Klutch Fantasy Basketball

Functional Specification

Version history

|  |  |  |  |
| --- | --- | --- | --- |
| Version no. | Date | Changed by | Nature of amendment |
| 1.0 | 25/05/2021 | A.Templeman | Initial draft |
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# Background Introduction

Klutch Fantasy Basketball (KFB) is a project which will provide a basketball simulation for people to be able to participate in competitions running their own simulated basketball franchise. The project aims to try and break into the market of fantasy sports which is growing throughout the world and eventually would like to broach into the market of predictive sports results which has huge implications to sports betting customers.

## Document Purpose

The purpose of this document is to present a clear definition of the functional requirements for the entiriety of the website and how the simulation works.

## Document Structure

This document is a living document and is intended to evolve over the life of the KFB project.

As the Klutch Fantasy Basketball progresses through its Product Roadmap, each new version delivers additional features. With each new feature, a functional specification should be completed. If any features need to be modified due to maturity and/or design changes, this document should be adjusted with justfication placed in the ‘visualisation context and design considerations’.

Any additional Business Glossary items should also be added as required.

# Landing Page

## Navigation Bar

The navigation bar will contain the following components when not logged in on the Landing page

| Element |
| --- |
| KFB Logo |
| Sign In |
| Sign Up |

## Main Landing Content

|  |  |
| --- | --- |
| Element | Functionality |
| Website Title | Klutch Fantasy Basketball |
| Description text | Textual description, providing a one sentence pitch of what the site it |
| Learn More | Option which takes the user to a details section on the same page |
| Other | Basketball related background image |

## Details Content

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Title | A title is displayed allowing for recognition of the content area |
| Description text | Textual description providing more detailed about what the website is and does |
| Other | 3 columned section to display more detailed features of the simulation and website with textual descriptions and a related icon |

## Pricing Content

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Title | N/A |
| Description text | Description which outlines the costs of a private league |
| Other | Button which takes the user in the purchase league process |

## Contact Us Content

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Title | N/A |
| Description Text | Text that describes that the section is about getting in contact |
| Form Elements | Name  Email  Message |
| Actions | Send button which sends the message off to KFB website |
| Other | Validation will exist on fields of the contact form, not allowing anything to be submitted blank or incorrectly |

## Footer

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Title | N/A |
| Description | The footer will contain copy right details and version number of the application |
| Links | Links to Home, About & Contact Us should be available |
| Logo | Small version of logo is displayed in the footer |

# League Setup

A league is a separate competition in which 30 teams participate and play against each other.

A league has different states that it can be in which will provide the league admin and the users different actions which they can perform depending on the league action

For a reference the different league states are listed in the following table

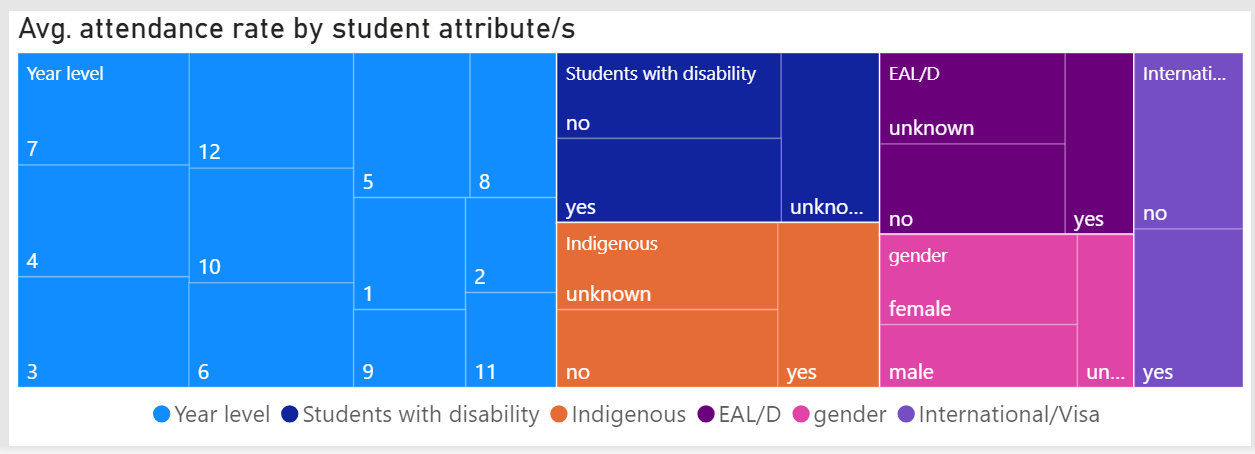
|  |  |  |
| --- | --- | --- |
| League Status | League State | Description |
| 1 | Registering | The state a league is in when it is first created and in the process of having users sign up to fill all of the team spots |
| 2 | Initial Draft Lottery | Once all teams are filled, the league goes into this state. This state is running the initial draft’s lottery process to determine the draft order |
| 3 | Initial Draft | This state is when the draft is being prepared to run (occurs after status 2) |
| 4 | Initial Drafting | The state which a league is in when an initial league draft is under way |
| 5 | Draft Completed | The state which a league is in when an initial league draft has been completed. |
| 6 | Preseason | Preseason state which allows free agents to be signed and a few practice games along with team settings to be accessed |
| 7 | Regular Season | Main state of a league, when a league is run and games are played |
| 8 | Playoffs - Round 1 | After the regular season, the playoffs begin with the First Round for the teams which have qualified |
| 9 | Playoffs - Conference Semi Finals | After the first round playoffs the winners progress to the 2nd round |
| 10 | Playoffs - Conference Finals | After the second round playoffs the winners progress to the 3rd round |
| 11 | Finals | The finals are played to determine the winner |
| 12 | Season End | Once all games are completed the season ends and allows everyone to take a break and rolling the league into the next season |
| 13 | Draft Lottery | Once the new season is rolled over and begun, the draft lottery takes place for the teams that failed to make the playoffs. |
| 14 | Draft | The draft for each new season which allows simulated players who are new to the league to be drafted by teams |
| 15 | Free Agency | Free agency occurs after the draft and before the preseason. This allows users to sign players and build out their team. |

## Proportion of students by attendance rate range

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the proportion of students by attendance rate range for the calendar year-to-date |
| Chart type | %100 stacked bar chart |
| Default view | Result for all Queensland State Schools |
| Chart Title | YTD students by attendance rate range |
| Indicator/Measure | Percentage of students with an Attendance rate\* between the following ranges (sorted lowest to highest by attendance %):   * < 85% * 85% < 89.9% * 90% < 94.9% * 95% < 100%   Attendance Rate: Formula =  Sum(AttendanceFTE) / (Sum(AttendanceFTE) + Sum(AbsenceFTE)) \* 100 |
| X axis | Value = 0%-100%  Title = off  Functionality expected = n/a |
| Y axis | Value = Year-to-date  Title = off  Functionality = n/a |
| Legend | Display = off  Title = n/a  Formatting = n/a |
| Visualisation specific data filters | Current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |

## Average attendance rate by student attributes

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the average YTD attendance rate by various student attributes. This visualisation allows the user to filter by any combination of student attributes in order to adjust the report by the user selection (e.g. Year 5, indigenous, students with disability). |
| Chart type | Tree-map |
| Default view | Result for all Queensland State Schools |
| Chart Title | Avg. attendance rate by student attribute/s |
| Indicator/Measure | Average attendance rate for the calendar year-to-date (result data label to be turned on), for the following: (category then detail)   * Year level (0P-12) * Indigenous (yes, no, unknown) * Students with disability (yes, no, unknown) * Gender (male, female, undisclosed) * EAL/D (yes, no, unknown) * International/Visa holder (yes, no)   Attendance Rate: Formula =  Sum(AttendanceFTE) / (Sum(AttendanceFTE) + Sum(AbsenceFTE)) \* 100 |
| Legend | Display = on  Title = off  Formatting = bottom centre |
| Visualisation specific data filters | Most recent result displayed, current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view: category, detail, avg. attendance rate |
| Nice to have function | n/a |

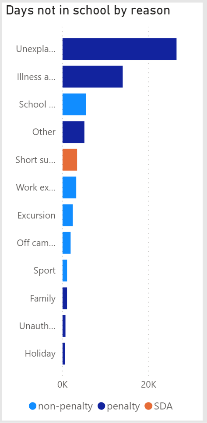


Business rule:

* It is expected that this graph acts as filter to all other graphs within the report. If a user selects a particular student attribute or combination of attributes, graphs adjust to show results for only those students.

