### 

|  |  |  |
| --- | --- | --- |
| **Reporting Requirements:** | | |
|  | The reporting application will provide UIs for reporting current, and/or historical case data statewide. These reports will also provide additional functionality for filtering and aggregating case data. |  |
|  | When we launch the new version of reports its should:   * Be faster than the old version. * Be simple & intuitive. * Present unambiguous output thanks to in-line explanation. |  |
|  | **Conflict Check AKA People** |  |
| **1** | Given a set of *personally identifiable characteristics* (e.g., name, dob, address), the conflict check will return a list of people whose characteristics most closely match those provided. |  |
| **2** | *Personally identifiable characteristics* include:   * Name * DOB * Case #: partial or complete case # for case in which person was involved * Docket #: partial or complete docket # for case in which person was involved * Person’s relationship(s) to case(s): X or Y * Attorney in involved case Involved CPCS staff member * Opening date for involved case(s) * Closing date for involved case(s) * Contact information (i.e., address & phone) |  |
| **3** | All entry fields should be accompanied by a *more info* link (perhaps a ? icon), that provides additional information when clicked or moused over. |  |
| **4** | On opening this report the *name* field should be given focus. |  |
| **5** | It should be possible to navigate all *identifiable characteristics* and commence a search by using the *tab* button. |  |
| **6** | The prompt for *personally identifiable characteristics* should be divided into *primary* and *secondary* characteristics, with secondary characteristics hidden by default (i.e., one has to click a *show advanced* link to see secondary characteristics). The following characteristics should be classified as *primary*, with the remainder being classed as *secondary*:   * Name & DOB |  |
| **7** | A clean design similar to the Google search page is preferred. Complexity should only become apparent when asked for, as with clicking on *show advanced*. |  |
| **8** | When conducting a search, only the *name* field is required. All other fields are optional. |  |
| **9** | The *name* field should be one continuous field without divisions for first, last, and middle names. Due to inconsistent data entry, use of these divisions results in unnecessary exclusion of possible matches (e.g., historically Juan Carlos may be entered as a first name or as a first and middle name respectively). Alternatively, the system should accept and parse a single name element, searching for matches across all name parts (e.g., first, last, etc). |  |
| **10** | One potential protocol for name parsing:   * Replace all punctuation with spaces. * Condense all instances of multiple spaces to a single space. * Split string into an array using spaces as dividers. * For each value in the array, check nickname DB and add new element for either nickname or full name if there is a match. * For each value in the array, add to query an argument in which it is searched for in each name part. |  |
| **11** | Matches on the primary characteristic *name* should make use of a combination of partial matches (e.g., LIKE ‘%input%’) and Soundex matches. *Example: If someone searches “John J Smith” and their exists a record for “John Joseph Smith” there should be a match. Likewise, if someone searches “Jon J Smith,” there should be a match. Conversely, if the record is “John J Smith” the search “John Joseph Smith,” it should score a match as well.* |  |
| **12** | If it was not too computationally expensive, efficiency could be served if the name field made use of suggested results that populate a dropdown below the text field as one types. |  |
| **13** | All date fields should open a calendar picker when clicked on, such that a user could input a date via text (e.g., 1/1/17) or by clicking on the date in the calendar picker. |  |
| **14** | A match need not be exact. Statistical matching is preferred with results listed in order of descending relevance such that more relevant matches are those with the closest match. |  |
| **15** | Searches on primary characteristics are fuzzy, not exact. |  |
| **16** | Searches on *secondary characteristics* are exact, not fuzzy. They should, however, allow for exact partial matches (e.g., LIKE %input%). |  |
| **17** | Searches on *secondary characteristics* should search for matches to ALL entered criteria (e.g., address AND phone). This is in contrast to the fuzzy match necessitated for *primary characteristics*. |  |
| **18** | Results should be ranked by relevance. |  |
| **19** | Relevance rankings should be computed across both *primary characteristics* (i.e., name and DOB). Secondary characteristics are in contrast innately binary, meaning they only count if they are a match. |  |
| **20** | Ideally, results should come back with a match score between 0 and 1, where 1 is an exact match and 0 is no match at all, making 0.5 a 50% match. This would allow you to then multiply the name match by the DOB match (when a DOB is provided) to arrive at an overall relevancy ranking. For the name field, this could be computed using something like a [Jaccard Coefficient](https://en.wikipedia.org/wiki/Jaccard_index). The DOB field is less straightforward. One possible ranking is to calculate the [percent difference](http://www2.phy.ilstu.edu/~wenning/slh/Percent%20Difference%20Error.pdf) between the age in days one would have given the search value and the age in days one would have given the returned values. The inverse of this would give a value between 0 and 1 as above. However, in the cases where a DOB is null in the DB, there will need to be special consideration. Depending on the number of entries without DOB’s, it may be appropriate to consider them as being an exact match. |  |
