TUGAS PROJECT 12: MENGHITUNG BIAYA DAN ESTIMASI PENGEMBANGAN APLIKASI

ANALISIS DAN PERANCANGAN PERANGKAT LUNAK

APLIKASI KLIKNCLEAN

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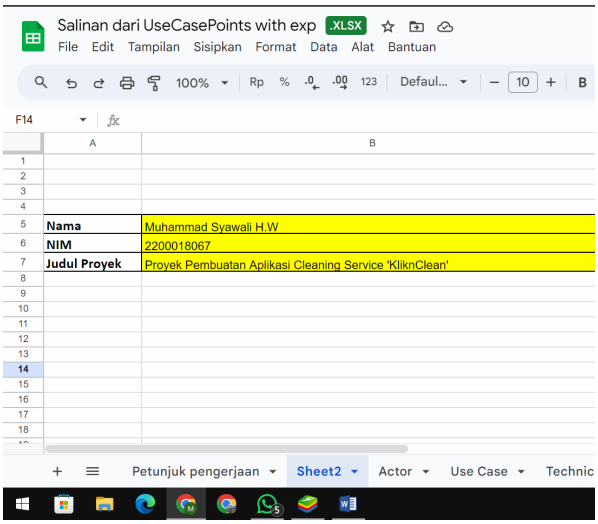
PROGRAM STUDI INFORMATIKA

UNIVERSITAS AHMAD DAHLAN

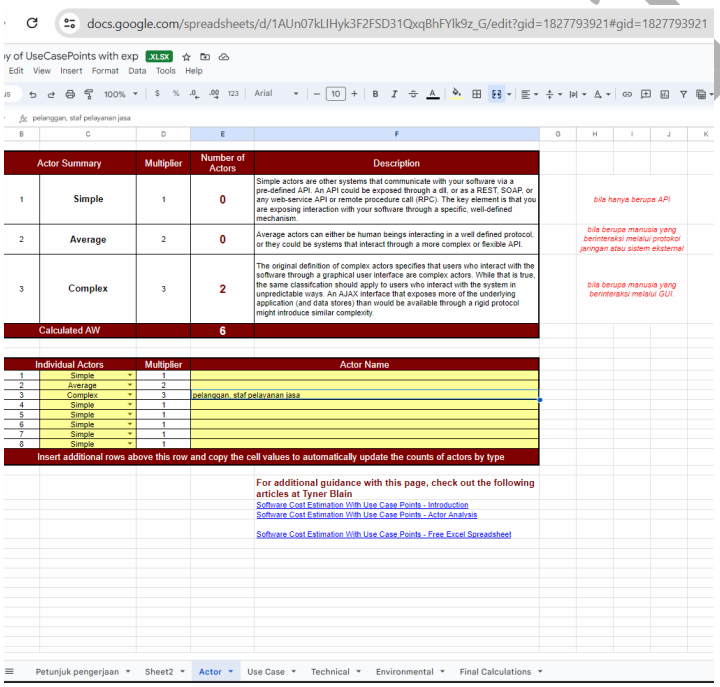
JULI 2024

1. Sheet2



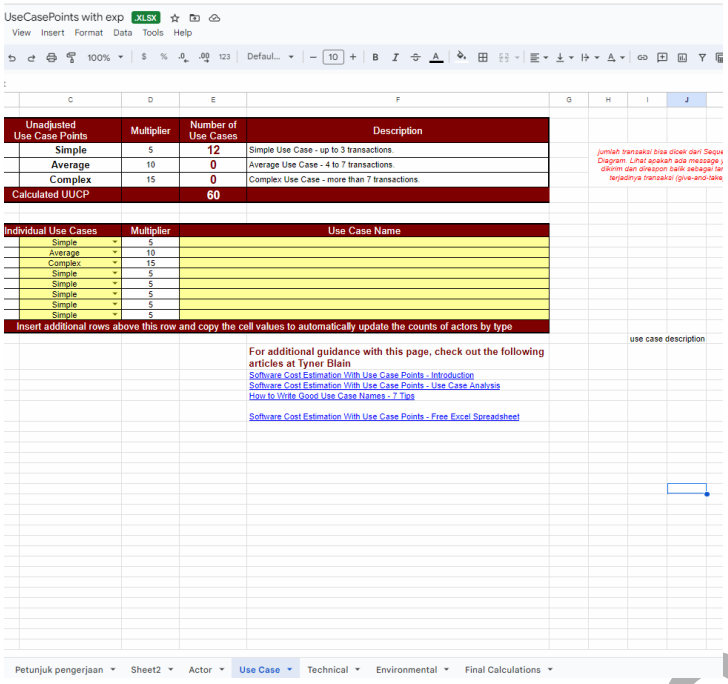
Sheet2 berisikan identitas, saya mengikuti proyek dan detail yang sama dengan proyek kelompok yang dikerjakan.