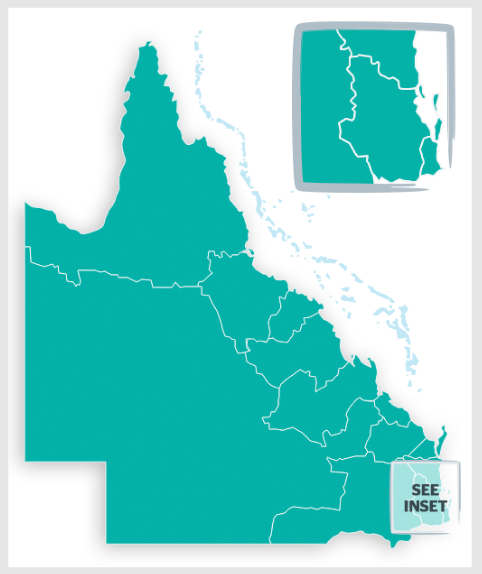
## Days not in school by reason

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the total number of absences recorded YTD by reason provided in OneSchool. The graph is expected to be colour coded to show the distinction between penalty absences and non-penalty absences. |
| Chart type | Stacked bar chart |
| Default view | Result for all Queensland State Schools |
| Chart Title | Days not in school by reason |
| Indicator/Measure | Total number of days recorded as absences for the current calendar year-to-date for each absence reason code recorded in OneSchool. (refer to SORD Overview spec 3.9.3). Yes = penalty absence codes, No = non-penalty absence codes. |
| X axis | Value = total number of days (adjusting number format)  Title = off  Functionality expected = n/a |
| Y axis | Value = Reason description  Title = off  Functionality = users is expected to be able to drill up to totals by penalty/non-penalty |
| Legend | Display = on  Title =Counted as absence?  Formatting = bottom centre |
| Visualisation specific data filters | Current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view: reason description, total days absence, penalty type |
| Nice to have function | n/a |



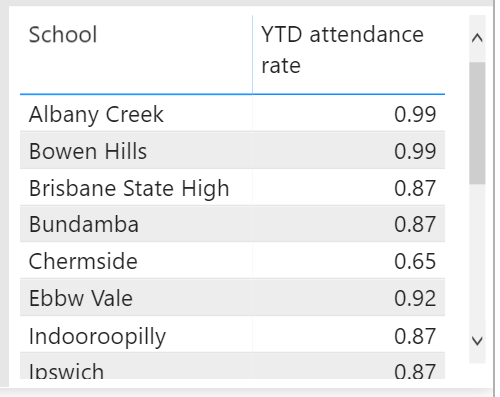
## Region

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the regions of queensland, enabling users to filer by the selected region/s. |
| Chart type | Synoptic Panel by OKVIZ |
| Default view | Result for all Queensland State Schools (no particular region selected) |
| Chart Title | *No title* |
| Indicator/Measure | Attendance rate for each region of Queensland.  Attendance Rate: Formula =  Sum(AttendanceFTE) / (Sum(AttendanceFTE) + Sum(AbsenceFTE)) \* 100 |
| Trend | n/a |
| Goals | n/a |
| Visualisation specific data filters | Current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view: region name, YTD attendance rate |
| Nice to have function | * It would be nice if the regions could also be a heatmap, highlighting if a region has a high or low attendance rate * It would be nice if there was some sort of zoom functionality which would satisfy the requirements covered in visualisation 3.15 (displaying attendance rate by schools), allowing us to not display the table. |



## School results table

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This table will show you a list of schools with their most recent YTD attendance rate. |
| Chart type | Table |
| Default view | All State Schools within Queensland |
| Chart Title | *No title* |
| Column Headings | * School * YTD attendance rate * Students enrolled |
| Values | * Centre name * YTD attendance rate: Formula =  Sum(AttendanceFTE) / (Sum(AttendanceFTE) + Sum(AbsenceFTE)) \* 100 * Enrolment count |
| Visualisation specific data filters | Current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | * It would be good if selecting the school enabled users to go to the School Attendance page, however this must need to consider RLS restricting school users from being able to only see their own school |
| Tooltip | Power Bi default view: repeat values |
| Nice to have function | * It would be nice if conditional formatting on the attendance rate column could be applied with a diverging colour from highest to lowest attendance rate value. |



Business rules:

* It is expected that the table will adjust based on any demographic combination selected by the users from the visualisation outlined in 3.12
* It is expected that if a school has less than 5 student enrolments that those school results do not appear within this table OR results return 0 or blank.
* It is expected that if a school has less than 5 students enrolled based on criteria selected in 3.12, that those school result do not appear whithin this table OR results return 0 or blank.

# Page 2 Report Layout - detail visulisation requirements

## User Navigation Filters

The characteristics/dimensions listed below need to be available in the data model to enable further navigations on the default visualisation.

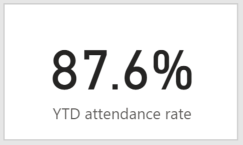
| Name / Item | Functionality | Default |
| --- | --- | --- |
| Date\* | Slider  YTD calendar year date range | Beginning of the year to current date |
| School | Drop Down with Search Bar Option to select all, multiple or a single option | All\*\* |
| Year level | Drop Down  Option to select all, multiple or single option | All |
| Students with disability | Drop Down  Option to select all, or a single option | All |
| Indigenous | Drop Down  Option to select all, or a single option | All |
| Gender | Drop Down  Option to select all, or a single option | All |
| EAL/D | Drop Down  Option to select all, or a single option | All |
| International/Visa | Drop Down  Option to select all, or a single option | All |

\*may not be necessary if user can select date range via the YTD attendance rate line graph, new feature of latest power bi release

\*\*Design challenge: how can we make the user experience better? School users ideally see only their schools selected (as they will most likely only have a few and one in most cases). Corporate users need to have access to all schools – what can we show them as default? How do users get to this page from State page?

## Year-to-date Attendance rate

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the Attendance Rate for the calendar year-to-date |
| Chart type | KPI Indicator |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | YTD attendance rate |
| Indicator/Measure | Attendance Rate: Formula =  Sum(AttendanceFTE) / (Sum(AttendanceFTE) + Sum(AbsenceFTE)) \* 100 |
| Trend axis | n/a |
| Target goals | n/a |
| Visualisation specific data filters | Most recent result displayed, current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |



## Average full day absence count

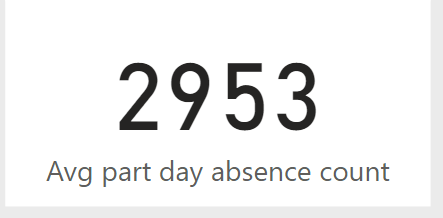
|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show for the current YTD, the average number per day, of students marked as absent for a full day. |
| Chart type | KPI Indicator |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | Avg full day absence count |
| Indicator/Measure | Absent full day count: Per day of current calendar year, sum number of students who were recorded as having a full day absence (penalty absence reason).  Measure = Average of the Absent full day count |
| Trend axis | n/a |
| Target goals | n/a |
| Visualisation specific data filters | Most recent result displayed, current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |



\*please refer to SORD overview suite 20/141922 chapters 3.9.2 on part/full day reason codes

## Average part day absence count

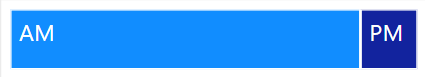
|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show for the current YTD, the average number per day, of students marked as absent for a part day. |
| Chart type | KPI Indicator |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | Avg part day absence count |
| Indicator/Measure | Absent part day count: Per day of current calendar year, sum number of students who were recorded as having a part day absence (penalty absence reason).  Measure = Average of the Absent part day count |
| Trend axis | n/a |
| Target goals | n/a |
| Visualisation specific data filters | Most recent result displayed, current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |



\*please refer to SORD overview suite 20/141922 chapters 3.9.2 on part/full day reason codes

## Percenetage of part day absences by time of day

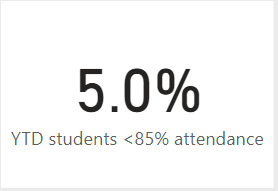
|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will percentage of part day absences by time of day (AM or PM) |
| Chart type | Tree-map |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | *No title* |
| Indicator/Measure | Denominator = total number of part day absences YTD for the current calendar year.  Measure = percentage of total absences by time of day:   * AM * PM |
| Legend | Display = *off*  Title = *off*  Formatting = data labels on |
| Visualisation specific data filters | Most recent result displayed, current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view: Part day type “AM” Percentage of total: “68.1%” |
| Nice to have function | n/a |



\*please refer to SORD overview suite 20/141922 chapters 3.9.2 on part/full day reason codes

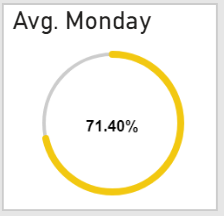
## Chronic absenteeism

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the percentage of students who have less than 85% attendance rate for the current calendar year-to-date. |
| Chart type | KPI Indicator |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | YTD student <85% attendance |
| Indicator/Measure | Denominator: total number of students currently enrolled  Measure: percentage of students with an attendance rate of less than 85% for the current YTD  Attendance Rate: Formula =  Sum(AttendanceFTE) / (Sum(AttendanceFTE) + Sum(AbsenceFTE)) \* 100 |
| Trend axis | n/a |
| Target goals | n/a |
| Visualisation specific data filters | Most recent result displayed, current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |



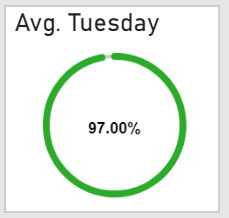
## Average attendance for Mondays

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the average attendance rate for the calendar year-to-date, for Mondays only |
| Chart type | Paypal KPI donut chart |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | Avg. Monday |
| Indicator/Measure | Average attendance rate for Mondays that have occurred YTD  Attendance Rate: Formula =  Sum(AttendanceFTE) / (Sum(AttendanceFTE) + Sum(AbsenceFTE)) \* 100 |
| Trend axis | n/a |
| Target goals | n/a |
| Visualisation specific data filters | Most recent result displayed, current calendar year-to-date calculation, day = Monday |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |



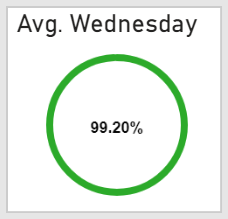
## Average attendance for Tuesdays

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the average attendance rate for the calendar year-to-date, for Tuesdays only |
| Chart type | Paypal KPI donut chart |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | Avg. Tuesday |
| Indicator/Measure | Average attendance rate for Tuesdays that have occurred YTD  Attendance Rate: Formula =  Sum(AttendanceFTE) / (Sum(AttendanceFTE) + Sum(AbsenceFTE)) \* 100 |
| Trend axis | n/a |
| Target goals | n/a |
| Visualisation specific data filters | Most recent result displayed, current calendar year-to-date calculation, day = Tuesday |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |



