Vidya Jyothi Institute of Technology

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Interactive Learning : Think Pair share **Academic year:** 2019-20

Faculty Name: G.Kalpana

Subject : Software Engineering

Topic: Function Point Calculation

Participants: Students of II/II D section

Think-pair-share (TPS) is a collaborative learning strategy where students work together to solve a problem or answer a question about an assigned reading. This strategy requires students to (1) think individually about a topic or answer to a question; and (2) share ideas with classmates. Discussing with a partner maximizes participation, focuses attention and engages students in comprehending the reading material.

Content:

- *Function-based metrics:* use the function point as a normalizing factor or as a measure of the "size" of the specification
- *Specification metrics:* used as an indication of quality by measuring number of requirements by type

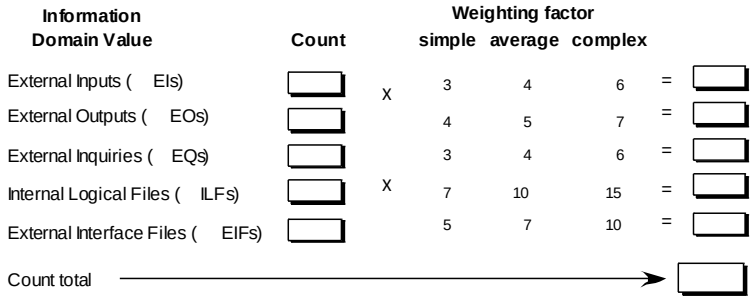
Function-Based Metrics

- The *function point metric* (FP), first proposed by Albrecht, can be used effectively as a means for measuring the functionality delivered by a system.
- Function points are derived using an empirical relationship based on countable (direct) measures of software's information domain and assessments of software complexity
- Information domain values are defined in the following manner:
    - *Number of external inputs (EIs)*
    - *Number of external outputs (EOs)*
    - *Number of external inquiries (EQs)*
    - *Number of internal logical files (ILFs)*
    - *Number of external interface files (EIFs)*

- **Function Points**
  - To compute function points (FP), the following relationship is used:

$$FP = count\ total\ X\ [0.65 + 0.01\ X \sum (F_i)] \quad (1)$$

Where count total is the sum of all FP entries obtained from figure.



- The F_i(i= 1 to 14) are *value adjustment factors* based on responses to the following questions:

Implementation: As part of this activity students are asked to find out the function point for given sample values Using the above formula .

1. **Compute the function point value for a project with the following information domain characteristics:**
   (1) No. of user inputs = 24
   (2) No. of user outputs = 65
   (3) No. of user inquiries = 12
   (4) No. of files = 12
   (5) No. of external interfaces = 4
   Assume all complexity adjustment values are moderate and 14 algorithms have been counted.

Solution:

Measurement Parameter	*Count*		*Weighing factor*			
			Simple	*Average*	*Complex*	
1. Number of external inputs (EI)	24	*		4	=	96
2. Number of external outputs (EO)	65	*		5	=	325
3. Number of external inquiries (EQ)	12	*		4	=	48
4. Number of internal files (ILF)	12	*		10	=	120
5. Number of external interfaces (EIF)	4	*		7	=	28
Count-total →						617

Now Fi for moderate case = 2.

So sum of all Fi (i ¨ 1 to 14) = 14 * 2 = 28

FP = Count-total * [0.65 + 0.01 * S (Fi)] = 617 * [0.65 + 0.01 * 28] = 617 * [0.65 + 0.28] = 617 * 1.23 = 758.91 = **759**

Outcome: All the students groups are actively participated in this activity and i gave few suggestions for those who are facing difficulty in solving the above problem with that they understood the topic easily and completely.

(Faculty Incharge) **(CSE-HOD)**