

SQA Metric Items From FPA Spreadsheet - March 2018

Nick Lauerman

Abstract

Evaluation of various potential metrics, performance indicators from the Excel workbook that Software Quality Assurance collected called First Pass Acceptance. This will only be run for the month of January 2018. ¹

Contents

1	Introduction	1		
2	Data and Calculations	1		
2.1	Data	1		
2.2	Calculations	2		
3	Work Yet to be Completed	2		
3.1	Formula	2		
3.2	Trending	2		
3.2.1	Graphs	2		
4	Quantity Metrics	2		
4.1	Application supported .	2		
4.2	Number of Projects . . .	2		
4.3	Number of Reviews . . .	2		
4.4	Number of Items Reviewed	3		
4.5	Number of Projects Started	3		
4.6	Projects Completed . . .	3		
4.7	Number Of Deliverables by Type	3		
4.8	Number of Deliverable by Application	4		
4.9	Number of Approvals, Disapprovals, and First Pass Approvals	5		
4.10	Table of Deliverables by Application	5		
4.11	Table of Rejection Reasons	12		
4.12	Defects Verses Application	13		
4.13	Defects Verses Deliverable	14		
4.14	Rejection Reason by Deliverable	15		
4.15	Number of Rejections by Project	16		
5	Rate Metrics	16		
5.1	Document Approval Rate	16		
5.2	First Pass Acceptance	16		

¹Date Ran: Monday 2nd April, 2018 at 08:14

1 Introduction

The data is processed using R², Version 3.4.4 named “Some to Lean On”. The only extension (package or library) utilized is lubridate (version 1.7.1) to provide key functionality in the processing of dates.

The data is read into R from a comma seperated value (csv) file which is derived (saved) from the spreadsheet without modification. Additional values are computed as needed.

This report is prepared in the R enviroment using a collection of packages know as Sweave that included knitr which in turn feeds the package into L^AT_EX 2_ε a typesetting program to produce a PDF file. L^AT_EX 2_ε is implmented in MiT_EX. L^AT_EX 2_ε is utilizing the folowing packages to control style and formating:

- datetime and
- multitoc

This will only show a point in time summary and no trends.

2 Data and Calculations

2.1 Data

A seperate data dictionary will be prepared to for both the source data and computed values stored in R.

2.2 Calculations

All calculations presented here have not been implemented in R as formulas.

3 Work Yet to be Completed

3.1 Formula

Some calculations would be better implemented as formulas. The calculations need to be evulated and the formulas developed where needed.

3.2 Trending

Eventually the “System” will be updated to select the data on a for a calander month. After processing the resulots will be stored in a seperate file. This will allow for longer term trending of this data.

3.2.1 Graphs

When “trending” is implmented graphs of the trends will also be added.

²RStudio is utilized as an IDE

4 Quantity Metrics

4.1 Application supported

This is a list of all application support this period.

Note: Alphabetize the list

[1]	"WWLIMS"	"Pulse"	"CMSNext"
[4]	"GS Reports"	"Assay File Database"	"EDMS"
[7]	"PEAR"	"Metrics Library"	"eNovator"
[10]	"Knowledge Management"	"TrendReader"	

4.2 Number of Projects

The total number of projects worked on in this period. This may differ from the application list because some applications may have more than one project in the period.

[1] 29

4.3 Number of Reviews

This is the number of items reviewed, a document will be counted more than once if it is reviewed more than once.

[1] 105

4.4 Number of Items Reviewed

This is the number of unique items reviewed, each item is only counted once regardless of how many times it is reviewed.

Note: This is reporting low due to certain items having no way to discriminate between such as multiple executions of the same test script or results from an IIVP run on different computers within the same project.

[1] 84

4.5 Number of Projects Started

The point at which a project is started is when version 1 of the *Software Change Request* is approved.

Note: This now counts ML type projects (Metrics Library and GS Reports) using the Project Plan as the point that a project starts.