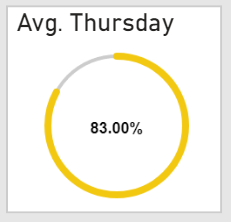
## Average attendance for Wednesday

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the average attendance rate for the calendar year-to-date, for Wednesdays only |
| Chart type | Paypal KPI donut chart |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | Avg. Wednesday |
| Indicator/Measure | Average attendance rate for Wednesdays that have occurred YTD  Attendance Rate: Formula =  Sum(AttendanceFTE) / (Sum(AttendanceFTE) + Sum(AbsenceFTE)) \* 100 |
| Trend axis | n/a |
| Target goals | n/a |
| Visualisation specific data filters | Most recent result displayed, current calendar year-to-date calculation, day = Wednesday |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |



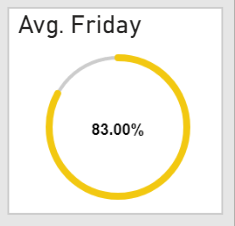
## Average attendance for Thursday

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the average attendance rate for the calendar year-to-date, for Thursday only |
| Chart type | Paypal KPI donut chart |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | Avg. Thursday |
| Indicator/Measure | Average attendance rate for Thursdays that have occurred YTD  Attendance Rate: Formula =  Sum(AttendanceFTE) / (Sum(AttendanceFTE) + Sum(AbsenceFTE)) \* 100 |
| Trend axis | n/a |
| Target goals | n/a |
| Visualisation specific data filters | Most recent result displayed, current calendar year-to-date calculation, day = Thursday |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |



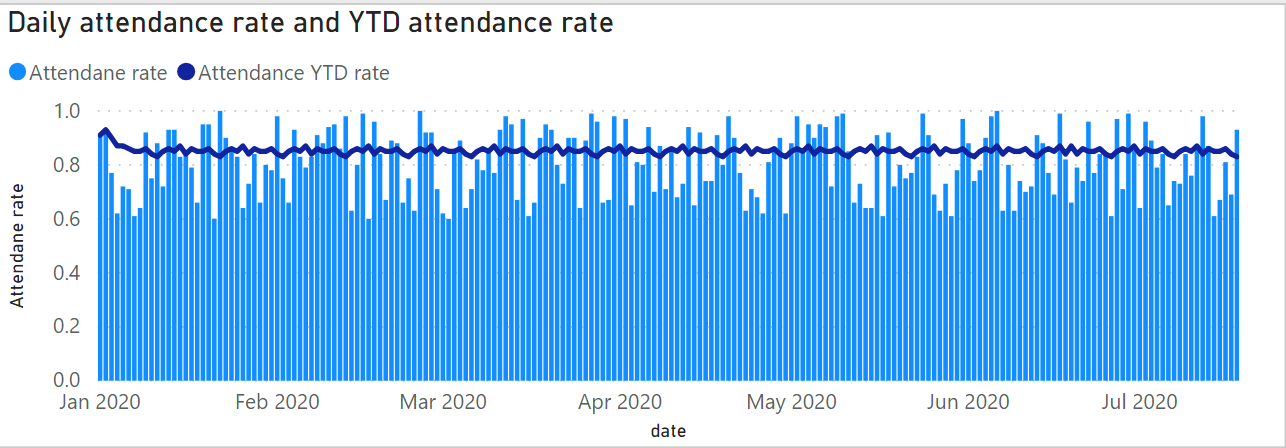
## Average attendance for Friday

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the average attendance rate for the calendar year-to-date, for Friday only |
| Chart type | Paypal KPI donut chart |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | Avg. Friday |
| Indicator/Measure | Average attendance rate for Fridays that have occurred YTD  Attendance Rate: Formula =  Sum(AttendanceFTE) / (Sum(AttendanceFTE) + Sum(AbsenceFTE)) \* 100 |
| Trend axis | n/a |
| Target goals | n/a |
| Visualisation specific data filters | Most recent result displayed, current calendar year-to-date calculation, day = Friday |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |



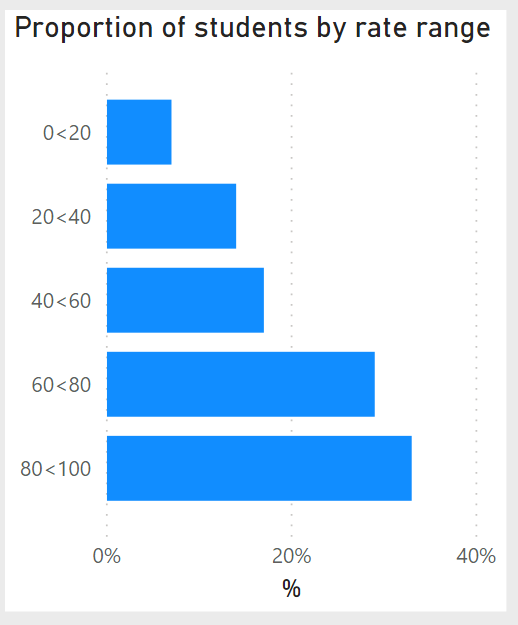
## Daily attendance rate and YTD attendance rate trend

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the attendance rate for every individual school day (calendar YTD) combined with the YTD attendance rate trend over time. |
| Chart type | Line and clustered column chart |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | Daily attendance rate and YTD attendance rate |
| Indicator/Measure | Columns: Attendance rate for the school for each day  Line: YTD attendance rate over time  Attendance Rate: Formula =  Sum(AttendanceFTE) / (Sum(AttendanceFTE) + Sum(AbsenceFTE)) \* 100 |
| X axis | Value = date  Title = off  Functionality expected = users is expected to be able to drill up/down to their desired date range, e.g. display the axis as days, or months of year, or terms, or semesters etc |
| Y axis | Value = 0%-100%  Title = off  Functionality = n/a |
| Legend | Display = *on*  Title = *off*  Formatting = bottom centre |
| Visualisation specific data filters | Current calendar displayed on x axis only |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view: date at data point, daily attendance rate for data point, YTD attendance rate at data point |
| Nice to have function | n/a |



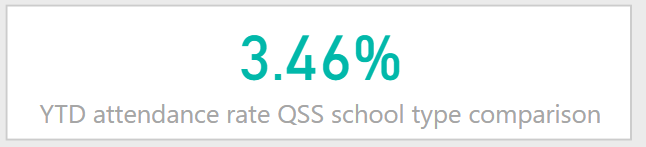
## Proportion of students by attendance rate range

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the proportion of students by attendance rate range for the calendar year-to-date |
| Chart type | Clustered bar chart |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | YTD students by attendance rate range |
| Indicator/Measure | Percentage of students with an Attendance rate\* between the following ranges (sorted lowest to highest by attendance %):   * 0% <20% * 20% <40% * 40%<60% * 60%<80% * 80%,100%   Attendance Rate: Formula =  Sum(AttendanceFTE) / (Sum(AttendanceFTE) + Sum(AbsenceFTE)) \* 100 |
| X axis | Value = 0%-100%  Title = off  Functionality expected = n/a |
| Y axis | Value = *off*  Title = *off*  Functionality = *n/a* |
| Visualisation specific data filters | Current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | It would be nice if the user could drill-up/drill-down on the y categories to break them down further (e.g. show 10% ranges or 5% ranges) |



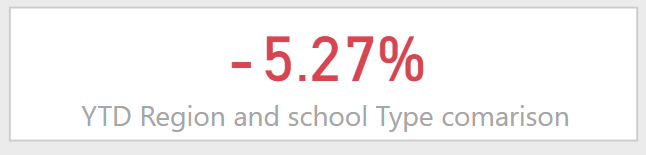
## YTD attendance rate QSS school type comparison

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the difference between the attendance rate (YTD) for the selected school, vs the attendance rate for the same school type for all Queensland State Schools. |
| Chart type | KPI Indicator |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | YTD attendance rate QSS school type comparison |
| Indicator/Measure | Attendance rate for user selected school  Attendance rate for Queensland State Schools with the same school type as user selected school (e.g. Primary, Secondary, Combined)  Measure: difference between school attendance rate and QSS attendance rate  Attendance Rate: Formula =  Sum(AttendanceFTE) / (Sum(AttendanceFTE) + Sum(AbsenceFTE)) \* 100 |
| Trend axis | n/a |
| Target goals | n/a |
| Visualisation specific data filters | Most recent result displayed, current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | Colour change to show better than, same or lower than QSS result |



## YTD attendance rate Region school type comparison

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the difference between the attendance rate (YTD) for the selected school, vs the attendance rate for the same school type for all schools within the relative region. |
| Chart type | KPI Indicator |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | YTD attendance rate Region school type comparison |
| Indicator/Measure | Attendance rate for user selected school  Attendance rate for all schools of the same type as the user selected school (e.g. primary, secondary, combined) within the same region as the user selected school  Measure: difference between school attendance rate and region attendance rate  Attendance Rate: Formula =  Sum(AttendanceFTE) / (Sum(AttendanceFTE) + Sum(AbsenceFTE)) \* 100 |
| Trend axis | n/a |
| Target goals | n/a |
| Visualisation specific data filters | Most recent result displayed, current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | Colour change to show better than, same or lower than Region result |



# Page 3 Report Layout - detail visulisation requirements

## User Navigation Filters

The characteristics/dimensions listed below need to be available in the data model to enable further navigations on the default visualisation.

