relative height
Relative width
Slope/contour (visible in profile)

COMPARISON SCREEN**Characteristic Table**

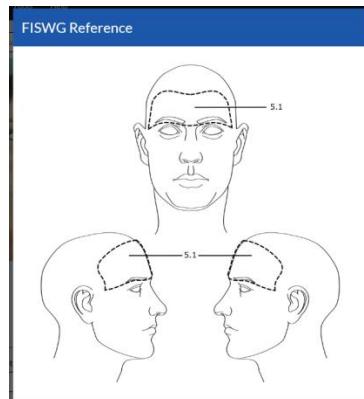
Use the Characteristic Table as a guide for comparing the two facial images. An explanation of the Component will be displayed above the table. The table will show the Component being compared (5-Forehead), the Component's Characteristic (5.1 Forehead Shape), and that Characteristic's Descriptors (Relative height, Relative width, Slope/contour (visible in profile)).

"Forehead" refers to the part of the face above the orbits, including the brow ridges.

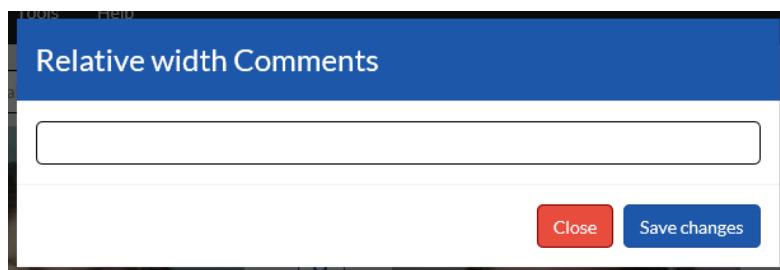
Component explanation

5 - Forehead	Component
Characteristic	
5.1 Forehead Shape	
Relative height	
Relative width	Descriptor
Slope/contour (visible In profile)	

Click on the  icon to the right of the characteristic to view a reference image of what to compare. The official FISWG Reference will display multiple views of the characteristic being compared, outlined in dashed lines. Click on an area outside the window to return to the Comparison screen.

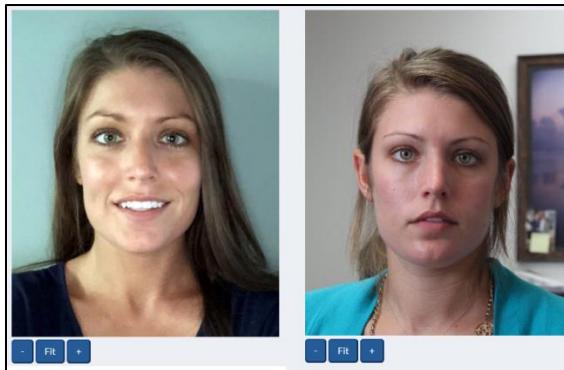


Click on the  icon to add a comment to that descriptor. The comment window will be displayed for that descriptor where the user can enter comments. Select **Save changes** to save a comment, select **Close** to return to the Comparison screen without saving a comment. If a comment is saved for a descriptor, it will reappear if a user reselects the  icon.

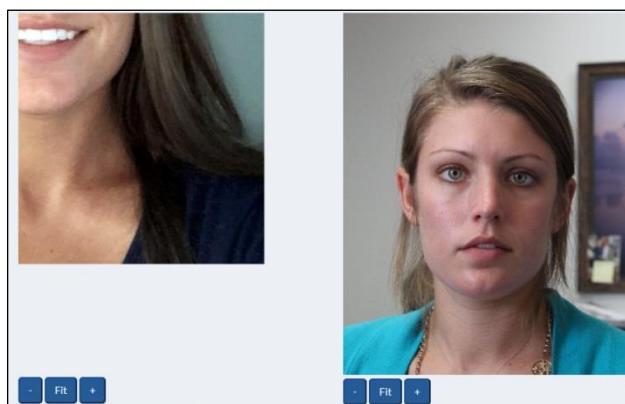
**Zoom**

Zoom in on each face using the zoom tools located below the two facial images.

Use the options (-, Fit, +), or your mouse wheel to zoom in/out on the images, or fit the images to the viewing window.



Left click and drag to move a zoomed-in image to different sections of the viewing window.



Compare the Images

The application will request a comparison of the two facial images using the descriptors. Indicate whether they are similar, not similar, or undetermined with the Descriptor Response drop down menu below the images.

Use the arrows at the bottom of the screen to tab to further descriptors for that characteristic (some sections may have multiple descriptors that do not fit on the screen). Once all descriptors have been tabbed through the arrow will automatically advance to the next section. **Note:** If you are navigating using the left side panel it is important to use the arrows to tab through that characteristic's descriptors to ensure all have been filled in.

Relative height	Relative width	Slope/Contour
<input type="button" value="SIMILAR"/> <input type="button" value="NOT SIMILAR"/> <input type="button" value="UNDETERMINED"/>	<input type="button" value="▼"/>	<input type="button" value="▼"/>
		<input type="button" value="<"/> <input type="button" value=">"/>

Once all descriptors have been entered, start comparing the next Characteristic by clicking on it in the left side panel, or the arrows to automatically advance to the next section.

DESCRIPTION

Add a description to the Morph Compare session. Click **Save** under the File drop down menu at the top of the screen to save the description.

Morphological Recognition - Enter Description

SAVE

Select **Save** under the File drop down menu to save a description or any comparisons made to the Morph Compare Session. If you wish to revisit a Morph Compare Session, hover over the record from the Facial Recognition Session screen and select Morph Compare. If any work was saved in the session it will reappear.

REPORTS

Upon completion of comparison, the application will enable users to generate a report of the results or allow another user to conduct an additional review. Click Report under the File drop down menu at the top of the screen. A print preview of the report will be generated. Information about the session, the images being compared, and all morphological comparisons will be included.

The print preview shows a header with four buttons: Print, Previous, Next, and Return. Below the header is the title "Morphological Recognition Report". On either side of the title is a circular logo featuring a shield with a crown and a figure. Under the title, there are two sections: "Session Information:" and "Morphological Information:". The "Session Information:" section includes fields for Session ID (S191), Description (Case 4444), and Date Created (2019-04-15). The "Morphological Information:" section includes fields for Date Printed (Apr 17 2019 11:51AM) and Date Printed (Apr 17 2019 11:51AM). Below these sections are two photographs of women's faces. To the left of the first photograph is the heading "1.1 Overall Skin Appearance" with sub-points for Overall Texture (SIMILAR) and Overall Tone (SIMILAR). To the right of the second photograph is the heading "2.2 Overall Shape of Face" with sub-points for Portrait Contour (NOT SIMILAR) and Profile Contour (SIMILAR). Between the two photographs are three comparison sections: "1.1 Proportions/Position of Features on Face", "2.1 Shape of Cranial Vault", and "4.1 Forehead Hairline".

All comparisons made will be included in the report, scroll down to view all comparisons on the print preview. If a comparison was made it will appear on the report in bold as similar, not similar, or undetermined, as pictured below for characteristic 10.4. If no comparison was made the area will be left blank on the report, as pictured below for characteristic 10.5.

10.4 Overall Right EarSize: **SIMILAR**Shape: **SIMILAR**Angle: **UNDETERMINED**10.5 Overall Left Ear

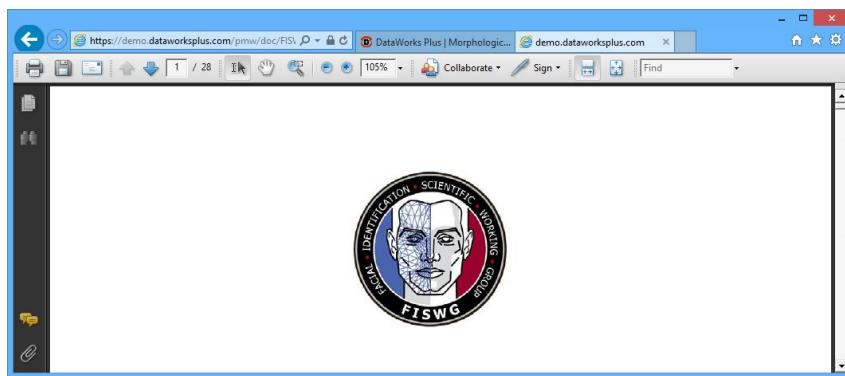
Size:

Shape:

Angle:

HELP

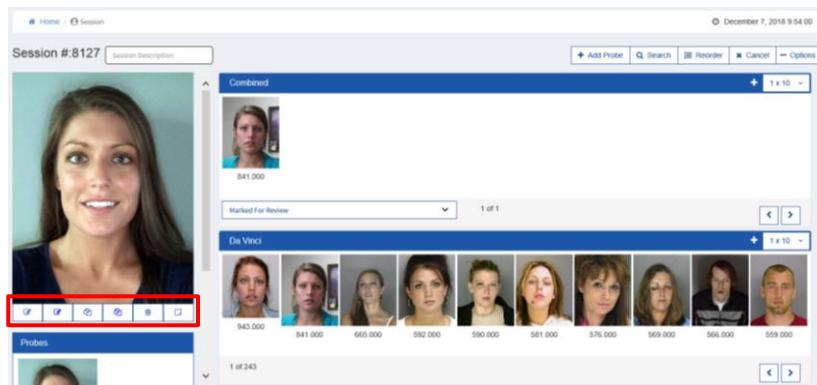
Click the help drop down menu at the top of the screen to view additional help documents, including the official FISWG documentation.

**CLOSE**

Select **Close** under the File drop down menu to exit out of the Morph Compare Session, and return to the Facial Recognition Session.

Editing Probes

The Probe images can be edited to provide even more accurate results by marking the eye locations, cropping the images to be similar, correcting image brightness, and other basic editing functions. Pose correction and lighting normalization is also available, allowing you to search facial images that were once unsearchable.



Only the selected probe may be edited. To change the selected probe click on a different probe image under the Probes menu, you might only have one image here in which case that will be the selected probe. Use the probe editing tools to begin editing the selected probe.



1. **Edit and Add:** allows you to edit a copy of the probe image. The edited image will be an additional probe image. The original will remain.
2. **Edit and Replace:** allows you to edit the probe image. The edited image will replace the original.
3. **Edit Replace/Add (Simple):** will take you to the basic image editor.
4. **Edit Replace/Add:** will take you to pose correction.
5. **Delete:** allows you to delete the selected probe.
6. **Probe Comments:** allows you to add comments to the selected probe.

Edit Replace/Add (Simple) – Image Editor

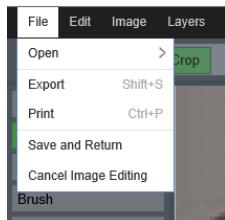
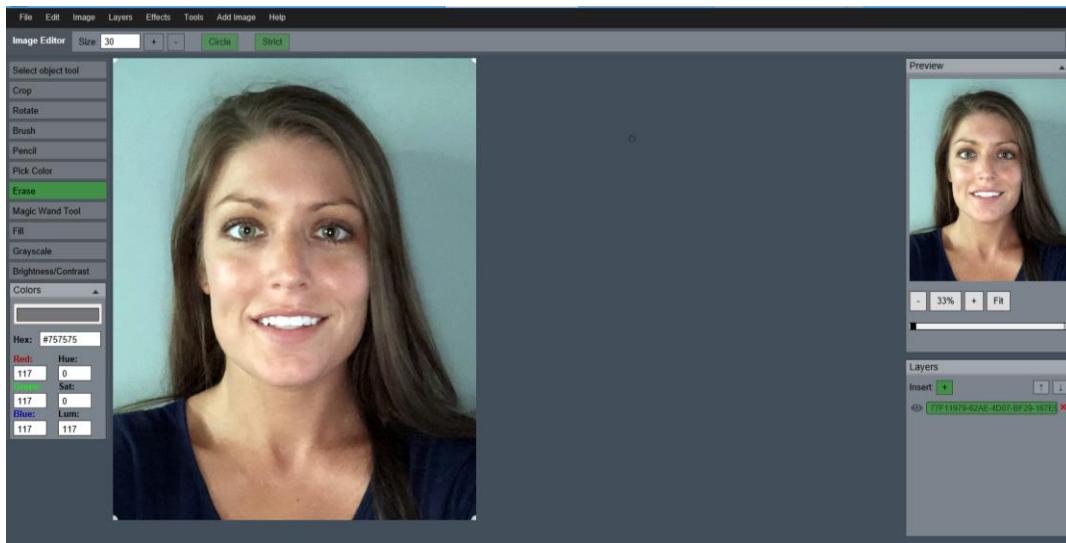
If needed, images can be edited to provide even more accurate results by using basic image editing functions.

Click either **Edit and Add (Simple)** or **Edit and Replace (Simple)**.



The Image Editing Screen will be displayed. You can preview and edit the image you have selected to upload. Several options are available that allow you to adjust the image as needed. (See

Using the Image Editor, starting on page 130.)

