git log/history

References

- Visualizing Code: Polyglot Notebooks Repository (YouTube)
- gitstractor (GitHub)
- Neo4j Python Driver

```
Command line execution (CLI mode): Yes
```

Git History - Directory Commit Statistics

Treemap Layout Functions and Constants

Visualization Data Preparation Functions

File Data Preparation Functions

File Data Preparation

```
Received notification from DBMS server: {severity: WARNING} {code: Neo.ClientNotifica
tion.Statement.AggregationSkippedNull} {category: UNRECOGNIZED} {title: The query con
tains an aggregation function that skips null values.} {description: null value elimi
nated in set function.} {position: None} for query: "// List git files with commit st
atistics\n \n  MATCH (git_file:File&Git&!Repository)\n  WHERE git_file.deletedAt IS N
ULL // filter out deleted files\n   WITH percentileDisc(git_file.createdAtEpoch, 0.5)
AS medianCreatedAtEpoch\n       ,percentileDisc(git_file.lastModificationAtEpoch, 0.
5) AS medianLastModificationAtEpoch\n       ,collect(git_file)
AS git_files\n UNWIND git_files AS git_file\n   WITH *\n       ,datetime.fromepochMil
lis(coalesce(git_file.createdAtEpoch, medianCreatedAtEpoch))
AS fileCreatedAtTimestamp\n       ,datetime.fromepochMillis(coalesce(git_file.lastMod
ificationAtEpoch, git_file.createdAtEpoch, medianLastModificationAtEpoch)) AS fileLas
tModificationAtTimestamp\n  MATCH (git_repository:Git&Repository)-[:HAS_FILE]->(git_f
ile)\n  MATCH (git_commit:Git&Commit)-[:CONTAINS_CHANGE]->(git_change:Git&Change)-->
(old_files_included:Git&File&!Repository)-[:HAS_NEW_NAME*0..3]->(git_file)\n RETURN g
it_repository.name + '/' + git_file.relativePath AS filePath\n       ,split(git_commi
t.author, ' <')[0]                 AS author\n       ,count(DISTINCT git_commit.sha)
AS commitCount\n       ,date(max(git_commit.date))                        AS lastComm
itDate\n       ,max(date(fileCreatedAtTimestamp))                 AS lastCreationDate
\n       ,max(date(fileLastModificationAtTimestamp))        AS lastModificationDate\n
,duration.inDays(date(max(git_commit.date)), date()).days               AS daysSinceL
astCommit\n       ,duration.inDays(max(fileCreatedAtTimestamp), datetime()).days
AS daysSinceLastCreation\n       ,duration.inDays(max(fileLastModificationAtTimestam
p), datetime()).days AS daysSinceLastModification\n       ,max(git_commit.sha)
AS maxCommitSha\n ORDER BY filePath ASCENDING, commitCount DESCENDING"
```

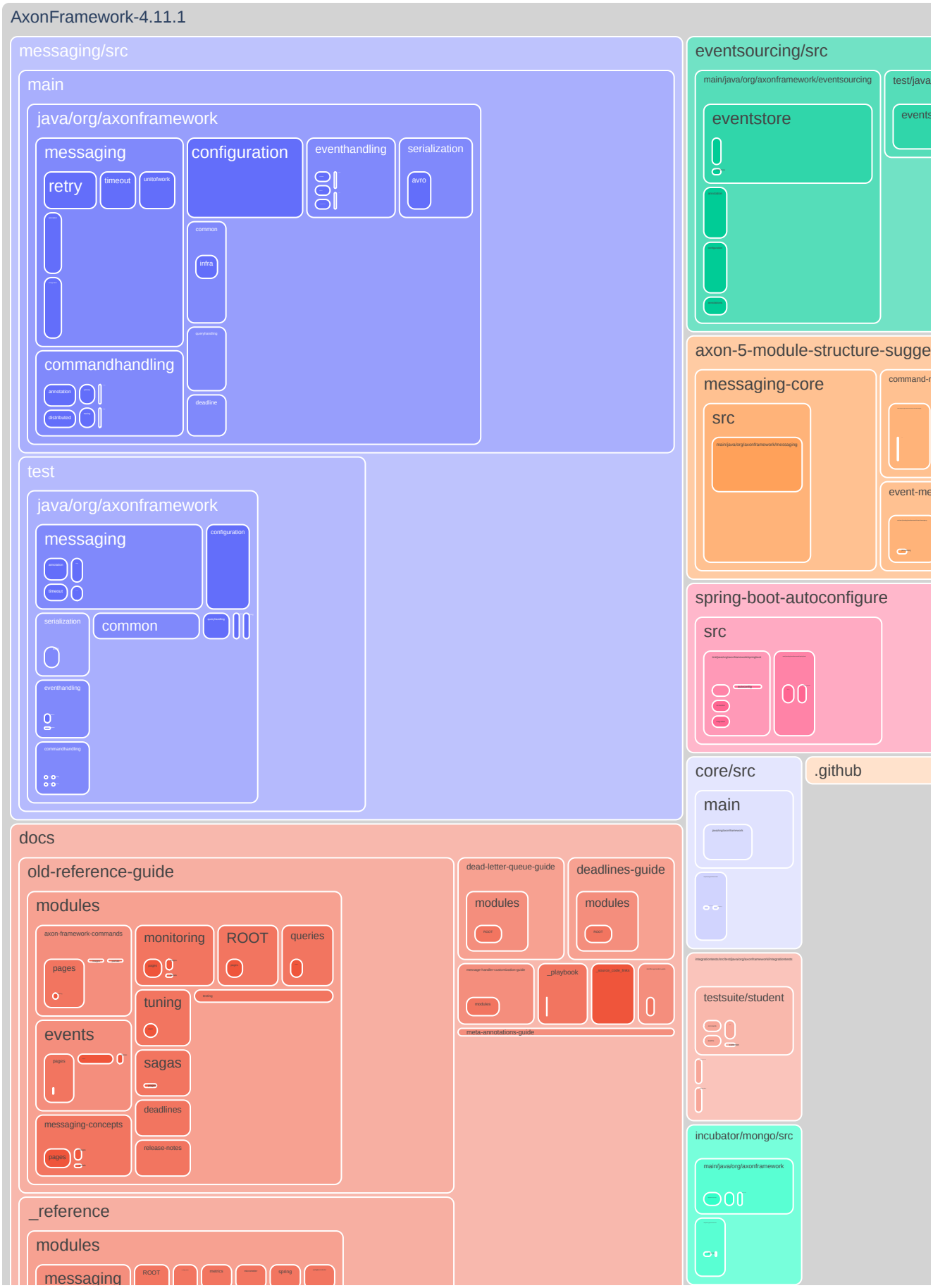
Data Preview

	fileCount	authorCount	commitCount	daysSinceLastCommit	daysSinceLastCreation	daysSinceLastModification
count	305.000000	305.000000	305.000000	305.000000	305.000000	305.000000
mean	14.062295	7.636066	348.750820	412.901639	651.872131	583.134426
std	57.455641	7.093502	1465.259193	1048.994357	1222.558738	1231.807657
min	1.000000	2.000000	2.000000	0.000000	0.000000	0.000000
25%	1.000000	3.000000	24.000000	18.000000	55.000000	17.000000
50%	4.000000	6.000000	75.000000	42.000000	262.000000	104.000000
75%	8.000000	8.000000	187.000000	250.000000	347.000000	292.000000
max	904.000000	71.000000	22225.000000	4791.000000	4879.000000	4790.000000