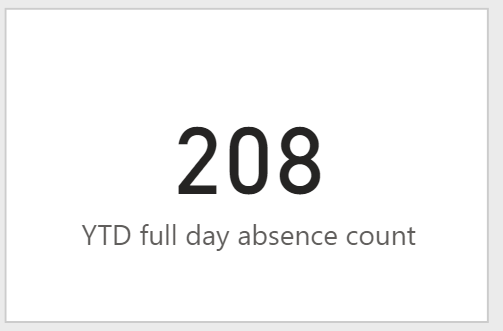
| Name / Item | Functionality | Default |
| --- | --- | --- |
| Date\* | Slider  YTD calendar year date range | Beginning of the year to current date |
| School | Drop Down with Search Bar Option to select all, multiple or a single option | All\*\* |
| Year level | Drop Down  Option to select all, multiple or single option | All |
| Students with disability | Drop Down  Option to select all, or a single option | All |
| Indigenous | Drop Down  Option to select all, or a single option | All |
| Gender | Drop Down  Option to select all, or a single option | All |
| EAL/D | Drop Down  Option to select all, or a single option | All |
| International/Visa | Drop Down  Option to select all, or a single option | All |
| Student | Drop Down Search Bar Option to select all, multiple or single options | All |

\*may not be necessary if user can select date range via the YTD attendance rate line graph, new feature of latest power bi release

\*\*Design challenge: how can we make the user experience better? School users ideally see only their schools selected (as they will most like only have a few and one in most cases). Corporate users need to have access to all schools – what can we show them as default?

## Year-to-date full day absence day count

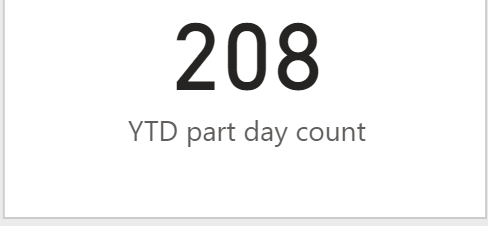
|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show for the current YTD, total number of full day absences recorded. |
| Chart type | KPI Indicator |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | YTD full day absence count |
| Indicator/Measure | Absent full day count: year-to-date sum number of full day absences recorded. |
| Trend axis | n/a |
| Target goals | n/a |
| Visualisation specific data filters | Most recent result displayed, current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |



\*please refer to SORD overview suite 20/141922 chapters 3.9.2 on part/full day reason codes

## Year-to-date part day absence count

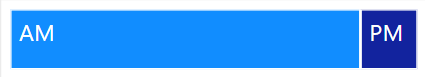
|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show for the current YTD, total number of part day absences recorded. |
| Chart type | KPI Indicator |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | YTD part day absence count |
| Indicator/Measure | Absent part day count: year-to-date sum number of part day absences recorded. |
| Trend axis | n/a |
| Target goals | n/a |
| Visualisation specific data filters | Most recent result displayed, current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |



\*please refer to SORD overview suite 20/141922 chapters 3.9.2 on part/full day reason codes

## Percentage of part day absences by time of day

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will percentage of part day absences by time of day (AM or PM) |
| Chart type | Tree-map |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | *No title* |
| Indicator/Measure | Denominator = total number of part day absences YTD for the current calendar year.  Measure = percentage of total absences by time of day:   * AM * PM |
| Legend | Display = *off*  Title = *off*  Formatting = data labels on |
| Visualisation specific data filters | Most recent result displayed, current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view: Part day type “AM” Percentage of total: “68.1%” |
| Nice to have function | n/a |

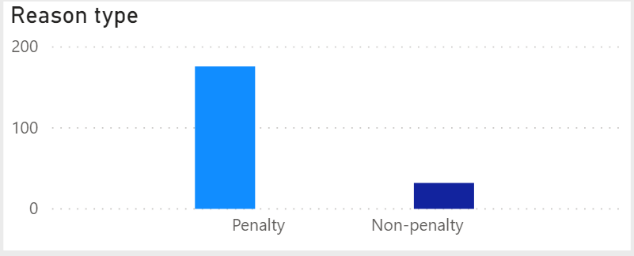


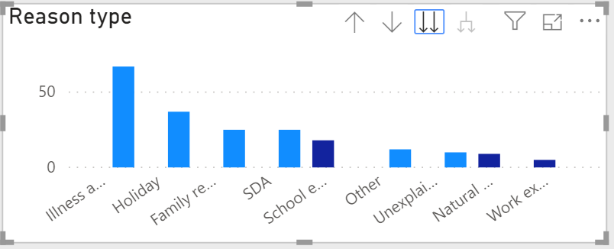
\*please refer to SORD overview suite 20/141922 chapters 3.9.2 on part/full day reason codes

## Count of absences by reason type

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the count of absences by reason type. Users can use this graph to investigate non-penalty and penalty reasons. User is expected to be able to either select a reason type or reason description and all other graphs on the report are to adjust highlighting on what the user has selected. |
| Chart type | Clustered column chart |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | Reason type |
| Indicator/Measure | Count of absences by penalty and non-penalty reasons. User is expected to be able to drill down/up into reason description. |
| X axis | Value = Reason type -> reason description  Title = *off*  Functionality expected = *n/a* |
| Y axis | Value = auto-adjusting number format  Title = *off*  Functionality = *n/a* |
| Visualisation specific data filters | Current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |

\*please refer to SORD overview suite 20/141922 chapters 3.9.3 on reason description and penalty non-penalty rules





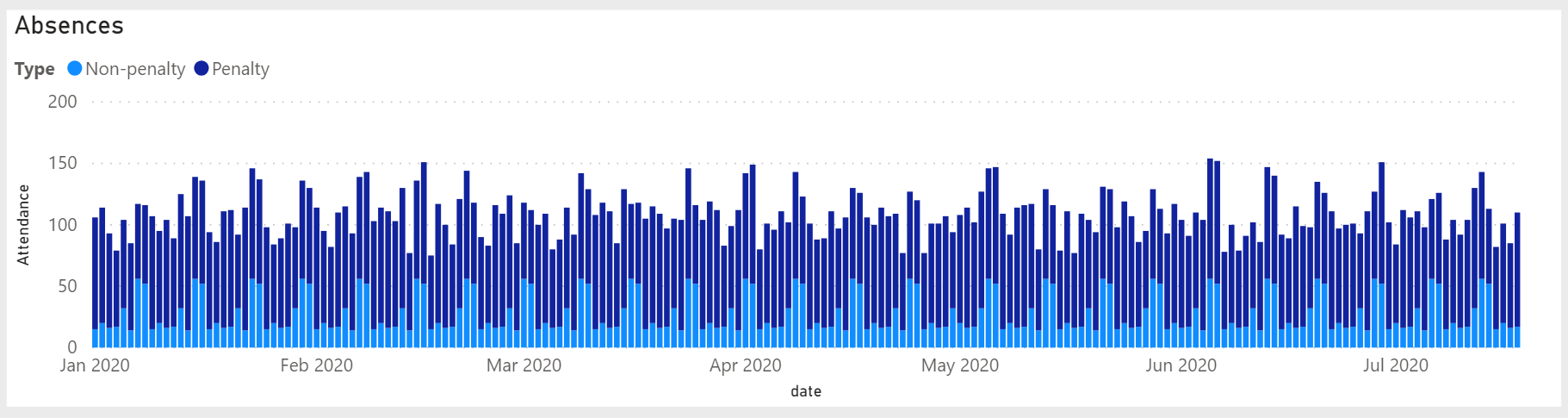
Business rule:

* It is expected that users can select a reason type and the rest of the report will adjust to show results for those reasons specifically. It is expected that the student table adjust to show you results for students who have at least one of the absence from the reason selected or the year-to-date.

## Daily absence count by type

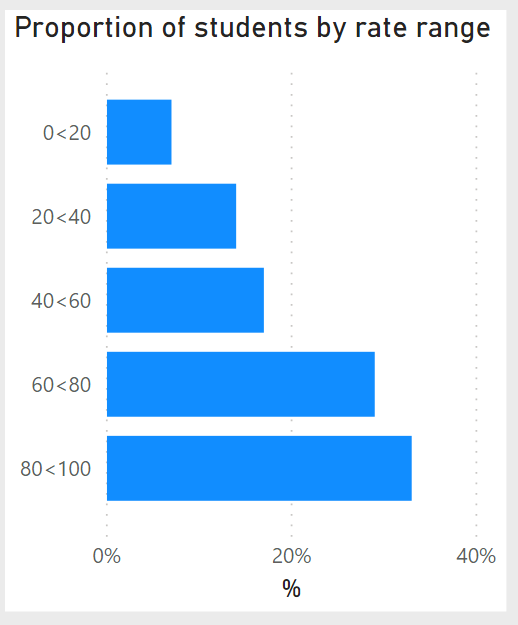
|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the absence count for both penalty and non-penalty types for every individual school day (calendar YTD). |
| Chart type | Stacked column chart |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | Absences |
| Indicator/Measure | Column: count of penalty absences on day & count of non-penalty absences on day |
| X axis | Value = date  Title = off  Functionality expected = users is expected to be able to drill up/down to their desired date range, e.g. display the axis as days, or months of year, or terms, or semesters etc |
| Y axis | Value = auto-adjusting number  Title = *off*  Functionality = *n/a* |
| Legend | Display = *on*  Title = *off*  Formatting = bottom centre |
| Visualisation specific data filters | Current calendar displayed on x axis only |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view: date at data point, non-penalty absence count, penalty absence count |
| Nice to have function | n/a |