| **21** | Results with the same relevancy ranking, should be sorted alphabetically among equally ranked results. |  |
| **21.1** | The *Case & Docket #* input fields should be combined into a single field “Case or Docket #.” |  |
| **21.2** | *Case & Docket #*, should accept partial matches on the case’s internal case number or the court’s docket number. *For example, for a case with Case # FY2017-office-0001, the search “FY2017” should score a match.* |  |
| **22** | A *Person’s relationship(s) to case(s)* should be a dropdown menu with the ability to make multiple selections. Default behavior is no selection. This corresponds to no restriction on a person’s role. Results return matches based on OR. *For example, if one selected the roles Witness and Father, we would get results for all people matching our other characteristics who were either a witness OR a father.* |  |
| **23** | The *Involved CPCS staff member* field should be a single field where one can enter the name of CPCS staff to be parsed and matched against staff similar to the *name* field. This match, however will not be fuzzy. In fact, if one can implement the *suggested results* feature below, it wouldn’t even need to make use of Soundex. |  |
| **24** | Given that the *Involved CPCS staff member* field searches a limited set (i.e., current and past staff) and that it is less efficient to do a Soundex, the field should make use of a *suggested results* feature that populates a dropdown below the text field as one types. Give that we are matching against a predefined list (staff) we can be assured that it is an exact match. This search, should, however, allow for partial name matches. One should not need to type Perry Mason to see those people in cases where he was involved. “Mason” should do. |  |
| **25** | A person will count as a match for The *Involved CPCS staff member* field when that person and the involved CPCS staff member share are case. That is, they both have a relationship to that case. |  |
| **26** | For *secondary characteristics* that are dates, there should be a sliding scale or set of radio buttons next to each to choose how fuzzy the search should be. For example, you could append the text “+/- X days”, with a slider that changes the value of X from 0 to 180. The setting of this slider should be saved for each user. |  |
| **27** | For *secondary characteristics* that are names, the input field should be one continuous field without divisions for first, last, and middle names. |  |
| **28** | Remaining *secondary characteristics* (i.e., contact information such as address and phone), should look for complete or partial matches. For example, if one searched for a phone number that matched “555,” and “555-555-5555” was in the DB, that would come back as a match. |  |
| **29** | The results of a people search should return a grid with a row for each match. These rows should be ordered by descending relevance and there should be “columns” for:   * The person’s name * The person’s age * The person’s DOB * The person’s address * A complete or partial list of the person’s cases (by case number(s)) and indication if they were/are a client (perhaps by color)   NOTE the final bullet could be the focus of a paragraph. The display need not be strictly speaking a grid. It could be like the page preview on Google, some headers and a text preview. In such an layout the expansion in #30 would be a read more like option. |  |
| **30** | It should be possible to expand the results such that you can then see a list of the person’s cases including:   * Their relationship to the case (their role) * The client’s name * The “most important” charges (limited by space) * The case’s office * The opening date * The attorney(s) on the case * The closing date * An indicator if there was an adverse disposition on any charge * A link to the case details |  |
| **31** | The option to expand results should be remembered between sessions such that a user who has opted to expand results will not have to do so every time they use the tool. |  |
| **32.** | When a case number is displayed, it should be a hyperlink to the case’s details as seen in the current system (i.e., CASE, TRIS or CMS). |  |
| **33** | The results should include a *total number of matches* output. |  |
| **34** | When the total number of matches is sufficiently small, there should be the option to output results to a csv or xls file. In such output, each case would have a row. |  |
| **35** | When fetching search results the system should display a loading message to make clear that a search is underway. Ideally, this would take the form of a progress bar to indicate how much time is left. |  |
|  | **Case Search AKA Cases** |  |
| **1** | Given a set of *identifiable characteristics* (e.g., case number, charge, opening date), the case search will return a list of cases whose characteristics match those provided. These cases will be visible in both a grid/list and graph form. |  |
| **2** | *Identifiable characteristics* include:   * Case #: partial or complete case # for case in which person was involved * Docket #: partial or complete docket # for case in which person was involved * Case Type * Division (e.g., PD, CAFL, YAD, MH) * Unit (e.g., trial, appeals) * Office (e.g., Lowell District) * Charge(s) * Opening date for case(s) * Closing date for case(s) * Participant(s):   + Role (e.g., client, witness, attorney)   + Name * In Custody * Is Open * SSA effort level * Investigator effort level |  |
