

Unity and coherence

Technical Information and Communication 1DV510

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First glance at Draft 1

- A wide range of topics, for example:
 - Use of technology in sports
 - Autonomous Technology in Self-Driving Vehicles
 - Storing Image Annotation Data
 - The effects of code reviews on code quality
 - The impact of the Metaverse on Social Interactions
 - Chaos Engineering in Software Development
 - AI and labour market
 - Human Detection of Deep Fake
 - Quantum Computers and Cloud Security

- Personal engagement in the report's topic



Unity and coherence

Unity – what you write deals with one idea/topic: sentence, paragraph, text.

Coherence – what you write is logically developed and connected at all levels.



Unity: paragraph

Key factors for success

In order to deliver a good quality product, it is not enough to have a competent project manager and a skillful development team. To avoid failure, some other key factors have to be considered. For instance, business goals as well as functional and non-functional requirements should be carefully gathered and well documented before the start of the software development phase. Moreover, often software architects strive to find the balance between the one hand software quality attributes such as good performance, usability, reliability, etc. which are considered basic requirements for a software system, while on the other hand, significant factors are low cost development, platform independence and high

Summarising comment and explanation

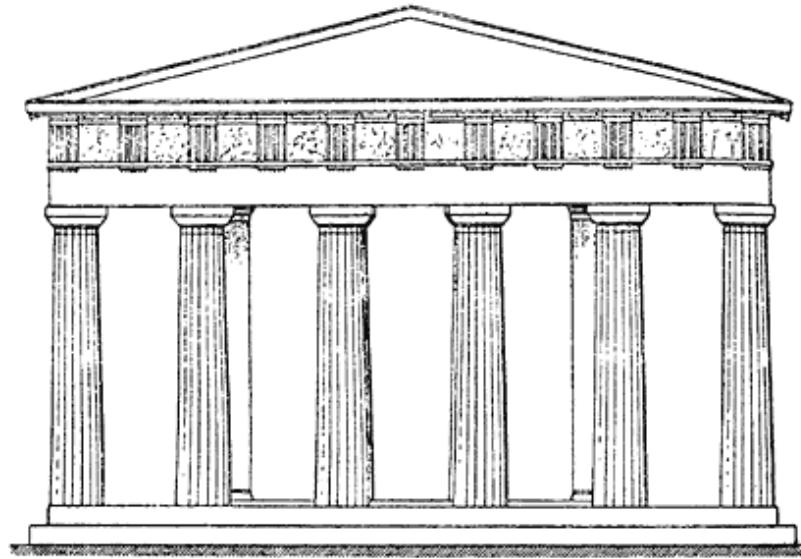
Good software architecture helps during the system development life cycle. It enables business managers to assess risks, achieve better quality and estimate deadlines more accurately. With well documented software architecture, multiple developing teams, working on different modules of the system, can synchronize their work and allow reuse of software units. As a result, software architecture reduces the risk of software failure.

Software architects should draw experience from both good and bad examples from the vastly growing area of software architecture. In other words, architecture includes more than gathering system requirements, motivating the development team and keeping deadlines. It also encompasses architectural analysis techniques, re-engineering support and tools for architecture design.

Recommendation and conclusive comment

Coherence: Paragraph

Topic sentence – often in the beginning of a paragraph.



Supporting sentences

- to illustrate
- to explain.

Topic sentence and supporting sentences

(1) A plethora of justifications for piracy are touted by those who engage in the act. (2) One of these reasons is the obtrusive nature of license agreements and the restrictions that they place on the user [18]. (3) Another reason is lack of access to a given product in particular regions, as Green [20] highlights in his article on delayed distribution in Australia. (4) Both of these factors are represented in several cases, an example of which is the Japanese animation distribution website Crunchyroll, which is often criticised for attempting to promote legal distribution, but simultaneously locking out customers in certain regions who pay the same subscription fees [21]. (5) Perhaps the biggest of these reasons, however, is pricing – many individuals supposedly consider the prices of software to be far too high, particularly students [22].

(Source: Sample student report)

Supporting sentences

Levels of support

- Directly
- Indirectly

Example:

- (1) An operating system (OS) is system software that manages computer hardware and software resources and provides common services for computer programs.
- (2) The operating system is thus the core of the system software.
- (3) Application programs usually require an operating system to function.

