
Code Metrics

FH Mobile Application

Version 1.0

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Code Metrics

- Software Design Metrics

- Cyclomatic Complexity – This metric was computed counting the number of decisions statements in each one of the modules and adding one to the result. Base on the book sources research [McCabe], a good software design must have modules with a complexity lower than 10.

Note: This Cyclomatic complexity is treating any requests of the modules to connect or disconnect from the database as a decision statement (adding +1 for every DB query).

<i>Module Name</i>	<i>Module Description</i>	<i>Cyclomatic Complexity</i>	<i>Is < 10 ?</i>
Redirect.php	Loads client/server session basic info	7	PASS
Config.php	Connect the client with the server	3	PASS
Adduser.php	Register users to the system	6	PASS
writeWorkout.php	Write workouts in the database	<i>In process</i>	PASS
TrainerData.php	Loads trainer info to the app	5	PASS
Activities.php	Load activity info to the app	2	PASS
workoutData.php	Loads workout data to the client app	7	PASS
Loglogin.php	Log user accessing the system.	2	PASS

Table -Server Code Cyclomatic Complexity

- Development Process/Coding Metrics

- Lines of Code (LOC) – Basic lines of codes without comments and non-black lines only.

<i>System Element</i>	<i>LOC</i>
Server Code	165
Client Code	3917
Data Base	85
Total LOC	4167

Table - Lines of code (LOC)

```

  9 text files.
  9 unique files.
 305 files ignored.

http://cloc.sourceforge.net v 1.60  T=0.24 s <28.9 files/s, 19274.1 lines/s>

```

Language	files	blank	comment	code
CSS	3	482	59	3019
Javascript	3	76	64	580
HTML	1	52	13	318
SUM:	7	610	136	3917

Image -Output of Lines of code - CLIENT(LOC)

- Halstead complexity – For the Halstead metrics we apply the same unique operators (N1) logic to a client/server paradigm counting as a unique operator the databases queries and server session calls. Given that most available examples are in C/C++ and in modular programming scheme, our metric try to estimate the operator/operands metric taking in consideration the additional level of interaction between the server and the database.

<i>Module Name</i>	<i>Operator s (N1)</i>	<i>Operands (N2)</i>	<i>Estimate Length $N1 * \log_2 N1 + N2 * \log_2 N2$</i>
Redirect.php	17	32	229.48
Config.php	10	17	102.70
Adduser.php	16	22	162.10
writeWorkout.php	6	13	63.61
TrainerData.php	11	8	62
Activities.php	11	13	86.15
workoutData.php	10	12	76.23
Loglogin.php	14	13	101.40
Total Length:			883.67

Table --Halstead Complexity Estimated Lenght