

True Daily P&L

Redesigning process tracker application

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Project Date

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Application Overview

Profit & Loss (P&L) runs occur on a daily basis to calculate each client’s positions. However, there can be cases when corrections are made in the data at a later date. These corrections are captured in True Daily P&L (TDP) runs. Because clients rely on TDP data for their end of day reporting, any delays in the TDP runs cause breaches in their internal SLAs.

dev.arcesium.com/tdp-run

Arcesium

TERRA - DEV

kunhimoh

TDP Run Status

Book	Latest TDP Run Date	Latest TDP Knowledge Date	Latest Pnl Date	Latest Pnl Knowledge Date	TDP Last Run Time	TDP Availability
LRMP_IPS_DOLORE_01	not_available	not_available	2021/10/19	2021/10/26 00:57:32	2021/10/26 01:45:44	Not Available
Test1	2017/12/21	2017/12/22 08:11:45	2021/10/31	2021/11/03 09:28:40	2021/11/03 09:47:13	Not Available
TestBookInv	not_available	not_available	2021/10/27	2021/10/29 06:58:35	2021/10/29 08:05:11	Not Available
TestDataBook2_mal	not_available	not_available	2021/11/01	2021/11/03 00:43:40	2021/11/03 07:11:57	Not Available
LRMP_IPS_DOLORE_02	not_available	not_available	2021/10/19	2021/10/19 14:29:46	2021/10/19 14:52:46	Not Available
Test Port 2	not_available	not_available	2021/10/19	2021/10/20 03:20:04	2021/10/20 03:40:30	Not Available
Test Port 3	not_available	not_available	2021/10/22	2021/10/20 04:56:28	2021/10/20 05:13:23	Not Available
Test Port 4	not_available	not_available	2021/10/22	2021/10/20 05:16:28	2021/10/20 05:38:29	Not Available
Test Port 5	not_available	not_available	2021/10/19	2021/10/20 05:56:28	2021/10/20 06:29:30	Not Available
Test Port 6	not_available	not_available	2021/10/19	2021/10/20 06:33:24	2021/10/20 06:55:30	Not Available

Run Details : Test1

Refresh

TDP Run Id : 5

Run Date : 2017/12/21

Knowledge Date : 2017/12/22 08:11:45

Status : Completed

Number of Changes Keys : 0

Start Time: 2017/12/22 09:25:39

End Time: 2017/12/22 09:25:42

Get Changes2017/12/22 09:25:40

Realized PnL Calculation2017/12/22 09:25:41

UnRealized PnL Calculation2017/12/22 09:25:41

Refresh Pnl2017/12/22 09:25:42

TDP completed

TDP Run Id : 4

Run Date : 2017/12/21

Knowledge Date : 2017/12/22 06:13:52

Status : Completed

Number of Changes Keys : 3

TDP Run Id : 3

Run Date : 2017/12/19

Knowledge Date : 2017/12/22 05:33:44

Status : Completed

Number of Changes Keys : 22

TDP Run Id : 2

Run Date : 2017/12/18

Knowledge Date : 2017/12/19 05:49:45

Status : Completed

Number of Changes Keys : 6

TDP Run Id : 1

Run Date : 2017/12/18

Knowledge Date : 2017/12/18 09:15:12

Status : Completed

Number of Changes Keys : 0

Snapshot of current application

Problem Description

The current application reports the TDP run completion status, without providing any further information about the cause of the delay, backlogs, task breakdowns, etc. In the event of delays, the Client Liaison team have to reach out to the Operations team to get these details. Considerable amount of time is spent co-ordinating with different teams to fetch this information and relay the same to the clients to ensure that their tasks are getting completed before any deadlines. Many of these tasks are repetitive in nature, but in the absence of a dedicated UI, have to be manually fetched by Operations team causing loss of time.

Project Objectives

Primary Objectives

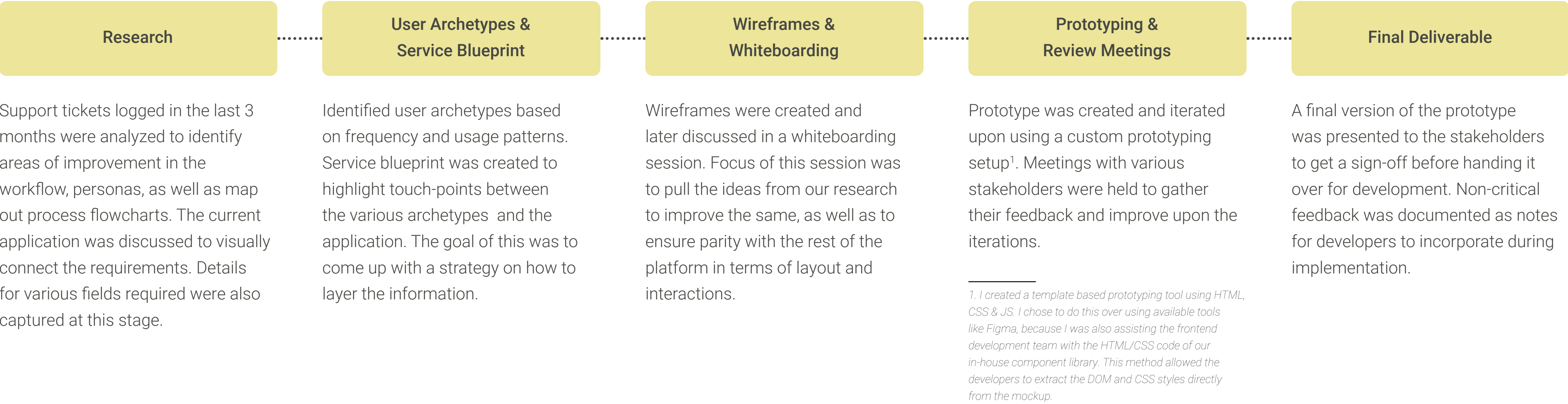
The primary objective of this project was to provide meaningful visibility of TDP runs and schedules in order to:

- reduce informational TDP delay support tickets
- reduce turnaround on TDP delay support tickets
- reduce Operations team’s time to address TDP related queries

Secondary Objectives

The secondary goal of this project was to educate the users about the background processes involved in a TDP run, so that they can debug certain types of delays themselves and choose the correct course of action. This will reduce the number of support tickets logged by clients, and save a lot of time.