| **3** | No single field is required, but at least one field must be non null for a search to return results. |  |
| **4** | When fetching search results the system should display a loading message to make clear that a search is underway. Ideally, this would take the form of a progress bar to indicate how much time is left. |  |
| **5** | It should be possible to save searches (this could either be via a built in widget or by copying the page’s URL, i.e., bookmarking a result). *I like the latter for its simplicity and ease of use, but we would have to make sure the url didn’t contain plain text of confidential info.* |  |
| **6** | All entry fields should be accompanied by a *more info* link (perhaps a ? icon), that provides additional information when clicked or moused over. |  |
| **7** | The *Case #* and *Docket #* fields should be combined into a single *Case or Docket #* field. |  |
| **8** | The *Case & Docket #*, *Charge*, and Participant’s *Name* fields should be open text fields. |  |
| **9** | When practical, open text fields should make use of suggested options that populate a dropdown below the text field as one types. This would be particularly useful for the charge(s) field. |  |
| **10** | Users should be able to add multiple “Charge” fields, perhaps by clicking a plus button following the text fields. *For example, one should be able to search for cases with an “A&B” and a “Trespass.”* |  |
| **11** | For criteria where the user can add or subtract instances, like “Charges”, the addition of a new instance should be accompanied by an AND-OR radio option. That is, when there is more than one instance the user can decide if the match will be made on all instances (AND) or on any instance (OR). This could be presented as an option following the criteria list where they choose “match all” or “match any.” These criteria should be limited in the number a user can add. The size of this limit should be chosen based on performance. |  |
| **12** | The *Case Type*, *Division*, *Unit*, *Office*, *SSA effort level*, *Investigator effort level*, and Participant’s *role* fields should be pulldown menus. |  |
| **13** | All pulldown values should default to ALL. |  |
| **14.1** | The *Case Type*, *Division*, *Unit*, and *Office* pulldowns should allow for multiple selections. |  |
| **14.2** | The available *Unit* options should be contingent of selected *Divisions*, and the available *Office* options should be contingent on the selected *Unit*. This is to avoid logical impossibilities that would lead to null results (e.g., Division = CAFL and Office = Lowell District). |  |
| **15** | For all dates, there should be a sliding scale or set of radio buttons next to each to choose how fuzzy the search should be. For example, you could append the text “+/- X days”, with a slider that changes the value of X from |  |
| **16** | The *Participant’s field(s)* will consist of participant *role* and *name* pairings for which the user can add or subtract pairings, as with charge(s) above. *For example, if you want to search for a case where the attorney is named “Sally,” and there is a witness named “Beth,” then you would have to create two participant entries.* |  |
| **17** | By default, a participant pairing’s *Role* is set to ALL. |  |
| **18** | A participant pairing’s Name field can be null. *For example, if you wanted to look for all cases with an investigator, one could search with the Role equal to “Investigator” and the name set to null.* |  |
| **19** | Except as described elsewhere, matching will be done based on AND. That is, the list of matching cases includes only those cases that match all provided criteria. |  |
| **20** | By default, the grid/list results display will be shown. This display need not be strictly speaking a grid. It could be like the page preview on Google, some headers and preview text. In such a layout items can be grouped together in paragraphs or lists. |  |
| **21** | The results of a people search should return a grid/list with an entry for each match. By default, these entries should be ordered by descending case number (not docket). They should include “columns” for:   * Case Number * Docket Number * Client Name * The “most important” charges (limited by space) * The case’s office * The opening date * The attorney(s) on the case * The closing date * An indicator if there was an adverse disposition on any charge * SSA effort level * Investigator effort level |  |
| **22** | When a case number is displayed, it should be a hyperlink to the case’s details as seen in the current system (i.e., CASE, TRIS or CMS). |  |
| **23** | The option to toggle between list and graphed results should be placed near the top of search results. |  |
| **24** | It should be possible for users to override the default behavior of showing the list. *Perhaps it could just remember the last behavior.* |  |
| **25** | Graphed data will plot counts against dates were matching cases are counted on their opening dates. |  |
| **26** | The start and end dates on graphed data will be set by the min and max opening dates found in matching cases. |  |
| **27** | The granularity of dates in graphed data will allow for user editing. *For example, the x axis could show individual days, weeks, months or quarters, depending on the user selection. These delineations would count cases in groupings. So if the divisions were by weeks, the Y axis would display counts per week.* |  |