	directoryPath	directoryParentPath	
0	AxonFramework-4.11.1/.idea/copyright	AxonFramework-4.11.1/.idea	
1	AxonFramework-4.11.1/.idea/inspectionProfiles	AxonFramework-4.11.1/.idea	
2	AxonFramework-4.11.1/axon-5-module-structure-suggestion/messaging-core/src/test/java/org/axonframework/messaging	AxonFramework-4.11.1/axon-5-module-structure-suggestion/messaging-core/src	test/java/org/
3	AxonFramework-4.11.1/axon-server-connector/src/main/java/org/axonframework/axonserver/connector/command	AxonFramework-4.11.1/axon-server-connector/src/main/java/org/axonframework/axonserver/connector	
4	AxonFramework-4.11.1/core/src/test/java/org/axonframework/commandhandling/disruptor	AxonFramework-4.11.1/core/src/test/java/org/axonframework	c
5	AxonFramework-4.11.1/core/src/test/java/org/axonframework/contextsupport/spring	AxonFramework-4.11.1/core/src/test/java/org/axonframework	
6	AxonFramework-4.11.1/core/src/test/java/org/axonframework/eventhandling/scheduling/quartz	AxonFramework-4.11.1/core/src/test/java/org/axonframework	eventl
7	AxonFramework-4.11.1/docs/_playbook/localLinks	AxonFramework-4.11.1/docs/_playbook	
8	AxonFramework-4.11.1/docs/_reference/modules/ROOT/attachments	AxonFramework-4.11.1/docs/_reference/modules/ROOT	
9	AxonFramework-4.11.1/docs/_reference/modules/ROOT/partials	AxonFramework-4.11.1/docs/_reference/modules/ROOT	
10	AxonFramework-4.11.1/docs/_reference/modules/axon-server-connector/pages	AxonFramework-4.11.1/docs/_reference/modules/axon-server-connector	
11	AxonFramework-4.11.1/docs/_reference/modules/axon-server-connector/partials	AxonFramework-4.11.1/docs/_reference/modules/axon-server-connector	
12	AxonFramework-4.11.1/docs/_reference/modules/configuration/pages	AxonFramework-4.11.1/docs/_reference/modules/configuration	
13	AxonFramework-4.11.1/docs/_reference/modules/configuration/partials	AxonFramework-4.11.1/docs/_reference/modules/configuration	
14	AxonFramework-4.11.1/docs/_reference/modules/disruptor/pages	AxonFramework-4.11.1/docs/_reference/modules/disruptor	
15	AxonFramework-4.11.1/docs/_reference/modules/disruptor/partials	AxonFramework-4.11.1/docs/_reference/modules/disruptor	
16	AxonFramework-4.11.1/docs/_reference/modules/eventsourcing/pages	AxonFramework-4.11.1/docs/_reference/modules/eventsourcing	
17	AxonFramework-4.11.1/docs/_reference/modules/eventsourcing/partials	AxonFramework-4.11.1/docs/_reference/modules/eventsourcing	
18	AxonFramework-4.11.1/docs/_reference/modules/legacy/pages	AxonFramework-4.11.1/docs/_reference/modules/legacy	
19	AxonFramework-4.11.1/docs/_reference/modules/legacy/partials	AxonFramework-4.11.1/docs/_reference/modules/legacy	
20	AxonFramework-4.11.1/docs/_reference/modules/metrics/pages	AxonFramework-4.11.1/docs/_reference/modules/metrics	
21	AxonFramework-4.11.1/docs/_reference/modules/metrics/partials	AxonFramework-4.11.1/docs/_reference/modules/metrics	
22	AxonFramework-4.11.1/docs/_reference/modules/micrometer/pages	AxonFramework-4.11.1/docs/_reference/modules/micrometer	
23	AxonFramework-4.11.1/docs/_reference/modules/micrometer/partials	AxonFramework-4.11.1/docs/_reference/modules/micrometer	
24	AxonFramework-4.11.1/docs/_reference/modules/modeling/partials	AxonFramework-4.11.1/docs/_reference/modules/modeling	
25	AxonFramework-4.11.1/docs/_reference/modules/spring/pages	AxonFramework-4.11.1/docs/_reference/modules/spring	
26	AxonFramework-4.11.1/docs/_reference/modules/spring/partials	AxonFramework-4.11.1/docs/_reference/modules/spring	
27	AxonFramework-4.11.1/docs/_reference/modules/springboot-starter/pages	AxonFramework-4.11.1/docs/_reference/modules/springboot-starter	
28	AxonFramework-4.11.1/docs/_reference/modules/springboot-starter/partials	AxonFramework-4.11.1/docs/_reference/modules/springboot-starter	
29	AxonFramework-4.11.1/docs/_reference/modules/test/pages	AxonFramework-4.11.1/docs/_reference/modules/test	

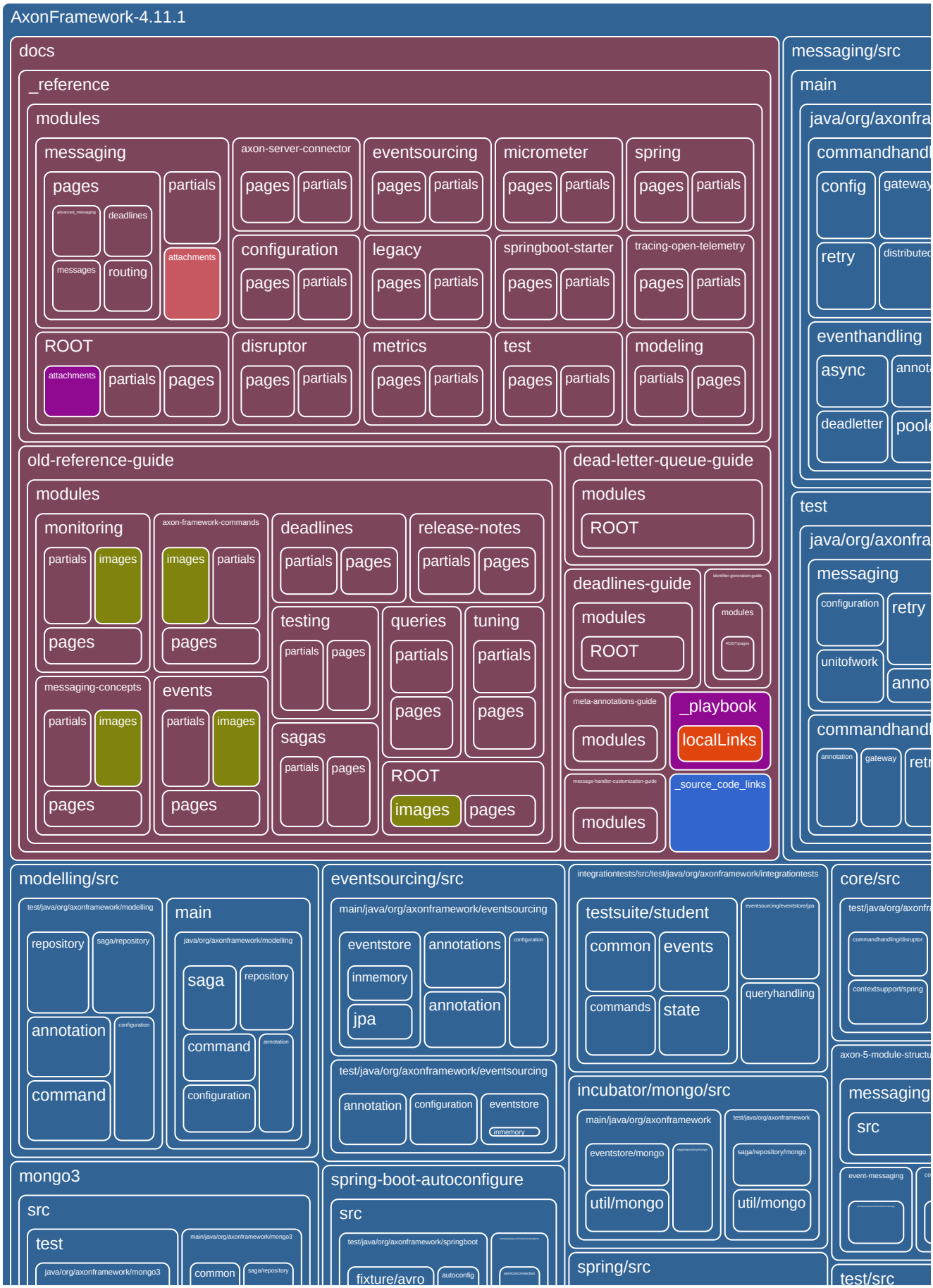
Number of files per directory

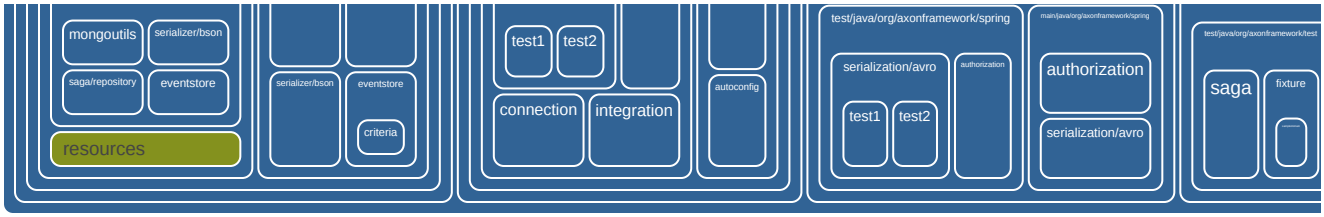
Directories and their file count



Most frequent file extension per directory

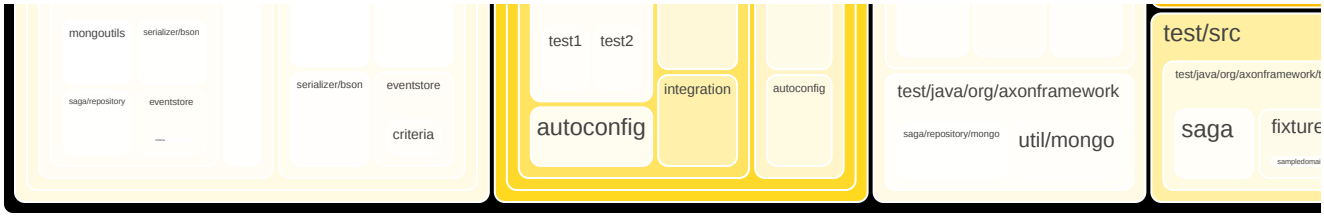
Most frequent file extension per directory