2. Actor



Nah pada bagian Actor ini terdapat 3 jenis actor, simple, average dan complex. Berdasarkan use case yang terdapat pada proyek kelompok maka ditentukan bahwa terdapat 2 aktor Complex (manusia berinteraksi dengan GUI), actor simple adalah system dan actor complex adalah pelanggan, staf pelayanan jasa (admin). Isikan number of actor complex menjadi 2 dan rincian actor name pada kolom kuning yang disediakan seperti pada gambar diatas. Didapatkan nilai AW 6.

3. Use Case



UseCasePoints with exp .XLSX

View Insert Format Data Tools Help

Unadjusted Use Case Points	Multiplier	Number of Use Cases	Description
Simple	5	12	Simple Use Case - up to 3 transactions.
Average	10	0	Average Use Case - 4 to 7 transactions.
Complex	15	0	Complex Use Case - more than 7 transactions.
Calculated UUCP		60	

Individual Use Cases	Multiplier	Use Case Name
Simple	5	
Average	10	
Complex	15	
Simple	5	
Simple	5	
Simple	5	
Simple	5	
Simple	5	

Insert additional rows above this row and copy the cell values to automatically update the counts of actors by type

jumlah transaksi bisa dicek dari Sequ Diagram. Lihat apakah ada message dikirim dan direspon balik sebagai ter terjadilnya transaksi (give-and-take

use case description

For additional guidance with this page, check out the following articles at Tyner Blain

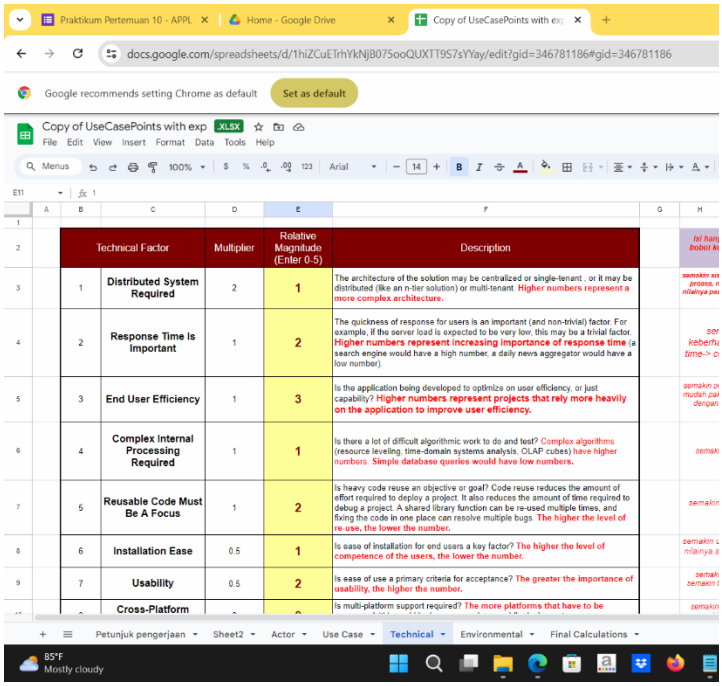
Software Cost Estimation With Use Case Points - Introduction
Software Cost Estimation With Use Case Points - Use Case Analysis
How to Write Good Use Case Names - 7 Tips

Software Cost Estimation With Use Case Points - Free Excel Spreadsheet

Petunjuk pengerjaan | Sheet2 | Actor | Use Case | Technical | Environmental | Final Calculations