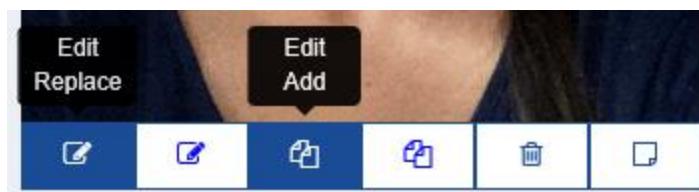


Once you have the desired image, go to the File menu and select **Save and Return**. Or Select **Cancel Image Editing** to go back to the previous screen and discard the image.

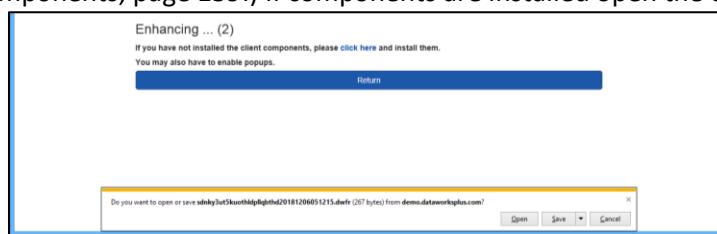
Edit Replace/Add – Pose Correction

If needed, images can be edited to provide even more accurate results by marking the eye locations, cropping the images to be similar, correcting image brightness, and other basic image editing functions. Pose correction and lighting normalization is also available.

Click either **Edit and Add** or **Edit and Replace**.



Make sure you have installed Facial Recognition Components for the software to work. (See **Installing Facial Recognition Components**, page 139.) If components are installed open the comparison software.

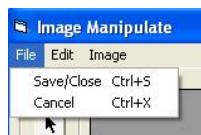


A screen similar to the following will be displayed.



There are several menu options available at the top of the screen, as well as several toolbar buttons.

FILE



The **File Menu** allows you to either **Save/Close** the changes you have made to the image or **Cancel** out of the Image Manipulate window. These options are available as buttons on the bottom of the screen as well.

EDIT



The **Edit Menu** provides the following tools:

Undo: will undo that last change that was made.

Undo Current Changes: will undo all changes made since you last saved the image.

Restore to Original Image: will undo all changes that you have made to the image.

View History Menu: this tool will open a menu at the right side of the image manipulate window that will display all of the changes that have been done to the image. From this menu you can choose to undo specific actions that were done to the image.

Deselect: will deselect the portion of the image that you have selected.

Color Picker: turns your mouse arrow into a color picker that allows you to choose a color within the image. The selected color will be displayed in the Color box at the bottom of the screen.

IMAGE



The **Image Menu** provides the following tools:

Rotate: opens the Rotate window

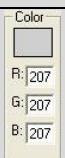
Flip Horizontal: this reverses the image horizontally.

Flip Vertical: this reverses the image vertically.

Add Noise: this opens the noise window.

TOOLBAR

Image Manipulate Screen - Toolbar	
	Selection Arrow allows you to select different portions of the screen or to click on items and move them.
	Magnifying Glass will magnify the portion of the image that you are hovering over when you right click.
	Crop Tool allows you to make a selection and discard that area around it.
	Color Picker allows you to pick a color from the image that you are working with.
	Paint Brush allows you to paint onto the image.
	Lasso Tool allows you to make a free-hand selection.
	Magic Wand Tool automatically selects an area that you click.
	Paint Bucket allows you to dump paint over a selected area. If no area is selected it will paint over the entire image.
	Sharpen Image: This allows you to sharpen the image. Sharpening seems to bring out image detail that wasn't there before by emphasizing the edges of an image. It increases the contrast between each pixel and its neighbors. You will be prompted to enter a sharpening value. Move the slider on the bar to the left or right or type in a percentage to sharpen the image by. Select OK to apply to adjust the image.
	Contrast: This allows you to adjust the contrast of the image. Contrast is the difference in brightness between light and dark areas in an image. You will be prompted to enter a contrast setting. Move the slider on the bar to the left or right or type in a percentage. Positive values increase the contrast of the image; negative values decrease the contrast. Select OK to adjust the image.
	Brightness: This allows you to adjust the brightness of the image. Brightness adjusts how light or dark and image appears. You will be prompted to enter a brightness setting. Move the slider on the bar to the left or right or type in a percentage. Positive values will lighten the image; negative values will darken the image. Select OK to adjust the image.
	Saturation: This allows you to adjust the saturation of the image. Saturation is the "purity" of the color. Fully saturated colors are very rich and bright. Less saturated colors are more gray. You will be prompted to enter a saturation value. Move the slider on the bar to the left or right or type in a percentage to change the saturation of the image. Click OK to apply the adjustment.
	Hue: This allows you to adjust the hue, or color, of the image. You will be prompted to enter a hue angle. Depending on what number you enter, the color will be adjusted across the hue circle by that many degrees.
	RGB Balance allows you to adjust the individual RGB values of an image.
	Grayscale allows you to adjust the RGB values for the grayscaled image.
	Auto-correct Image will automatically correct the image as needed.
	Pose Correction allows you to create a 3D model of the face. From the 3D model, you may adjust the 3D model to optimize the pose and lighting of the image, which can then be used to find matching records. For more information, please see " Pose Correction " on page 106.

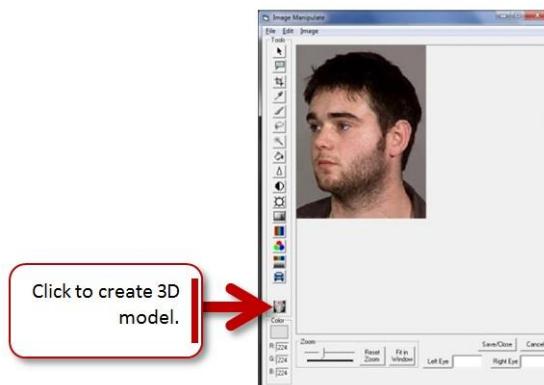
Image Manipulate Screen - Toolbar	
	Color Swatch: This is the default color for paint brush, paint bucket, background and foreground colors. You can adjust the color using the RGB values or you can double click on the swatch to change it.
	Zoom allows you to zoom in and out of the image as necessary by adjusting the slider position. Reset Zoom will return the image to the original size. Fit in Window will make the entire image visible from the view window.
	Left Eye and Right Eye can be used to mark the eye locations. The Cognitec search engine will use these locations to find matching records; however, it is not necessary to mark the eye locations.

SAVING

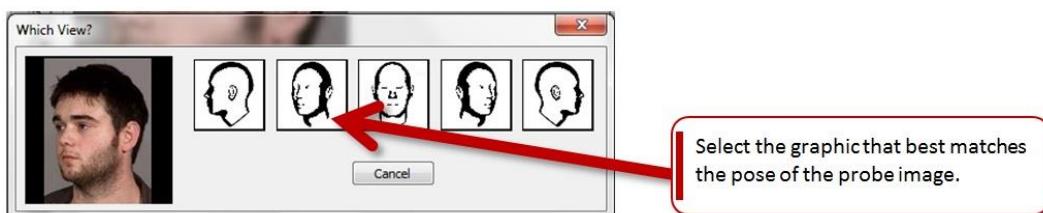
When you are finished working with the image click **Save/Close** and the changes that you have made to the image will appear in the lineup. Note that the changes are done to a copy of the original image; you cannot alter the original image. If you want to discard the changes that you have made to the image click **Cancel**.

POSE CORRECTION AND LIGHT NORMALIZATION

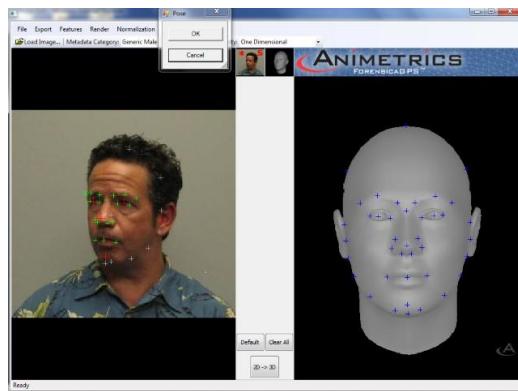
The Pose Correction tool allows you to create a 3D model, which will allow you to search facial images that were once unsearchable. The following example shows how you can create the model and manipulate it to create a searchable image. First, click  from the edit screen.



You will be prompted to select the view of the original image. Click the graphic that best matches the pose of the original image.



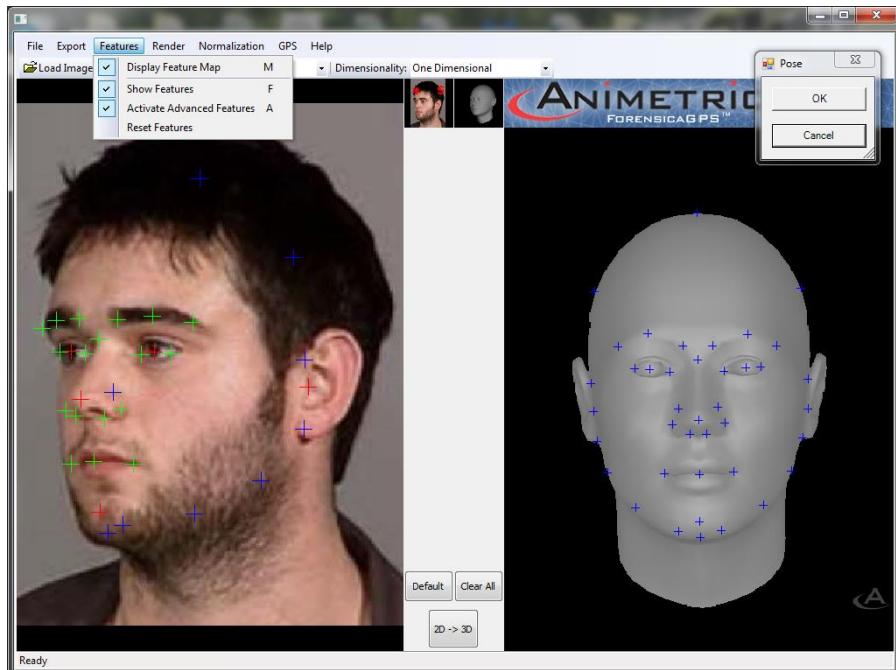
The image will be loaded into the pose correction application.



The accuracy of the 3D models generated is dependent upon the accuracy of the 2D feature points that overlay the original images. The feature points are displayed on the image as red, green, and gray crosshairs. Verify that the red crosshairs are in the correct place (eyes, chin and ear). The green and gray crosshairs may be moved if you wish to fine-tune the image. If you wish to move the feature points, refer to the following section: “*Adjusting Features (Optional)*” on page 107; otherwise, proceed to “*Generating the 3D Model*” on page 108.

Adjusting Features (Optional)

The image will load onto a screen with a feature map on the right showing correct feature point placement. Under the menu item “Features”, check the option to **Display Feature Map**. The Feature Map displays the proper anatomical locations for each point. You may refer to it while adjusting the location of the selected crosshair. When you click one of the crosshairs on the probe image, the crosshair on the Feature Map model will be highlighted in green to show you the proper placement. The green and gray/blue crosshairs may be moved if you wish to fine-tune the image by selecting the option **Activate Advanced Features**. To reset the feature points to their original locations, select the **Reset Features** dropdown in the “Features” menu item.



Primary (Red) Points

Click and drag any of the red feature points to their proper location. When the mouse is released, the green and gray/blue "secondary" features are recalculated in real time based on the "primary" red features. This method of feature point adjustment will be sufficient to generate an accurate 3D model in most cases.

Feature Fine Tuning

The green and gray/blue secondary features can also be moved if desired. To enable the secondary features, select the **Activate Advanced Features** dropdown in the "Features" menu item. The secondary features may now be adjusted by clicking and dragging with the mouse.

The red primary features may also be moved, but if you adjust them when the "**Advanced**" box is checked, they system will not automatically recalculate the green and gray/blue feature points. The green features indicate the subset that have either been detected or manually adjusted by the user. The blue/gray set is projected from the generated 3D model.

Resetting Features

To reset the feature points on an image to the original detected locations, select the **Reset Features** dropdown in the "Features" menu item.