Design Process



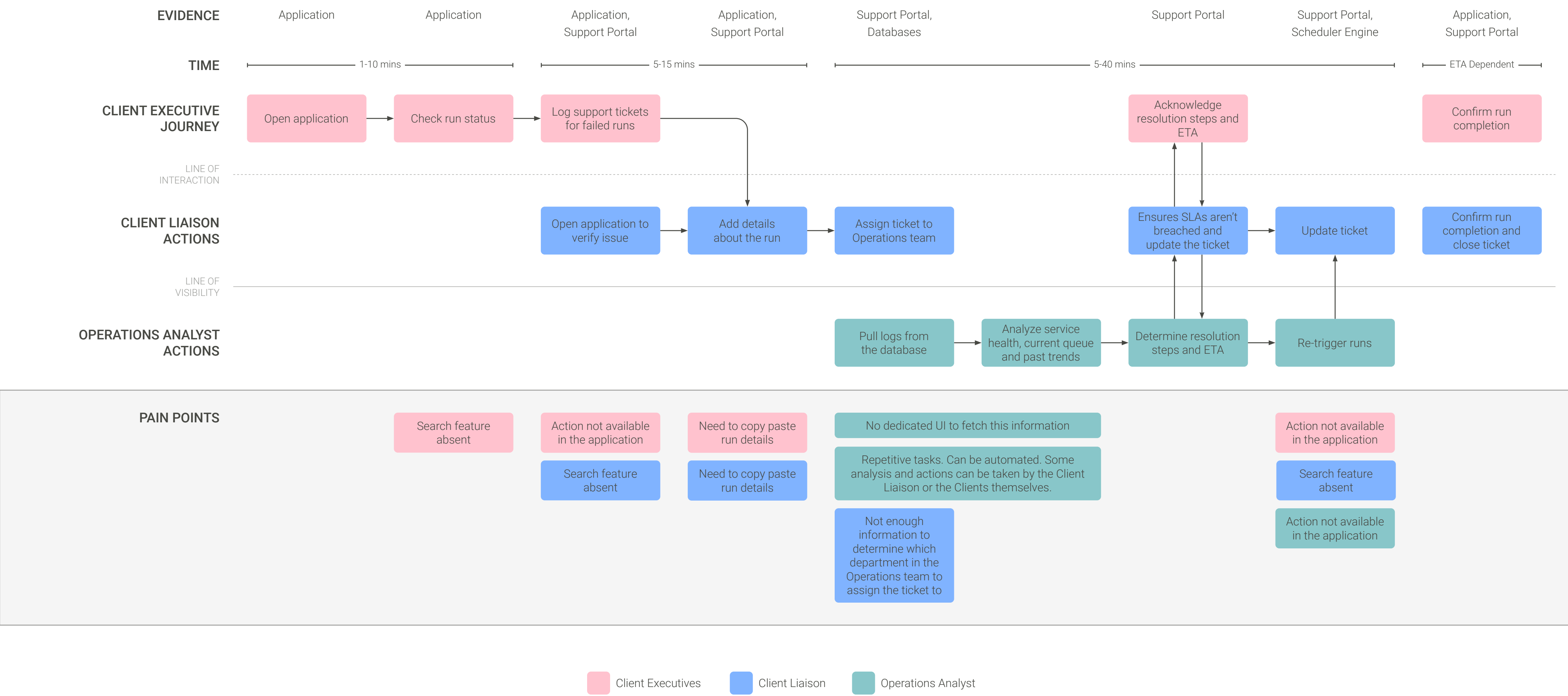
User Archetypes

Interviews were conducted with the current users to understand their needs and current usage patterns. Based on these interviews, three user archetypes were created to help understand the information and actionable items required by each archetype.

<div>Client Liaison Group</div> <div>(Internal Users)</div>	<div>Clients' Executives</div> <div>(External Users)</div>	<div>Operations Analysts</div> <div>(Internal Users)</div>
<div>As the primary users of the application, they monitor the current day's P&L runs and report any delays to the Client. They also co-ordinate with the Operations team to understand the reason for delay as well as the estimate time for completion, or to get any additional information as requested by the Client.</div> <div><div>Interview Notes:</div><div>Lack of available actions/ information in the current application them to reach out to Operations team every time.</div></div>	<div>Executives from the Client's firm visit the application to confirm the completion status of the P&L runs, before they start their work. Depending upon their company setup, they often are interested only in a subset of the runs happening on the platform.</div> <div><div>Interview Notes:</div><div>Would like to search using one or more criteria like date, run mode, completion status, IDs, reason codes, etc.</div></div>	<div>Analysts from the Operations team usually communicate with the Client Liaison, and provide them with information regarding the run schedule, estimate time for completion, past trends, or re-trigger the runs (in case of time-outs or failures).</div> <div><div>Interview Notes:</div><div>Many support tickets are resolved by re-triggering the runs, which could potentially be done by the Client Liaison or the Client themselves.</div></div>

Service Blueprint

I created a service blueprint to map out the various stages, time taken across the broad group of stages, as well as mention any pain points that came up during our discussions with the archetypes. This helps to understand the different touch-points between the archetypes and the application, identify areas of improvement as well as how to structure the flow of information. One major theme across all the archetypes was the lack of actions available to them.



Initial Wireframes (1 / 2)

▶

Search Bar

Copy URL

Book ID	Book Name	TDP Run Status▼	TDP Start Time	TDP End Time	TDP Knowledge Date	TDP Mode	Latest PnL KD	Latest PnL Date
<Search / Filter Bar>								
1223	AMMF	Delayed	20210920 12:15	20210920 13:14*	20210920 12:20	Bundle	20210920 16:15	20210919
2342	AQTF	Running	20210920 12:15	20210920 13:14*	20210920 12:20	Portfolio	20210920 16:15	20210919
123	JPEQ/VAL	Delayed	20210920 12:15	20210920 13:14	20210920 12:20	Portfolio	20210920 16:15	20210919
453	BSOF	Queued	20210920 12:15*	20210920 13:14*	-	Bundle	20210920 16:15	20210919
522	BMMMF	Failed	20210920 12:15	20210920 13:14	20210920 12:20	Bundle	20210920 16:15	20210919
1223	AMMF	Delayed	20210920 12:15	20210920 13:14*	20210920 12:20	B	20210920 16:15	20210919
2342	AQTF	Running	20210920 12:15	20210920 13:14*	20210920 12:20	P	20210920 16:15	20210919
123	JPEQ/VAL	Completed	20210920 12:15	20210920 13:14	20210920 12:20	P	20210920 16:15	20210919
453	BSOF	Queued	20210920 12:15*	20210920 13:14*	-	B	20210920 16:15	20210919
522	BMMMF	Failed	20210920 12:15	20210920 13:14	20210920 12:20	B	20210920 16:15	20210919

