

LOC Example

Consider the following project to develop a Computer Aided Design (CAD) application for mechanical components.

- The software is to run on an engineering workstation
- It must interface with computer graphics peripherals (mouse, digitizer, colour display, laser printer)
- It is to accept 2-D and 3-D geometric data from an engineer
- The engineer will interact with and control the CAD system through a graphic user interface
- All geometric data and other supporting information will be maintained in a CAD database
- Design analysis modules will be develop to produce the required output which will be displayed on a number of graphics devices.

After some further requirements analysis and specification, the following major software functions are identified:

User interface and control facilities (UICF)

2D geometric analysis (2DGA)

3D geometric analysis (3DGA)

Database management (DBM)

Computer graphics display functions (CGDF)

Peripheral control (PC)

Design analysis modules (DAM)

Function	Optimistic LOC	Most Likely LOC	Pessimistic LOC	Estimated LOC
UICF	2000	2300	3000	2367
2DGA	4000	5400	6500	5350
3DGA	5500	6600	9000	6817
DBM	3300	3500	6000	3883
CGDF	4250	4900	5500	4892
PC	2000	2150	2950	2258
DAM	6900	8400	10000	8417
Estimate LOC				33983

Historical data indicates that the organizational average productivity for systems of this type is 630 LOC/per-month and the cost per LOC is \$13.

Thus, the LOC estimate for this project is

- $33983 / 620 = 55$ person months
- $33983 * 13 = \$441700$