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Risk analysis

RISK	PROPABILITY	COST(WEEKS)
Too optimistic plan	40%	3
Fixtures added	25%	1
No resources available	10%	1
Unexperienced team	70%	5
Slow Debugging	40%	2
Unexpected situations	90%	3

Risk Management

- Risk identification
- Meeting
- Decisions about how to handle the problems :

1. Collaboration of the team
2. Internet search
3. Redesign of the plan
4. Increase of work rate

Risk Control

- Update risk catalogue and evaluation during the project
- Check for potential risk situation that have actually happened
- Apply the right steps to confront the risks according to plan

Project Metrics

- Project Effort

$$PM = A \times \text{Size}^B \times M$$

$$A = 2.94 (\text{Bibliography})$$

$$B = 1.2 \text{ (1.1 to 1.24) effort for loc}$$

Size of our project =

- Function Points

			simple	promedio	Complejo		
Entradas Externas	3	x	3	4	6	=	12
Salidas externas	3	x	4	5	7	=	15
ConsVAlultos externas	6	x	3	4	6	=	24
Archivos logicos internos	3	x	7	10	15	=	30
Archivos de interfaz internos	0	x	5	7	10	=	0
Total							81

$$PF = \text{conteo total} \times [0.65 \times 0.01 \times \sum (Fi)]$$

$$\text{In general } 0.65 < VAF = [0.65 \times 0.01 \times \sum (Fi)] < 1.35$$

Lets say VAF=0.9

$$\text{So } PF = 81 \times 0.9 = 72,9$$

- KLOC=app. 1889 (through statistic plug-in)
- Errors per KLOC = app 40
- COCOMO 2 (through link)

Effort = 7.4 Person-months

Schedule = 4.7 Months

Cost = \$7

Total Equivalent Size = 2020 SLOC

Effort Adjustment Factor (EAF) = 1.14

COCOMO II - Constructive Cost Model

Software Size: Sizing Method: **Source Lines of Code**

SLOC: New: 1889, Reused: 500, Modified: 500

% Design Modified: 0, % Code Modified: 0, % Integration Required: 20, Assessment and Assimilation (0% - 8%): 4, Software Understanding (0% - 50%): 25, Unfamiliarity (0-1): 0.75

Software Scale Drivers

Precedent: Nominal, Architecture / Risk Resolution: Low, Process Maturity: Low, Development Flexibility: Very High, Team Cohesion: Low

Software Cost Drivers

Product: Required Software Reliability: Low, Data Base Size: Low, Product Complexity: Low, Developed for Reusability: Low, Documentation Match to Lifecycle Needs: Very Low

Personnel: Analyst Capability: Low, Programmer Capability: Nominal, Personnel Continuity: High, Application Experience: Very Low, Platform Experience: Low, Language and Toolset Experience: Nominal

Platform: Time Constraint: Nominal, Storage Constraint: Nominal, Platform Viability: Nominal

Project: Use of Software Tools: High, Multisite Development: Low, Required Development Schedule: Very Low

Maintenance: Off

Software Labor Rates

Cost per Person-Month (Dollars): 1

Results

Software Development (Elaboration and Construction)

Effort = 7.4 Person-months
Schedule = 4.7 Months
Total Equivalent Size = 2020 SLOC
Total Adjustment Factor (EAF) = 1.14

Staffing Profile

Your project is too small to display a staffing profile due to truncation.

Acquisition Phase Distribution

Phase	Effort (Person-months)	Schedule (Months)	Average Staff	Cost (Dollars)
Initiation	0.4	0.6	0.8	\$0
Elaboration	1.8	1.9	1.0	\$2
Construction	5.6	2.9	1.9	\$6
Transition	0.9	0.6	1.5	\$1

Sources

- <https://www.infor.uva.es/~manso/calidad/PFA-CLM-2011>
- <http://cotana.informatica.edu.bo/downloads/Id-Ingenieria.de.software.enfoque.practico.7ed.Pressman.PDF>
- <http://softwarecost.org/tools/COCOMO/>
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