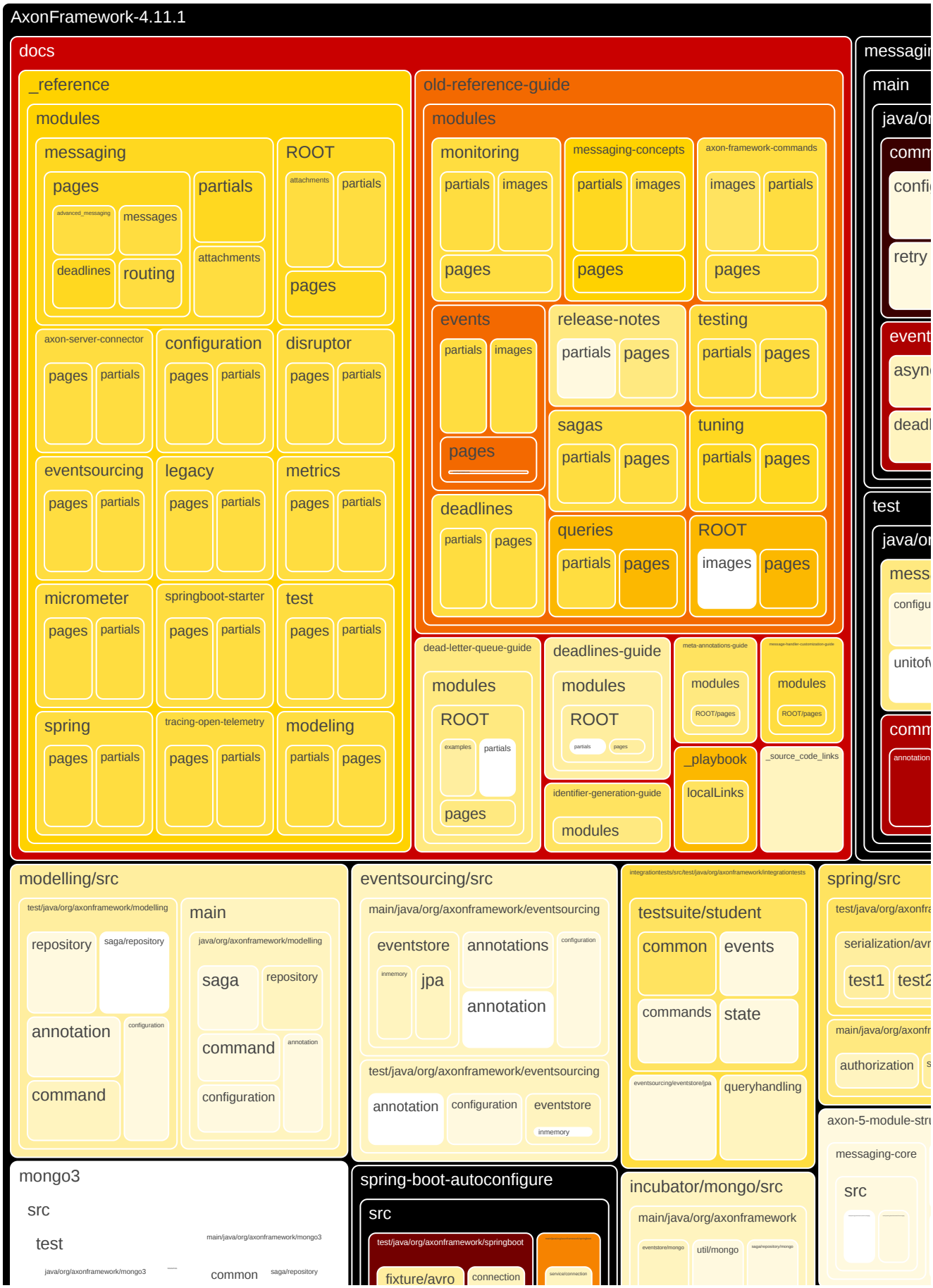
Number of commits per directory

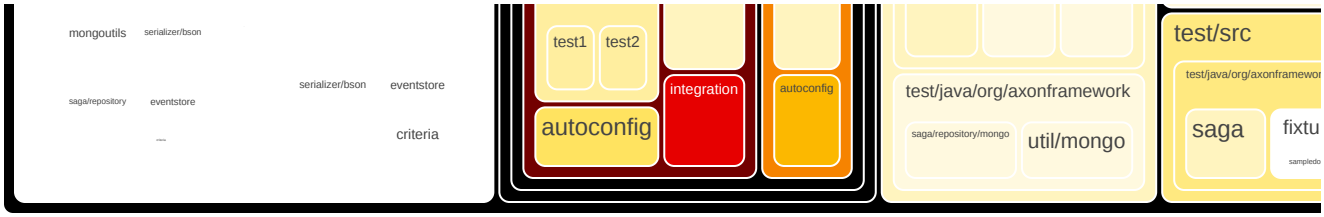
Number of git commits



Number of distinct authors per directory

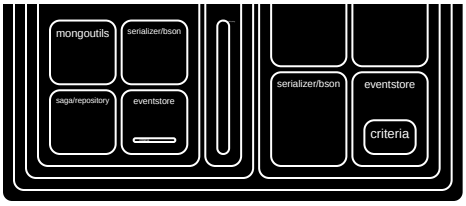
Number of distinct commit authors





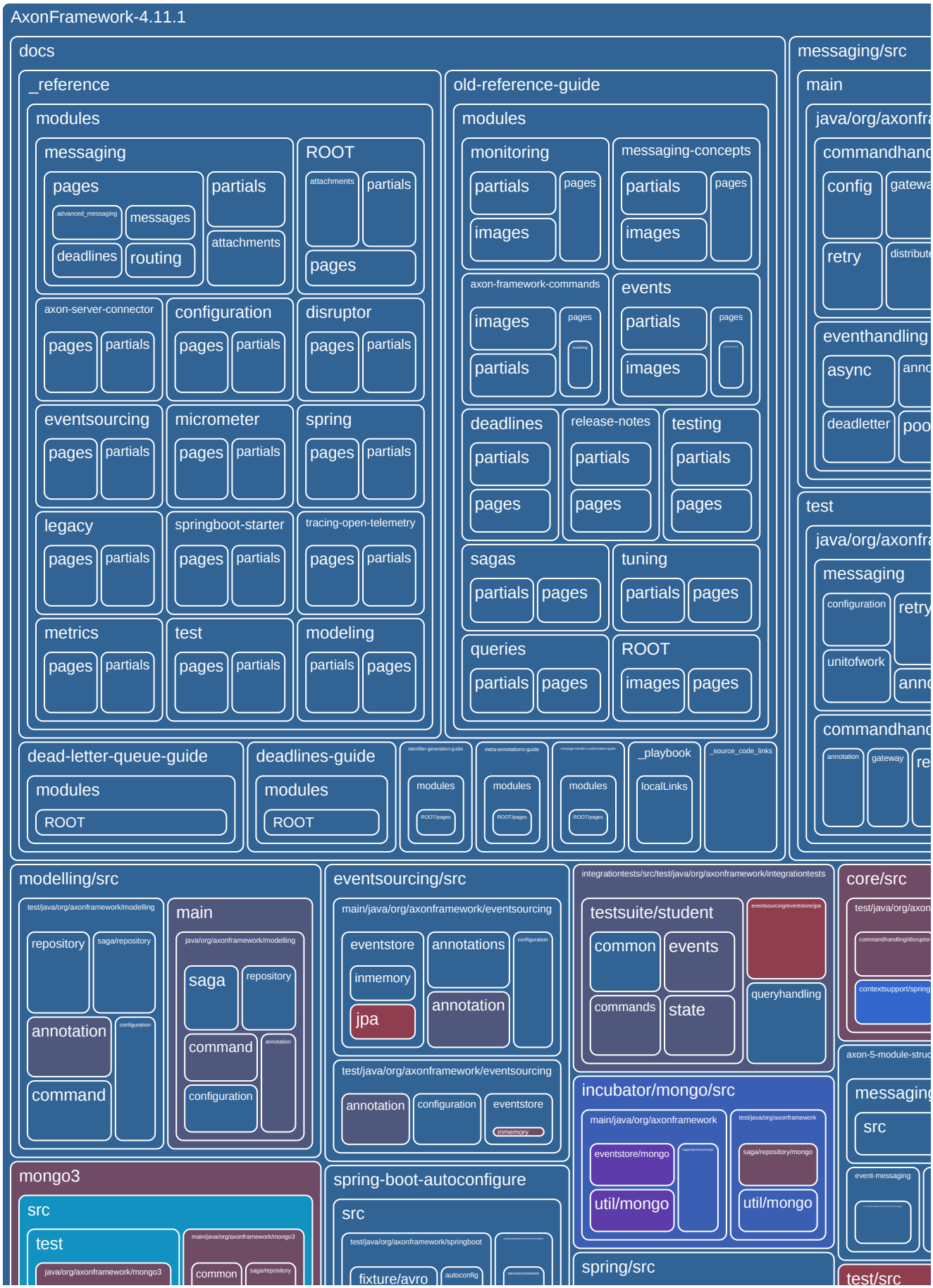
Directories with very few different authors