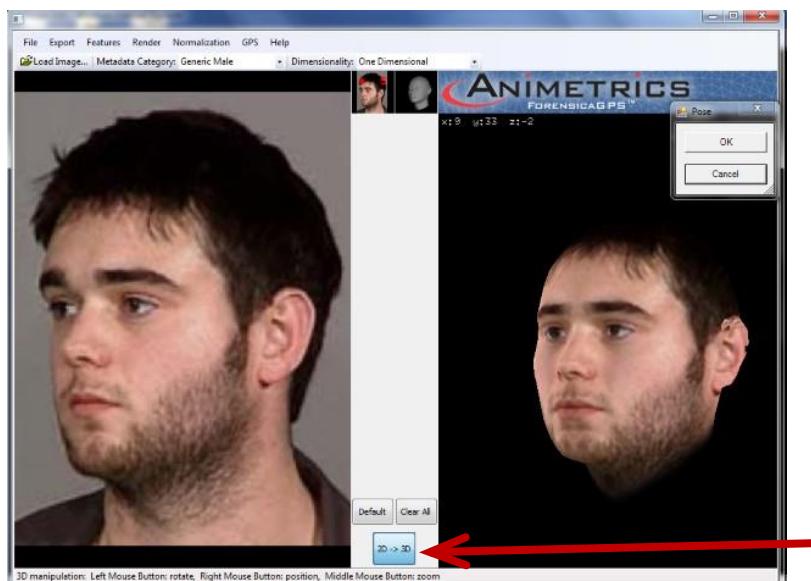
Hiding/Showing Features

To toggle hiding/showing of the feature points on an image, select the **Show Features** dropdown in the "Features" menu item.

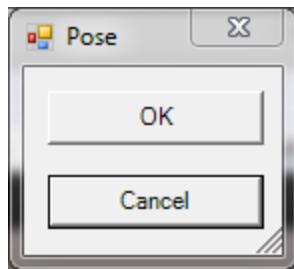
Proceed to "*Generating the 3D Model*".

Generating the 3D Model

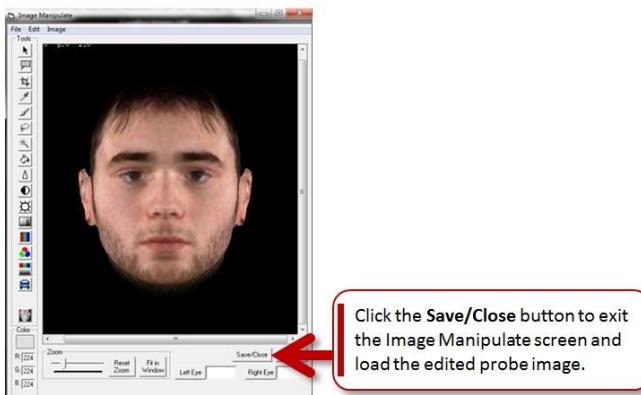
Once the feature points have been adjusted (if necessary), click the **2D->3D Model** button to generate the 3D model.



If necessary, select **Normalize Pose** under the menu item Normalization to receive a front-facing image. When finished, click **OK** on the **Pose** window.

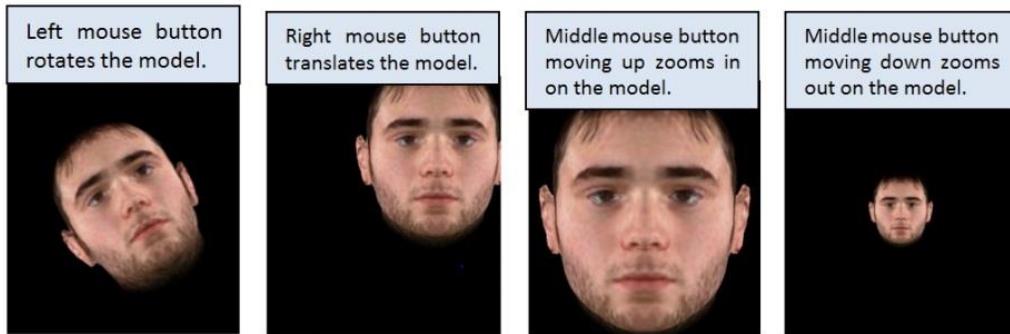


The revised image will be displayed in the Image Manipulate screen. Click **Save/Close** to load the edited probe image.

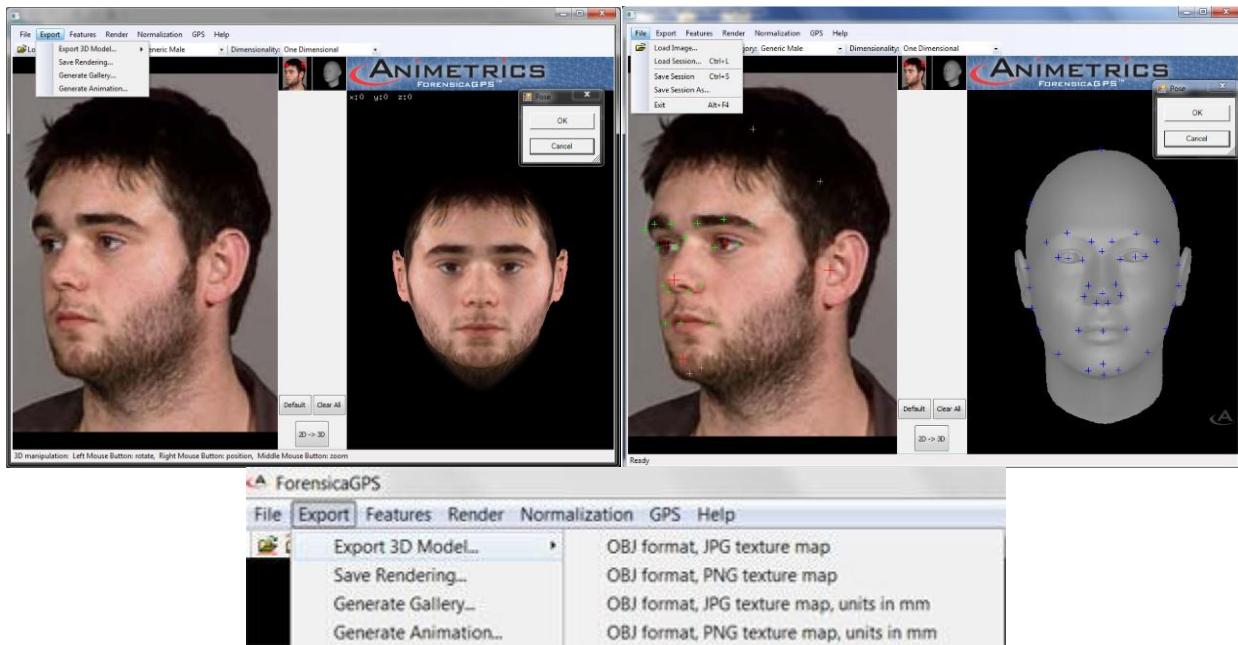


Optional – Rotating or Translating the Model

You may rotate and translate the 3D model with your mouse. Click the left mouse button, hold and drag to rotate the model. Click and drag the right button to translate the model. Click and drag with the middle button to move the model towards or away from you (zooming in and out).



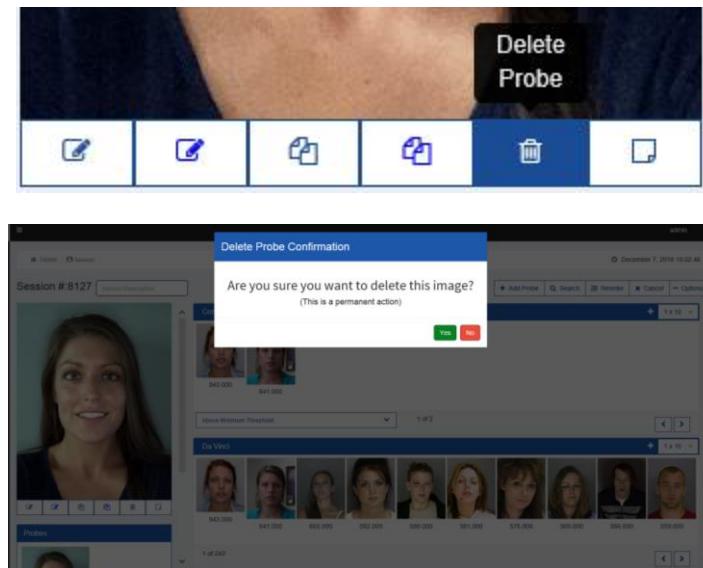
Optional: To save the model, click any of the following: **Save Rendering**, **Export 3D Model**, **Save Session** or **Save Session As**. You will be prompted to enter the file name. Browse to the location where you'd like to save the file, enter a file name, and click **Save**.



Note: More options are available from the 3D model screen. For more information, please refer to Appendix B for more information.

Delete Probe

Select **Delete** to delete the selected probe image. This is a permanent action.

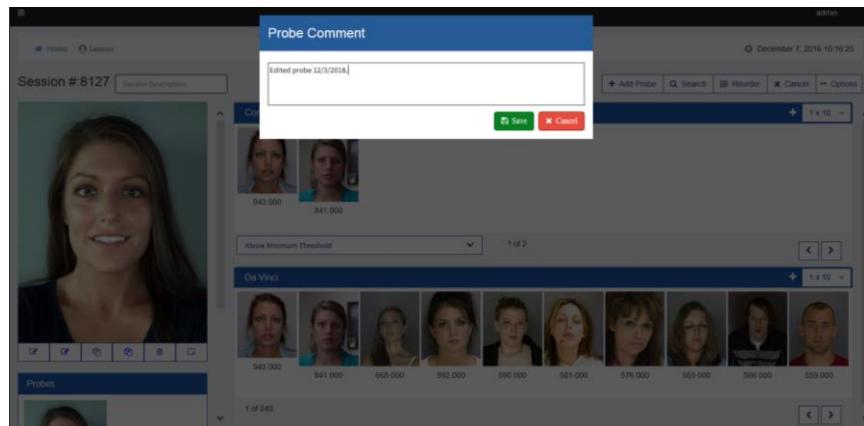


Probe Comments

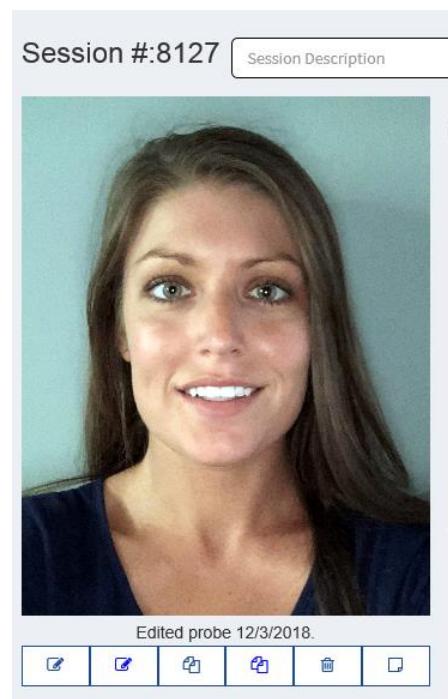
Select **Probe Comments** to add a comment or description to the probe image.



Comments may be added to identify what type of editing was performed on the probe, when the probe was added, etc. This will be helpful in identifying the history of the probe and what was done to the probe. Enter the comment and select Save (or cancel if you do not wish to add a comment).



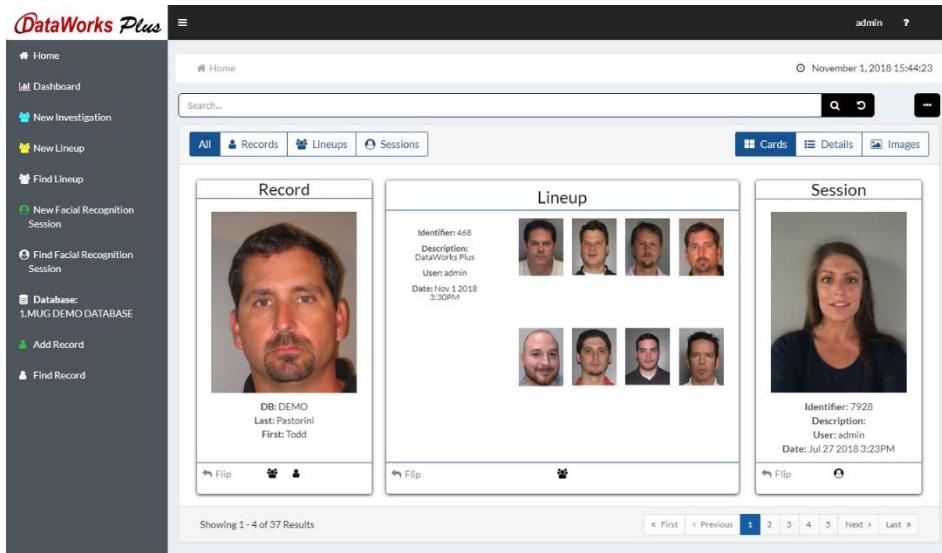
The comment will be displayed beneath the probe image.



Add Record

Users can create new record as needed. The user will be able to input data, photos, and tattoos into the record, which will be saved to the database.

To create a new record click **Add Record** from the main menu. Note that you can specify which database to add the record to as well.



The system will then open a blank record window.

Adding Data to the Record

Depending upon your system's configuration, you may have required fields which will have to be filled out prior to saving the record. In the example above, there are several different types of fields available for entering data.

