

## Tentative Cost

### Functions of System

#### User:

1. View what plays are offered – EO **simple**
2. Pick seats – EI **simple**
3. Register account and/or log in- EI **average**
4. Add selected seats to shopping cart – EI **average**
5. View and edit shopping cart for seats of selected play- EQ **average**
6. Enter card info to pay for selected seats – EI **average**
7. View report of purchased seats and Print tickets – EO **average**

#### Admin:

8. Enter login for admin portal- EI **average**
9. Add/ remove available shows – EI **simple**
10. Adjust seat price per individual seat -EI **simple**
11. Generate report of how many seats have been sold for specific play and date – EQ **average**

#### System:

12. Store table of seats and their status (taken or not taken) along with prices- ILF **simple**
13. Store table of registered users- ILF **simple**
14. Store table of shows – ILF **simple**
15. Store table of completed transactions – ILF **simple**

Type	Simple	Average	Complex	Total
EI	(4)*3	(2)*4	0	20
EO	(1)*4	(1)*5	0	9
EQ	0	(2)*4	0	8
ILF	(4)*7	0	0	28
EIF	0	0	0	0

Unadjusted Function Point: **65(UFP)**

### Compute the Value Adjustment Factor (VAF)

- Data Communications - 4
- Distributed data processing -0
- Performance - 1
- Heavily used configuration - 0
- Transaction rate - 3
- On-line data entry - 5
- End-user efficiency - 2
- On-line update - 3
- Complex processing - 1
- Reusability - 0
- Installation ease - 0
- Operational ease - 1
- Multiple sites - 0
- Facilitate change - 2

$$4 + 1 + 3 + 5 + 2 + 3 + 1 + 1 + 2 = 22$$

$$\text{VAF} = 0.65 + (0.01 * 22) = \mathbf{0.87}$$

### Calculate Adjusted Functional Points

$$\text{AFP} = 65 * 0.87 = 56.55$$

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### Calculate Lines of code

Using JavaScript low of 31

$$\text{LOC} = 56.55 * 31 = \mathbf{1,753 \text{ LOC}}$$

### COCOMO Calculations

$$\text{Effort (E)} = 2.4(1753)^{1.05} = 4.32 \text{ (person/month)}$$

$$\text{Time (T)} = 2.5(4.3)^{0.38} = 4.35 \text{ months}$$

$$\text{Average Staff Size (P)} = E/T = 4.32/4.35 = 0.99 = 1 \text{ persons}$$

$$\text{Productivity} = \text{Pr} = \text{LOC}/E = 1753/4.32 = 405.7 \text{ (LOC/Person month)}$$

$$\text{Cost} = (4.32 * 3600) + 25000 = 15552 + 25000 \text{ (equipment and licenses)} = 40,552$$

$$\text{Total Cost of project} = \mathbf{\$40,552}$$