[1] 6

4.6 Projects Completed

The point at which a project is considered completed is when version 1 of the *System Certification Summary* is approved.

Note: now counts GS (Global Service) Reports Move to Production as the end of project.

[1] 8

4.7 Number Of Deliverables by Type

This is unique for each deliverable. It only counts each document once so a deliverable that is disapproved and then approved is only counted once.

		Cancellation
0		1
CII	Design Documentation	
2		1
Design Verification	ERES	
8		1
FRS	IDP	
0		0
IIVP	IIVP results	
3		8
ISSD	Move to Production	
1		6
Other	Project Plan	
0		6
Release Notes	Software Change Request	
2		2
Software Compliance Assessment	System Certification Summary	
3		5
Test Protocol	Test Protocol Results	
10		19
Traceability	URS	
1		1
URS/FRS	User Acceptance Protocol	
1		1
User Acceptance Protocol results	Validation Plan	
1		1

4.8 Number of Deliverable by Application

This is the number of unique deliverables that each application submitted. It only counts each document once, regardless of the status.

	Abbott Transfusion Medicine
0	0

	AFMS	Alinity Source Verifier
	0	0
	Apollo/PHM	Assay File Database
	0	12
BioCommand Batch Control Plus	0	CMSNext
	0	14
DARA Filler DHM and RU	0	DaVinci
	0	0
DFCS	0	DPW
	0	0
EDMS	0	eNovator
	8	1
Groninger	0	GS Reports
	0	11
ideaPoint	0	IRIS
	0	0
Knowledge Management	1	Metrics Library
	1	5
Navigator	0	PCN/SCN
	0	0
PEAR	5	Pulse
	5	16
QIMS	0	Reliasoft Xfmea
	0	0
SAS	0	TODS
	0	0
TrendReader	1	WVLIMS
	1	10

4.9 Number of Approvals, Disapprovals, and First Pass Approvals

	A	A-FP	D
0	20	65	20

4.10 Table of Deliverables by Application

	Cancellation	CII	Design	Documentation
Abbott Transfusion Medicine	0	0	0	0
AFMS	0	0	0	0
Alinity Source Verifier	0	0	0	0
Apollo/PHM	0	0	0	0
Assay File Database	0	0	1	0
BioCommand Batch Control Plus	0	0	0	0
CMSNext	0	1	0	0

DARA Filler DHM and RU	0	0	0	0
DaVinci	0	0	0	0
DFCS	0	0	0	0
DPW	0	0	0	0
EDMS	0	0	1	0
eNovator	0	0	0	0
Groninger	0	0	0	0
GS Reports	0	0	0	0
ideaPoint	0	0	0	0
IRIS	0	0	0	0
Knowledge Management	0	0	0	0
Metrics Library	0	0	0	1
Navigator	0	0	0	0
PCN/SCN	0	0	0	0
PEAR	0	0	0	0
Pulse	0	0	0	0
QIMS	0	0	0	0
Reliasoft Xfmea	0	0	0	0
SAS	0	0	0	0
TODS	0	0	0	0
TrendReader	0	0	0	0
WWLIMS	0	0	0	0

	Design Verification	ERES	FRS	IDP	IIVP
	0	0	0	0	0
Abbott Transfusion Medicine	0	0	0	0	0
AFMS	0	0	0	0	0
Alinity Source Verifier	0	0	0	0	0
Apollo/PHM	0	0	0	0	0
Assay File Database	1	1	0	0	1
BioCommand Batch Control Plus	0	0	0	0	0
CMSNext	0	0	0	0	0
DARA Filler DHM and RU	0	0	0	0	0
DaVinci	0	0	0	0	0
DFCS	0	0	0	0	0
DPW	0	0	0	0	0
EDMS	4	0	0	0	0
eNovator	0	0	0	0	0
Groninger	0	0	0	0	0
GS Reports	0	0	0	0	0
ideaPoint	0	0	0	0	0
IRIS	0	0	0	0	0
Knowledge Management	0	0	0	0	0
Metrics Library	0	0	0	0	0
Navigator	0	0	0	0	0
PCN/SCN	0	0	0	0	0