When all data necessary is entered, click **Save** at the top of the screen **before** adding images to the record.

Data Fields

- **Character Fields** will only allow a certain number of characters which will be indicated under the field such as 4/15.

First Name:

X

4 / 15

- **Pick-list Fields** are used for items such as sex, state, race, weight, or hair color. Depending upon your system's configuration, there may be a drop down list or a list you scroll through to select the item. Type in the box to filter results, as a user types, the drop down list will be filtered. For instance, if you type 'BL' in hair color, the system will filter the list items starting with BL. The up and down arrows on your keyboard can be used to scroll through the list. If you would like to de-select an item, click the X next to the filter.

ADDRESS STATE:

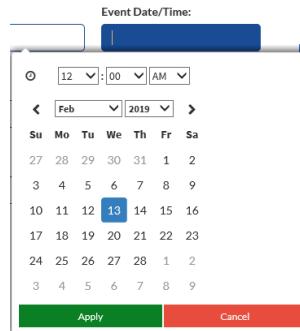
-
-
-
-
-
-

Hair color:

- X
-
-
-

Amputations:

- **Date/Time Fields** are used for fields such as date of birth (DOB) or booking date. Generally any of the following date formats are acceptable: January 1, 2012; 01/01/2012; 1/1/2012; 1-1-2012; or 01-01-2012. In date range searches, the system will default to 12:00 am (midnight 00:00) if no time is entered. **Note:** Your database may have the option to select the date from a calendar for date/time fields. A calendar, like the one below will be displayed. You will need to select the year, then the month, and then the date. The date will be highlighted once it is selected. Once you have selected the date, click **Apply** to add it to the record.



- Date/Time Search Fields:** are used to search based on a variety of different timeframes (Today, Last 7 Days, Last Month, etc.). Select the timeframe you wish to search by and click **Apply** to add it to the search. Use a Custom Range search for more specific dates/times. Select Custom Range, a calendar will be displayed. Select the dates and times from the calendar and click Apply to add it to the search.

Timeframe Search

None
Today
Yesterday
Last 7 Days
Last 30 Days
This Month
Last Month
Custom Range
Apply
Cancel

Custom Range Search

02/04/2019 12:00 AM	02/07/2019 1:00 AM	None
12:00 AM	1:00 AM	Today
Feb 2019	Mar 2019	Yesterday
Su Mo Tu We Th Fr Sa	Su Mo Tu We Th Fr Sa	Last 7 Days
27 28 29 30 31 1 2	24 25 26 27 28 1 2	Last 30 Days
3 4 5 6 7 8 9	3 4 5 6 7 8 9	This Month
10 11 12 13 14 15 16	10 11 12 13 14 15 16	Last Month
17 18 19 20 21 22 23	17 18 19 20 21 22 23	Custom Range
24 25 26 27 28 1 2	24 25 26 27 28 29 30	Apply
3 4 5 6 7 8 9	31 1 2 3 4 5 6	Cancel

- Relational Data:** is generally data that may have multiple items associated with them. Your system may be configured to record data such as Criminal Charges, Aliases, or Scars, Marks, and Tattoos (SMT) by using a relational table in the database. Since there is extra data associated with the main item, such as a charge, these fields will generally open a new window where the additional information can be entered.

Show: 10 entries	Filter: <input type="text"/>
▲ Nickname	
● Alex	
Showing 1 to 1 of 1 entries	
Previous 1 Next	
Delete Update Add	

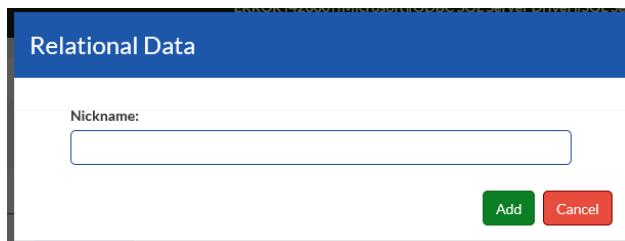
Relational Data

Your system may be configured to record data such as Criminal Charges, Aliases, or Scars, Marks, and Tattoos (SMT) by using a relational table in the database. Relational data is generally data that may have multiple items associated with them. For instance a charge may have a date, offense code, warrant information, etc. Since there is extra data associated with the main item, such as a charge, these fields will generally open a new window where the additional information can be entered. The following subsections serve as examples of what you may see when entering relational data.

To enter relational data, click **Add** under the selected field. In the following example, the Nickname field is selected.

The screenshot shows a software interface with a top navigation bar containing tabs: All, Demographics, Physical Description, and Relational. The Relational tab is active. Below the tabs, there is a sub-navigation bar with buttons for All, NickName, Charge, and SMT. The main content area displays a table with the following columns: Show [10] entries, Filter, ▲ Nickname, and No data available in table. At the bottom of the table area, it says Showing 0 to 0 of 0 entries and includes Previous, Next, Delete, Update, and Add buttons. The Add button is highlighted with a blue border.

After you click the Add button, the Nickname window will be displayed. Enter the information in the given fields. When finished, click **Add** to exit the relational screen and return to the record. If you do not wish to save the information click **Cancel**.



The new Relational information will be displayed.

The screenshot shows the same Relational Data table as before, but now it displays one entry: "Nickname: Alex". The table includes columns for Show [10] entries, Filter, ▲ Nickname, and a list of items. It also includes Previous, Next, Delete, Update, and Add buttons at the bottom.

Relational Data may be viewed, filtered, updated, or deleted. Additional relational data may also be added to the section.

Filter: <input type="text"/>	Filter Relational Data by entering a keyword in the search field. Any row without the keyword will be filtered out.
	Select the eye icon next to the Relational information row to view the data for that item.
Add	Add additional items to the relational field. This will bring up a blank field window.
Update	Update existing relational items. This will bring the current relational window back up for editing.
Delete	Delete existing relational items.

SMT Relational Data

Scars, Marks, and Tattoos (SMTs) can be added 2 separate ways. SMTs may be added as relational data in the Relational Data section, or as images by selecting Add Image (see more on adding images below).

Click **Add** to enter an SMT in the Relational Data section under the SMT relational field.

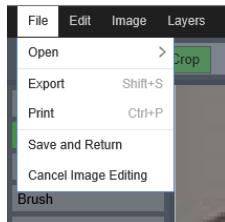
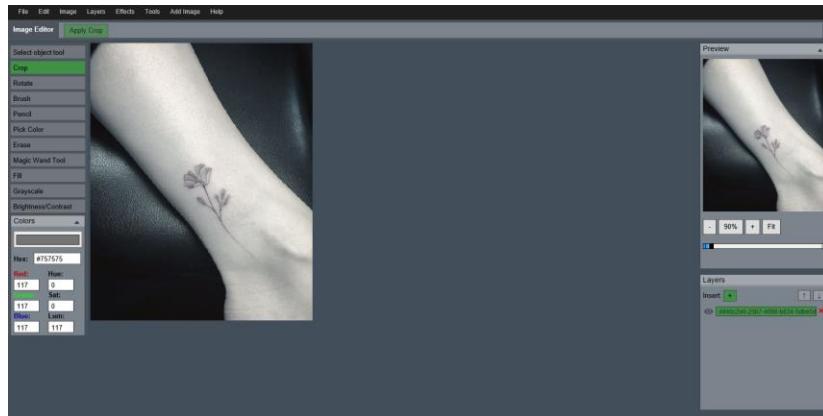
The screenshot shows a software interface for managing relational data. At the top, there are tabs: All, Demographics, Physical Description, and Relational. The Relational tab is selected. Below the tabs, there are sub-tabs: All, NickName, Charge, and SMT, with SMT selected. A search bar at the top right says "Database: MUG DEMO DATABASE". A dropdown menu "Show [10] entries" is open. Below the dropdown are three filter fields: "SMT Type" (with an up arrow), "SMT Location" (with a down arrow), and "SMT Category" (with a down arrow). A "Filter:" input field is also present. A message "No data available in table" is displayed. At the bottom, it says "Showing 0 to 0 of 0 entries" and has "Previous" and "Next" buttons. At the very bottom are three buttons: "Delete" (red), "Update" (yellow), and "Add" (blue).

Enter the information in the given fields. Select **Browse** to upload an SMT image. When finished, click **Add** to save the data to the record. If you do not wish to save the information click **Cancel**.

The screenshot shows a modal dialog box titled "Relational Data". It contains several input fields: "Browse Local Files" (with a path C:\Users\abvienta\Desktop\DPM Userguide\13183242.lqg and a "Browse..." button), "Image Field" (set to "SMT Image"), "SMT Type" (set to "TATTOO"), "SMT Location" (set to "LEFT ARM"), and "SMT Category" (set to "OBJ/NATURE"). At the bottom right are two buttons: "Add" (green) and "Cancel" (red).

The Image Editing Screen will be displayed. You can preview and edit the image you have selected to upload. Several options are available that allow you to adjust the image as needed. (See

Using the Image Editor, starting on page 130.)



Once you have the desired image, go to the File menu and select **Save and Return**. Or Select **Cancel Image Editing** to go back to the previous screen and discard the image.

If SMTs are added as relational data in the Relational Data section, they will automatically appear as images in the Photos section as an SMT image. If SMTs are added as images in the photos section, they will automatically appear as relational data in the Relational Data section. Regardless of the way the SMT is added it will show up in the Recent Photos Section.

SMT Type			SMT Location	SMT Category
<input checked="" type="radio"/> TATTOO	LEFT ARM	OBJ NATURE	Previous 1 Next	

Showing 1 to 1 of 1 entries

[Delete](#) [Update](#) [Add](#)

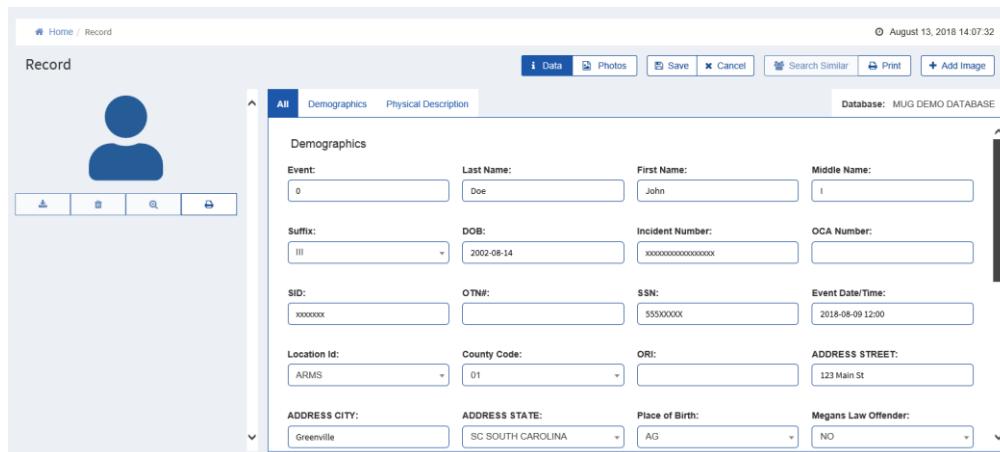
Views: [All Views](#) Number of Images Shown: 1x2

SMT

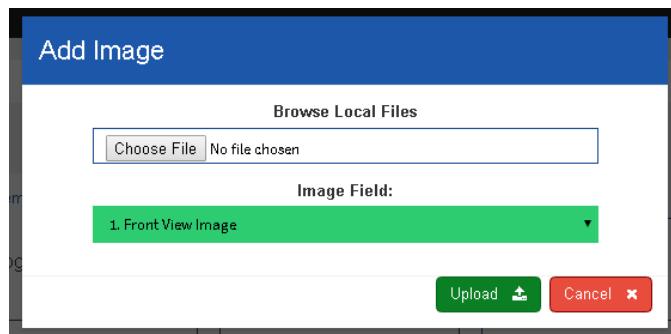
Showing 1 - 2 of 1 Related Photos

Adding Images to the Record

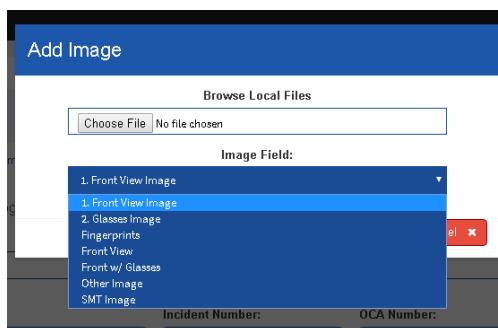
After you have added all data for the record, you can add images to the record by clicking the **Add Image** button, which is located in the top right corner of the screen. The first image will be displayed in the Primary Image location. Any additional images will be displayed in Recent Photos under the primary image.