| **28** | The granularity of date data in graphed data should be a function of the difference between the start and end date of the graph. *For example, if the time spans days, the level of detail should be days, if it spans years, quarters or months would be appropriate.* |  |
| **29** | The results should include a *total number of matches* as an output. |  |
| **30** | When the total number of matches is sufficiently small, there should be the option to output results to a csv or xls file. |  |
|  | **Assignments** |  |
| **1** | Given a set of filters (e.g., Division, Unit, Office, date) the *Events* screen will return a list or graphical display of aggregate counts for the given filters grouped by filtered agency entities. When comparing multiple date ranges, aggregate counts will be replaced by differences. |  |
| **2** | Filtering characteristics should include:   * Period (e.g., custom, today, yesterday, last week…)   + From (Starting Date)   + To (Ending Date) * Comparison (i.e., no comparison, compare to previous period, and compare to previous year)   + When not “no comparison”     - From (Starting Date)     - To (Ending Date) * Division (e.g., PD, CAFL, YAD, MH) * Unit (e.g., trial, appeals) * Office (e.g., Lowell District) * Staff Detail |  |
| **3** | The *Period* filter should present a set of predefined periods including:   * Custom * Today * Yesterday * Last Week * Last Month * Q2 FY2017 * Q1 FY2017 * Q4 FY2016 * Q3 FY2016 . . .   Where the divisions by quarter are the preceding 8 quarters, excluding the current quarter. |  |
| **4** | The values of the *From* and *To* dates associated with *Period* are automatically set after selecting a period. If they are altered, the *Period* selection is set to *Custom*. |  |
| **5** | The *Comparison* selection can be:   * No comparison * Custom * Compare to previous period * Compare to previous year |  |
| **6** | The *Comparison’s* *From* and *To* fields only appear when *Comparison* is not equal to “No comparison” |  |
| **7** | The values of the *From* and *To* dates associated with *Comparison* are automatically set after selecting a *..previous period* or ...*previous year*. If they are altered, the selection is set to *Custom*. |  |
| **8** | The span of time covered by the *From* and *To* dates associated with *Comparison* must be the same as that covered by the *From* and *To* dates associated with *Period.* |  |
| **9** | The *Division*, *Unit*, and *Office* fields should be pulldown menus. |  |
| **10** | All pulldown values should default to ALL. |  |
| **11** | The *Division*, *Unit*, and *Office* pulldowns should allow for multiple selections. |  |
| **12** | The available *Unit* options should be contingent of selected *Divisions*, and the available *Office* options should be contingent on the selected *Unit*. This is to avoid logical impossibilities that would lead to null results (e.g., Division = CAFL and Office = Lowell District). |  |
| **13** | *Staff Detail* should be a pulldown, defaulting to all, and allowing for multiple selects (e.g., attorney, SSA, investigator). |  |
| **14** | Filtered results should be displayed in four slices:   * Mixed Division,Unit and Office List * Staff List * Graph * Cases List |  |
| **15** | The *Mixed Division, Unit and Office List* should display   * A nested list of the selected Divisions, Units and Offices * As well as a TOTALS row at the top, aggregating values for the the following rows.   Each row should contain columns noting   * Start: The number of open cases at the Start of the Period * Asd: The number of cases Assigned during the Period that are not Probation or Bail * Prob: The number of Probation cases assigned during the Period * Bail: The number of Bail cases assigned during the Period * Tch: The number of Touched Cases (start + asd + prob + bail) * Clsd: The number of cases that were closed during the Period * End: The number of cases open at the end of the Period. |  |
| **16** | When fetching search results the system should display a loading message to make clear that a search is underway. Ideally, this would take the form of a progress bar to indicate how much time is left. |  |
| **17** | *Mixed Division, Unit and Office List* counts should count each individual case, not each time a staffer touches a case. So if two attorneys worked the same case, it would show up only once. |  |
| **18** | The content of the *Mixed Division, Unit and Office List* is contingent on the filtering selections. |  |
| **19** | The content of the *Staff List* is contingent on those rows selected in the *Mixed Division, Unit and Office List*. It should be possible to select more than one such row. |  |
| **20** | The *Staff List* should display rows for each involved staff member with subdivisions for offices. Office subdivisions should not include counts. However, each staff row should include the same columns and counts as the *Mixed Division, Unit and Office List* but tailored for the staff member*.* |  |
| **21** | The *Staff List*, should count each time a staffer touches a case. So if two attorneys worked the same case, it would show up as a single case in each attorney’s row. |  |
| **22** | The report will show either *Details* or *Graph* |  |
| **23** | When *Comparison* is not *No Comparison*, the counts in rows will show the difference between the older period and the newer period. For example, if period 1 had 20 touched cases and period 2 had 19, the displayed number would be -1. |  |
