Project size Estimation METRICS

Four Metrics are popularly being used to estimate Size

(i) Count the lines

(ii) Lines of code (LOC)

(iii) Function Point (FP)

(iv) Feature point

Computer Science Lectures By ER. Deepak Garg

<1> Count The Lines

There are several ways to count the lines in the code. Depending on what you count, you get a low or a high line count.

Count the lines Supports

→ **Physical Lines** : This metrics Counts the all physical lines. (LINES)

→ **Logical Lines** : It covers one or more physical lines. Two or more physical lines can be joined as one logical line with the line Continuation Sequence. (LLINES)

→ **Logical lines of code** : A Logical lines of code is one that Contains Actual Source code. An empty line

or a comment line is not counted in (LLOC)

Physical lines of code is not supported by COUNT THE LINES
This type of a metric counts the lines and comments.

2> Lines of Code (LOC)

LOC measures the size of a project by counting the number of source instruction in the development program ignoring the commenting code and header lines.

Determining the LOC at begining is very difficult than in the end.

Problem is divided into Modules and each module into Sub modules and so on, until the size of the different leaf-level modules can be approximately predicted for estimating LOC in beginning.

Shortcomings of LOC

- LOC gives a numerical value of problem size
  - Problem:
    - If may vary widely with individual coding style.
      - Example:

      One programmer may write several instruction in a single lines but another programmer may write these instructions in several lines

Solution

Count the Language tokens Rather than the lines of Code.

- LOC is a measure of the coding activity alone.
  → Problem
  A good problem size measure should consider the total effort for specify, design, code, test etc.
- It merely computes the number of source line in the final program.
  → Problem:
  Coding is a very small part in the overall software development activities.

- LOC metrics measure the lexical complexity of a program and does not address the more important issue of logical or structure complexity.
  - problem
  A problem program having complex logic would require much more effort to develop than a program with sample logic.
- LOC measures correlates poorly with the quality and efficiency of the code.
  - problem
  Large code size does not imply better quality or higher efficiently.

Key points

→ The LOC count can only be accurately computed only after the code has been fully developed.

→ LOC metric penalizes use of high level programming

code reuse etc.

If a programmer use many Library Routines or he/she reuse Code then the LOC of that problem is less but it not mean that the effort of that program is very few. So it is not Right way to estimate the project size.

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