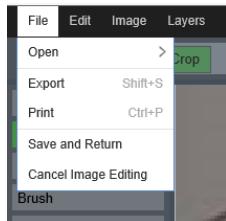
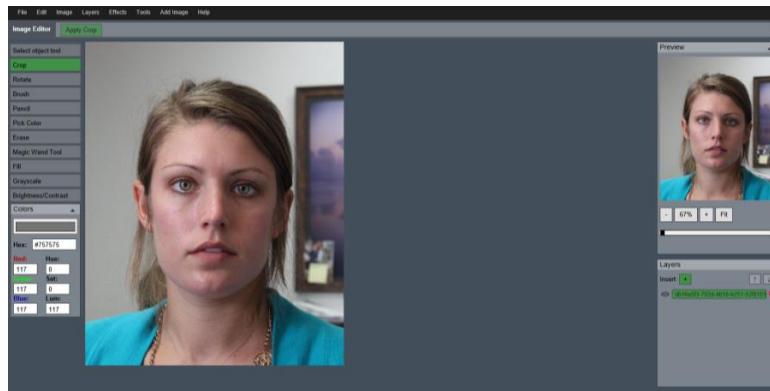
Click on **Choose File** or **Browse** to locate the image to upload to the system.



Select the appropriate “Image field” from the drop-down list, and click **Upload**. These options may vary per agency.



The Image Editing Screen will be displayed. You can preview and edit the image you have selected to upload. Several options are available that allow you to adjust the image as needed.



Once you have the desired image, go to the File menu and select **Save and Return**. Or Select **Cancel Image Editing** to go back to the previous screen and discard the image.

The record with the uploaded image will be displayed. A thumbnail of the image will be displayed under Recent Photos.

The screenshot shows the software's main interface for managing a record. At the top, there are buttons for Home, Record, Data, Photos, Save, Cancel, Search Similar, Print, and Add Image. The date December 20, 2018 15:47:00 is displayed. The record is for ALEX BYLENGA.

Demographics:

- Event: 10000023, Last Name: BYLENGA, First Name: ALEX, Middle Name: IRENE
- Suffix: , DOB: 1993-01-29, Incident Number: , OCA Number:
- ID: 00000023, OTNF: , SSN: , Event Date/Time: 2012-01-02 11:30
- Location ID: , County Code: , ORI: , ADDRESS STREET: 728 N Pleasantburg Dr
- ADDRESS CITY: Greenville, ADDRESS STATE: SC SOUTH CAROLINA, Place of Birth: , Megan's Law Offender: NO
- Gang Affiliation: DataWorks, Notes:

Physical Description:

- Sex: F, Race: W, Hispanic/Latino: NO, Skin Tone: LIGHT
- Complexion: ACNE, Hair Style: HIGHTOP/BOXTOP, Hair color: BROWN, Facial Hair: NONE
- Facial Jewelry: * PIERCED EARNS, Glasses: NO, Weight: 120, Height: 504
- Eye color: GRIN, Eye characteristics: NORMAL, Amputations: * NONE, Teeth: NORMAL

Recent Photos: A thumbnail image of the person is shown.

Charge: No data available in table.

Nickname: Alexandra.

SMT:

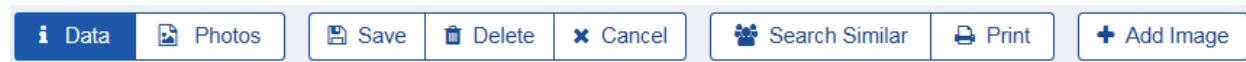
SMT Type	SMT Location	SMT Category
TATTOO	LEFT LEG	ANI WILD
TATTOO	LEFT ARM	
MARK	BACK	
MARK	RIGHT LEG	

Add additional images to the record by clicking the **Add Image** button. Additional images will be displayed in the **Recent Photos** section in most to least recent order underneath the main image of the Data Tab. Recent Photos are also displayed in the middle of the screen in **Views** under the Photos tab with the Image Field type of the photo.

Record Overview

Users may view detailed record information at any time within the application. The record display screen will show any images and data from the database for the currently-selected record. An example of the Record Display screen has been shown in the following image.

Options in the top right corner allow you to view data or photos, save, delete, cancel, find records similar to the one currently displayed (Search Similar), print in a variety of formats and reports, and Add Images to the record. Users with the correct permissions may edit or fill in any data in-line within a record.



Toggle between data view and photos view by selecting Data or Photos from the toolbar at the top of the screen.

Data View

This screenshot shows the Data View for a record. It includes fields for Demographics (Last Name: BYLENGA, First Name: ALEX, Middle Name: IRINE), Physical Description (Sex: F, Race: W, Hair Color: BLACK, Eye Color: HAZEL), and SMT (Skin Markings) details. There are also tabs for Charge, Offense, and Arrest.

Photo View

This screenshot shows the Photo View for the same record. It displays four images: a front-facing photo of the individual, a SMT (Skin Marking) photo, and two other types of markings. Below the images is a summary of the record's details.

Data View

Toggle between data view and photos view by selecting Data or Photos from the toolbar at the top of the screen. The following is an example of the “Data” view, which displays the data included in the record.



The screenshot shows the software's main interface for managing a record. At the top, there are navigation buttons: Home, Record, Data, Photos, Save, Delete, Cancel, Search Similar, Print, and Add Image. The date December 20, 2018 15:47:00 is displayed. The record is for ALEX BYLENGA.

Demographics:

- Last Name: BYLENGA
- First Name: ALEX
- Middle Name: IRENE
- DOB: 1993-01-19
- Incident Number:
- OCA Number:
- SID: 0000023
- OTNF:
- SSN:
- Event Date/Time: 2012-01-02 11:30
- Location ID:
- County Code:
- ORI:
- ADDRESS STREET: 728 N. Pleasantburg Dr.
- ADDRESS CITY: Greenville
- ADDRESS STATE: SC SOUTH CAROLINA
- Place of Birth:
- Megan's Law Offender: NO
- Gang Affiliation: DataWorks
- Notes:

Physical Description:

- Sex: F
- Race: W
- *Hispanic/Latino: NO
- Skin Tone: LIGHT
- Complexion: ACNE
- Hair Style: HIGHTOP/BOXTOP
- Hair color: BRO
- Facial Hair: NONE
- Facial Jewelry: * PIERCED EAR(S)
- Glasses: NO
- Weight: 120
- Height: 504
- Eye color: GRN
- Eye characteristics: NORMAL
- Amputations: * NONE
- Teeth: NORMAL

Relational Data:

- Charge:** Shows 0 entries. Buttons: Delete, Update, Add.
- NickName:** Shows 1 entry: Alexandra. Buttons: Delete, Update, Add.
- SMT:** Shows 4 entries. Buttons: Delete, Update, Add.

Below the main form are four small icons for file operations: download, delete, search, and print.

1. The image on display to the left is the **Primary Image**, which can be exported, deleted, enlarged or printed. If you wish export, delete, enlarge or print a different image from the Recent Photo or Views (photo tab) section, click on it to add it to the primary image window for options.



2. **Recent Photos** displays all uploaded photos in most to least recent order underneath the primary image. These photos will also be displayed on the photos tab in the Views section with the "Image Field Type" listed underneath.
3. **Tabs** such as "Demographics", "Physical Description", and "Relational" allow easy navigation between sections of data. These tabs remain fixed so that you may quickly click on one tab to

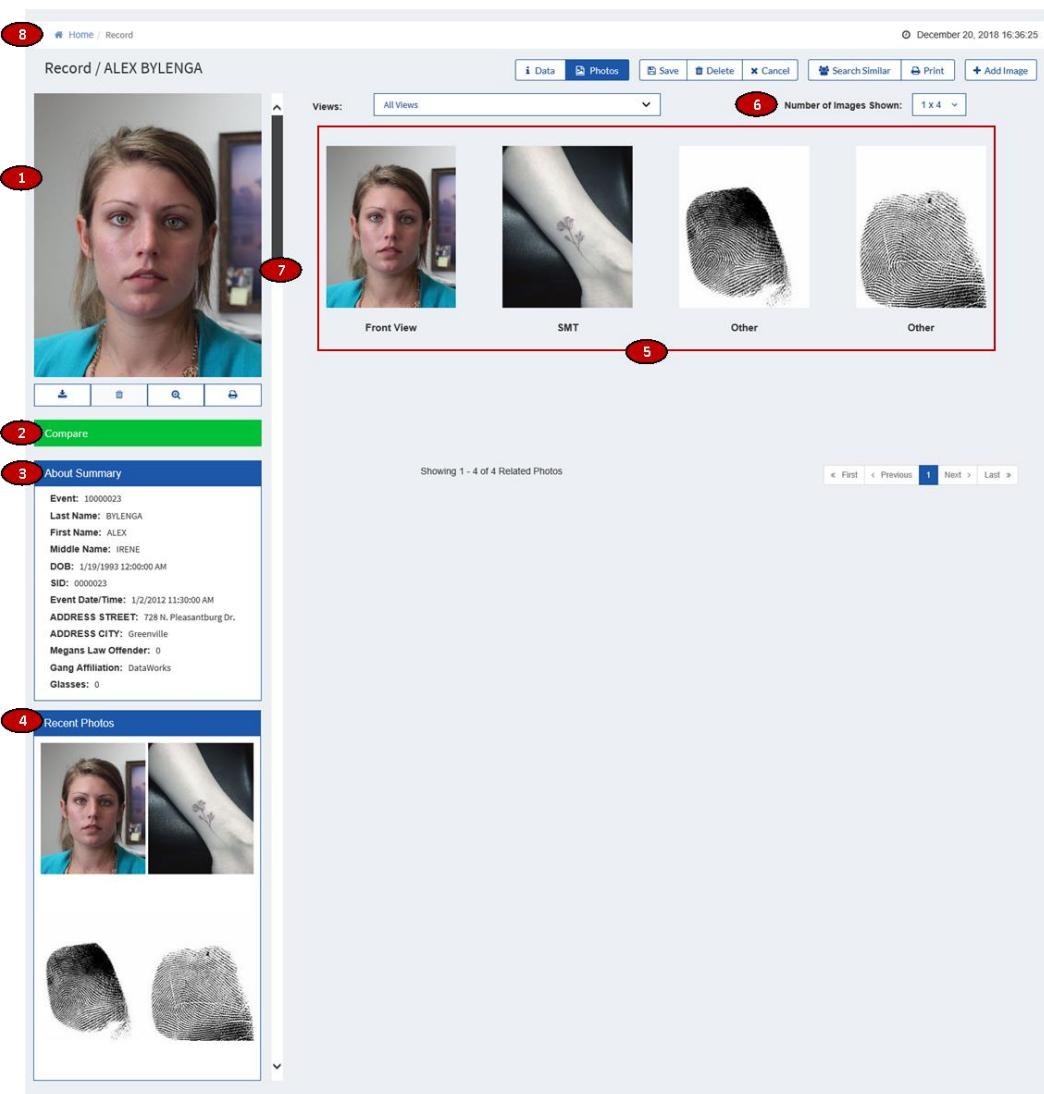
immediately navigate between sections. View All fields, only Demographics fields, only Physical Description fields, or only Relational fields. Additional tabs, such as “Charge Information,” can be added and customized per agency.

4. **Scrollbars** to the right of the images and data allow a mouse or finger to scroll or drag down to see additional content.
5. The **breadcrumb trail** allows users to quickly determine their location and navigate to a higher level.

Photo View

Toggle between data view and photos view by selecting Data or Photos from the toolbar at the top of the screen. The following is an example of the “Photos” view, which only displays the photos included in the record.



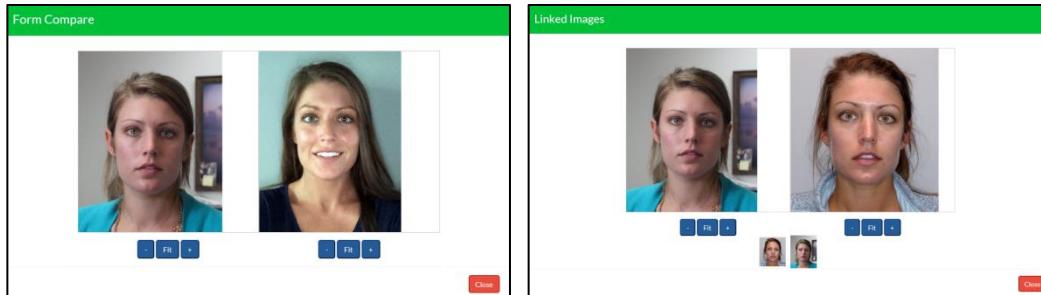


1. The image on display to the left is the **Primary Image**, which can be exported, deleted, enlarged or printed. If you wish export, delete, enlarge or print a different image from the Recent Photo or Views section, click on it to add it to the primary image window for options.



2. **Compare** allows you to compare the primary image with that individual's linked images or a new uploaded image, side by side. Select compare to expand the drop down menu to display these options. Use the options (-, Fit, +), or your mouse wheel to zoom in/out on the images, or fit the images to the viewing window. Left click and drag to move a zoomed-in image to different sections of the viewing window. Select close when comparison is complete.