| **24** | When *Comparison* is not *No Comparison*, the Graph will display lines for period 1 and period 2. |  |
| **25** | Graphed data will plot counts for the number of open cases. That is, the Y axis should start with the number of open cases at the beginning of the period, going up with newly opened cases and going down with newly closed cases. |  |
| **26** | The graph will contain data for the most granular selection above. For example, if Lowell District is selected in *Mixed Division, Unit and Office List* and there no selection in the Staff List, the counts will be those of all Lowell District cases matching the filtering criteria. If, however, Attorney Smith is selected in the Staff List, the counts will be those of Attorney Smith’s cases. |  |
| **27** | The start and end dates on graphed data will be set by the min and max opening dates found in matching cases. |  |
| **28** | The granularity of dates in graphed data will allow for user editing. *For example, the x axis could show individual days, weeks, months or quarters, depending on the user selection. These delineations would count cases in groupings. So, if the divisions were by weeks, the Y axis would display counts per week.* |  |
| **29** | The granularity of date data in graphed data should be a function of the difference between the start and end date of the graph. *For example, if the time spans days, the level of detail should be days, if it spans years, quarters or months would be appropriate.* |  |
| **30** | The *Case Grid* should display a row for each case encompassed by the above selections, with columns for   * Case Number * Docket Number * Client Name * The “most important” charges (limited by space) * The case’s office * The opening date * The attorney(s) on the case * The closing date * An indicator if there was an adverse disposition on any charge |  |
| **31** | The results should include a *total number of matches* as an output. |  |
| **32** | When the total number of matches is sufficiently small, there should be the option to output results to a csv or xls file. |  |
| **33** | When a case number is displayed, it should be a hyperlink to the case’s details as seen in the current system (i.e., CASE, TRIS or CMS). |  |
|  | **Events** |  |
| **1** | Given a set of filters (e.g., Division, Unit, Office, case, staff member) the *Events* screen will return a list of matching events in chronological or reverse chronological order. |  |
| **2** | Filtering characteristics should include:   * From (Starting Date) (default is today) * To (Ending Date) (default is null) * Division (e.g., PD, CAFL, YAD, MH) * Unit (e.g., trial, appeals) * Office (e.g., Lowell District) (default is user’s unit) * Event Location * Case Type * Participant(s):   + Role (e.g., client, witness, attorney)   + Name * Case #: partial or complete case # for case in which person was involved * Docket #: partial or docket # for case in which person was involved |  |
| **3** | By default, the screen should open with a search run on the user’s Office with today as the starting date. *That is, when a user opens the events screen, they should see their office’s upcoming events and those happening today.* |  |
| **4** | When fetching search results the system should display a loading message to make clear that a search is underway. Ideally, this would take the form of a progress bar to indicate how much time is left. |  |
| **5** | By default the filtering criteria should be hidden such that one has to click on a link to see them (e.g., Show filtering criteria) |  |
| **6** | The page should remember a user’s last set of filtering criteria, loading them as the default on the user’s next use of the page. This behavior should be controlled by a checkbox, something like “remember my last set of filters.” |  |
| **7** | Unlike other reports, Events does not make use of fuzzy dates. |  |
| **8** | A null Starting Date will behave as if the Starting Date is the beginning of time. |  |
| **9** | A null Ending Date will behave as if the Ending Date is the end of all time. |  |
| **10** | The available *Unit* options should be contingent of selected *Divisions*, and the available *Office* options should be contingent on the selected *Unit*. This is to avoid logical impossibilities that would lead to null results (e.g., Division = CAFL and Office = Lowell District) |  |
| **11** | The participants pairings should allow for user additions as they do on the *Charges* page. That is, users should be able to add and search over multiple participants while deciding if a match requires only one or all participants to count as a match. |  |
| **12** | Results should return a grid/list with an entry for each match. By default, these entries should be ordered by ascending date. They should include “columns” for:   * Docket Number * Case Number * Date * Location * Event details (title, type & note if applicable) * Owner (the person for who did or is scheduled to attend/do the event) |  |
| **13** | When the total number of matches is sufficiently small, there should be the option to output results to a csv or xls file. |  |
| **14** | One day results should toggle between a list/grid (i.e., agenda) view and calendar views. For example, a standard calendar with a grid of days or a weekly view with each work day in a column. |  |
| **15** | When a case number is displayed, it should be a hyperlink to the case’s details as seen in the current system (i.e., CASE, TRIS or CMS). |  |