\*please refer to SORD overview suite 20/141922 chapters 3.9.3 on reason description and penalty non-penalty rules



## Proportion of students by attendance rate range

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the proportion of students by attendance rate range for the calendar year-to-date |
| Chart type | Clustered bar chart |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | YTD students by attendance rate range |
| Indicator/Measure | Percentage of students with an Attendance rate\* between the following ranges (sorted lowest to highest by attendance %):   * 0% <20% * 20% <40% * 40%<60% * 60%<80% * 80%,100%   Attendance Rate: Formula =  Sum(AttendanceFTE) / (Sum(AttendanceFTE) + Sum(AbsenceFTE)) \* 100 |
| X axis | Value = 0%-100%  Title = off  Functionality expected = n/a |
| Y axis | Value = *off*  Title = *off*  Functionality = *n/a* |
| Visualisation specific data filters | Current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | It would be nice if the user could drill-up/drill-down on the y categories to break them down further (e.g. show 10% ranges or 5% ranges) |



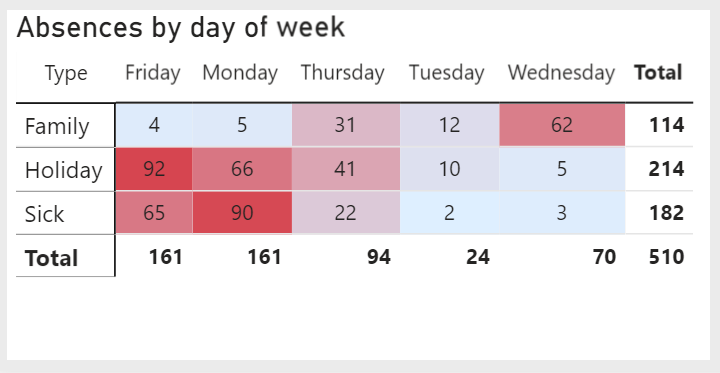
Business rule:

* It is expected when a user selects a bar from the rate range, that all the graphs on this page adjust to show result for students with that result.

## Count of absences by reason type

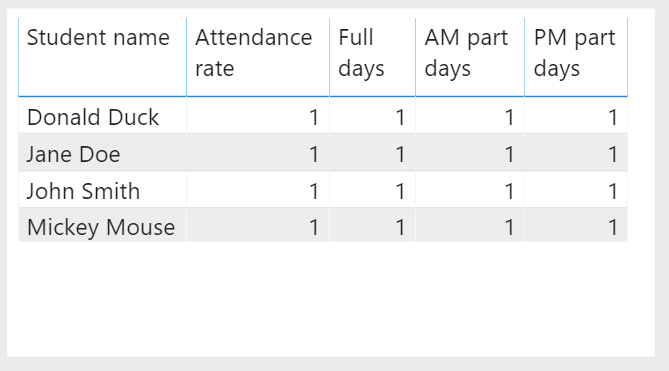
|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the count of absences by reason type and day of week. Users can use this graph to identify absence type trends. It is expected all reason types be on display (penalty and non-penalty) however users can filter the list down by using graph 5.5 |
| Chart type | Matrix |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | Absences by day of week |
| Indicator/Measure | Column horizontal heading = day of week  Column vertical heading = absence reason description  Value = total calendar YTD count of absences for reason description on day of week. |
| Conditional formatting | Totals = turned on  Heatmap = turned on, is expected that the user can identify higher numbers (or hot-spots) based on colour gradient applied to matrix |
| Visualisation specific data filters | Current calendar year-to-date calculation |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |

\*please refer to SORD overview suite 20/141922 chapters 3.9.3 on reason description and penalty non-penalty rules



## Student table

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show aggregated absence counts and attendance rate for each individual student. |
| Chart type | Table |
| Default view | Result for selected school – refer to design challenge outlined in 4.1 |
| Chart Title | *No title* |
| Headings – values | Student name = student name or anonymous student number based on security  Attendance rate = current YTD attendance rate for student  Full days absent = total number of full days absent for the student for the YTD  AM part days absent = total number of part AM days absent for the student for YTD  PM part days absent = total number of part PM days absent for the student for YTD |
| Visualisation specific data filters | Current calendar year-to-date calculations |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | It would be nice if this table could act as a navigation point to the student profile report e.g click on Donald duck and get taken to the student profile for Donald |



# Page 4 Report Layout - detail visulisation requirements\*\*\*

## User Navigation Filters

The characteristics/dimensions listed below need to be available in the data model to enable further navigations on the default visualisation.

| Name / Item | Functionality | Default |
| --- | --- | --- |
| Date\* | Slider  YTD calendar year date range | **OPTION TO GO BACK 3 YEARS** |
| Student\*\* | Drop Down  Option to select one at a time | Top option? |

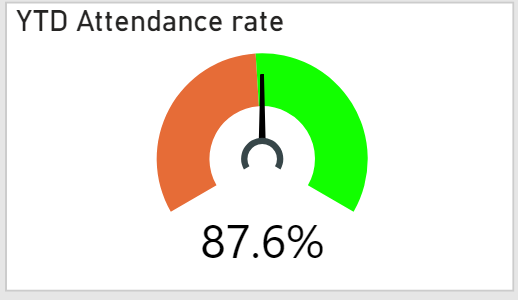
\*may not be necessary if user can select date range via the YTD attendance rate line graph, new feature of latest power bi release

\*\*Design challenge: how can we make the user experience better? Can we navigate to this student by any other means than providing a drop-down?

\*\*\*Not decided if these graphs belong in the attendance daily report OR the student profile – more likely the student profile however we need to ensure we have the data to support providing these images

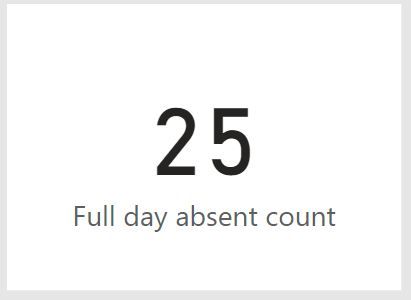
## Year-to-date full day absence day count

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show for the current date range selected by user, attendance rate for the user selected student. |
| Chart type | Gauge |
| Default view | Result for selected student– refer to design challenge outlined in 6.1 |
| Chart Title | Attendance rate |
| Indicator/Measure | Attendance Rate: Formula =  Sum(AttendanceFTE) / (Sum(AttendanceFTE) + Sum(AbsenceFTE)) \* 100 |
| Colour threshold | <85% red  >85% |
| Target goals | n/a |
| Visualisation specific data filters | Most recent YTD results displayed by default, option to expand based on user date selection |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |



## Year-to-date full day absence day count

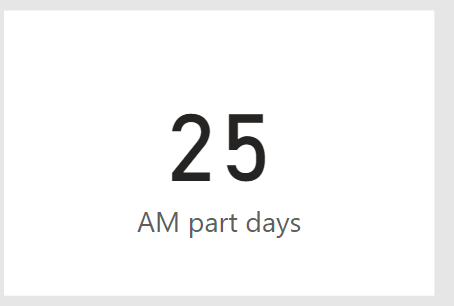
|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show for the current YTD, total number of full day absences recorded. |
| Chart type | KPI Indicator |
| Default view | Result for selected student – refer to design challenge outlined in 6.1 |
| Chart Title | Full day absence count |
| Indicator/Measure | Sum of absent full days |
| Trend axis | n/a |
| Target goals | n/a |
| Visualisation specific data filters | Most recent YTD results displayed by default, option to expand based on user date selection |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |



\*please refer to SORD overview suite 20/141922 chapters 3.9.2 on part/full day reason codes

## Year-to-date part day AM absence count

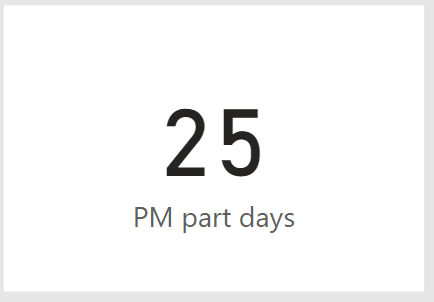
|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show for the current date range selected by user, total number of part day AM absences recorded. |
| Chart type | KPI Indicator |
| Default view | Result for selected student – refer to design challenge outlined in 6.1 |
| Chart Title | YTD AM part day absences |
| Indicator/Measure | Absent part day AM count: year-to-date sum number of part day absences recorded for late arrivals in the morning. |
| Trend axis | n/a |
| Target goals | n/a |
| Visualisation specific data filters | Most recent YTD results displayed by default, option to expand based on user date selection |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |



\*please refer to SORD overview suite 20/141922 chapters 3.9.2 on part/full day reason codes

## Year-to-date part day AM absence count

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show for the current date range selected by user, total number of part day PM absences recorded. |
| Chart type | KPI Indicator |
| Default view | Result for selected student – refer to design challenge outlined in 6.1 |
| Chart Title | YTD PM part day absences |
| Indicator/Measure | Absent part day PM count: year-to-date sum number of part day absences recorded for early departures in the afternoon. |
| Trend axis | n/a |
| Target goals | n/a |
| Visualisation specific data filters | Most recent YTD results displayed by default, option to expand based on user date selection |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |

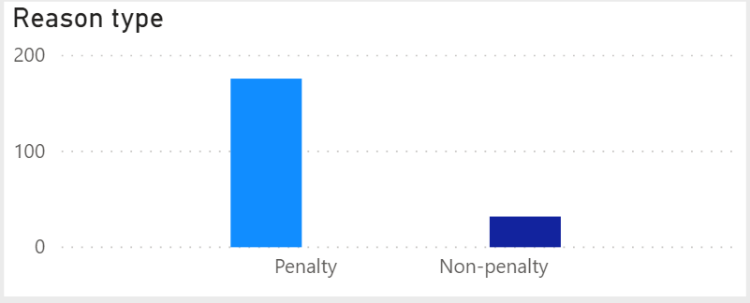


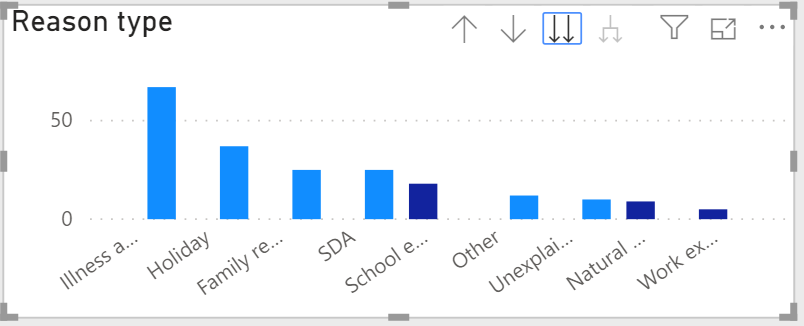
\*please refer to SORD overview suite 20/141922 chapters 3.9.2 on part/full day reason codes

## Count of absences by reason type

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the count of absences by reason type. Users can use this graph to investigate non-penalty and penalty reasons. User is expected to be able to either select a reason type or reason description and all other graphs on the report are to adjust highlighting on what the user has selected. |
| Chart type | Clustered column chart |
| Default view | Result for selected student – refer to design challenge outlined in 6.1 |
| Chart Title | Reason type |
| Indicator/Measure | Count of absences by penalty and non-penalty reasons. User is expected to be able to drill down/up into reason description. |
| X axis | Value = Reason type -> reason description  Title = *off*  Functionality expected = *n/a* |
| Y axis | Value = auto-adjusting number format  Title = *off*  Functionality = *n/a* |
| Visualisation specific data filters | Most recent YTD results displayed by default, option to expand based on user date selection |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view (repeat number) |
| Nice to have function | n/a |

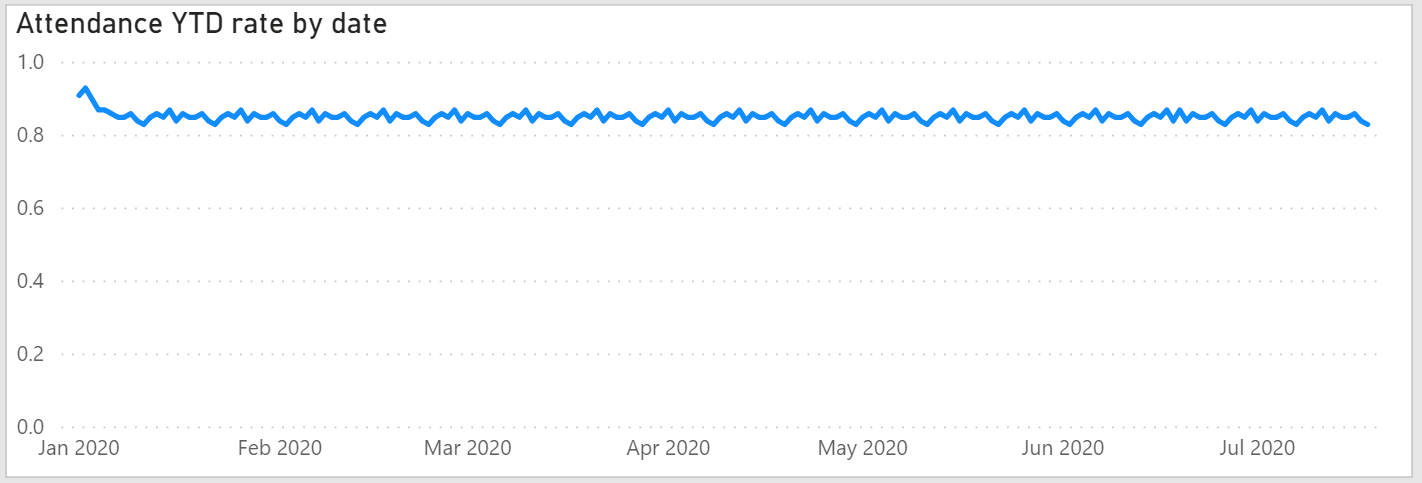
\*please refer to SORD overview suite 20/141922 chapters 3.9.3 on reason description and penalty non-penalty rules





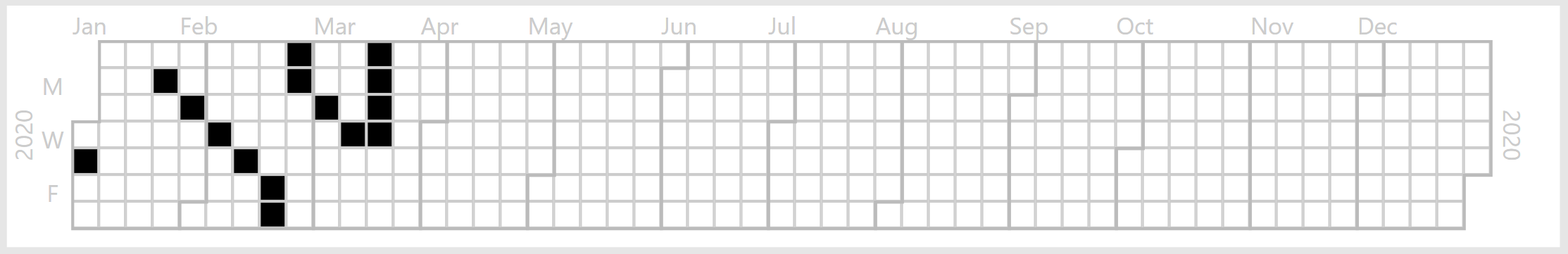
## Daily attendance rate and YTD attendance rate trend

|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the attendance rate over time for the user selected student. |
| Chart type | Line chart |
| Default view | Result for selected student – refer to design challenge outlined in 6.1 |
| Chart Title | Attendance rate over time |
| Indicator/Measure | Line: Attendance rate over time  Attendance Rate: Formula =  Sum(AttendanceFTE) / (Sum(AttendanceFTE) + Sum(AbsenceFTE)) \* 100 |
| X axis | Value = date  Title = off  Functionality expected = users is expected to be able to drill up/down to their desired date range, e.g. display the axis as days, or months of year, or terms, or semesters etc |
| Y axis | Value = 0%-100%  Title = off  Functionality = n/a |
| Legend | Display = *on*  Title = *off*  Formatting = bottom centre |
| Visualisation specific data filters | Most recent YTD results displayed by default, option to expand based on user date selection |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view: date at data point, daily attendance rate for data point, YTD attendance rate at data point |
| Nice to have function | n/a |