Pada bagian Use Case ini digunakan untuk perhitungan seberapa banyak interaksi transaksi yang terjadi. Use Case nya dibedakan menjadi 3 yaitu use case simple, use case average dan use case complex. Berdasarkan use case proyek kelompok maka ditentukan bahwa terdapat 12 use case simple dan dapat dilihat sesuai pada gambar. Jika diperhatikan tidak semua use case dimasukkan ke dalam perhitungan ini karena setelah meninjau usecase dan sequence diagram dipastikan bahwa terdapat 12 use case saja. Semua usecase ini termasuk dalam kategori simple karena jumlah transaksi yang terjadi tidak lebih dari 3 transaksi. Didapatkan nilai UUCP 60

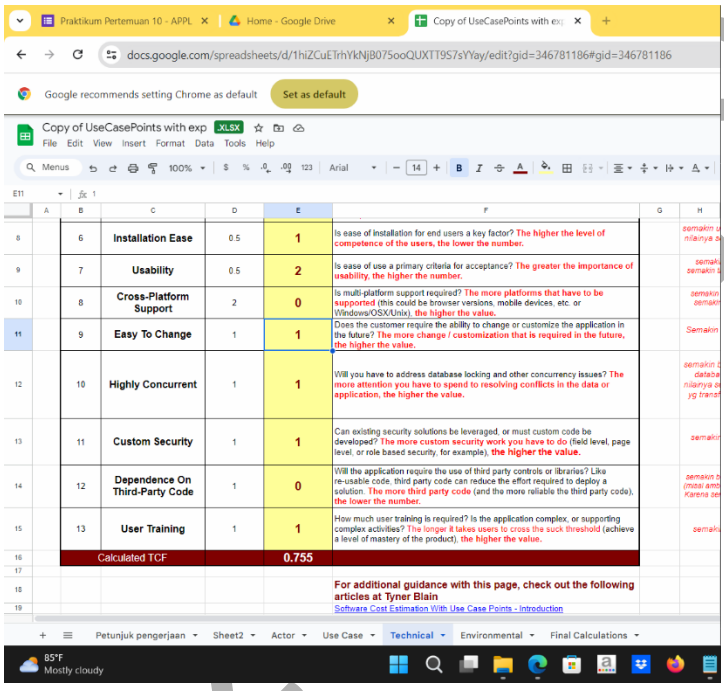
4. Technical



	Technical Factor	Multiplier	Relative Magnitude (Enter 0-5)	Description
1	Distributed System Required	2	1	The architecture of the solution may be centralized or single-tenant , or it may be distributed (like an n-tier solution) or multi-tenant. Higher numbers represent a more complex architecture.
2	Response Time Is Important	1	2	The quickness of response for users is an important (and non-trivial) factor. For example, if the server load is expected to be very low, this may be a trivial factor. Higher numbers represent increasing importance of response time (a search engine would have a high number, a daily news aggregator would have a low number).
3	End User Efficiency	1	3	Is the application being developed to optimize on user efficiency, or just capability? Higher numbers represent projects that rely more heavily on the application to improve user efficiency.
4	Complex Internal Processing Required	1	1	Is there a lot of difficult algorithmic work to do and test? Complex algorithms (resource leveling, time-domain systems analysis, OLAP cubes) have higher numbers. Simple database queries would have low numbers.
5	Reusable Code Must Be A Focus	1	2	Is heavy code reuse an objective or goal? Code reuse reduces the amount of effort required to deploy a project. It also reduces the amount of time required to debug a project. A shared library function can be re-used multiple times, and fixing the code in one place can resolve multiple bugs. The higher the level of re-use, the lower the number.
6	Installation Ease	0.5	1	Is ease of installation for end users a key factor? The higher the level of competence of the users, the lower the number.
7	Usability	0.5	2	Is ease of use a primary criteria for acceptance? The greater the importance of usability, the higher the number.
8	Cross-Platform Support	2	0	Is multi-platform support required? The more platforms that have to be supported (this could be browser versions, mobile devices, etc. or Windows/OSX/Unix), the higher the value.
9	Easy To Change	1	1	Does the customer require the ability to change or customize the application in the future? The more change / customization that is required in the future, the higher the value.
10	Highly Concurrent	1	1	Will you have to address database locking and other concurrency issues? The more attention you have to spend to resolving conflicts in the data or application, the higher the value.
11	Custom Security	1	1	Can existing security solutions be leveraged, or must custom code be developed? The more custom security work you have to do (field level, page level, or role based security, for example), the higher the value.
12	Dependence On Third-Party Code	1	0	Will the application require the use of third party controls or libraries? Like re-usable code, third party code can reduce the effort required to deploy a solution. The more third party code (and the more reliable the third party code), the lower the number.
13	User Training	1	1	How much user training is required? Is the application complex, or supporting complex activities? The longer it takes users to cross the suck threshold (achieve a level of mastery of the product), the higher the value.
	Calculated TCF		0.755	