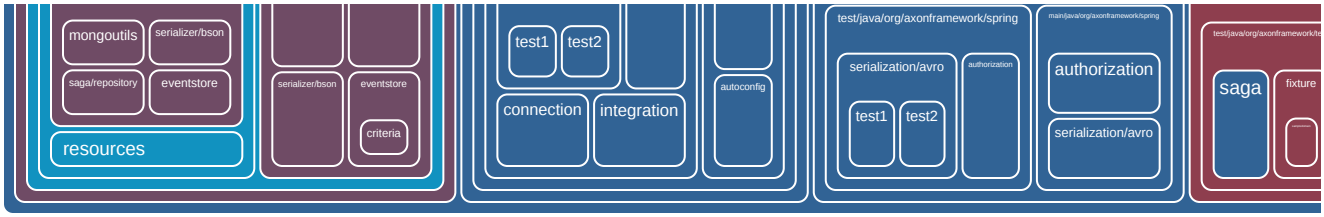
Number of distinct commit authors (red/black = only one or very few authors)



Main author per directory

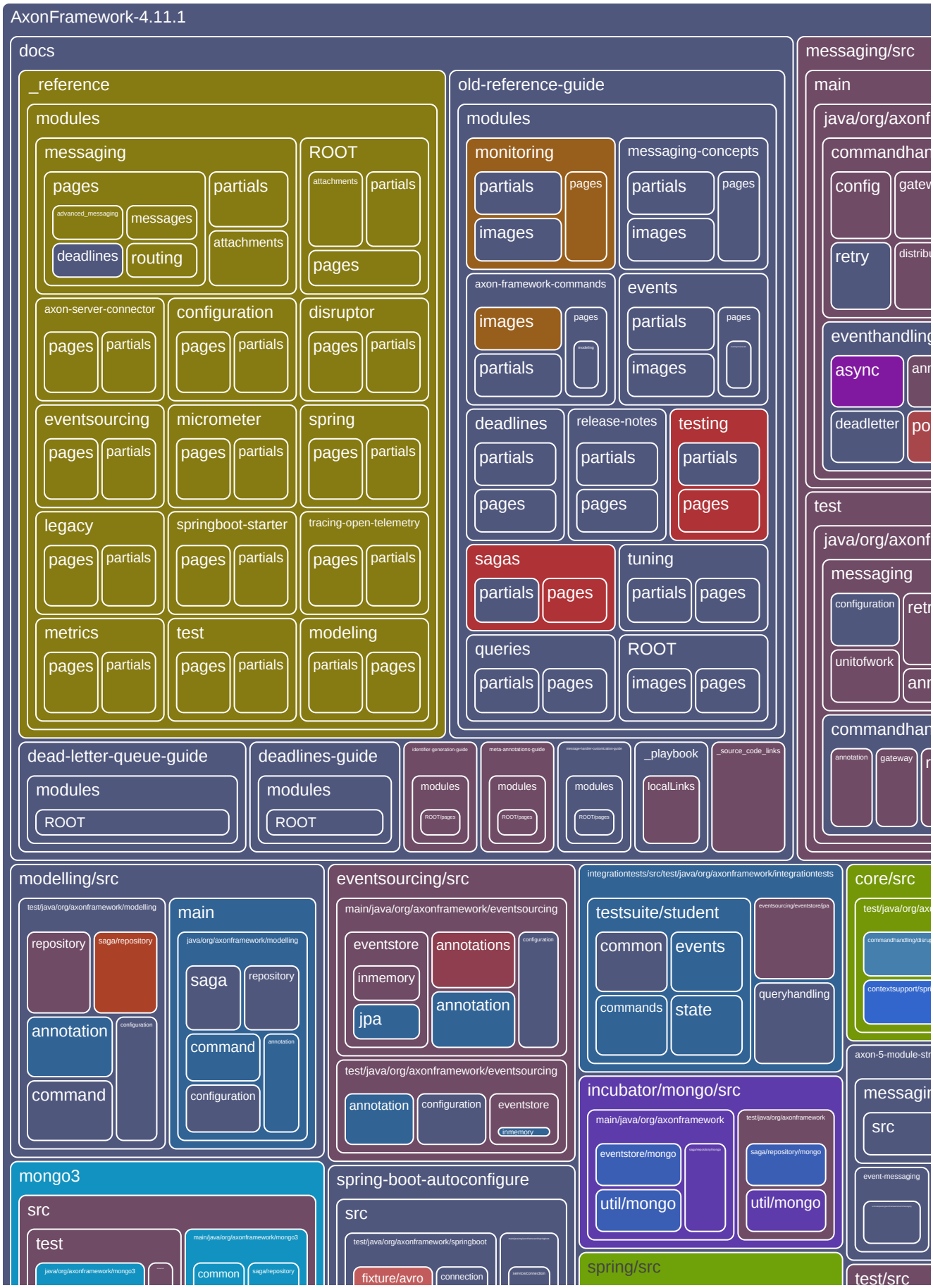
Main authors with highest number of commits