JPEQ/VAL - Delayed

[Run Overview | Run Details - Key | Run Details - Batch]

Run Type : First Run
Stage : Calculating P&L for all changes
Changes Processed : 2330 of 32750 [details]
Batches Processed : 8 out of 10 [details]

Cancel RunSet Reminder

TDP Schedule [Bundle | Portfolio]

TDP Cut-Off Date : 20201231
TDP Frequency : 60 min
Quiet Period : 1900 - 2100 on Sat & Sun

Last TDP run KD : 20210918 12:53
Last TDP Run Status : Completed

Last 60 days trend

Time (min) / Changes

Date

[All | Securities | Transactions | GDTP | FX | Others]

Time to CompleteCount of Changes

▶

Search Bar

Copy URL

Book ID	Book Name	TDP Run Status▼	TDP Start Time	TDP End Time	TDP Knowledge Date	TDP Mode	Latest PnL KD	Latest PnL Date
<Search / Filter Bar>								
1223	AMMF	Delayed	20210920 12:15	20210920 13:14*	20210920 12:20	Bundle	20210920 16:15	20210919
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522	BMMMF	Failed	20210920 12:15	20210920 13:14	20210920 12:20	Bundle	20210920 16:15	20210919
1223	AMMF	Delayed	20210920 12:15	20210920 13:14*	20210920 12:20	B	20210920 16:15	20210919
2342	AQTF	Running	20210920 12:15	20210920 13:14*	20210920 12:20	P	20210920 16:15	20210919
123	JPEQ/VAL	Completed	20210920 12:15	20210920 13:14	20210920 12:20	P	20210920 16:15	20210919
453	BSOF	Queued	20210920 12:15*	20210920 13:14*	-	B	20210920 16:15	20210919
522	BMMMF	Failed	20210920 12:15	20210920 13:14	20210920 12:20	B	20210920 16:15	20210919

JPEQ/VAL - Delayed

[Run Details | Key Level Info | Batch Level Info]

Run Type : First Run
Changes Processed : 2330 of 32750
TDP Status : P&L computed for 8 out of 10 batches

TDP Schedule [Bundle | Portfolio]

TDP Cut-Off Date : 20201231
TDP Frequency : 60 min
Quiet Period : 1900 - 2100 on Sat & Sun

Last TDP run KD : 20210918 12:53
Last TDP Run Status : Completed

Last 60 days trend

Time (min) / Changes

Date

Time to CompleteCount of Changes

Initial Wireframes (2 / 2)

JPEQ/VAL - Delayed

[Run Overview | Run Details - Key | Run Details - Batch]

Changes Identified

: 33950

Changed Missed

: 1200 <DARTs / CSV>

Changes Processed

: 2330 of 32750 [details]

Change Breakdown

- Security

: 2542 [usually <2000]

- Transaction

: 3500 [usually <3000]

- GDTP

: 21546 [usually <4000] (effects on P&L availability)

- FX Rate

: 0 [usually <500]

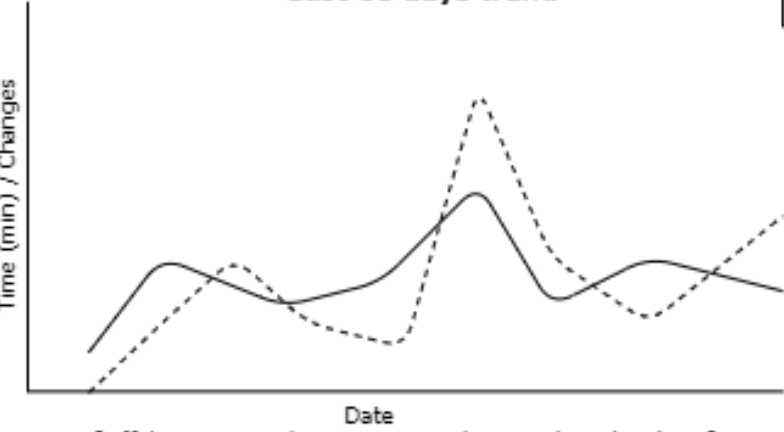
- Others

: 4962

TDP Status

: P&L computed for 8 out of 10 batches

Last 60 days trend



Time to Complete

Count of Changes

Stage

: Calculating P&L for all changes

- Step 1.

:

- Step 2.

:

- Step 3.

:

- Step 4.

:

Changes Identified

: 33950

Changed Missed

: 1200 <DARTs>

Changes Processed

: 2330 of 32750 [details]

Change Breakdown

- Security

: 2542 [usually <2000]

- Transaction

: 3500 [usually <3000]

- GDTP

: 21546 [usually <4000]

- FX Rate

: 0 [usually <500]

- Others

: 4962

Current Status

: Awaiting data from Accounting Engine

JPEQ/VAL - Delayed

[Run Overview | Run Details - Key | Run Details - Batch]

Batches Created

: 10

Batches Processed

: 8

Time since start

: 37 min of estimated 45 min

- Connector

: 22 min

- Adaptor

: 12 min

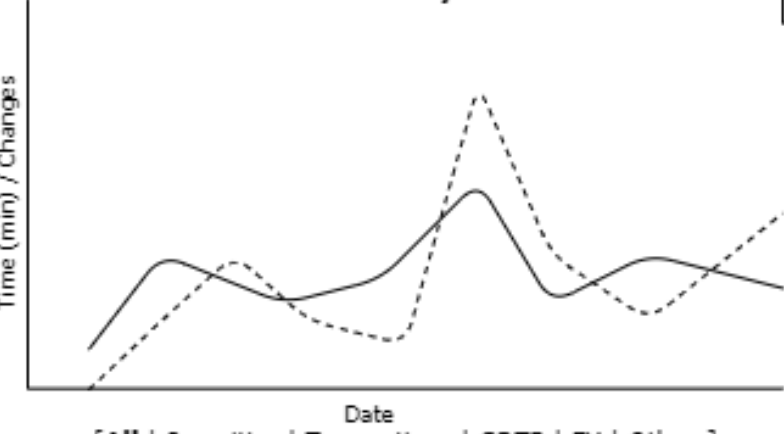
- UBOR

: 35 min**

TDP Status

: P&L computed for 8 out of 10 batches

Last 60 days trend



Time to Complete

Count of Changes



CON

ADA

UBO3

S

E

S

E

S

E

R1

B2

B3

TOTAL TIME

B7

91

B3

B4

B7

B8

91

B2

B3

B4

CO

AD

RED

COLORES CHOSEN ACCORDING TO THRESHOLDS

SYSTEM

12:00

1:00

BOOK1

↳ B1

↳ B2

BOOK2

↳ B3

R1 8B — 1st

R2 10B — 2nd

+ RUN INFO !!

