

Software Measurement – 6611

Assignment 4

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Task 1:

| Function Types | Weights | | |
|---------------------------|---------|---------|------|
| | Low | Average | High |
| Internal logical files | 5 | 10 | 12 |
| External interfaces files | 4 | 8 | 11 |
| External inputs | 3 | 4 | 6 |
| External outputs | 4 | 6 | 9 |
| External inquiries | 4 | 6 | 8 |

Based on the average complexity :

| | | Low | Average | High | Total |
|--------------------|-------------------------|-----|---------|------|--------------|
| External inputs | Add Order | | 4 | | $4 * 2 = 8$ |
| | Initiate change Request | | 4 | | |
| External outputs | | | | | 0 |
| External inquiries | Check order status | | 6 | | $6 * 3 = 18$ |

| | | | | | |
|---------------------------|-------------------------|--|---|--|------------|
| | Order Notification | | 6 | | |
| | Regional report | | 6 | | |
| Internal logical files | Order File | | 8 | | 8 * 2 = 16 |
| | Purchase order function | | 8 | | |
| External interfaces files | | | | | 0 |

Total **Unadjusted Function Point** (UFC)

$$= 8 + 0 + 18 + 16 + 0$$

$$= 42$$

Based on Degree of Influence:

0. None

1. Incidental

2. Moderate

3. Average

4. Significant

5. Essential

| TCF Factor | Value |
|----------------------------------|-------|
| Reliable Backup | 3 |
| Data Communications | 4 |
| Distributed Processing functions | 3 |
| Performance Critical | 4 |
| Existing operating environment | 3 |
| On-line data entry | 3 |
| Operational ease | 2 |
| Online update | 5 |
| Complex interface | 4 |
| Complex processing | 4 |
| Reusability | 4 |
| Installation ease | 4 |
| Multiple sites | 1 |
| Facilitate change | 4 |

Total complexity adjusted values = 3+4+3+4+3+3+2+5+4+4+4+4+1+4
= 48

$$TCF = 0.65 + 0.01 \sum_{j=1}^{14} F_j$$

$$= 0.65 + 0.01 * 48$$

$$= 1.13$$

Adjusted Function Points (**FP**) = **UFC * TCF**

$$= 42 * 1.13$$

= 47.46

Task 2:

FUR : Create a new customer

Data Group:

DG1: customer(attributes : name , email)

DG2: message(attributes : confirmation message, error message)

FP1: For existing customer

| Trigger | Data Movements | Action | Type | Data Group |
|--------------------------|----------------|---|------|------------|
| User input from salesman | DM1 | Salesman enters customer name and email | E | DG1 |
| | DM2 | System verifies the details from the database | R | DG1 |
| | DM3 | Display error message(Already exists) | X | DG1 |

FP2: Create a new customer

| Trigger | Data Movements | Action | Type | Data Group |
|----------------------------|----------------|-----------------------------------|------|------------|
| Confirm/modify and save by | DM1 | Salesman confirms or modifies the | W | DG1 |

| | | | | |
|----------------|-----|--|---|-----|
| pressing OK | | customer details | | |
| | DM2 | System creates a new customer in the database | W | DG1 |
| | DM3 | Display message(c onfirmatio n/error) | X | DG2 |

Therefore, total **COSMIC Function Points** = 3 + 3 = **6 CFP**

Task 3:

FUR : Create a list of sales territories

Data Group:

DG1: User request

DG2: sales territories (create list)

DG3: Message

FP1: Create a list of sales territories

| Trigger | Data Movements | Action | Type | Data Group |
|--------------|----------------|---|------|------------|
| User request | DM1 | Customer requests to create a list of sales territories | E | DG1 |
| | DM2 | Customer enters the details | E | DG2 |

| | | | | |
|--|-----|--------------------------------------|---|-----|
| | DM3 | System saves the details | W | DG2 |
| | DM4 | Display message (confirmation/error) | X | DG3 |

Therefore, total **COSMIC Function Points = 4 CFP**

Task 4:

FUR : Display sales territories in alphabetical order

Data Group:

DG1: User request

DG2: sales territories (retrieve data, sort in alphabetical order)

DG3: Message (confirmation/error)

FP1: Display sales territories in alphabetical order

| Trigger | Data Movements | Action | Type | Data Group |
|----------------|-----------------------|---|-------------|-------------------|
| User request | DM1 | Customer requests to select a list of sales territories in alphabetical order | E | DG1 |
| | DM2 | System retrieves the list | R | DG2 |
| | DM3 | System now orders to sort in | X | DG2 |

| | | | | |
|--|-----|--|---|-----|
| | | alphabetical manner | | |
| | DM4 | Display the ordered list(Confirmation/error) | X | DG3 |

Therefore, total **COSMIC Function Points = 4 CFP**