

Unit III

Software Development

Function Points

- ▶ Idea:
software is better measured in terms of the number and complexity of the functions that it performs
- ▶ Function points measure categories of end-user business functions

Function Point Process Steps

1. Count number of functions in each category (outputs, inputs, interfaces etc..)
2. Apply complexity weighting factors (simple, medium, complex)
3. Apply environmental factors
4. Calculate complexity adjustment factor
5. Compute adjusted function points
6. Convert to Lines of Code (optional)

Advantages of Function Point Analysis

- ▶ Can be applied early in the life cycle
- ▶ Independent of language and technology
- ▶ Provide a reliable relationship to effort
- ▶ Can be used as a productivity goal
- ▶ Users understand better
- ▶ Provide a mechanism to track and monitor scope
- ▶ Environmental factors are considered

Disadvantages of Function Point Analysis

- ▶ Requires subjective evaluations
- ▶ Results depend on technology used to implement the analysis
- ▶ Many effort and cost models depend on LOC, must be converted
- ▶ Best after the creation of a design specification
- ▶ Not good to non-MIS applications

Feature Points

- ▶ Extension of the function point method
- ▶ Designed to deal with different kinds of applications, like embedded or real-time systems
- ▶ A feature point is a new category of function point that represent complex algorithms

Areas where Feature Points are used ...

- ▶ RTS such as missile defense systems
- ▶ System software
- ▶ Embedded Systems like radar navigation packages
- ▶ CAD & CAM

Feature Point Process Steps

1. Count number of feature points in each category
2. Count feature points (algorithms)
3. Weigh Complexity (avg for feature points, simple/avg/complex for algorithms)
4. Evaluate environmental factors
5. Calculate complexity adjustment factor
6. Adjust feature points
7. Convert to LOC (optional)

Advantages of Feature Point Analysis

- ▶ Same as in function point analysis
- ▶ Additional advantage for algorithmically intensive systems

Disadvantages of Feature Point Analysis

- ▶ Primary disadvantage:
 - ▶ subjective classification of algorithmic complexity