RUN DETAILS TREND

Particulars	Total	Processed	Estimated	More than estimated
Identified	4375	2144	3025	FALSE
Keys in Phone	2941	1072	1001	FALSE
Securities	2103	216	367	FALSE
Transmitters	1233	555	933	FALSE
CDTP	49	23	35	FALSE
COY	19	16	15	FALSE
Others	477	262	105	FALSE

BATCHES

8

1

3

+ BATCH 1

(1148)

- BATCH 2

(5400)

BREAKUP

6

DETAILED

VIEW BY

BATCH

KEYS

- TOP RUN SUMMARY

CONN. MAP LOOK

B1

B2

B3

B4

KEYS

3

2

1

+ KEY 1

SFE

+ KEY 2

+ KEY 3

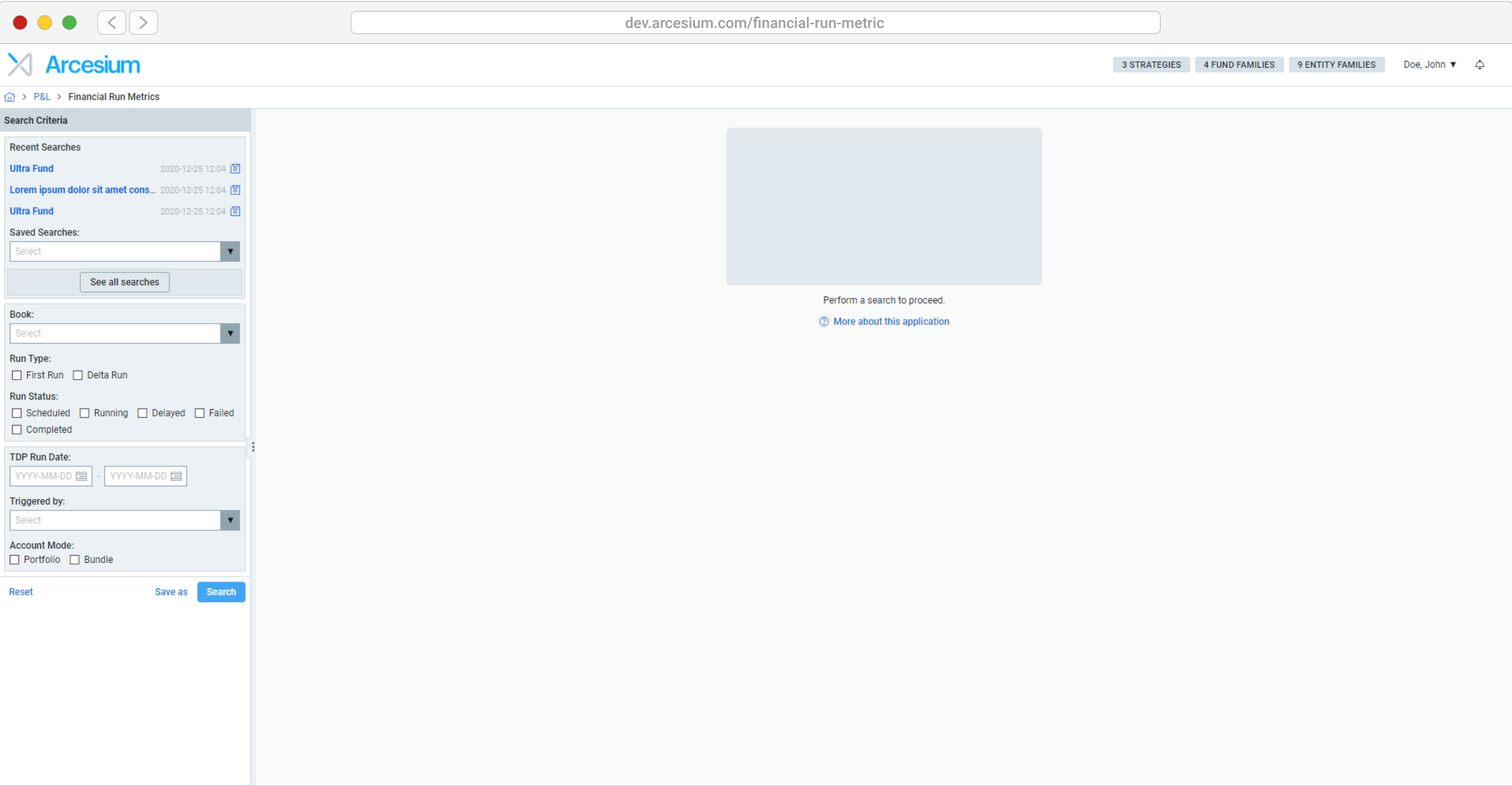
TOTAL PROC EST

B1

B2

B3

Prototyping & Feedback (1 / 3)