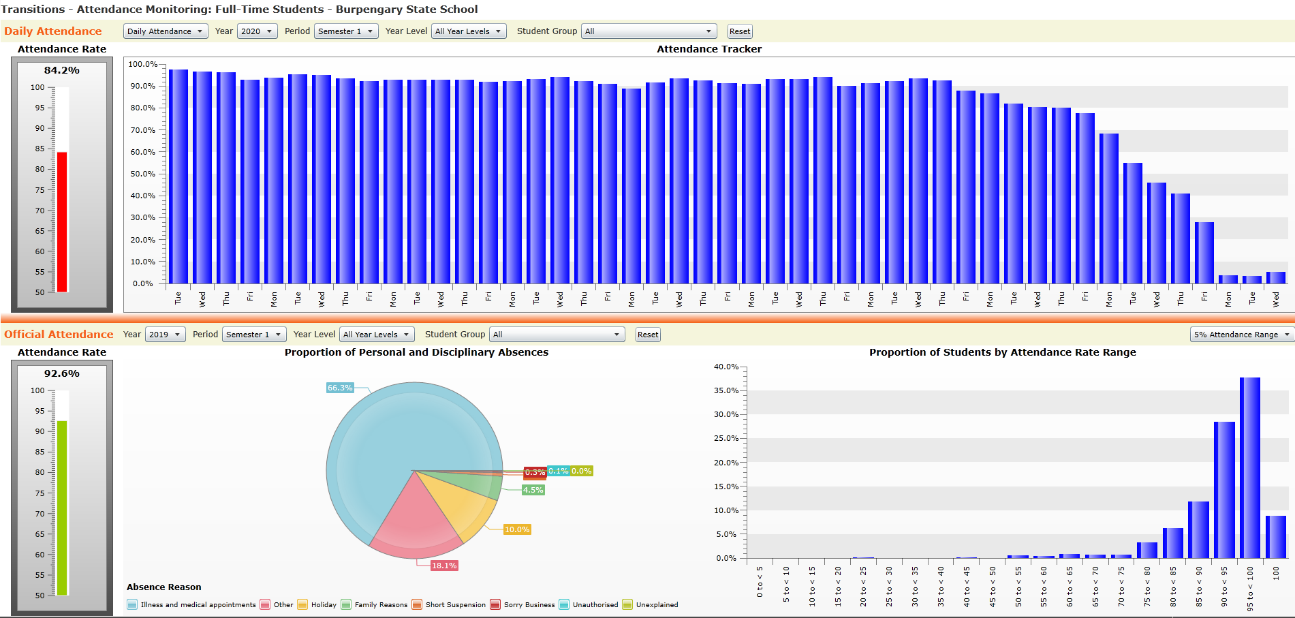


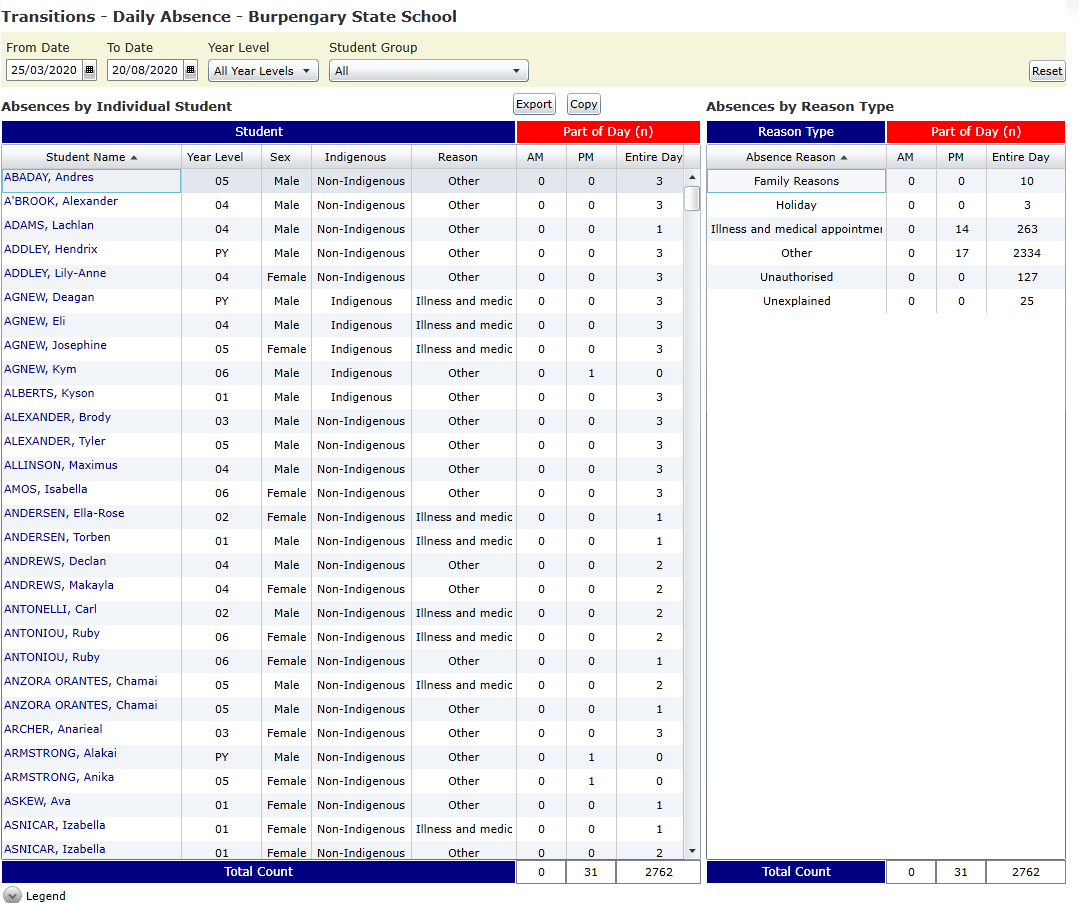
## Student calendar

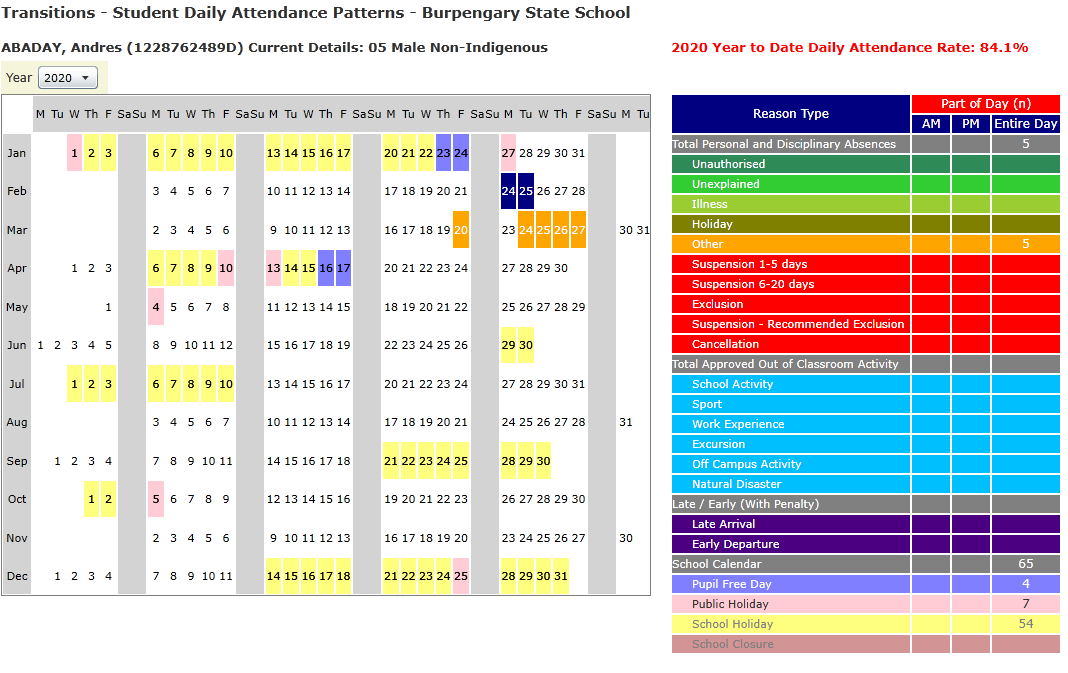
|  |  |
| --- | --- |
| Name / Item | Functionality |
| Description | This chart will show the current user date selection, displayed in a calendar format, with the student absences highlighted. |
| Chart type | Calendar |
| Default view | Result for selected student – refer to design challenge outlined in 6.1 |
| Chart Title | Calendar of attendance |
| Indicator/Measure | Highlight day if absence has been recorded for student. |
| Functionality | It is expected that users can distinguish between full day or part day absences (e.g. shade of colour).  It is expected that if a user selects a penalty type and or reason description that only absences relating to the users selection are highlighted |
| Visualisation specific data filters | Most recent YTD results displayed by default, option to expand based on user date selection |
| Hierarchy drill-down | n/a |
| Visual link to other page | n/a |
| Tooltip | Power Bi default view: date at data point, absence type (e.g. full day, part day, pm/am, reason for absence) |
| Nice to have function | It would be good if the calendar could filter out non-school days such as weekends and holidays. |



# APPENDIX A: Current Report Layout – Daily Attendance

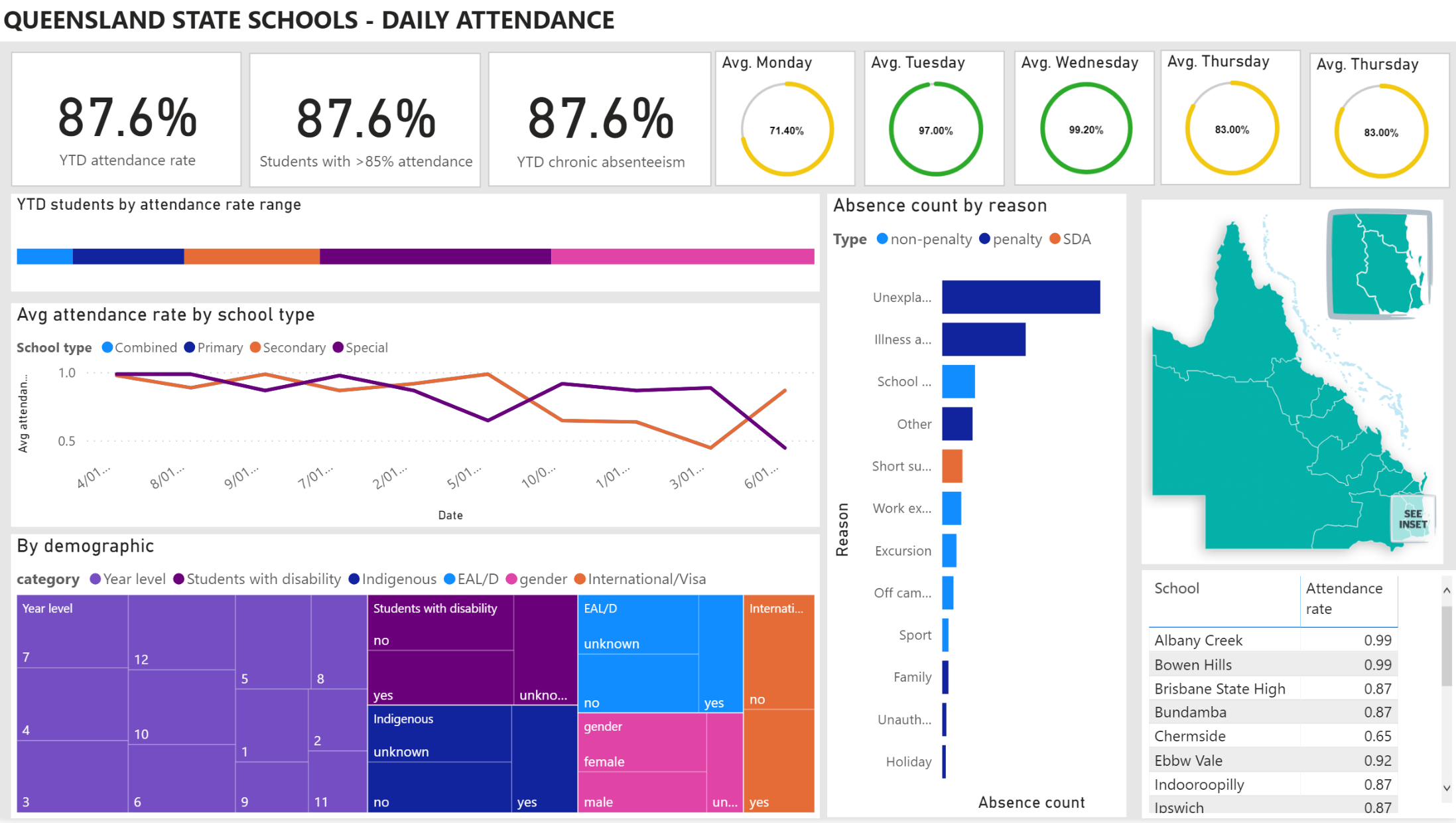
The below screen shots represents the layout of the existing solution as currently delivered via Silverlight within OneSchool.