For additional guidance with this page, check out the following articles at Tyner Blain

Software Cost Estimation With Use Case Points - Introduction



	Technical Factor	Multiplier	Relative Magnitude (Enter 0-5)	Description
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Software Cost Estimation With Use Case Points - Introduction

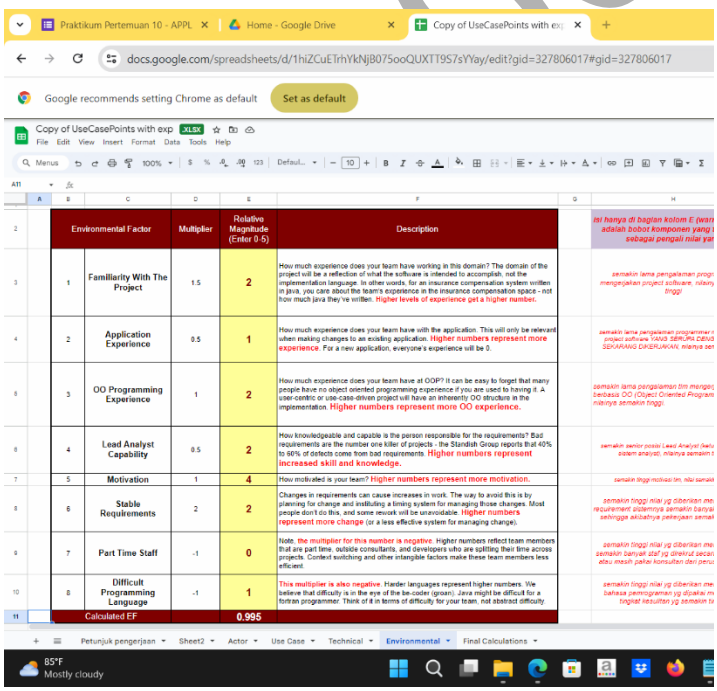
Technical ini merupakan kebutuhan khusus dari aplikasi yang dibuat. Terdapat 13 faktor dan juga range magnitude untuk setiap faktor bergantung pada tiap faktornya maka magnitude juga dapat disesuaikan namun untuk umumnya semakin tinggi nilai magnitude maka semakin tinggi pula nilai faktornya/ makin besar. Berikut rinciannya:

- Distributed system required, nilai magnitude 1 karena infrastruktur yang tidak kompleks
- Response time is important, nilai magnitude 2 karena respon waktu yang termasuk kurang cepat tetapi tidak terlalu lama.

- End User Efficiency, niali magnitude 3 karena tidak terllau membutuhkan pemahaman yang cepat bagi user dan saat ini banyak orang yang sudah familiar dengan teknologi yang digunakan sehingga dicapai Keputusan magnitude 3.
- Complex Internal Processing Required, nilai magnitude 1 karena algoritma yang digunakan tidak kompleks
- Reusable Code Must Be A Focus, nilai magnitude 2 karena source code jarang digunakan berulang kali dalam fitur
- Installation Ease, nilai magnitude 1 karena instalasi termasuk mudah untuk user pemula
- Usability, nilai magnitude 2 karena termasuk penting namun tidak menjadi sebuah keharusan
- Cross-Platform Support, nilai magnitude 0 karena tidak ada cross platform yang dibuat
- Easy To Change, nilai magnitude 1 karena kemungkinan perubahan di masa mendatang rendah
- Highly Concurrent, nilai magnitude 1 karena transaksi data termasuk rendah
- Custom Security, nilai magnitude 1 karena untuk proyek ini level keamanan tinggi belum diperlukan
- Dependence On Third-Party Code, nilai magnitude 0 karena memang tidak ada ketergantungan
- User Training, niali magnitude 1 karena penggunaan aplikasi termasuk mudah untuk diterapkan oleh user