Search page design when the user lands on the application

Design Decisions

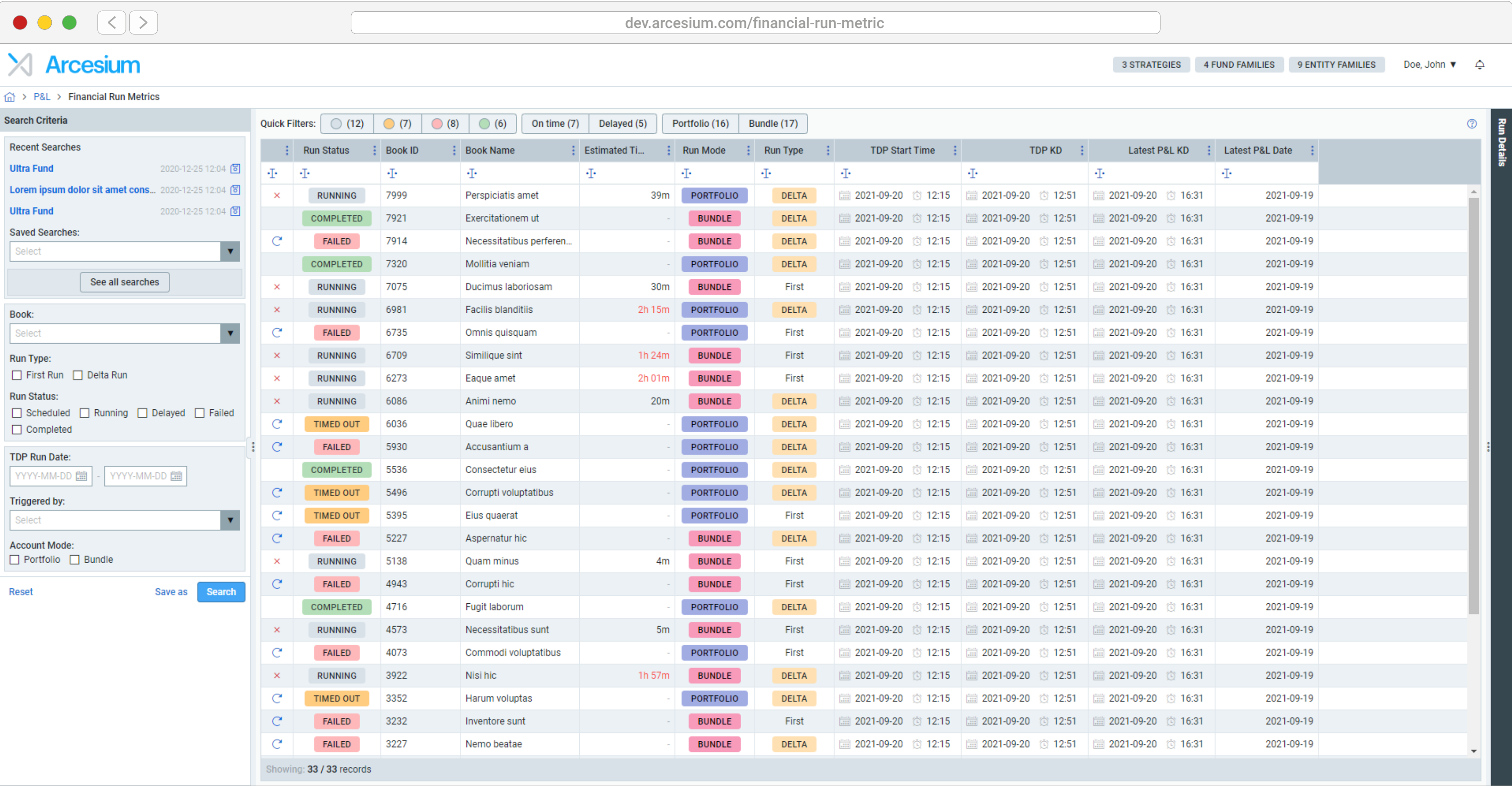
- A search panel was added to the application, allowing the users to search for runs based on varying criteria, as well as quickly execute recent search queries.
- Ability to save these search criteria and set the same as default was also introduced, as different user groups searched for runs using different criteria.
- A link to the application wiki was added in the empty space where the results would otherwise get populate.

Feedback

Client Liaison: “We don’t usually search for historical dates.”

We implemented the standard search pattern in this application, where a user lands on a page and has to execute a search to proceed. The users felt that this was an unnecessary step as they visit this application to get information on the current day’s runs. The feature to save their search criteria and set it as their default search was welcomed.

Prototyping & Feedback (2 / 3)



Sample search results

Design Decisions

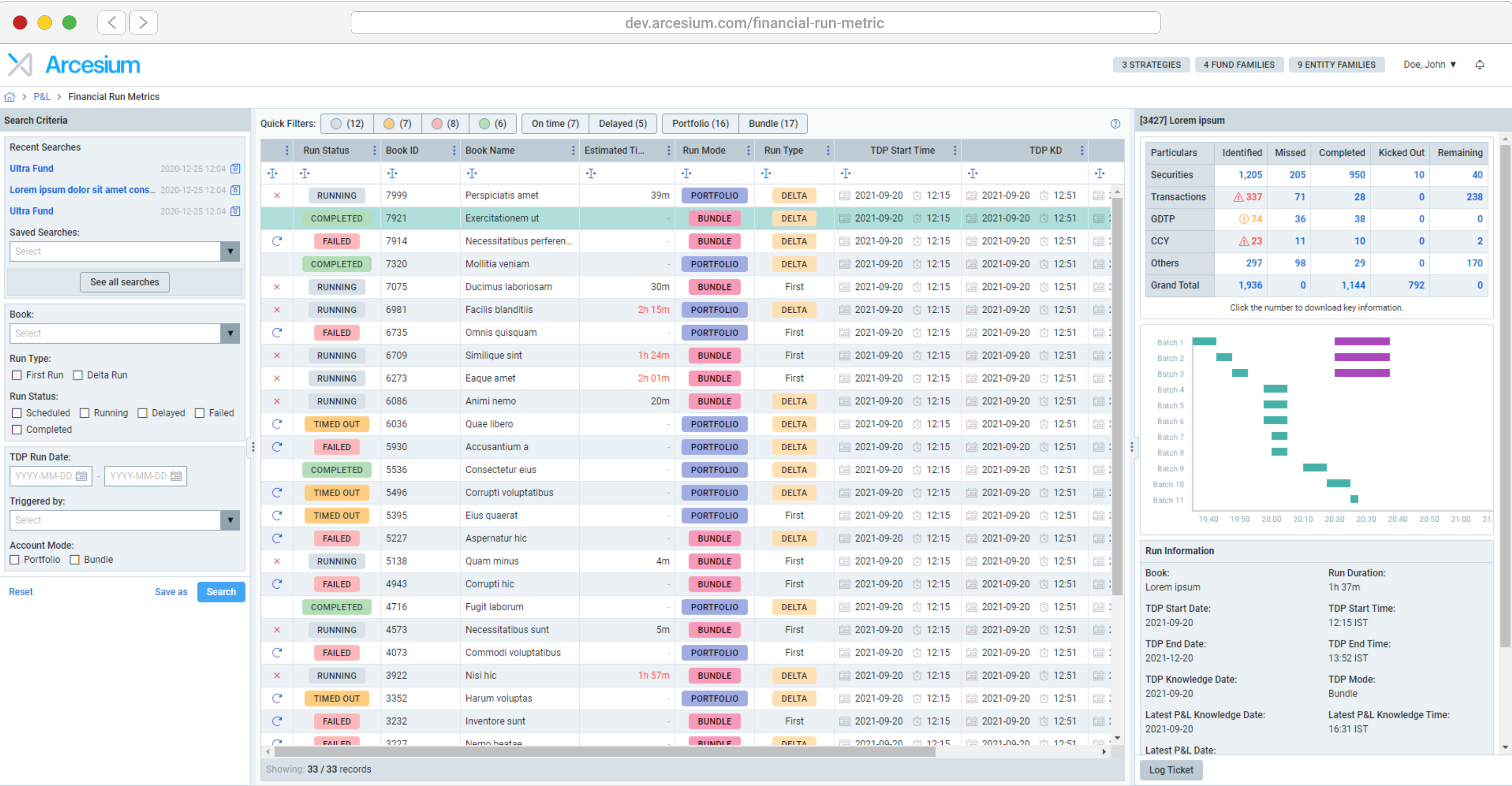
- Colour coded the values in different columns so that the users can easily differentiate between the different records, and thus reduce cognitive load.
- Runs which has exceeded the expected run duration were highlighted in red to further draw the user’s attention. Non-critical information was dropped from the search results grid (and moved to the details panel showcased in the next page).
- Frequently used filters were added above the grid, along with a count of the underlying records.
- The link to the application wiki was moved above the grid in the corner to the right.