PEAR	1	0	0	0	1
Pulse	2	0	0	0	0
QIMS	0	0	0	0	0
Reliasoft Xfmea	0	0	0	0	0
SAS	0	0	0	0	0
TODS	0	0	0	0	0
TrendReader	0	0	0	0	0
WVLIMS	0	0	0	0	1

	IIVP results	ISSD	Move to Production	Other
	0	0		0
Abbott Transfusion Medicine	0	0		0
AFMS	0	0		0
Alinity Source Verifier	0	0		0
Apollo/PHM	0	0		0
Assay File Database	1	1		0
BioCommand Batch Control Plus	0	0		0
CMSNext	0	0		0
DARA Filler DHM and RU	0	0		0
DaVinci	0	0		0
DFCS	0	0		0
DPW	0	0		0
EDMS	0	0		0
eNovator	0	0		0
Groninger	0	0		0
GS Reports	0	0		6
ideaPoint	0	0		0
IRIS	0	0		0
Knowledge Management	0	0		0
Metrics Library	0	0		0
Navigator	0	0		0
PCN/SCN	0	0		0
PEAR	1	0		0
Pulse	1	0		0
QIMS	0	0		0
Reliasoft Xfmea	0	0		0
SAS	0	0		0
TODS	0	0		0
TrendReader	0	0		0
WVLIMS	5	0		0

	Project Plan	Release Notes
	0	0
Abbott Transfusion Medicine	0	0
AFMS	0	0
Alinity Source Verifier	0	0

Apollo/PHM	0	0
Assay File Database	1	0
BioCommand Batch Control Plus	0	0
CMSNext	0	1
DARA Filler DHM and RU	0	0
DaVinci	0	0
DFCS	0	0
DPW	0	0
EDMS	0	0
eNovator	0	0
Groninger	0	0
GS Reports	5	0
ideaPoint	0	0
IRIS	0	0
Knowledge Management	0	0
Metrics Library	0	0
Navigator	0	0
PCN/SCN	0	0
PEAR	0	0
Pulse	0	0
QIMS	0	0
Reliasoft Xfmea	0	0
SAS	0	0
TODS	0	0
TrendReader	0	0
WWLIMS	0	1

Software Change Request

	0
Abbott Transfusion Medicine	0
AFMS	0
Alinity Source Verifier	0
Apollo/PHM	0
Assay File Database	0
BioCommand Batch Control Plus	0
CMSNext	1
DARA Filler DHM and RU	0
DaVinci	0
DFCS	0
DPW	0
EDMS	0
eNovator	0
Groninger	0
GS Reports	0
ideaPoint	0
IRIS	0

Knowledge Management	1
Metrics Library	0
Navigator	0
PCN/SCN	0
PEAR	0
Pulse	0
QIMS	0
Reliasoft Xfmea	0
SAS	0
TODS	0
TrendReader	0
WVLIMS	0

Software Compliance Assessment

	0
Abbott Transfusion Medicine	0
AFMS	0
Alinity Source Verifier	0
Apollo/PHM	0
Assay File Database	0
BioCommand Batch Control Plus	0
CMSNext	1
DARA Filler DHM and RU	0
DaVinci	0
DFCS	0
DPW	0
EDMS	0
eNovator	0
Groninger	0
GS Reports	0
ideaPoint	0
IRIS	0
Knowledge Management	0
Metrics Library	1
Navigator	0
PCN/SCN	0
PEAR	0
Pulse	1
QIMS	0
Reliasoft Xfmea	0
SAS	0
TODS	0
TrendReader	0
WVLIMS	0