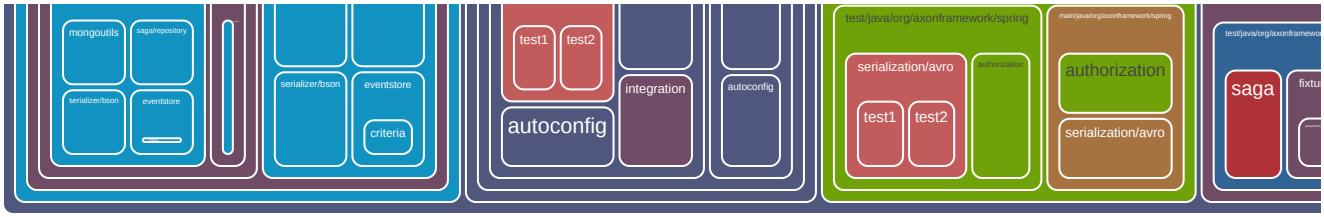




Second author per directory

Second author with the second highest number of commits





Days since last commit per directory

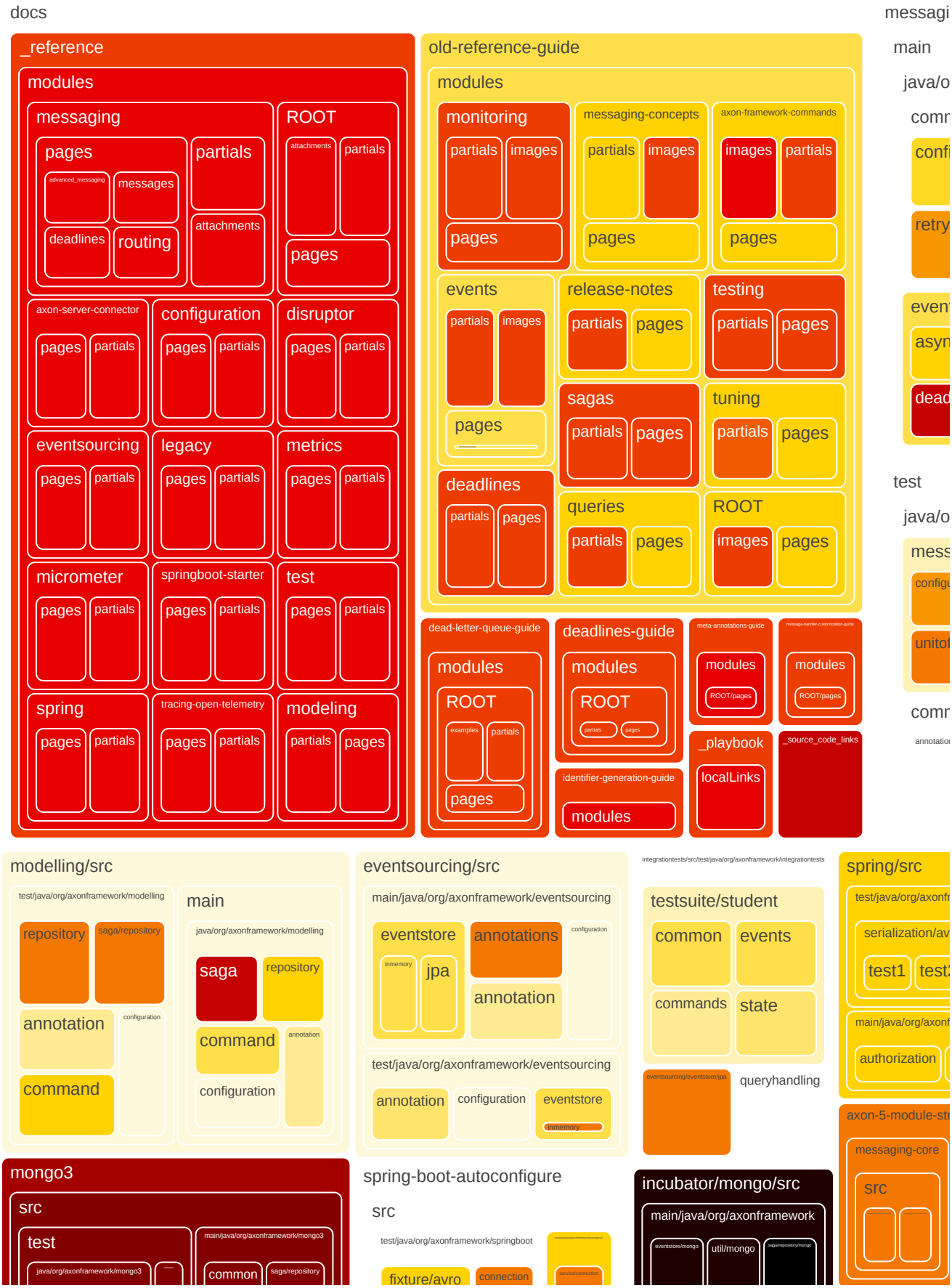
Days since last commit

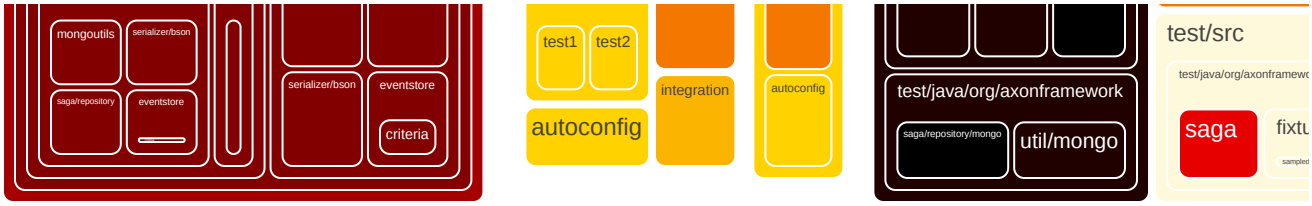
AxonFramework-4.11.1

Days since last commit per directory (ranked)