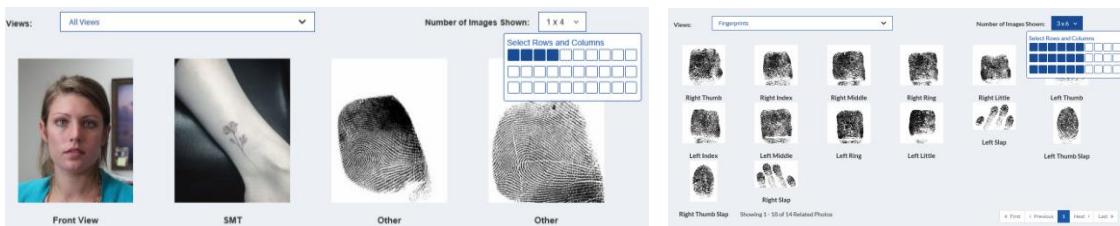




3. The **About Summary** displays demographic data for the Record. This is customizable per agency.
4. **Recent Photos** displays all uploaded photos in most to least recent order underneath the primary image. Recent Photos are also displayed in the middle of the screen in the **Views** section with the “Image Field Type” listed underneath.
5. **Views** will display all uploaded photos. Photos will be displayed with the “Image Field Type” listed underneath. Select the view drop down menu to filter by type of photo.



6. **Change the # of images shown:** configure the number of images displayed in the Views section using the “Number of Images Shown” drop down menu directly above the images viewing panel. Users can define the number of columns and rows as desired.



7. **Scrollbars** to the right of the images and data allow a mouse or finger to scroll or drag down to see additional content.
8. The **breadcrumb trail** allows users to quickly determine their location and navigate to a higher level.

Save

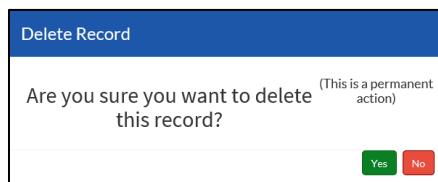
You must select **Save** to save all changes to a record.

Delete

Selecting **Delete** will delete the record permanently. You may or may not have this option depending on your agency's configuration.



Select **Yes** to confirm deletion, or select **No** to go back to the record.

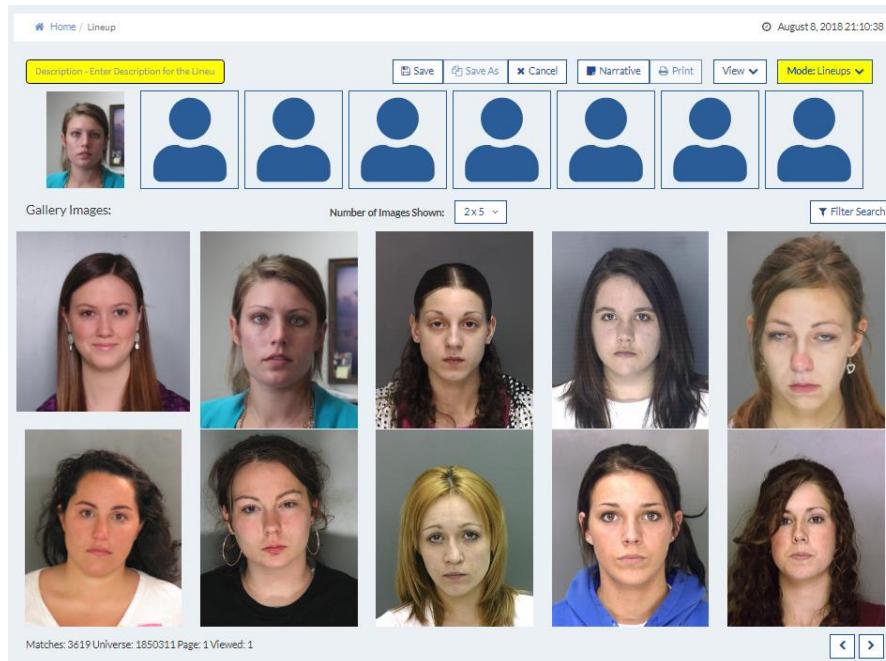


Cancel

Selecting **Cancel** will discard any changes to that record and take the user back to the home screen.

Search Similar (Lineup)

Clicking the **Search Similar** button will take the user into lineup/investigation mode. This will insert the main mugshot image into a new lineup or investigation and pre-populate "Gallery Images" with similar images that can be used to build that lineup or investigation. See Creating a Lineup or Investigation, page 39, for more information on building a lineup or investigation. Build and Save the lineup, or select Cancel to be navigated to the home screen. Note that the Search Similar option will not be available until a mugshot is added to the record.



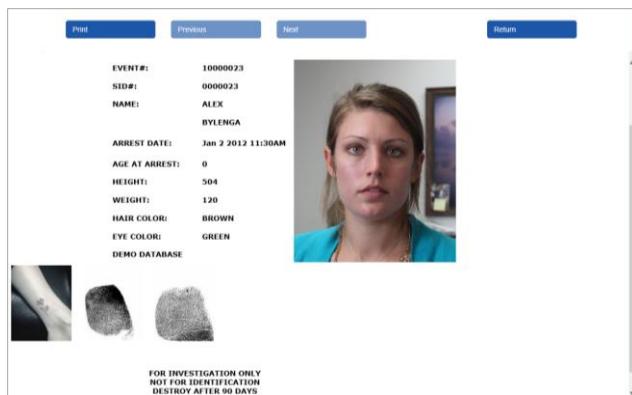
Print

Select **Print** to print the record.

Print options will be displayed. Select which type of report you would like to print, or select **Return** to go back to the record without printing the report. These options will vary by agency.



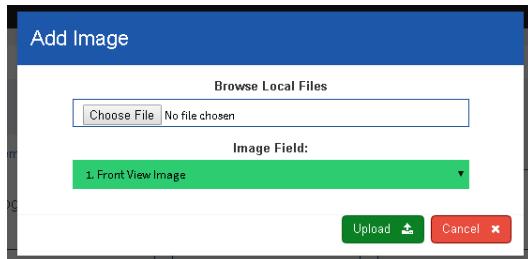
A print preview for the report will be displayed. Select **Print** to print the report, or select **Return** to go back to the record without printing the report.



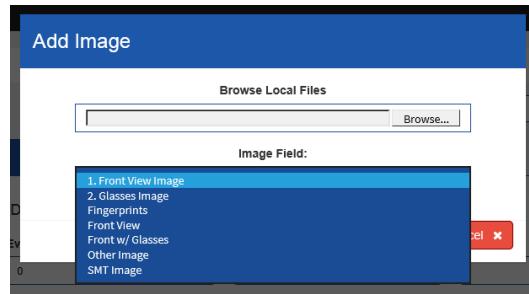
Add Additional Images

Add additional images to the record by clicking the **Add Image** button which is located in the top right corner of the screen. Additional images will be displayed in the **Recent Photos** section in most to least recent order underneath the Primary Image of the Data Tab. Recent Photos are also displayed in the middle of the screen in the **Views** section of the Photos tab with the “Image Field Type” listed underneath.

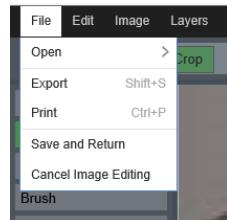
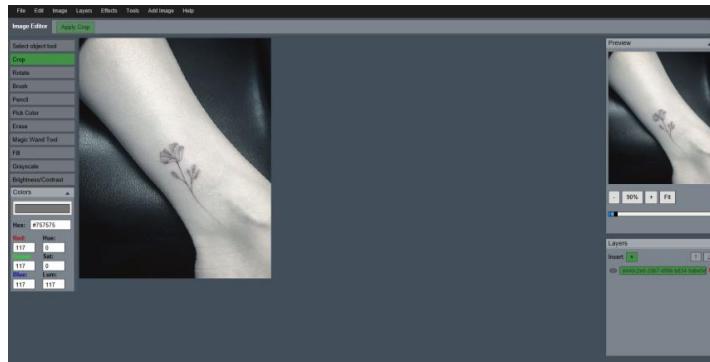
Click on **Choose File or Browse** to locate the image to upload to the system.



Select the appropriate “Image field” from the drop-down list, and click **Upload**. These options may vary per agency.



The Image Editing Screen will be displayed. You can preview and edit the image you have selected to upload. Several options are available that allow you to adjust the image as needed. For more information about editing images, see Using the Image Editor, starting on page 130.



Once you have the desired image, go to the File menu and select **Save and Return**. Or Select **Cancel Image Editing** to go back to the previous screen and discard the image.

Database

Your system may be configured to search against multiple databases. Select **Database** from the left side bar to reveal the drop down menu of additional database options and specify a different database to search against. These databases will vary by agency.

The screenshot shows the DataWorks Plus interface with the following details:

- Left Sidebar:** Shows a navigation menu with items like Home, Dashboard, New Investigation, New Lineup, Find Lineup, New Facial Recognition Session, Find Facial Recognition Session, and Database. The Database option is selected, showing a dropdown with 1.MUG DEMO DATABASE, 2.ARRESTEE DATABASE, 3.D.O.C. INMATE DATABASE, 4.PAROLE AND PROBATION DATABASE, 5.LOCAL PAROLE AND PROBATIONS, 6.SUSPECT DATABASE, and 7.TRAINING DATABASE.
- Header:** Shows the user is logged in as admin on April 12, 2019, at 15:11:32.
- Search Bar:** A search bar with placeholder text "Search...".
- Filter Bar:** Buttons for All, Records, Lineups, Sessions, Cards, Details, and Images.
- Record Grid:** Four records are displayed in a grid:
 - Record 1:** DB: DEMO, Last: KISH, First: JASON. Buttons: Flip, 📸, 🚪.
 - Record 2:** DB: DEMO, Last: BYLENGA, First: ALEX. Buttons: Flip, 📸, 🚪.
 - Record 3:** DB: DEMO, Last: Jane, First: Doe. Buttons: Flip, 📸, 🚪.
 - Record 4:** DB: DEMO, Last: Johnson, First: Rick. Buttons: Flip, 📸, 🚪.
- Pagination:** Shows "Showing 1 - 4 of 36 Results" and a page navigation bar with buttons for First, Previous, Next, and Last.

Change the Database during a Search

If any search criteria was entered it will remain even if the database is changed. This allows the user to apply a search across multiple databases. To clear search criteria select reset.

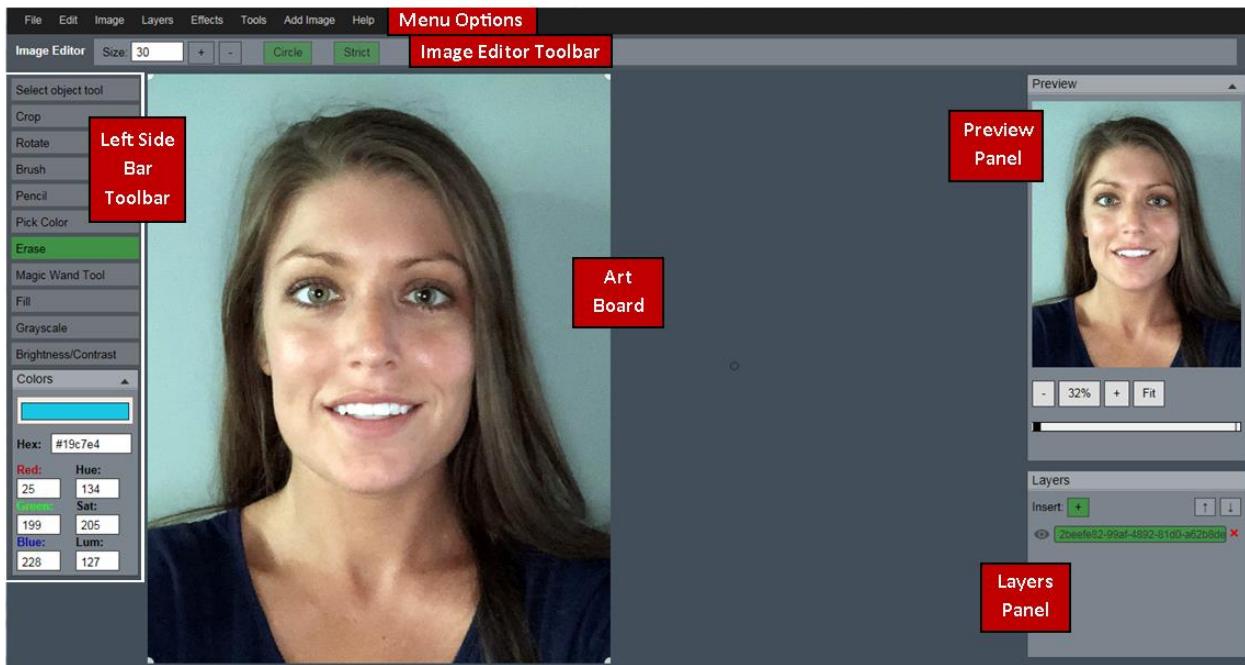


Any search that was performed will remain until the home page is reset. Click the reset button to return the home page display to the initial state and clear all searches.