Dari sini didapatkan nilai TCF 0.755

5. Enviorenment



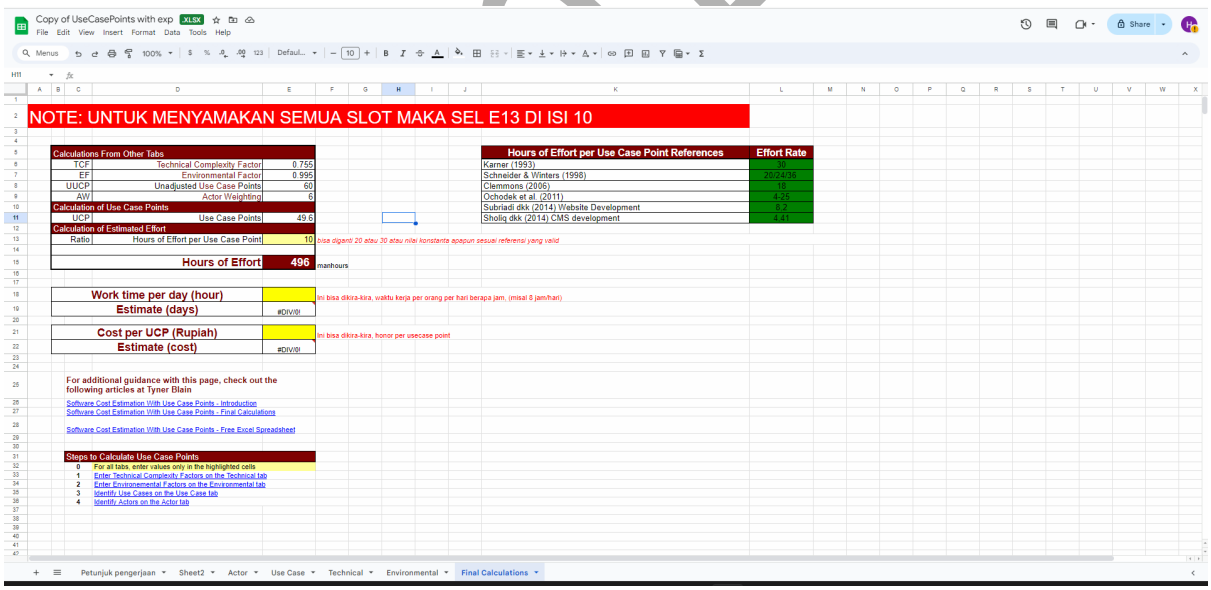
Nah untuk enviorenment ini lebih berarah pada tim masing masing yang mengerjakan proyek ini. Berdasarkan pengalaman pengerjaan proyek kelompok didapatkan dan diputuskan nilai

magnitude seperti pada gambar diatas. Terdapat 8 faktor dan range magnitude 0-5 seperti pada bagian technical sebelumnya. Berikut adalah rinciannya:

- Familiarity With The Project, nilai magnitude 2 karena pengalaman programmer belum terlalu banyak untuk proyek yang dikembangkan.
- Application Experience, nilai magnitude 1 karena pengalaman di bidang software yang dikembangkan masih termasuk baru.
- OO Programming Experience, nilai magnitude 2 karena pengalaman tim mengerjakan proyek OO belum terlalu banyak
- Lead Analyst Capability, nilai magnitude 2 karena lead belum memiliki cukup banyak pengalaman sehingga skill dan pengetahuan terbilang biasa saja dan belum expert atau ahli
- Motivation, nilai magnitude 4 karena motivasi tim tinggi dalam pengerjaan proyek
- Stable Requirements, nilai magnitude 2 kaarena tidak banyak perubahan yang diminta klien
- Part Time Staff, nilai magnitude 0 karena tidak ada staf part time yang direkrut
- Difficult Programming Language, nilai magnitude 1 karena tools yang digunakan umum untuk pengerjaan proyek serupa namun membutuhkan sedikit waktu dan pengalaman penggunaan tools baru.

Dari sini didaptkan nilai FF 0.995

6. Final Calculations



Pada bagian final calculation ini berisi hasil akhir perhitungan yang dilakukan. Dapat dilihat pad gambar bahwa kalkulasi TCF= 0.755, EF=0.995, UUCP=60 dan AW=6. Maka didaptkan nilai UCP nya adalah 49.6 dari rumus UCP = UUCP * TCF * EF dan untuk kalkulasi effort per use case sesuai arahan NOTE maka diganti dengan 10 dan dihasilkan Hours of Effort sebesar 496 manhours.