No	Sub	Usecase	Jenis	Catatan	Jumlah UI	Case	UUCW	UUCW
					Unadjusted Use Case Weighting (UUCW)			
1		Penerbitan Nopen	CRUD		1	Average	10	10
2	Portal	Home	Read		1	Average	10	10
3		Knowledgebase	Read		1	Average	10	10
4		News & Event - tampilan berita dan acara IKC, dapat diganti sesuai kebutuhan admin portal	Read		1	Average	10	10
5		Perekaman Layanan Service Katalog	CRUD		1	Complex	15	15
6		Melihat status layanan	Read		1	Average	10	10
7		CMS Knowledge, News & Event	CRUD		2	Complex	15	30
8		Manajemen release	CRUD		2	Complex	15	30
9	Inhouse	Perekaman Issue	CRUD		2	Complex	15	30
10		Manajemen layanan Service Katalog	CRUD		4	Complex	15	60
11		Tindak Lanjut layanan Service Katalog	CRUD		1	Average	10	10
		Manajemen distribusi ticket	CRUD		1	Average	10	10
		Browse	Read		2	Simple	5	10
12		Setting	CRUD		4	Simple	5	20
13		Menampilkan statistik gangguan	Read		2	Average	10	20
14	Dashboard	Menampilkan performa petugas	Read		1	Simple	5	5
15		Menampilkan monitoring SLA	Read		1	Simple	5	5
		TOTAL						295

Unadjusted Actor Weight (UAW)

Aktor	Jenis Aktor	UAW
Pengguna Jasa	Complex	3
Analis	Complex	3
Admin IKC	Complex	3
Technical Support	Complex	3
Pegawai IKC	Average	2
Seksi DIKC	Simple	1
Subdit DIKC	Simple	1
TOTAL	0	15

Unadjusted Use Case Points (UUCP=Tot.UUCW+Tot UAW)

310

Unadjusted Actor Weight (UAW)

Actor Classification	Type of Actor	Weight
Simple	Berinteraksi melalui API, seperti Command Prompt	1
Average	Berinteraksi melalui Protokol, seperti TCP/IP	2
Complex	Berinteraksi melalui GUI atau Web Page	3

Use Case Clasification Weight (UUCW)

Tipe Usecase	No. of Transactions	Bobot
Simple	Menggunakan ≤ 3 transaksi	5
Average	Menggunakan 4 - 7 transaksi	10
Complex	Lebih dari 7 transaksi	15

Technical Complexity Factor	Weight	Relevance 0-5	Score
T1 Distributed System	2.00	0	0.00
T2 Performance	1.00	3	3.00
T3 End User Efficiency	1.00	2	2.00
T4 Complex Internal Processing	1.00	3	3.00
T5 Reusability	1.00	2	2.00
T6 Easy to Install	0.50	3	1.50
T7 Easy to Use	0.50	4	2.00
T8 Portability	2.00	2	4.00
T9 Easy to Change	1.00	2	2.00
T10 Concurrency	1.00	3	3.00
T11 Special Security Features	1.00	2	2.00
T12 Provides Direct Access for Third Parties	1.00	1	1.00
T13 Special User Training Facilities Are Required	1.00	1	1.00
Sum			26.50
Complexity Factor			0.60
C2			0.01
TCF = 0.6 + (0.01 x Total TCF Value)			0.87

Environmental Factor	Weight	Impact 0-5	Score
E1 Familiarity with System Development Process	1.50	4	6.00
E2 Part-Time Workers	-1.00	0	0.00
E3 Analyst Capability	0.50	4	2.00
E4 Application Experience	0.50	4	2.00
E5 Object-Oriented Experience	1.00	4	4.00
E6 Motivation	1.00	4	4.00
E7 Difficult Programming Language	-1.00	3	-3.00
E8 Stable Requirements	2.00	3	6.00
Sum (ETF)			21.00
ECF = 1.4 +(-0.03 * Environmental Total Factor)			0.77

Keterangan
Sistem tersentralisasi
Kecepatan akses baik
Web based, pengaruh spesifikasi user
Complex
Component Based
Container based deployment
Web Based
Backend dapat digunakan oleh sistem lainnya
Penyesuaian dilakukan mempengaruhi sistem lainnya
User Konkuren, Waktu peak bisa 1000 transaction per second
Pembagian hak akses dan role menyesuaikan apps manager
API
Tidak memerlukan fasilitas khusus

Keterangan
Familiar
Tidak ada part-time
Memiliki kemampuan analisis sistem yang baik
Berpengalaman mengembangkan aplikasi
Berpengalaman dengan object oriented
Dukungan yang baik dari organisasi
Bahasa pemrograman Baru
Kebutuhan tidak berubah