Rank of days since last commit

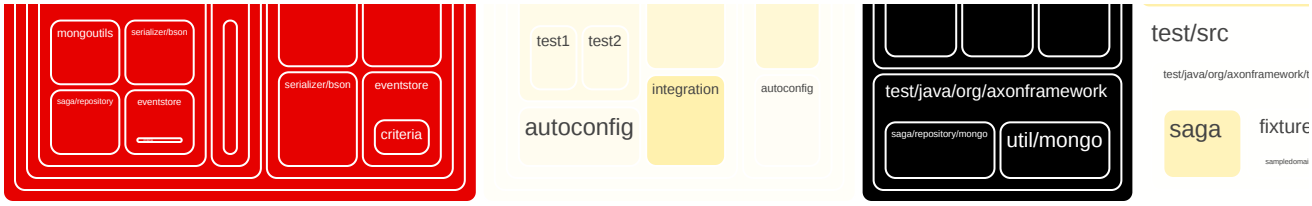
AxonFramework-4.11.1





Days since last file creation per directory

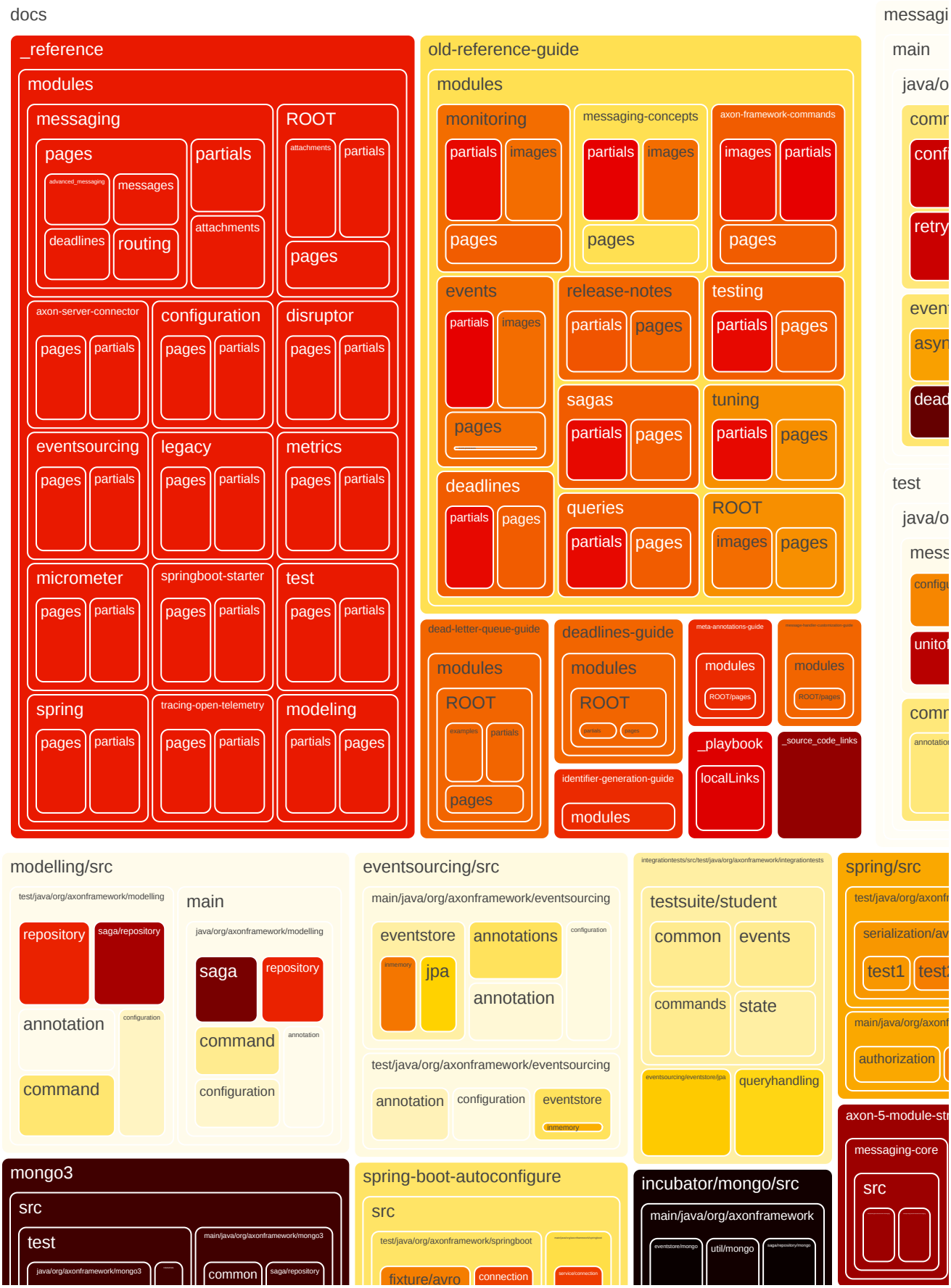
Days since last file creation

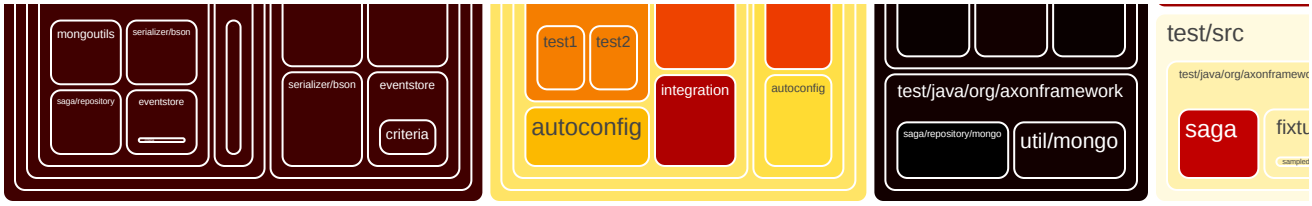


Days since last file creation per directory (ranked)