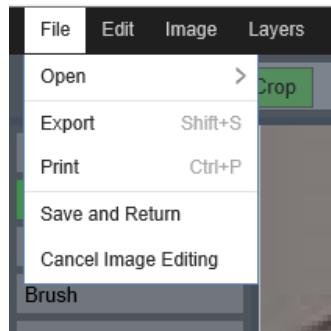
Using the Image Editor

The Image Editing Screen will be displayed after uploading or selecting to edit an image. You can preview and edit the image you have selected here.

A screen similar to the following will be displayed.



If you wish to upload the image without making any edits go to the **File menu** and select **Save and Return**. Or Select **Cancel Image Editing** to go back to the previous screen and discard the image.

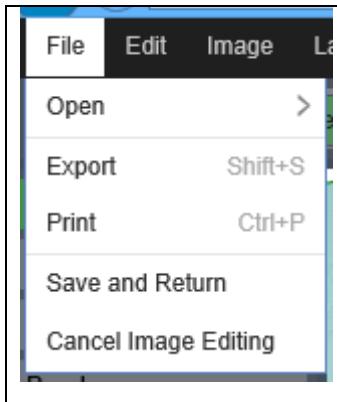


If you wish to edit the image, there are several menu options available at the top of the screen, toolbar options to the left side of the screen and previewing and layer options to the right side of the screen.

Menu Options

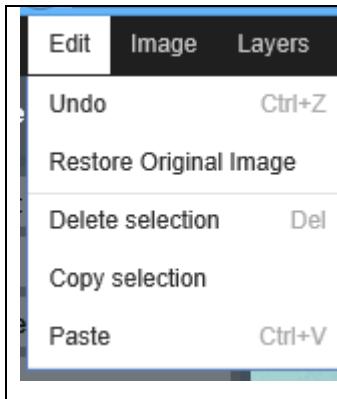
Menu Options are located across the top of the screen as drop down menus.

File



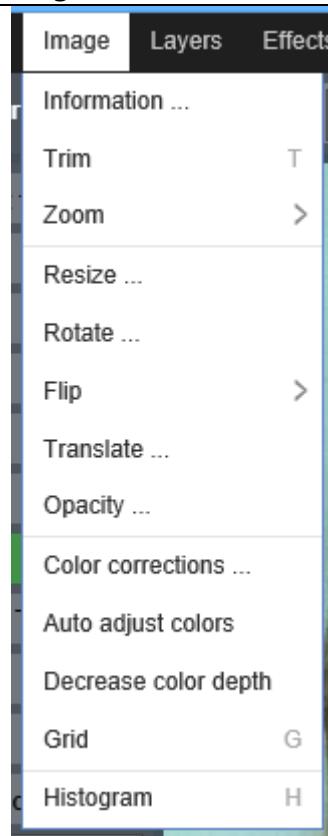
- **Open (File/Directory):** opens a Windows Explorer/Directory window to open an image on the workstation.
- **Export:** exports the edited image to the workstation.
- **Print:** prints the edited image.
- **Save and Return:** saves and uploads the edited image and returns you to the previous screen.
- **Cancel Image Editing:** cancels image editing without saving and returns you to the previous window.

Edit



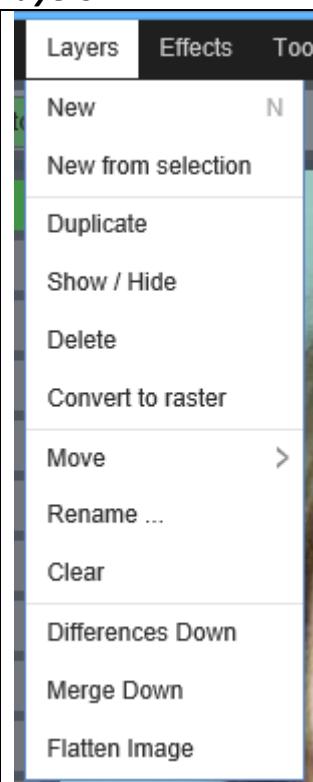
- **Undo:** will undo that last change that was made (up to 10 actions).
- **Restore to Original Image:** will undo all changes that you have made to the image.
- **Delete Selection:** deletes the object selected using the "Select object tool" in the left sidebar.
- **Copy Selection:** copies the object selected using the "Select object tool" in the left sidebar.
- **Paste:** pastes the object selected using the "Select object tool" in the left sidebar.

Image

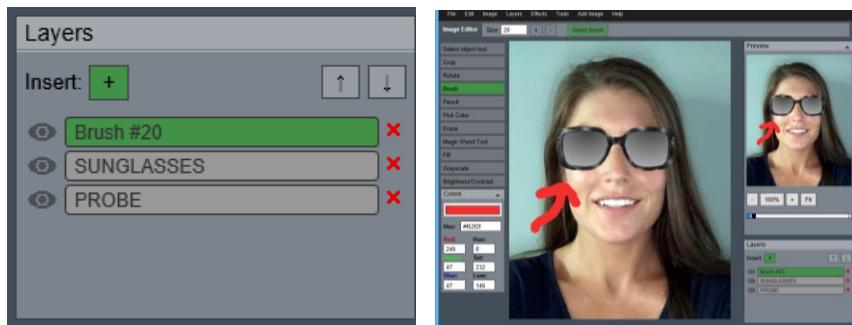


- **Information:** opens the image information window displaying information such as original width, original height, pixels, layers, and number of colors detected.
- **Trim:** trims artboard to the size of the image if the artboard enlarges beyond image width and/or height.
- **Zoom >**
 - **Zoom In:** zooms in on the image. You can move around to different spots of the image using the green box of the preview image in the right sidebar.
 - **Zoom Out:** zooms out on the image.
 - **Original Size:** zooms the image to its original size.
 - **Fit Window:** zooms the image to fill the browser screen vertically.
- **Resize:** allows the user to resize the image.
- **Rotate:** opens the rotation window. Rotate the layer 0, 90, 180, or 270 degrees from original position. If you have multiple layers flatten the layers using the “Flatten Image” option in the top menu under Layers.
- **Flip>**
 - **Vertical:** flips the layer vertically. If you have multiple layers that need to be flipped, flatten the layers using the “Flatten Image” option in the top menu under Layers.
 - **Horizontal:** flips the layer horizontally. If you have multiple layers that need to be flipped, flatten the layers using the “Flatten Image” option in the top menu under Layers.
- **Translate:** moves the layer starting at the top left corner to a specific x, y coordinate.
- **Opacity:** changes the opacity level for the selected layer.
- **Color Corrections:** opens color correction options window for the selected layer.
- **Auto Adjust Colors:** auto corrects color adjustment for the selected layer.
- **Decrease Color Depth:** decrease the number of colors to reduce the file size and ensure the image displays properly.
- **Grid:** opens the Grid window. This will Display a grid overlay to assist with image editing.
- **Histogram:** opens the histogram window. An image histogram is a type of histogram that acts as a graphical representation of the tonal distribution in a digital image. It plots the number of pixels for each tonal value. By looking at the histogram for a specific image a viewer will be able to judge the entire tonal distribution at a glance.

Layers

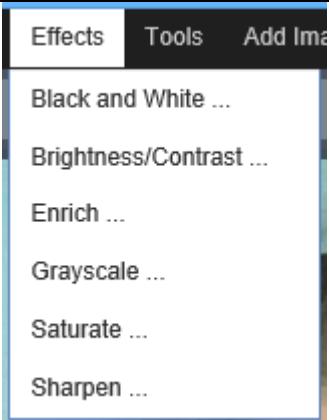


A layer is used to describe the different levels in which graphics are stacked on top of each other, like sheets of paper. Move layers around (in the right panel with the arrows) to stack graphics in different orders. Edit individual layers as needed. As you make edits or add graphics these edits will be inserted as layers.

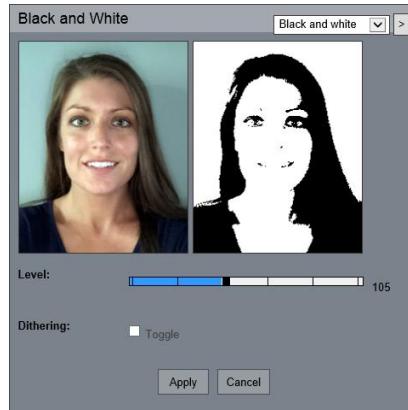


- **New:** creates a new layer to add edits/graphics to. Most of the time a layer will be auto generated when an edit is added.
- **New from selection:** creates a new layer with the selected object.
- **Duplicate:** duplicates the selected layer.
- **Show/Hide:** toggles visibility of the selected layer. Use the eye icon next to the layer to also toggle the visibility.
- **Delete:** deletes the selected layer. Use the X icon next to the layer to also delete the layer.
- **Convert to raster:** converts an object or drawing from a vector (graphic) image to a raster (pixel) image to allow actions such as rotate, crop, etc. Since most vector images do not allow editing they must be turned into a raster image to allow for editing.
- **Move >**
 - **Up:** option moves the active layer up one level.
 - **Down:** option moves the active layer down one level.
- **Rename:** will rename the layer. You may also double click on the layer in the Layers Panel to rename.
- **Clear:** removes all edits to the selected layer.
- **Differences Down:** creates a new layer that replaces the active layer and the layer below it with the differences between the two layers.
- **Merge Down:** merges the active layer with the layer below it into one layer.
- **Flatten Image:** merges all layers together into one layer.

Effects

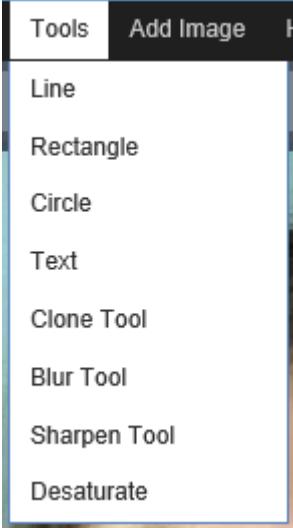


Filters may be selected from the Effects Toolbar. Navigate between filters by selecting the appropriate filter in the Effects Toolbar or using the drop down menu after a filter is selected. All effects are displayed in a window with a before and after image preview. Options (if there are any) to adjust the image filter will be displayed under the preview images. Once you are satisfied with the image apply or cancel the filter that will be added to the selected layer. To add the filter to all layers, flatten the layers and then add the filter.

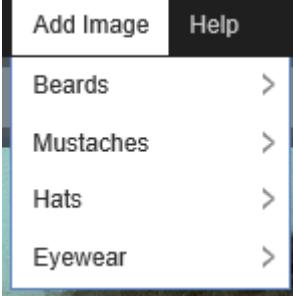
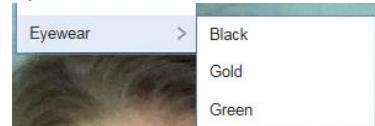
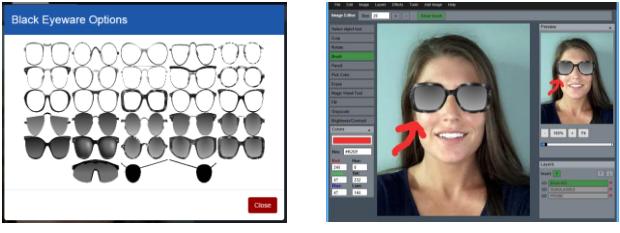


- **Black and White:** change the level of the black and white filter. Toggle the dithering option to override any level of the black and white filter.
- **Brightness/Contrast:** adjusts the brightness and contrast of the image with the slider. Brightness adjusts how light or dark the image appears. Contrast affects the difference in brightness between light and dark areas in an image.
- **Enrich:** add vibrancy to the image by adding an enrich filter, no slider is necessary.
- **Grayscale:** applies a grayscale filter to the image. No slider is necessary.
- **Saturate:** adjusts the "purity" of the color. Fully saturated colors are very rich and bright. Less saturated colors are more gray. Use the slider to adjust the percentage.
- **Sharpen:** brings out image detail that wasn't there before by emphasizing the edges of an image. Adjust the sharpness using the factor slider.