System Certification Summary Test Protocol

	0	0
Abbott Transfusion Medicine	0	0
AFMS	0	0
Alinity Source Verifier	0	0
Apollo/PHM	0	0
Assay File Database	0	1
BioCommand Batch Control Plus	0	0
CMSNext	1	1
DARA Filler DHM and RU	0	0
DaVinci	0	0
DFCS	0	0
DPW	0	0
EDMS	0	3
eNovator	0	0
Groninger	0	0
GS Reports	0	0
ideaPoint	0	0
IRIS	0	0
Knowledge Management	0	0
Metrics Library	1	1
Navigator	0	0
PCN/SCN	0	0
PEAR	0	2
Pulse	1	2
QIMS	0	0
Reliasoft Xfmea	0	0
SAS	0	0
TODS	0	0
TrendReader	0	0
WVLIMS	2	0

	Test Protocol Results	Traceability	URS	URS/FRS
	0		0	0
Abbott Transfusion Medicine	0		0	0
AFMS	0		0	0
Alinity Source Verifier	0		0	0
Apollo/PHM	0		0	0
Assay File Database	1		1	0
BioCommand Batch Control Plus	0		0	0
CMSNext	8		0	0
DARA Filler DHM and RU	0		0	0
DaVinci	0		0	0
DFCS	0		0	0
DPW	0		0	0
EDMS	0		0	0
eNovator	0		0	0

Groninger	0	0	0	0
GS Reports	0	0	0	0
ideaPoint	0	0	0	0
IRIS	0	0	0	0
Knowledge Management	0	0	0	0
Metrics Library	1	0	0	0
Navigator	0	0	0	0
PCN/SCN	0	0	0	0
PEAR	0	0	0	0
Pulse	9	0	0	0
QIMS	0	0	0	0
Reliasoft Xfmea	0	0	0	0
SAS	0	0	0	0
TODS	0	0	0	0
TrendReader	0	0	1	0
WVLIMS	0	0	0	0

User Acceptance Protocol

	0
Abbott Transfusion Medicine	0
AFMS	0
Alinity Source Verifier	0
Apollo/PHM	0
Assay File Database	0
BioCommand Batch Control Plus	0
CMSNext	0
DARA Filler DHM and RU	0
DaVinci	0
DFCS	0
DPW	0
EDMS	0
eNovator	1
Groninger	0
GS Reports	0
ideaPoint	0
IRIS	0
Knowledge Management	0
Metrics Library	0
Navigator	0
PCN/SCN	0
PEAR	0
Pulse	0
QIMS	0
Reliasoft Xfmea	0
SAS	0
TODS	0

TrendReader	0
WWLIMS	0

User Acceptance Protocol results

	0
Abbott Transfusion Medicine	0
AFMS	0
Alinity Source Verifier	0
Apollo/PHM	0
Assay File Database	0
BioCommand Batch Control Plus	0
CMSNext	0
DARA Filler DHM and RU	0
DaVinci	0
DFCS	0
DPW	0
EDMS	0
eNovator	0
Groninger	0
GS Reports	0
ideaPoint	0
IRIS	0
Knowledge Management	0
Metrics Library	0
Navigator	0
PCN/SCN	0
PEAR	0
Pulse	0
QIMS	0
Reliasoft Xfmea	0
SAS	0
TODS	0
TrendReader	0
WWLIMS	1

Validation Plan

	0
Abbott Transfusion Medicine	0
AFMS	0
Alinity Source Verifier	0
Apollo/PHM	0
Assay File Database	1
BioCommand Batch Control Plus	0
CMSNext	0
DARA Filler DHM and RU	0
DaVinci	0

DFCS	0
DPW	0
EDMS	0
eNovator	0
Groninger	0
GS Reports	0
ideaPoint	0
IRIS	0
Knowledge Management	0
Metrics Library	0
Navigator	0
PCN/SCN	0
PEAR	0
Pulse	0
QIMS	0
Reliasoft Xfmea	0
SAS	0
TODS	0
TrendReader	0
WVLIMS	0