Rank of days since last file creation

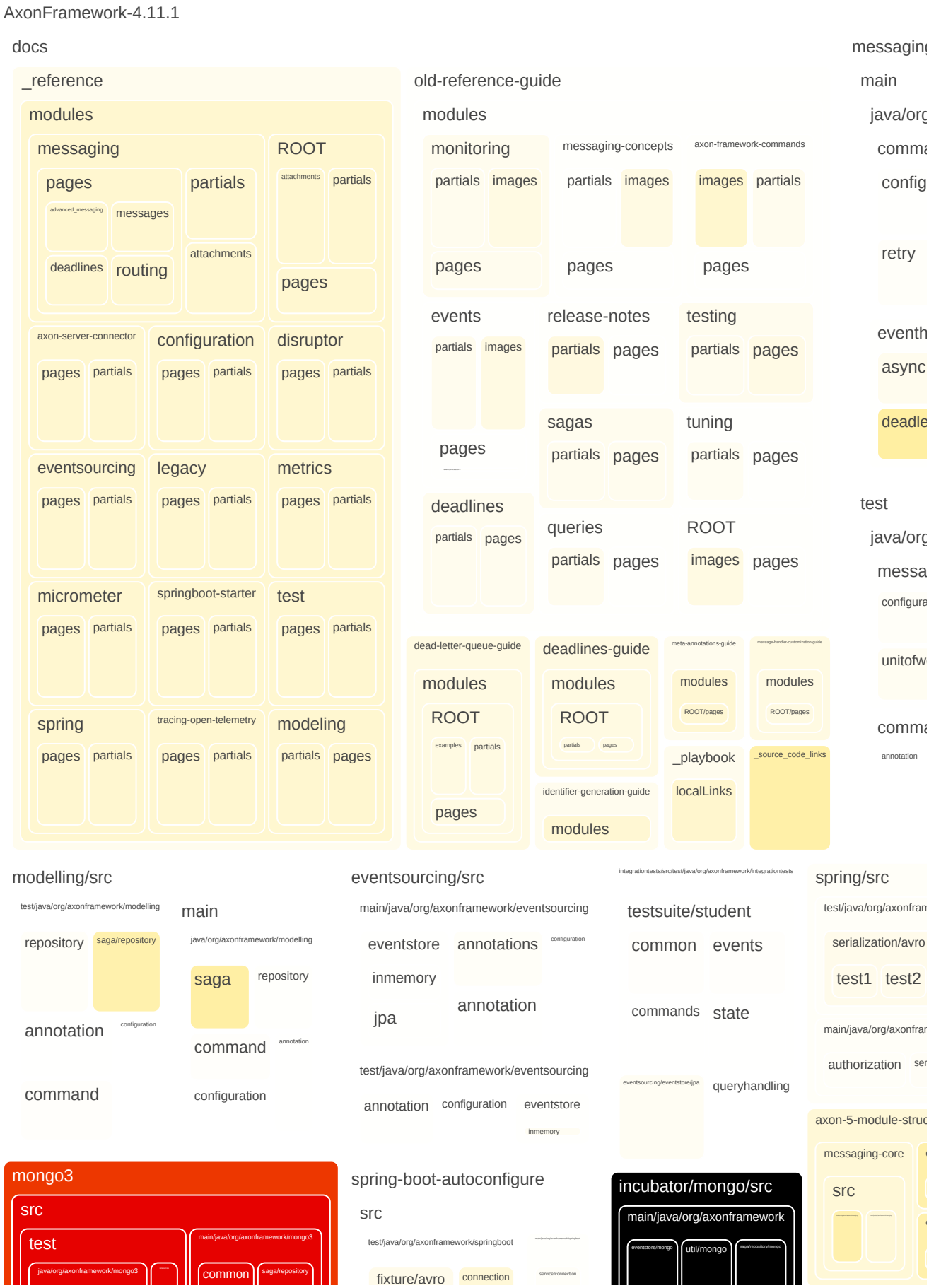
AxonFramework-4.11.1





Days since last file modification per directory

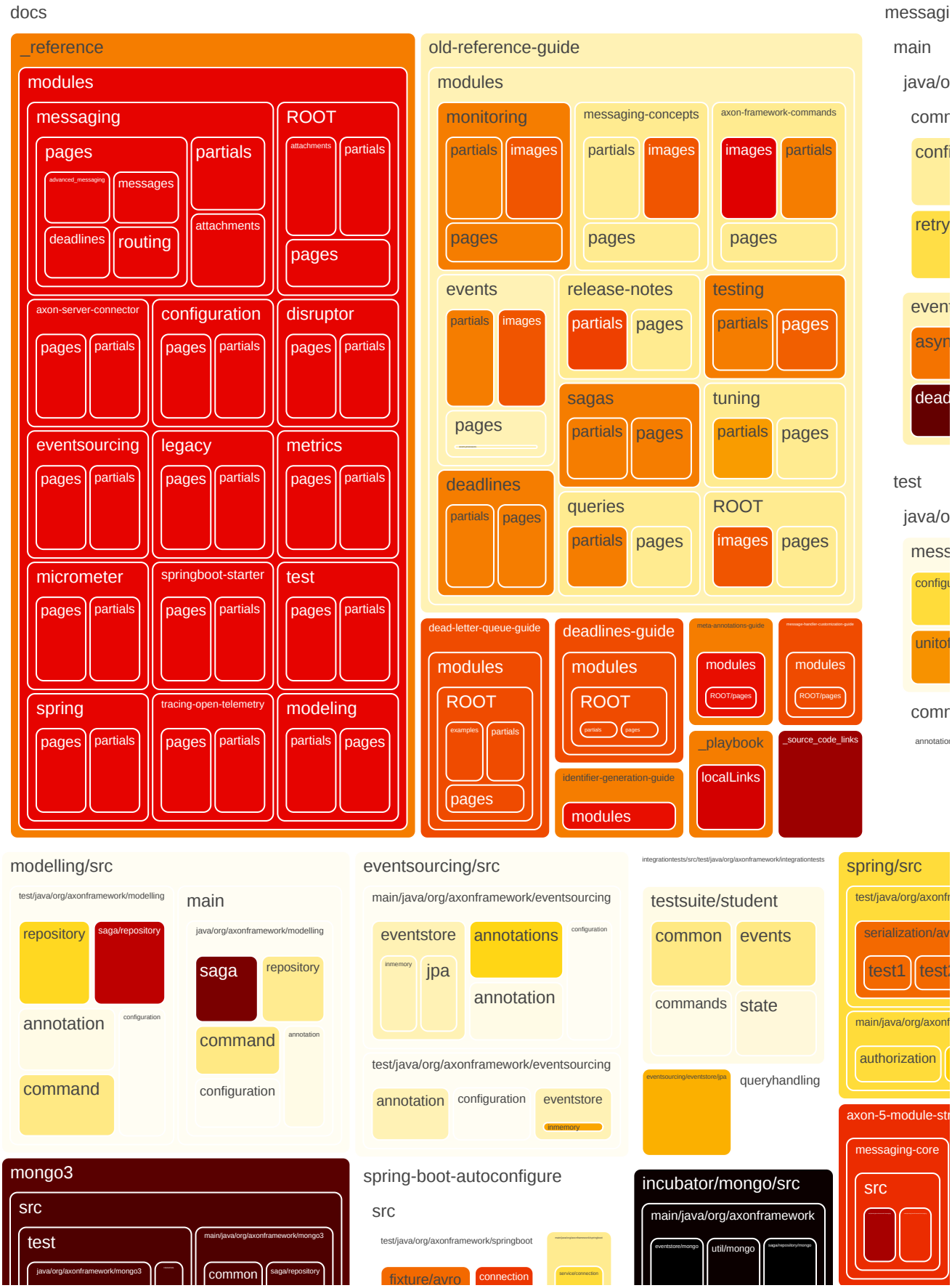
Days since last file modification

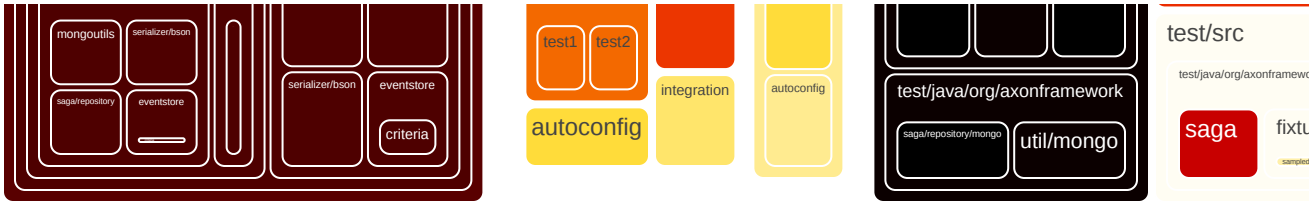


Days since last file modification per directory (ranked)

Rank of days since last file modification

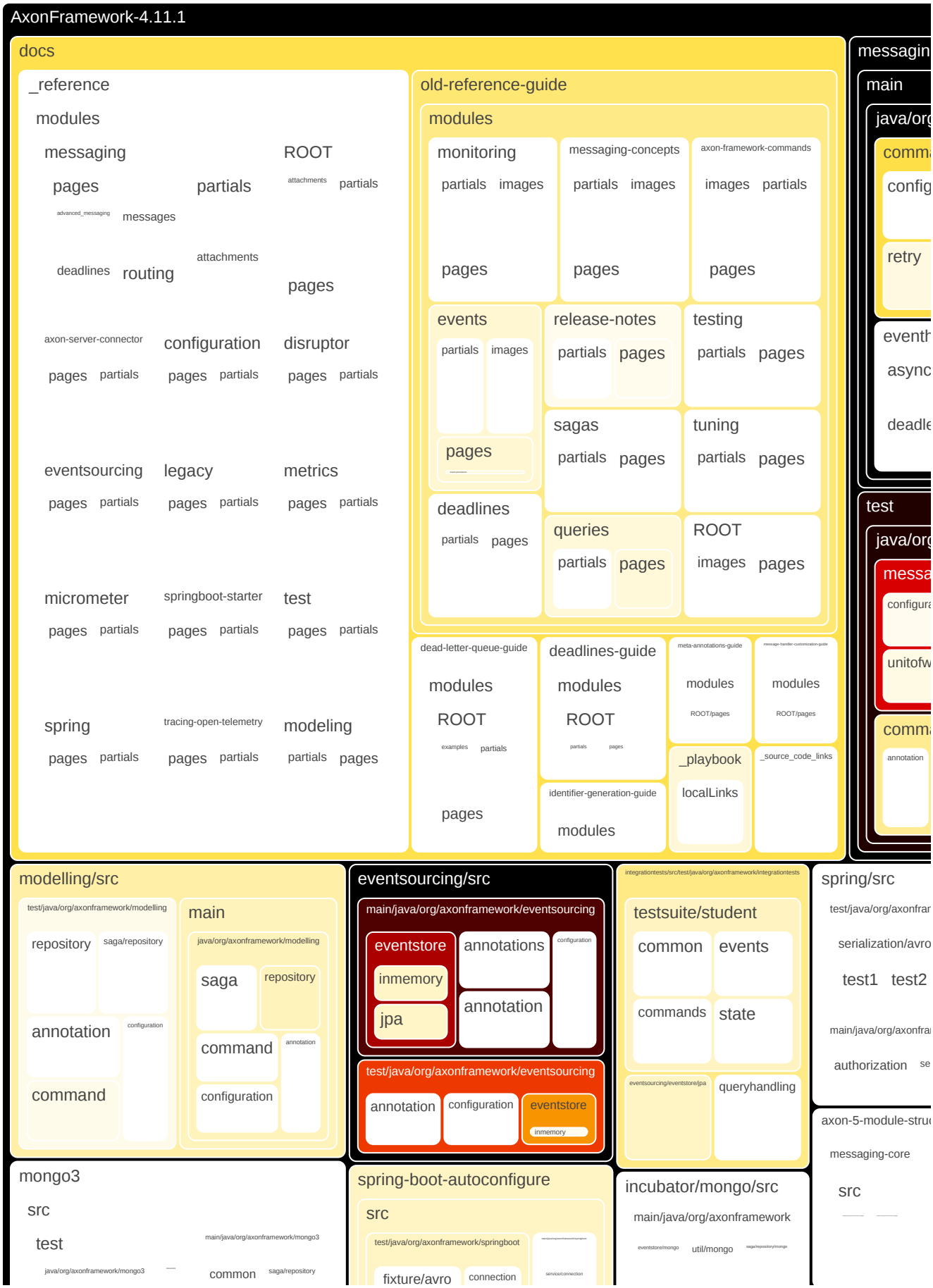
AxonFramework-4.11.1

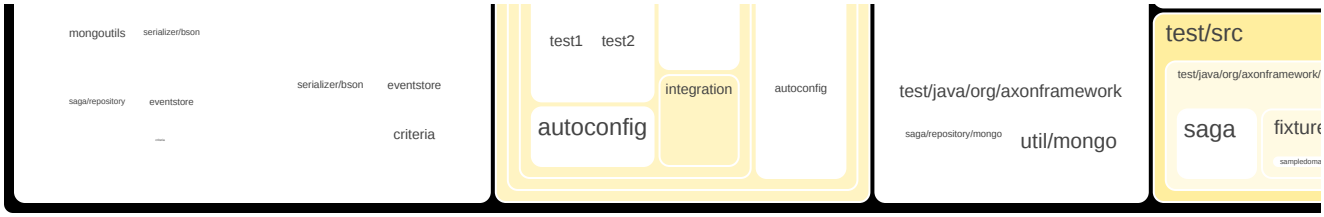




File changed frequently with other files

Pairwise file changes





Filecount per commit

Shows how many commits had changed one file, how many had changed two files, and so on. The chart is limited to 30 lines for improved readability. The data preview also includes overall statistics including the number of commits that are filtered out in the chart.