(Adapted from Wikipedia)



Improving paragraph coherence

Linking words and phrases within and between sentences, and between paragraphs:

*... software projects fail because of bad management skills and lack of detailed business requirements analysis. **Moreover**, software complexity and continuously changing functional specifications **also** increase the likelihood of failure.*

Pronouns:

*Unfortunately, this first phase is frequently omitted, **which** is claimed to be a reason for future failure.*

*More than 40 % of the organizations choose to rely on business processes built in the ERP system. **This** research claims that only 19 % are not focused on **their** business processes.*

Improving paragraph coherence

Conjunctions (coordinators, subordinators):

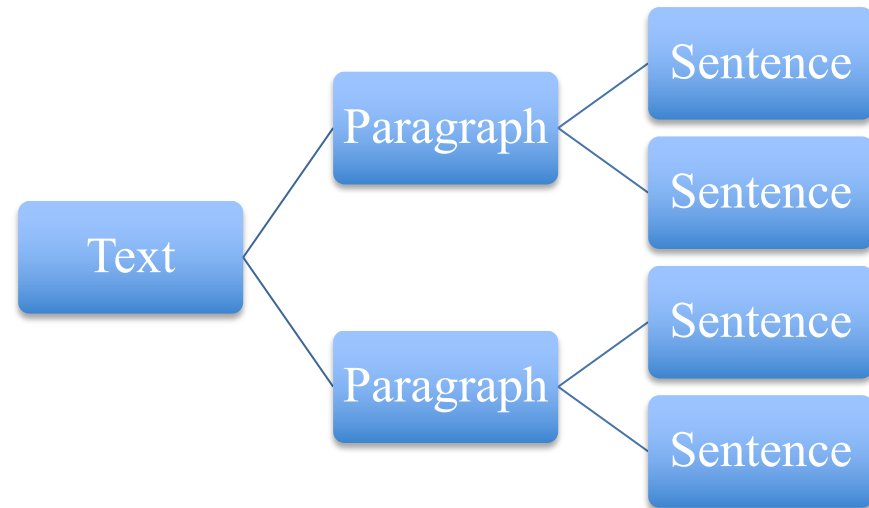
- ✗ *Organizations must consider network security. They must protect their information.*
- ✓ *Organizations must consider network security, **since** they need to protect their information.*

Repetition, synonyms, antonyms, comparisons



Text coherence

Paragraph – a part of the text



Three-part structure of a paragraph

- Presenting an idea (topic sentence)
- Elaborating the idea (supporting sentences)
- Conclusion that arrives somewhere new (hinting at the next paragraph)

How unity and coherence works

Enabling Good Work Habits in Software Developers through Reflective Goal-Setting by Meyer et al. (2021)

p. 1874

Paragraph starting with: "There are two ways to identify a problem behavior..."

up to: "These principles are closely related to Doran's SMART goals approach, describing that goals must be specific, measurable, achievable, relevant and time-bound [64]."

Sentence level

Paragraph level

Text level

Topic sentence, supporting sentences, illustrative/explanatory, direct/indirect support, linking words etc.

Further reading

Useful resource for your academic writing:

<http://www.phrasebank.manchester.ac.uk/introducing-work/>

English: Björk et al. (1997), ch. 3

Osmond (2016), ch. 3–4

Svenska: Walla (2004), s. 30–36

Blomström & Wennerberg (2015) s. 62–71, 92–95



References

Björk, L., Knight, M., Wikborg, E. (1997). *The writing process: Composition writing for university students*. Lund: Studentlitteratur.

Peck J., Coyle M. (2012). *The student's guide to writing*. Hampshire: Palgrave Macmilan.

Vannerstål, A. (2014). *Lecture materials for course in Technical information and communication*. Växjö.



Next session: Writing a discussion & conclusion and navigating references

November, 22

10.15-12.00 *Wicksell* English-speaking group

November, 22

10.15-12.00 *K1211* Swedish-speaking group

Gäller endast svensktalande studenter:

Notera att du ska ha läst artikeln av Hellman och Thorsten ”Plagiera eller referera vetenskapligt? En studie om vad studenter behöver lära sig för att bli bättre på referathantering” inför föreläsningen. Artikeln publicerades i tidskriften *Högre utbildning*. Artikeln har open access och nås genom en enkel sökning.