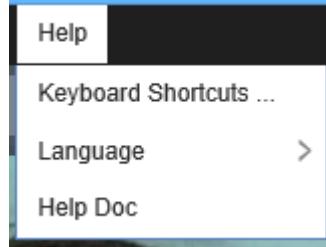
Tools

	<ul style="list-style-type: none"> • Line: auto creates a new layer for a line, click and drag to draw the line. Image editing options are available under the toolbar. • Rectangle: auto creates a new layer for a rectangle, click and drag to draw the rectangle. Image editing options are available under the toolbar. • Circle: auto creates a new layer for a circle, click and drag to draw the circle. Image editing options are available under the toolbar. • Text: auto creates a new layer for a text box, click to create the textbox, a text window will appear. Text editing options are available under the toolbar. • Clone Tool: replace information from one part of a picture with information from another part. Right click the information you'd like to clone, and left click and/or left click and drag to place the image. Use the Image Editor under the toolbar to edit the clone tool. • Blur Tool: blur parts of the image by clicking on the image and dragging the blur tool over the desired area. Use the Image Editor under the toolbar to edit the blur tool. • Sharpen Tool: sharpen parts of the image by clicking on the image and dragging the sharpen tool over the desired area. Use the Image Editor under the toolbar to edit the sharpen tool. • Desaturate: reduce the colorfulness of the image.
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Add Image

	<p>Select the type of image to add. Depending on the option you chose you will be given a second option to choose a color.</p>  <p>Thumbnail options will be displayed, select a thumbnail and it will be added as a separate layer. Adjust the thumbnail layer accordingly.</p>  <ul style="list-style-type: none"> • Beards: adds a beard layer to the image. • Mustaches: adds a mustache layer to the image. • Hats: adds a hat layer to the image. • Eyewear: adds an eyewear layer to the image.
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Help

	<ul style="list-style-type: none"> • Keyboard Shortcuts: opens the keyboard shortcut window displaying all keyboard shortcuts for image editor actions. • Language: translates the toolbar, preview panel, and layer panel options into the selected language. Note that Menu options will remain in the original language. • Help Doc: takes the user to the Image Editor Help Guide.
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Left Side Bar - Toolbar Options

Toolbar Options are located on the left side of the screen.

	<ul style="list-style-type: none"> • Select object tool: use the select object tool to select different layered objects in the project. Turn on “Auto select” in the Image Editor toolbar to select and edit any object in the project by clicking on it in the image. Turn off “Auto select” to select and edit only the highlighted object in the project. • Crop: click and drag your mouse to apply the green box around the area you would like cropped out. Anything outside of the green selection area will be discarded. Select “Apply Crop” in the Image Editor toolbar to apply the crop. • Rotate: opens the rotation window. Rotate the layer 0, 90, 180, or 270 degrees from original position. If you have multiple layers flatten the layers using the “Flatten Image” option in the top menu under Layers. • Brush: draws a brush line by left clicking on the image and dragging the mouse. This will be added as a separate layer. Use the Image Editor to change the size of the brush. Select “Smart brush” for a brush stroke that gets larger over time. Unselect “Smart brush” for brush that remains the same size. • Pencil: draws a pencil line by left clicking on the image and dragging the mouse. This will be added as a separate layer. Use the Image Editor and select “Antialiasing” to change the size of the brush. If “Antialiasing” is unselected the brush will remain a thin line. • Pick Color: turns your mouse arrow into a color picker that allows you to choose a color within the image. The selected color will be displayed in the Color box at the bottom of the screen. Use the Image Editor to change the color picker into a global color picker by selecting “Global”. • Erase: erases sections of the image by left clicking on the area and dragging the mouse. Use the Image Editor to adjust the size and shape of the eraser. The eraser will default to a square shape, select “Circle” to change the shape, unselect “Circle” to return to a Square. While using the circular eraser you may use it as a full sharpened eraser (Strict) or a partial eraser (Strict unselected). • Magic Wand Tool: removes sections of the image that have same, or extremely similar, color. Use the Image Editor to adjust the power of the wand, or change to an Anti-aliasing or Contiguous wand.
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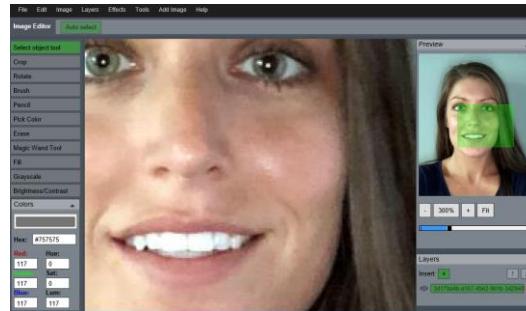
	<ul style="list-style-type: none"> ○ Anti-aliasing (on/off): when an area is selected anti-aliasing will add greater realism by smoothing jagged edges on curves and lines of the selection. If anti-aliasing is off, the area will appear more jagged. ○ Contiguous (on/off): when the wand is hovered over a color it will automatically select every pixel in the area with that similar color. If Contiguous is on then it will select every pixel of that similar color touching or not throughout the image. ● Fill: fills in patches of the same color on the image with the color selected in the color block. Use the Image Editor to adjust the power of the fill, or change to an Anti-aliasing or Contiguous fill as described above. ● Grayscale: applies a grayscale filter to the image. ● Brightness/Contrast: adjusts the brightness and contrast of the image with the slider. Brightness adjusts how light or dark the image appears. Contrast affects the difference in brightness between light and dark areas in an image. ● Color Block: displays the color selection. Click on the block for more color options. ● Hex: input a specific hex color value. ● RGBA: input a specific RGBA color value.
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Preview Panel

The Preview Panel is located in the upper right corner of the screen. This will provide a preview of the image being edited with zooming capabilities.



- **Image Preview:** will display a preview area of the image being edited. If you are zoomed in to where the entire image is not visible, a green box will appear that you can move around to change which section of the image is displayed.



- **Zoom Out (-):** zooms out on the image.
- **Auto Zoom (100%):** click on the zoom percentage number to automatically zoom the image to 100%.
- **Zoom In (+):** zooms in on the image. You can move around to different spots of the image using the green box of the preview image.
- **Fit:** will zoom on the image to fill the browser screen vertically.
- **Scroll Bar:** use the scroll bar to manually zoom in/out on the image.

Layers Panel

The Layers Panel is located in the bottom right corner of the screen, under the preview panel. This will provide a preview of all layers as well as editing capabilities.



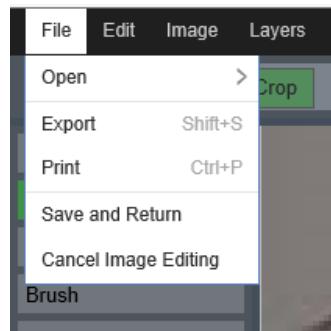
A layer is used to describe the different levels in which graphics are stacked on top of each other, like sheets of paper. Move layers around (in the right panel with the arrows) to stack graphics in different orders. Edit individual layers as needed. As you make edits or add graphics these edits will be inserted as layers.



- **Insert (+):** inserts a new, blank, editable layer on top.
- **Move up:** moves the layer up a level.
- **Move down:** moves the layer down a level.
- **Visibility:** toggles the layer visibility. If the eye is dimmed then the layer is not visible.
- **Layer Name:** double click to rename the layer. This can be useful organizational tool if there are multiple layers.
- **Remove:** will remove the layer.

Saving

When you are finished working with the image click **Save and Return** and the changes that you have made to the image will appear. If you want to discard changes that you have made to the image click **Cancel Image Editing** to go back to the previous screen.



Installing Facial Recognition Components

To use probe editing and comparison tools, you will first need to install the facial recognition components /FRClient.msi software. **NOTE:** Before installing FRClient.msi , you must have .NET 3.5 and Visual Studio redistributables from 2005 to the present.

1. Access FRClient.msi

You have 3 options to access FRClient.msi:

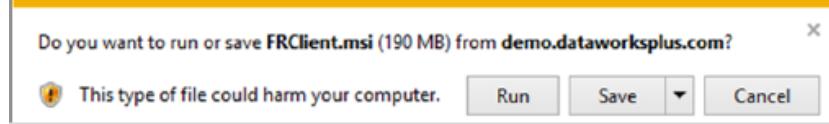
1. When using the probe editing or comparison tool, a progress pop-up will be displayed. You may select the blue [click here](#) link to install.



The next step may vary after you select *click here*.

Using Internet Explorer

- Select Run.

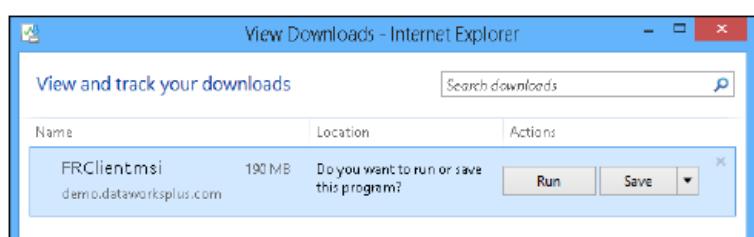


Using Chrome

- Select **FRClient.msi**.
- Enable popups: <https://support.google.com/chrome/answer/95472?co=GENIE.Platform%3DDesktop&hl=en>

2. Use the following link: <https://demo.dataworksplus.com/FacialRecognition/FRClient.msi>

- Select Run.

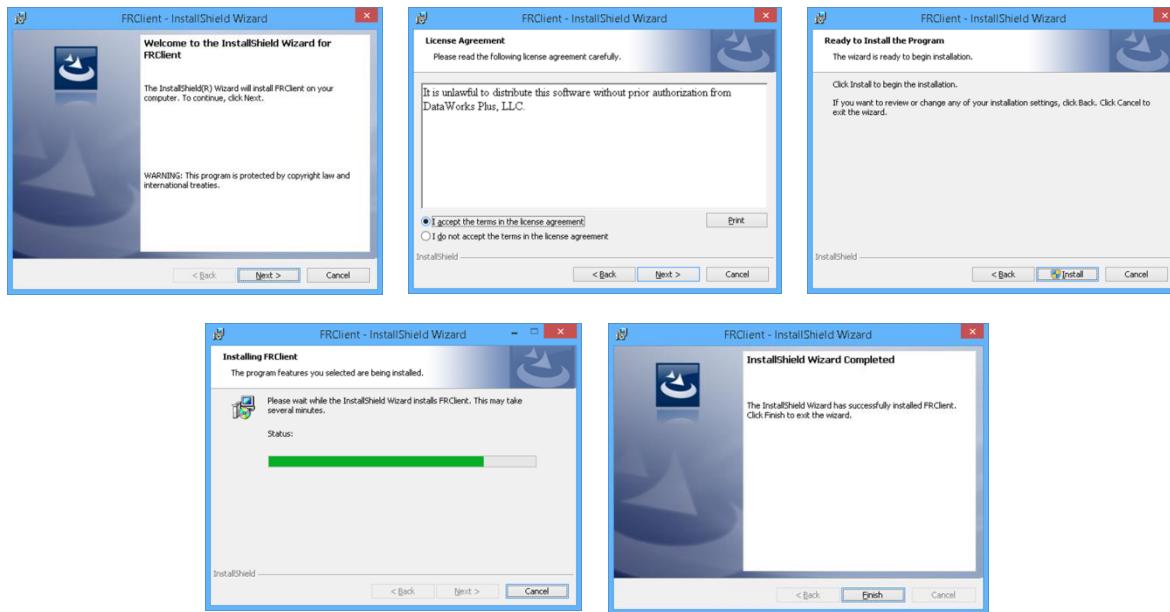


3. Contact DataWorks Plus support.

- Email: support@dataworksplus.com
- Call: (866) 632-2780, ext. 3

2. Run the Wizard and Follow the Prompts

After you start running the wizard, follow the prompts to complete installation.



DataWorks Plus Support

How to reach us:

1. Call Toll-free 1-866-632-2780. Select option 3 for technical support.
2. E-mail tickets to support@dataworksplus.com.

Information to have available:

It is always helpful if you know the machine name that is having the problem, as well as type of printer/camera if the problem relates to those devices. We will also ask for the name and phone number of someone near the computer that is experiencing the problem.

Opening a support ticket:

When you call the toll-free number, our support technicians will open a support ticket for you. This ticket number is available for your records, should you need it, and it ensures that your system problem is accurately handled by our company. You can also open a support ticket via e-mail or from the support web page.

Resolving the Problem:

Calls that come into the support center are logged in our call tracking system. At all points, the support technician is responsible for keeping the customer updated on the progress of the ticket. All calls are handled as follows:

1. Assigned to a technician for review and diagnosis.
2. Calls that cannot be diagnosed and handled quickly are escalated to a senior engineer.
3. The ticket may be escalated to a local technician or vendor in the customer's geographical area, if necessary.
4. The senior engineer may work with our development team to resolve software issues.

Obtaining Replacement Parts:

Should the technical support department determine that new parts or devices are needed for your equipment, DataWorks Plus will issue an RMA to send the part directly to your site. When the part arrives, please use the return shipping label to ship the damaged part back to DataWorks Plus.

After-Hours Calls:

For after-hours calls, please use the same number listed above and press 3 for support. When prompted, please leave your name and number and our on-call technician will call you back promptly.