Potential Metric Items From FPA Spreadsheet

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Abstract

Evaulation of various potential matrics, performance indicators from the Excel workbook that Software Quality Assurance collected called First Pass Acceptance.[1]

Contents

1 Introduction

The data is processed using R^2, Version 3.4.3 named Kite-Eating Tree. The only extension (package or library) utilized is lubridate (version 1.7.1) to provide key functionality in the processing of dates.

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[1]Date Ran: Thursday 1st February, 2018 at 13:13

[2]RStudio is utilized as an IDE

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 LaTeX 2_ε a typeseting program to produce a PDF file. LaTeX 2_ε in implented in MiTeX. LaTeX 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 implented graphs of the trends will also be added.

4 Quanity Metrics

4.1 Application supported

This is a list of all application support this period.

Note: Alphabatize the list

```
 [1] "Groninger"                  "Assay File Database"
 [3] "PCN/SCN"                    "WWLIMS"
 [5] "Pulse"                      "DFCS"
 [7] "DPW"                        "QIMS"
 [9] "Abbott Transfusion Medicine" "Apollo/PHM"
[11] "AFMS"                       "SAS"
[13] "Metrics Library"           "DaVinci"
[15] "CMSNext"                    "GS Reports"
[17] "IRIS"
```

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 periond.

```
[1] 24
```

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] 176
```

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 certian items having no way to descrimate between such as multiple executions of the same test script or results from an IIVP run on different computers within the same project.

```
[1] 121
```

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] 5
```

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] 2
```

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.

CII	Design Documentation
8	2
Design Verification	FRS
5	5
IIVP	IIVP results
5	9
Move to Production	Project Plan
1	6
Software Change Request	Software Compliance Assessment
6	4
System Certification Summary	Test Protocol
2	37
Test Protocol Results	Traceability
14	9
URS	User Acceptance Protocol
2	3
User Acceptance Protocol results	Validation Plan
1	2

4.8 Number of deliverable by application

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

Abbott Transfusion Medicine	AFMS
1	8
Apollo/PHM	Assay File Database
9	2
CMSNext	DaVinci
2	12
DFCS	DPW
13	4
Groninger	GS Reports

```
                   1                            3
                IRIS               Metrics Library
                   1                            3
             PCN/SCN                        Pulse
                   6                            8
                QIMS                          SAS
                  12                            3
              WWLIMS
                  33
```

4.9 Number of Approvals, Disapprovals, and First Pass Approvals

```
 A  A-FP    D
54    67   55
```

4.10 Table of deliverables by application

	CII	Design Documentation	Design Verification	FRS
Abbott Transfusion Medicine	0	0	0	0
AFMS	1	0	0	2
Apollo/PHM	0	0	0	0
Assay File Database	0	0	0	0
CMSNext	0	0	0	0
DaVinci	1	0	0	1
DFCS	1	0	1	0
DPW	0	0	0	0
Groninger	0	0	0	0
GS Reports	0	0	0	0
IRIS	0	0	0	0
Metrics Library	0	2	0	0
PCN/SCN	0	0	1	1
Pulse	0	0	0	0
QIMS	2	0	2	0
SAS	0	0	0	0
WWLIMS	3	0	1	1

	IIVP	IIVP results	Move to Production	Project Plan
Abbott Transfusion Medicine	0	0	0	0
AFMS	0	0	0	0
Apollo/PHM	0	4	0	0
Assay File Database	0	0	0	1
CMSNext	0	0	0	0
DaVinci	1	0	0	1
DFCS	1	0	0	1
DPW	0	0	0	0

Groninger	0	0	0	0
GS Reports	0	0	1	2
IRIS	0	1	0	0
Metrics Library	0	0	0	1
PCN/SCN	1	0	0	0
Pulse	0	1	0	0
QIMS	1	1	0	0
SAS	0	0	0	0
WWLIMS	1	2	0	0

	Software Change Request
Abbott Transfusion Medicine	0
AFMS	1
Apollo/PHM	0
Assay File Database	1
CMSNext	1
DaVinci	1
DFCS	1
DPW	0
Groninger	0
GS Reports	0
IRIS	0
Metrics Library	0
PCN/SCN	1
Pulse	0
QIMS	0
SAS	0
WWLIMS	0

	Software Compliance Assessment
Abbott Transfusion Medicine	1
AFMS	0
Apollo/PHM	0
Assay File Database	0
CMSNext	1
DaVinci	0
DFCS	0
DPW	0
Groninger	0
GS Reports	0
IRIS	0
Metrics Library	0
PCN/SCN	2
Pulse	0
QIMS	0
SAS	0

	System Certification Summary	Test Protocol
WWLIMS	0	

	System Certification Summary	Test Protocol
Abbott Transfusion Medicine	0	0
AFMS	0	2
Apollo/PHM	0	5
Assay File Database	0	0
CMSNext	0	0
DaVinci	0	5
DFCS	0	1
DPW	1	1
Groninger	0	0
GS Reports	0	0
IRIS	0	0
Metrics Library	0	0
PCN/SCN	0	0
Pulse	0	3
QIMS	0	4
SAS	1	1
WWLIMS	0	15

	Test Protocol Results	Traceability	URS
Abbott Transfusion Medicine	0	0	0
AFMS	0	0	1
Apollo/PHM	0	0	0
Assay File Database	0	0	0
CMSNext	0	0	0
DaVinci	0	0	1
DFCS	2	1	0
DPW	2	0	0
Groninger	0	1	0
GS Reports	0	0	0
IRIS	0	0	0
Metrics Library	0	0	0
PCN/SCN	0	0	0
Pulse	3	1	0
QIMS	0	2	0
SAS	1	0	0
WWLIMS	6	4	0

	User Acceptance Protocol
Abbott Transfusion Medicine	0
AFMS	0
Apollo/PHM	0
Assay File Database	0
CMSNext	0

DaVinci	0
DFCS	3
DPW	0
Groninger	0
GS Reports	0
IRIS	0
Metrics Library	0
PCN/SCN	0
Pulse	0
QIMS	0
SAS	0
WWLIMS	0

	User Acceptance Protocol results	Validation Plan
Abbott Transfusion Medicine	0	0
AFMS	0	1
Apollo/PHM	0	0
Assay File Database	0	0
CMSNext	0	0
DaVinci	0	1
DFCS	1	0
DPW	0	0
Groninger	0	0
GS Reports	0	0
IRIS	0	0
Metrics Library	0	0
PCN/SCN	0	0
Pulse	0	0
QIMS	0	0
SAS	0	0
WWLIMS	0	0

4.11 Table of rejection reasons

Inaccurate information	Incorrect scope
29	1
Insufficient testing	Not compliant with procedure
6	9
Not following document version control	Not using template
3	1
Other	Requirement deficiency
1	1

4.12 defects verses application

	Inaccurate information	Incorrect scope
AFMS	0	0
Apollo/PHM	1	0
Assay File Database	0	0
CMSNext	2	0
DaVinci	11	0
DFCS	1	0
DPW	1	0
PCN/SCN	2	1
Pulse	0	0
QIMS	7	0
WWLIMS	4	0

	Insufficient testing	Not compliant with procedure
AFMS	0	4
Apollo/PHM	0	0
Assay File Database	0	1
CMSNext	0	0
DaVinci	0	2
DFCS	0	0
DPW	0	0
PCN/SCN	0	0
Pulse	0	1
QIMS	6	1
WWLIMS	0	0

	Not following document version control	Not using template
AFMS	0	0
Apollo/PHM	0	0
Assay File Database	0	0
CMSNext	0	0
DaVinci	1	0
DFCS	0	1
DPW	0	0
PCN/SCN	0	0
Pulse	0	0
QIMS	0	0
WWLIMS	2	0

	Other	Requirement deficiency
AFMS	0	0
Apollo/PHM	0	0
Assay File Database	1	0
CMSNext	0	0