4.11 Table of Rejection Reasons

Inaccurate information	Incorrect scope
13	0
Insufficient testing	Insufficient traceability
0	1
Not compliant with procedure	Not following document version control
1	0
Not using template	Other
0	4
Requirement deficiency	
0	

4.12 Defects Verses Application

	Inaccurate information	Incorrect scope
Assay File Database	2	0
CMSNext	4	0
eNovator	0	0
Knowledge Management	2	0
Metrics Library	0	0
Pulse	1	0
WVLIMS	4	0
	Insufficient testing	Insufficient traceability

Assay File Database	0	0
CMSNext	0	1
eNovator	0	0
Knowledge Management	0	0
Metrics Library	0	0
Pulse	0	0
WWLIMS	0	0

Not compliant with procedure

Assay File Database	0
CMSNext	0
eNovator	1
Knowledge Management	0
Metrics Library	0
Pulse	0
WWLIMS	0

Not following document version control

Assay File Database	0
CMSNext	0
eNovator	0
Knowledge Management	0
Metrics Library	0
Pulse	0
WWLIMS	0

Not using template Other Requirement deficiency

Assay File Database	0	0	0
CMSNext	0	2	0
eNovator	0	0	0
Knowledge Management	0	0	0
Metrics Library	0	2	0
Pulse	0	0	0
WWLIMS	0	0	0

4.13 Defects Verses Deliverable

```
> table(as.character(subset(FPA, subset = (status == "D"))$deliverable),
+       subset(FPA, subset = (status == "D"))$reason)
```

	Inaccurate information	Incorrect scope
IIVP results	2	0
Release Notes	2	0
Software Change Request	3	0
Software Compliance Assessment	0	0
System Certification Summary	4	0

Test Protocol	0	0
Traceability	1	0
User Acceptance Protocol	0	0
Validation Plan	1	0

	Insufficient testing	Insufficient traceability
IIVP results	0	0
Release Notes	0	0
Software Change Request	0	0
Software Compliance Assessment	0	0
System Certification Summary	0	0
Test Protocol	0	1
Traceability	0	0
User Acceptance Protocol	0	0
Validation Plan	0	0

	Not compliant with procedure
IIVP results	0
Release Notes	0
Software Change Request	0
Software Compliance Assessment	0
System Certification Summary	0
Test Protocol	0
Traceability	0
User Acceptance Protocol	1
Validation Plan	0

	Not following document version control
IIVP results	0
Release Notes	0
Software Change Request	0
Software Compliance Assessment	0
System Certification Summary	0
Test Protocol	0
Traceability	0
User Acceptance Protocol	0
Validation Plan	0

	Not using template	Other
IIVP results	0	0
Release Notes	0	0
Software Change Request	0	1
Software Compliance Assessment	0	1
System Certification Summary	0	2
Test Protocol	0	0
Traceability	0	0

User Acceptance Protocol	0	0
Validation Plan	0	0

	Requirement deficiency	
IIVP results	0	
Release Notes	0	
Software Change Request	0	
Software Compliance Assessment	0	
System Certification Summary	0	
Test Protocol	0	
Traceability	0	
User Acceptance Protocol	0	
Validation Plan	0	

4.14 Rejection Reason by Deliverable

IIVP results	Release Notes
2	2
Software Change Request	Software Compliance Assessment
4	2
System Certification Summary	Test Protocol
6	1
Traceability	User Acceptance Protocol
1	1
Validation Plan	
1	

4.15 Number of Rejections by Project

Assay File Database	CMSNext	eNovator
2	7	1
Knowledge Management	Metrics Library	Pulse
2	3	1
WWLIMS		
4		

5 Rate Metrics

5.1 Document Approval Rate

This is portion of documents that are approved upon review.

It is computed by counting the number of approvals divided that by the total number of reviews.

[1] 0.8095238

5.2 First Pass Acceptance

this is the portion of documents that are approved on the first review conducted by SQA.

It is computed by counting the number of first pass approvals divided by the number of reviews.

[1] 0.6190476