Perhitungan Effort CEISACARE 2023

No	Sub Paket	Total UAW	Total UUCW	UUCP (UAW+UUCW)	UCP (UUCP*TCF*EF)	PHM (UCP * 20)
1	CEISACARE	15	295	310	208	4,153
2						
	Total					

Keterangan

UAW = Unadjusted Actor Weighting   198   1623.6

UUCW = Unadjusted Use Case Weighting   139.5   1143.9

UUCP = Unadjusted Use Case Point

UCP = Use Case Point

PHM = Person-Hours Multiplier

WD = Working Days

MM = Man-Month

Person-Hours Multiplier (PHM)	Value
Decision rule: 20 or 28 hours	**20**

WD (PHM/8)	MM (WD/22)
519	24
	24

1.623

1.144 man-hour (orang per jam)

Cost Estimation by Use Case

Phase	Prosentase Effort Distribution	Effort Distribution (Man-Month)	PIC	Gaji Per Bulan (Inkindo, 2023)	Cost Estimation	
KAK Akhir Tahun						
Software Phase Development						
Needs analysis (Requirement)	1.6	0.384	*Business Analyst*	Rp 21,950,000	Rp 8,428,800	ba
Specification	7.5	1.8	*System Analyst*	Rp 21,950,000	Rp 39,510,000	sa
Design	6	1.44	*System Analyst*	Rp 21,950,000	Rp 31,608,000	sa
Implementation (Coding)	52	12.48	*Programmer*	Rp 21,950,000	Rp 273,936,000	p
Acceptance & installation	5.5	1.32	*System Analyst*	Rp 21,950,000	Rp 28,974,000	sa
Ongoing life-cycle activity		0				
Project management	3.8	0.912	*Project Manager*	Rp 28,150,000	Rp 25,672,800	pm
Configuration management	4.3	1.032	*System Analyst*	Rp 25,050,000	Rp 25,851,600	sa
Documentation	8.4	2.016	*Tehnical Writer*	Rp 13,950,000	Rp 28,123,200	tw
Training & technical support	1	0.24	*Tehnical Writer*	Rp 13,950,000	Rp 3,348,000	tw
Quality and testing phases		0				
Integrated testing	7	1.68	*Tester*	Rp 13,950,000	Rp 23,436,000	qc
Quality assurance	0.9	0.216	*Tester*	Rp 13,950,000	Rp 3,013,200	qa
Evaluation & testing	2	0.48	*Tester*	Rp 13,950,000	Rp 6,696,000	qc
Total of Effort	**100**	**24**			**Rp 498,597,600**	
Estimasi Garansi 25%					**Rp 124,649,400**	
Sub Total					**Rp 623,247,000**	
PPN 11%					**Rp 68,557,170**	
Total					**Rp 691,804,170**	

Planning (Actual)	Analysis	Design	Implementation
15	20	35	30

		OPSI 1				
MM	**Role**	**Effort Distribution (Man-Month)**	**Waktu**	**Kebutuhan**	**Tersedia**	**Gap**
	PM	0.912	0.076	0	6	6
24	BA	0.384	0.032	0	8	8
	SA	5.592	0.466	0	19	19
Bulan	PROG	12.48	1.04	1	28	27
12	QC	2.16	0.18	0	8	8
	QA	0.216	0.018	0	3	3
	TW	2.256	0.188	0	0	0
			24	1	72	**71**

	Tingkat produktivitas		
Role		**Tingkatan**	**Rata - rata**
	PM	0.10 - 0.15	0.125
	BA	0.15 - 0.20	0.175
	SA	0.20 - 0.30	0.25
	PROG	0.25 - 0.35	0.3
Rp 498,597,600	QC	0.15 - 0.20	0.175
	QA	0.15 - 0.20	0.175
	TW	0.10 - 0.15	0.125

2.4

Phase	**Prosentase Effort Distribution**	**PIC**

Software Phase Development		
Needs analysis (Requirement)	1.6	Business Analyst
Specification	7.5	System Analyst
Design	6	System Analyst
Implementation (Coding)	52	Programmer
Acceptance & installation	5.5	System Analyst
Ongoing life-cycle activity		
Project management	3.8	Project Manager
Configuration management	4.3	System Analyst
Documentation	8.4	Tehnical Writer
Training & technical support	1	Tehnical Writer
Quality and testing phases		
Integrated testing	7	Tester
Quality assurance	0.9	Tester
Evaluation & testing	2	Tester