Feedback

Client Liaison: “There is too much colour on this page.”

While the initial assumption was that colour coding the columns *Run Status*, *Run Mode*, *Run Type* will help the user easily differentiate the different entries, the feedback we got was that it’s not achieving its intended purpose. Information like *Run Mode* and *Run Type* aren’t critical, and by colour coding them, the focus shifted away from the *Estimated Time for Completion* column just to the left of *Run Mode*.

Prototyping & Feedback (3 / 3)



Details panel opens up when you select a record

Design Decisions

- The details panel expands whenever the user selects any record in the grid by clicking on it. This done to layer the information so that the primary users of this application (Client Executive & Client Liaison) aren't bombarded with information in the results grid.
- Colour coded metrics were added so that the Operations team can analyze the data and look at the timelines to determine the cause of failure.
- Complete run information was added to include the columns that were dropped from the results grid. This enabled us to reduce the amount of horizontal scrolling users need to do in order to see the complete meta-data for a given run.
- A button to log ticket was added which would automatically add a deep link to this run's details panel on the ticket, along with relevant meta data.

Feedback

Client Liaison: "The clients don't fully understand the metrics and may misinterpret the data."

Client Liaison: "Clients may abuse the *Log Ticket* button."

Operations Analyst: "It's not clear which task has failed."

We simplified the underlying data keeping our secondary goal in mind without overwhelming the users, but it missed the mark, as the Client Liaison still felt overwhelmed, and the Operations Analysts felt they didn't have enough information to make an informed decision.



- While the search panel was remained untouched, the search is now automatically triggered based on the user's default search preferences, whenever they land on the application.
- Colour coding was removed for *Run Mode* and *Run Type* columns to draw more attention to the *Estimated Time for Completion* column

Previous IterationFinal Version

Final Prototype - Run History (2 / 2)

