March 1, 2013

Team 19 COCOMO Estimate

**Laboratory # :Development Tools and Communications Protocol**

**Morgan, Laura**

**Miaw, Jireh**

**Hauser, Steven**

**Dworak, Catherine**

**Bertoglio, David**

***Work Product***

**COCOMO effort estimate of work project using the intermediate organic model.**

***Document Revision Information***

**March 1, 2013 - Created**

**Approval Sheet**

**All group members whose names are listed below approve of the document and contributed fairly.**

**Morgan, Laura**

**Miaw, Jireh**

**Hauser, Steven**

**Dworak, Catherine**

**Bertoglio, David**

**Pledge**

**On my honor, as a student, I have neither given nor received unauthorized aid on this assignment.**

**Morgan, Laura**

**Miaw, Jireh**

**Hauser, Steven**

**Dworak, Catherine**

**Bertoglio, David**

Contents

[COCOMO Estimate 4](#_Toc349911303)

[Attribute Ratings 4](#_Toc349911304)

[Intermediate Organic Estimate Formula 4](#_Toc349911305)

[Effort Estimate 5](#_Toc349911306)

# COCOMO Estimate

## Attribute Ratings

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Cost Drivers | **Ratings** | | | | | |
| Very Low | Low | Nominal | High | Very High | Extra High |
| **Product attributes** |  |  |  |  |  |  |
| Required software reliability | 0.75 | 0.88 | 1.00 | 1.15 | **1.40** |  |
| Size of application database |  | **0.94** | 1.00 | 1.08 | 1.16 |  |
| Complexity of the product | 0.70 | 0.85 | **1.00** | 1.15 | 1.30 | 1.65 |
| **Hardware attributes** |  |  |  |  |  |  |
| Run-time performance constraints |  |  | 1.00 | **1.11** | 1.30 | 1.66 |
| Memory constraints |  |  | **1.00** | 1.06 | 1.21 | 1.56 |
| Volatility of the virtual machine environment |  | **0.87** | 1.00 | 1.15 | 1.30 |  |
| Required turnabout time |  | 0.87 | **1.00** | 1.07 | 1.15 |  |
| **Personnel attributes** |  |  |  |  |  |  |
| Analyst capability | 1.46 | 1.19 | **1.00** | 0.86 | 0.71 |  |
| Applications experience | 1.29 | 1.13 | 1.00 | **0.91** | 0.82 |  |
| Software engineer capability | 1.42 | 1.17 | 1.00 | **0.86** | 0.70 |  |
| Virtual machine experience | 1.21 | 1.10 | **1.00** | 0.90 |  |  |
| Programming language experience | 1.14 | 1.07 | 1.00 | **0.95** |  |  |
| **Project attributes** |  |  |  |  |  |  |
| Application of software engineering methods | 1.24 | 1.10 | 1.00 | **0.91** | 0.82 |  |
| Use of software tools | 1.24 | 1.10 | 1.00 | **0.91** | 0.83 |  |
| Required development schedule | 1.23 | 1.08 | 1.00 | **1.04** | 1.10 |  |

## Intermediate Organic Estimate Formula

**E=*ai*(KLoC)*(bi)*\*EAF**

Organic ai = 3.2

Organic bi = 1.04

EAF (Product of attribute ratings) = .8137

KLoC = .95

## Effort Estimate

**E=*3.2* (1)*(1.02)*\*.813725 = 2.603 man-months**