```
DaVinci                    0                        1
DFCS                       0                        0
DPW                        0                        0
PCN/SCN                    0                        0
Pulse                      0                        0
QIMS                       0                        0
WWLIMS                     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
CII	4	0
FRS	0	0
IIVP	2	0
IIVP results	1	0
Project Plan	5	0
Software Change Request	2	0
Software Compliance Assessment	1	1
System Certification Summary	1	0
Test Protocol	7	0
Test Protocol Results	2	0
Traceability	4	0
URS	0	0
User Acceptance Protocol	0	0
Validation Plan	0	0

	Insufficient testing
CII	0
FRS	0
IIVP	0
IIVP results	0
Project Plan	0
Software Change Request	0
Software Compliance Assessment	0
System Certification Summary	0
Test Protocol	6
Test Protocol Results	0
Traceability	0
URS	0
User Acceptance Protocol	0
Validation Plan	0

Not compliant with procedure

CII	0
FRS	2
IIVP	0
IIVP results	1
Project Plan	0
Software Change Request	1
Software Compliance Assessment	0
System Certification Summary	0
Test Protocol	1
Test Protocol Results	1
Traceability	0
URS	2
User Acceptance Protocol	0
Validation Plan	1

	Not following document version control
CII	1
FRS	0
IIVP	0
IIVP results	0
Project Plan	0
Software Change Request	0
Software Compliance Assessment	0
System Certification Summary	0
Test Protocol	2
Test Protocol Results	0
Traceability	0
URS	0
User Acceptance Protocol	0
Validation Plan	0

	Not using template	Other
CII	0	0
FRS	0	0
IIVP	0	0
IIVP results	0	0
Project Plan	0	1
Software Change Request	0	0
Software Compliance Assessment	0	0
System Certification Summary	0	0
Test Protocol	0	0
Test Protocol Results	0	0
Traceability	0	0
URS	0	0
User Acceptance Protocol	1	0
Validation Plan	0	0

```
                            Requirement deficiency
CII                                             0
FRS                                             1
IIVP                                            0
IIVP results                                    0
Project Plan                                    0
Software Change Request                         0
Software Compliance Assessment                  0
System Certification Summary                    0
Test Protocol                                   0
Test Protocol Results                           0
Traceability                                    0
URS                                             0
User Acceptance Protocol                        0
Validation Plan                                 0
```

4.14   Rejection reason by deliverable

```
                         CII                              FRS
                           5                                3
                        IIVP                     IIVP results
                           2                                2
                Project Plan          Software Change Request
                           6                                3
Software Compliance Assessment  System Certification Summary
                           2                                1
               Test Protocol            Test Protocol Results
                          20                                3
                Traceability                              URS
                           4                                2
     User Acceptance Protocol                  Validation Plan
                           1                                1
```

4.15   number of rejections by project

```
          AFMS       Apollo/PHM Assay File Database         CMSNext
             4                1                2                   2
        DaVinci             DFCS              DPW         PCN/SCN
            15                2                1                   3
         Pulse             QIMS           WWLIMS
             1               15                9
```

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 devided that by the total number of reviews.

```
[1] 0.6761364
```

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 devided by the number of reviews.

```
[1] 0.375
```