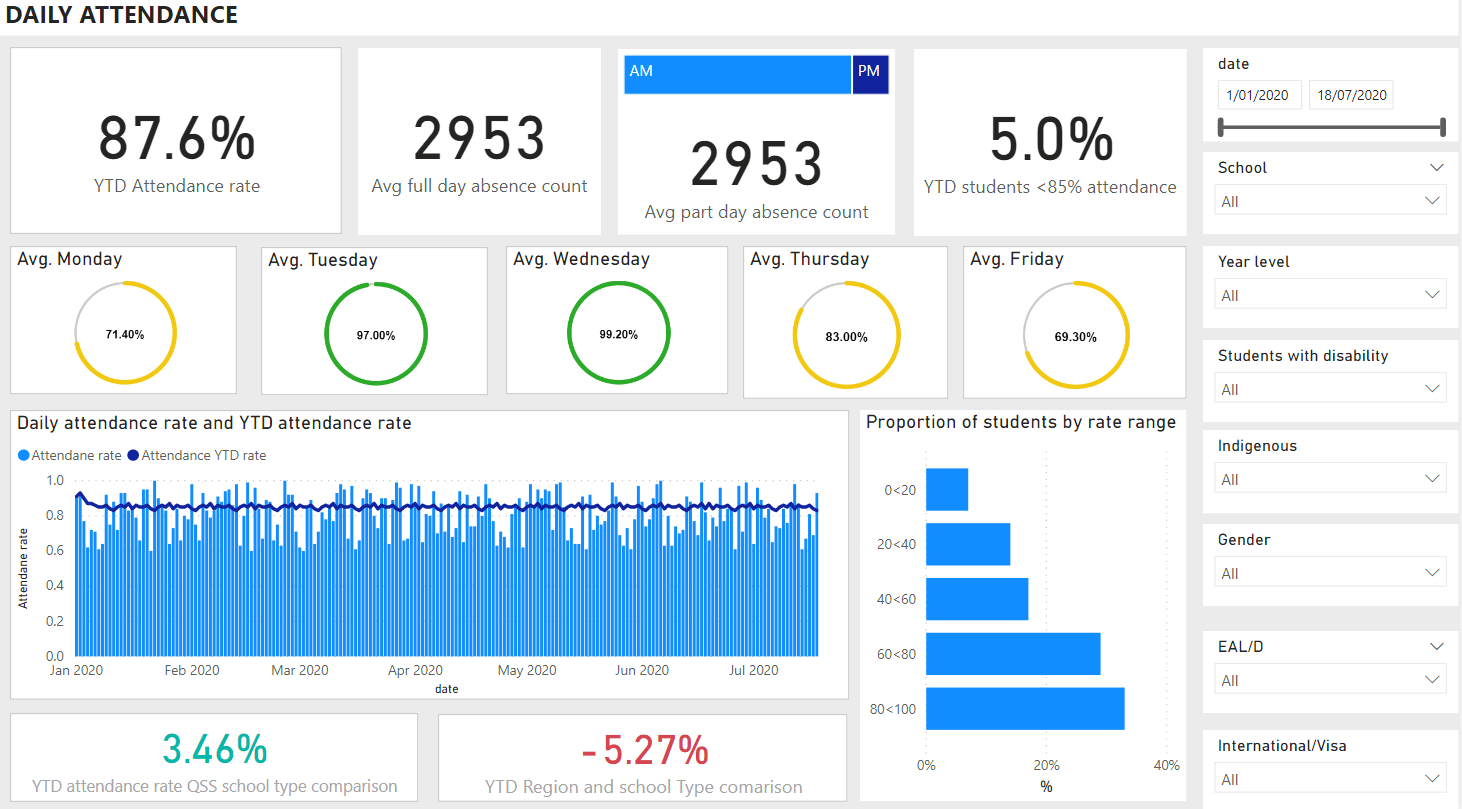
# APPENDIX B: Wire Frame – Page 1

The below screen shot is a draft proposed Power BI report layout, refer to Section 3 for specific details (such as titles, functionality, calculations etc.):



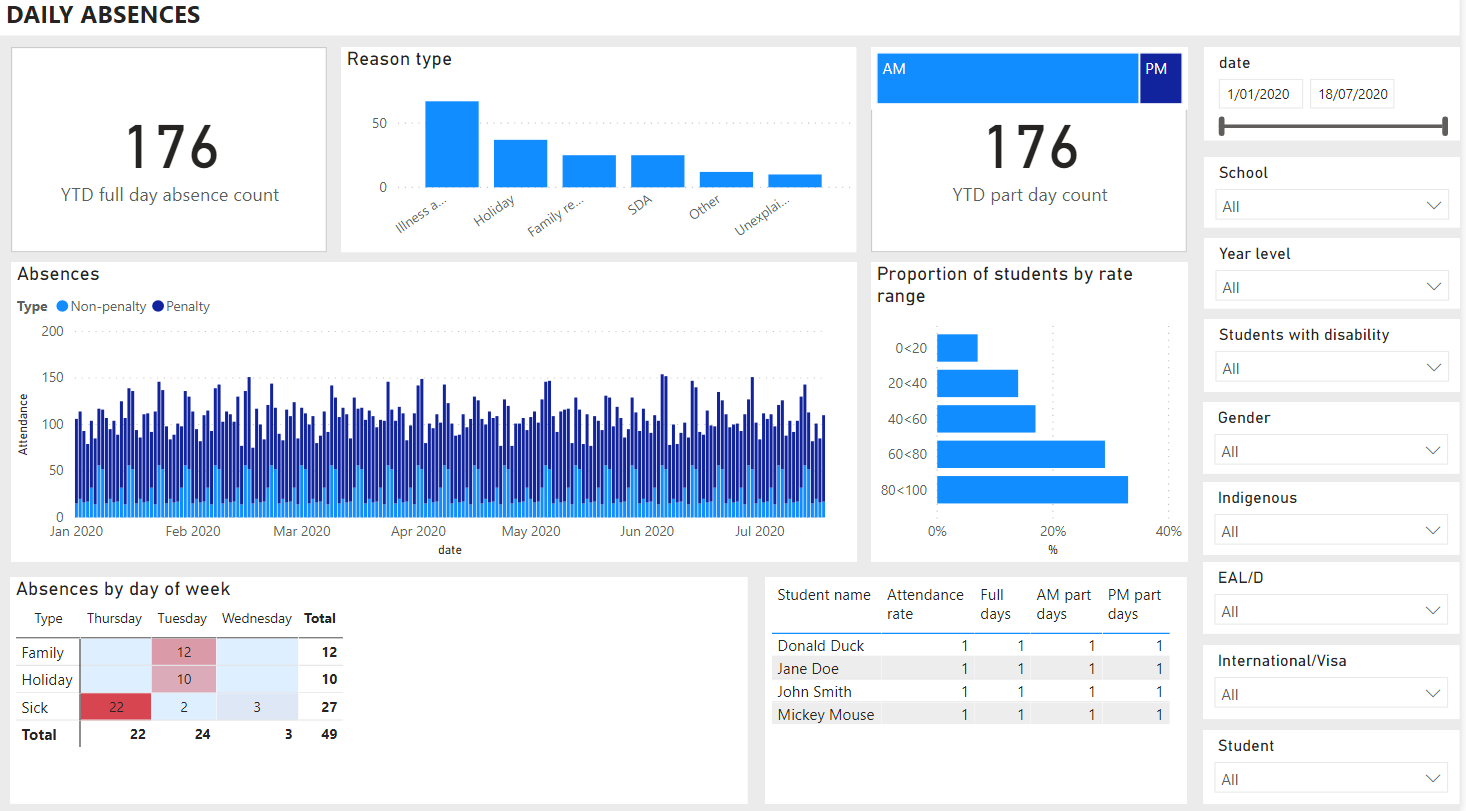
# APPENDIX C: Wire Frame – Page 2

The below screen shot is a draft proposed Power BI report layout, refer to Section 4 for specific details (such as titles, functionality, calculations etc.):



# APPENDIX D: Wire Frame – Page 3

The below screen shot is a draft proposed Power BI report layout, refer to Section 5 for specific details (such as titles, functionality, calculations etc.):



# APPENDIX E: Wire Frame – Page 4

The below screen shot is a draft proposed Power BI report layout, refer to Section 6 for specific details (such as titles, functionality, calculations etc.):