[3427] Lorem ipsum

1. Identifying changes for calculation

SUCCESS

2. Calculating P&L impact

SUCCESS

3. Publishing updated P&L

SUCCESS

Run Information

Book: Lorem ipsum

Run Duration: 1h 37m

TDP Start Date: 2021-09-20

TDP Start Time: 12:15 IST

TDP End Date: 2021-12-20

TDP End Time: 13:52 IST

TDP Knowledge Date: 2021-09-20

TDP Mode: Bundle

Latest P&L Knowledge Date: 2021-09-20

Latest P&L Knowledge Time: 16:31 IST

Latest P&L Date: 2021-09-19

View Details

Details panel for successful runs

[3427] Lorem ipsum

1. Identifying changes for calculation

FAILED

Initiating TDP computation processes

Failed to create batches

View Details

Log Ticket

2. Calculating P&L impact

NOT STARTED

3. Publishing updated P&L

NOT STARTED

Run Information

Book: Lorem ipsum

Run Duration: 1h 37m

TDP Start Date: 2021-09-20

TDP Start Time: 12:15 IST

TDP End Date: 2021-12-20

TDP End Time: 13:52 IST

TDP Knowledge Date: 2021-09-20

TDP Mode: Bundle

Latest P&L Knowledge Date: 2021-09-20

Latest P&L Knowledge Time: 16:31 IST

Latest P&L Date: 2021-09-19

View Details

Retrigger TDP Run

Details panel for failed runs

[3427] Lorem ipsum

1. Identifying changes for calculation

SUCCESS

2. Calculating P&L impact

SUCCESS

3. Publishing updated P&L

RUNNING

Syncing PNL data to UBOR warehouse

::: Making TDP changes available upto 2021-09-20 12:51

Run Information

Book: Lorem ipsum

Run Duration: 1h 37m

TDP Start Date: 2021-09-20

TDP Start Time: 12:15 IST

TDP End Date: 2021-12-20

TDP End Time: 13:52 IST

TDP Knowledge Date: 2021-09-20

TDP Mode: Bundle

Latest P&L Knowledge Date: 2021-09-20

Latest P&L Knowledge Time: 16:31 IST

Latest P&L Date: 2021-09-19

View Details

Cancel TDP Run

Details panel for in-progress runs

[3427] Lorem ipsum

1. Identifying changes for calculation

SUCCESS

2. Calculating P&L impact

TIMED OUT

Time out while calculating P&L

View Details

Log Ticket

3. Publishing updated P&L

NOT STARTED

Run Information

Book: Lorem ipsum

Run Duration: 1h 37m

TDP Start Date: 2021-09-20

TDP Start Time: 12:15 IST

TDP End Date: 2021-12-20

TDP End Time: 13:52 IST

TDP Knowledge Date: 2021-09-20

TDP Mode: Bundle

Latest P&L Knowledge Date: 2021-09-20

Latest P&L Knowledge Time: 16:31 IST

Latest P&L Date: 2021-09-19

View Details

Retrigger TDP Run

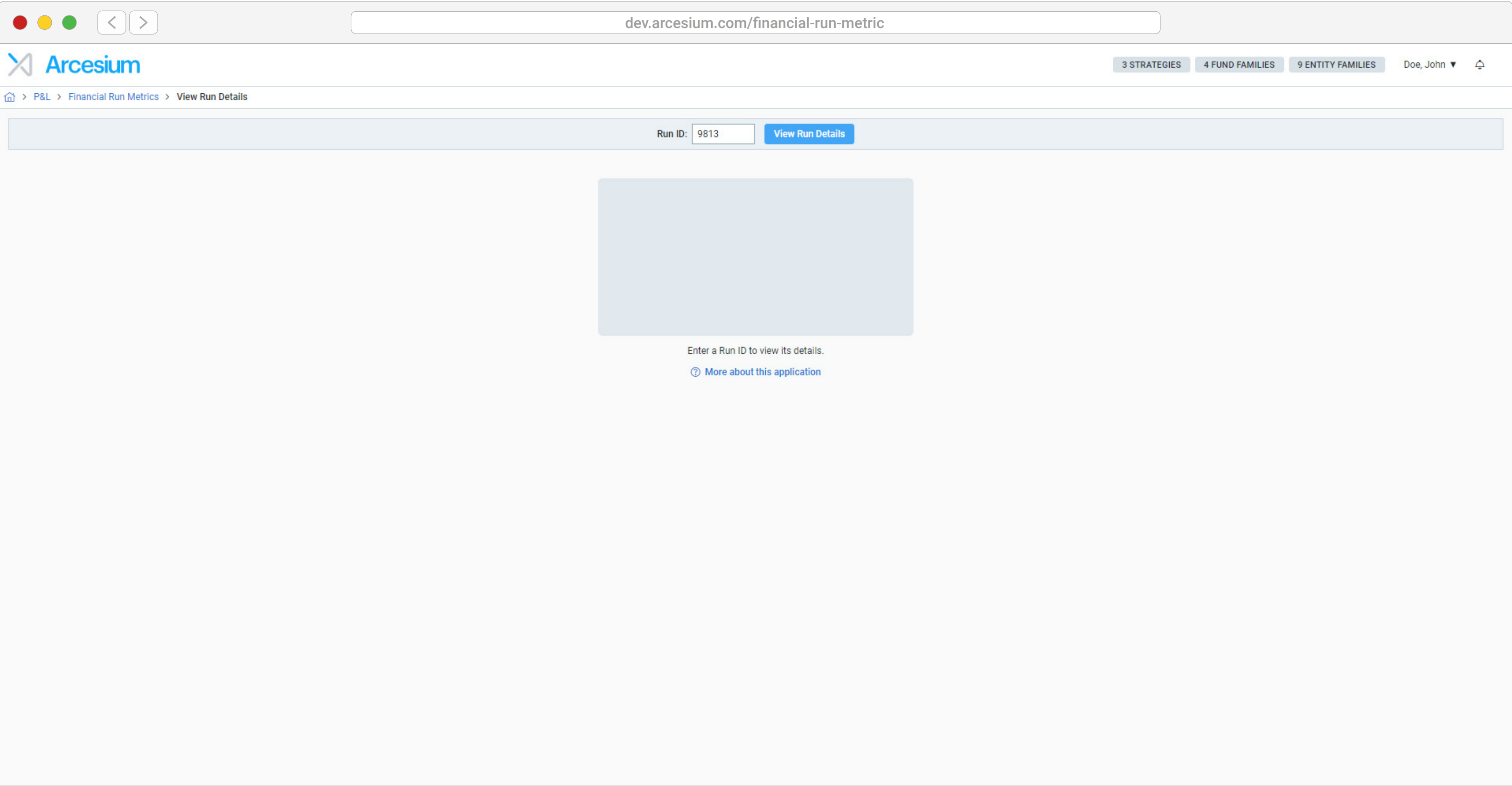
Details panel for timed out runs

Design Decisions

The details panel was completely revamped, and was redesigned to cater to Client and Client Liaison groups only. A dedicated details page (showcased later) was created keeping the needs of the Operations team in mind, as well as to allow the other user groups to learn more about the underlying processes should they want to.

- Details were simplified and focus was kept on high level process stages. Additional information was presented only if a particular stage had failed, or was in progress.
- Option to log ticket was removed as a first-class action, and instead was made available only for runs which had failed or timed-out. While the core functionality of this button wasn't changed, the deep-link d in the ticket will now point to the relevant section in the dedicated details page.
- To achieve our secondary goal for the project, link to the details page was added both as a panel action at the bottom, and in the relevant steps in case of failed and timed-out runs. While both actions would take the user to the same details page, the latter would jump to the relevant section in the page.

Final Prototype - Run Details (1 / 3)



Search page for Run Details

Design Decisions

- Users who land on this page directly can search for a particular Run ID and fetch its details.
- As with the Run History page, a link to the application wiki was added.

Final Prototype - Run Details (2 / 3)

dev.arcesium.com/financial-run-metric

Arcesium

3 STRATEGIES

4 FUND FAMILIES

9 ENTITY FAMILIES

Doe, John

P&L

Financial Run Metrics

View Run Details

Run ID: 9813

View Run Details

Run ID: 9813

COMPLETED

Action

Last updated at 21:46 IST, 2021-02-21

Run Information

Book: Lorem ipsum

Run Duration: 1h 37m

TDP Start Date: 2021-09-20

TDP Start Time: 12:15 IST

TDP End Date: 2021-12-20

TDP End Time: 13:52 IST

TDP Knowledge Date: 2021-09-20

TDP Mode: Bundle

Latest P&L Knowledge Date: 2021-09-20

Latest P&L Knowledge Time: 16:31 IST

Latest P&L Date: 2021-09-19

Identifying changes for calculation

Task	Response	Started	Finished
RUN_CREATED	Initiated TDP computation	19:31 IST, 2021-04-19	19:38 IST, 2021-04-19
JE_LINE_SYNC_TRIGGER	Initiated TDP processes for currency changes	19:39 IST, 2021-04-19	19:40 IST, 2021-04-19
TRIGGER_EVENT_SENT	Created 11 batches to process 1,936 changes	19:40 IST, 2021-04-19	19:41 IST, 2021-04-19