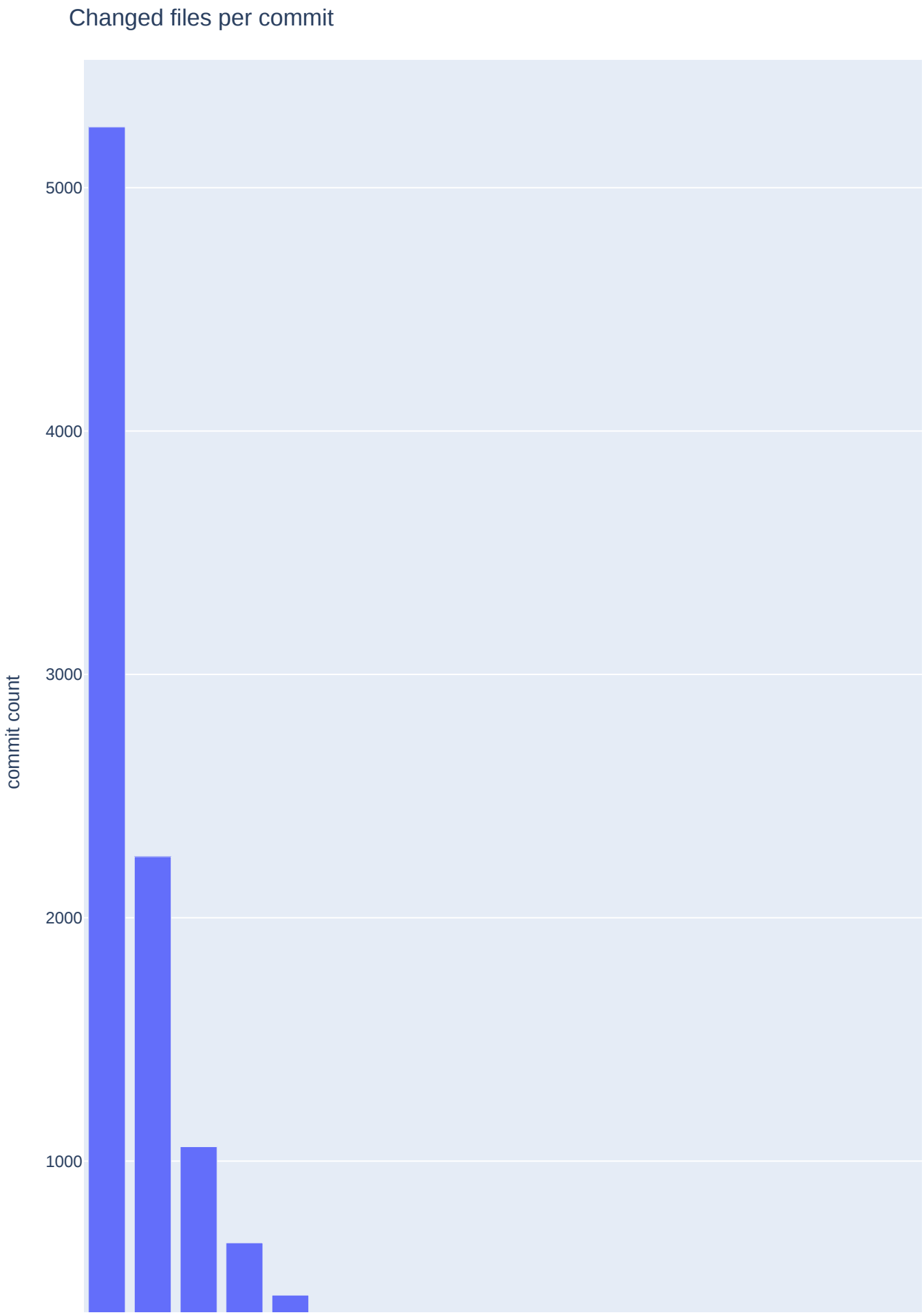
Preview data

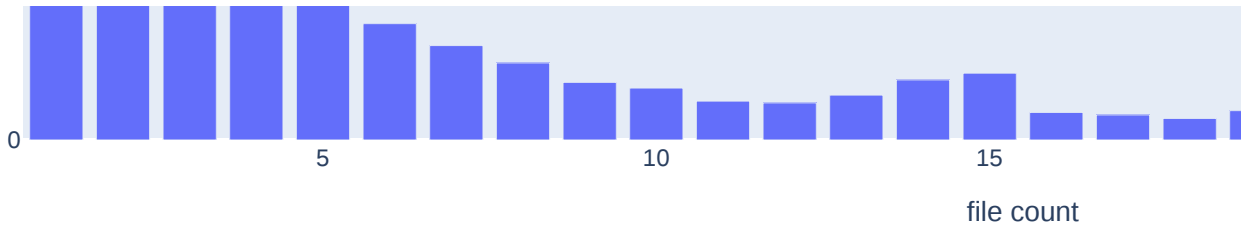
```
Sum of commits that changed more than 30 files (each) = 1181
Max changed files with one commit = 4041
```

	filesPerCommit	commitCount
count	377.000000	377.000000
mean	398.572944	35.607427
std	559.546155	302.200493
min	1.000000	1.000000
25%	95.000000	1.000000
50%	204.000000	2.000000
75%	429.000000	5.000000
max	4041.000000	5249.000000

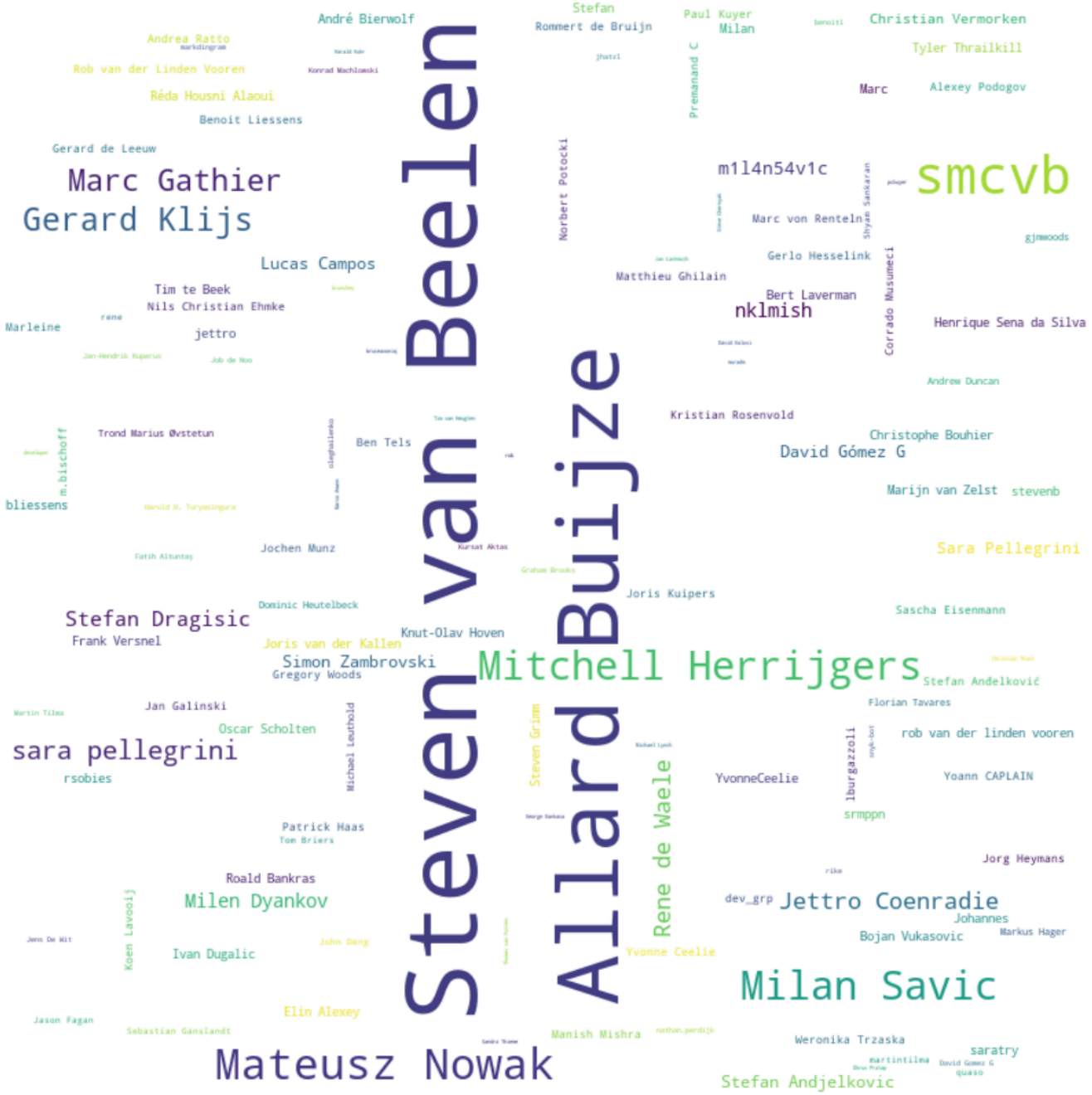
	filesPerCommit	commitCount
0	1	5249
1	2	2251
2	3	1059
3	4	664
4	5	449
5	6	329
6	7	267
7	8	218
8	9	163
9	10	147
10	11	110
11	12	105
12	13	127
13	14	170
14	15	189
15	16	78
16	17	71
17	18	61
18	19	83
19	20	74
20	21	46
21	22	68
22	23	34
23	24	38
24	25	43
25	26	33
26	27	34
27	28	30
28	29	29
29	30	24

Bar chart with the number of files per commit distribution


Changed files per commit
commit count
5000
4000
3000
2000
1000



WordCloud of git authors

	word	frequency
0	Steven van Beelen	4357
1	Allard Buijze	3156
2	smcvb	822
3	Mateusz Nowak	506
4	Milan Savic	449
5	Mitchell Herrijgers	438
6	Gerard Klijs	247
7	Marc Gathier	231
8	sara pellegrini	163
9	Rene de Waele	129

Wordcloud of git authors