Calculating P&L impact

Task	Response	Started	Finished
FETCH_PNL_DATA	Computed P&L for 11 of 11 batches	19:43 IST, 2021-04-19	19:59 IST, 2021-04-19
JE_LINE_DELTA_SEEKER_TRIGGER	Identified currency changes from JE lines	19:59 IST, 2021-04-19	20:09 IST, 2021-04-19
PTD_CALC_EVENT_SENT	Consolidated P&L from all non-currency batches	19:59 IST, 2021-04-19	20:09 IST, 2021-04-19
DELTA_KEY_PROCESSED	Computed P&L from non-currency batches	19:59 IST, 2021-04-19	20:09 IST, 2021-04-19
FETCH_PNL_DATA	Computed P&L for 5 of 5 currency batches	19:59 IST, 2021-04-19	20:09 IST, 2021-04-19
PTD_CALC_EVENT_SENT	Consolidated P&L from currency batches	19:59 IST, 2021-04-19	20:09 IST, 2021-04-19
DELTA_KEY_PROCESSED	11,598 currency changes processed	19:59 IST, 2021-04-19	20:09 IST, 2021-04-19

+ Key Information

+ Batch Information

Publishing updated P&L

Task	Response	Started	Finished
UBOR_DATA_SYNC_SENT	Synced updated P&L data to UBOR	19:31 IST, 2021-04-19	19:38 IST, 2021-04-19
RUN_COMPLETE	TDP available for changes upto 2021-09-15	19:39 IST, 2021-04-19	19:40 IST, 2021-04-19

Search result for Run Details

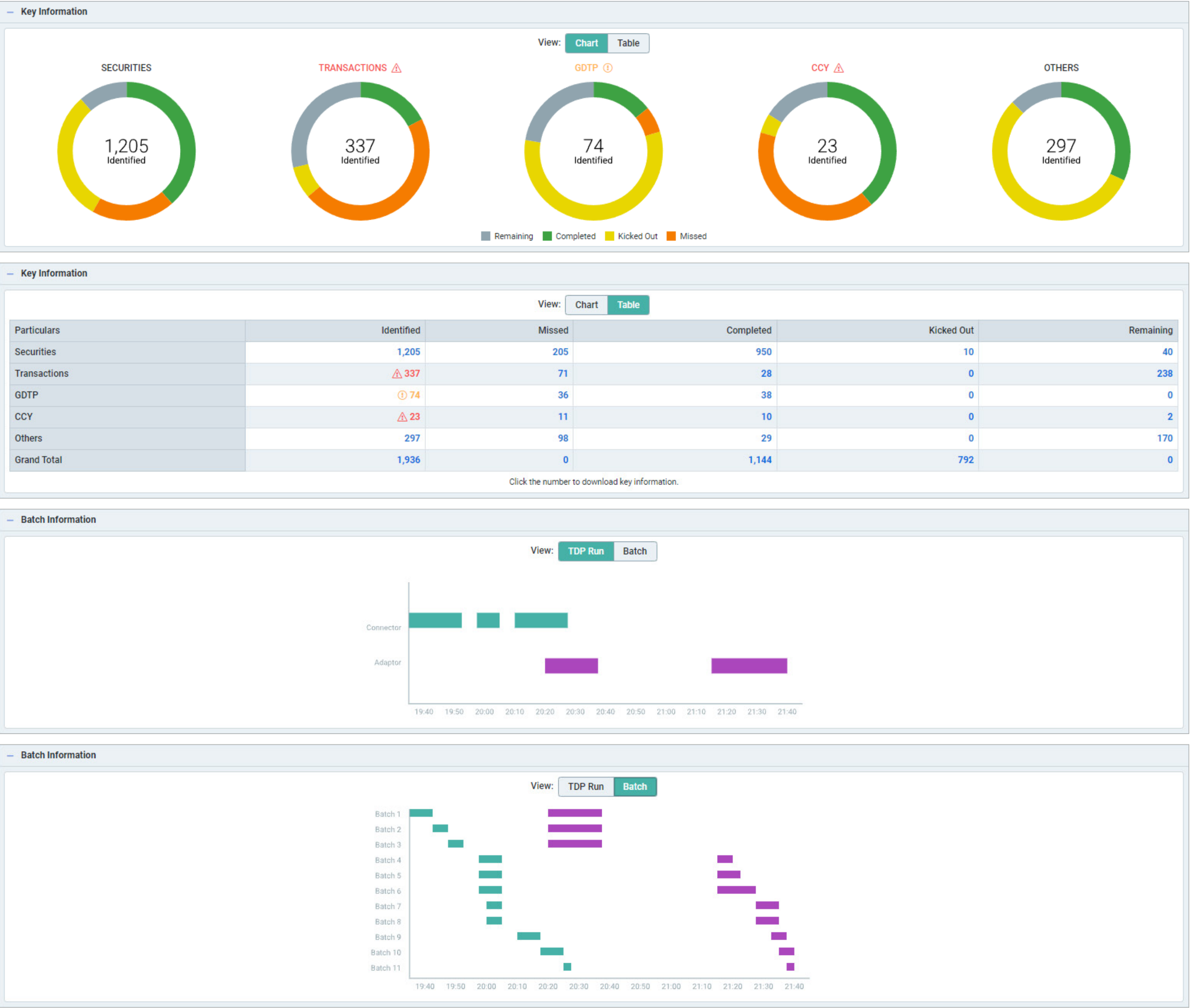
Design Decisions

- Completion status was added to the overall run, as well as individual stages.
- A complete breakdown of each task split by different stages was included in the details page.
- Sub-tasks within a particular task were collapsed into the parent task, rather than have them repeat multiple times and overloading the UI (see image below).

Task	Response
FETCH_PNL_DATA	Computed P&L for 1 of 11 batches
FETCH_PNL_DATA	Computed P&L for 2 of 11 batches
FETCH_PNL_DATA	Computed P&L for 3 of 11 batches
FETCH_PNL_DATA	Computed P&L for 4 of 11 batches
FETCH_PNL_DATA	Computed P&L for 5 of 11 batches
FETCH_PNL_DATA	Computed P&L for 6 of 11 batches
FETCH_PNL_DATA	Computed P&L for 7 of 11 batches
FETCH_PNL_DATA	Computed P&L for 8 of 11 batches
FETCH_PNL_DATA	Computed P&L for 9 of 11 batches
FETCH_PNL_DATA	Computed P&L for 10 of 11 batches
FETCH_PNL_DATA	Computed P&L for 11 of 11 batches
JE_LINE_DELTA_SEEKER_TRIGGER	Identified currency changes from JE lines

Actual entries in the logs (above) were collapsed into one single entry for ease of viewing

Final Prototype - Run Details (3 / 3)



Design Decisions

- Different view types of the underlying data was added to the details page to help the operations team view it from different angles.