

Silver Bullet

Context: Even today completely controlling software accidents/errors it is still a complicated task, and as the article "No Silver Bullet" (1986) pointed out to us almost 40 years ago that this is largely due to the great complexity that these systems present, an issue that continues to be relevant to the present day; since for example in a more modern article "Complexity is killing software developers" (2021) it is analyzed how although modern technologies and development methodologies are currently used (and presumably facilitate this process), for various reasons this process remains complicated and therefore prone to mistakes; inspecting a more recent review of the first article (2007) and contrasting it with the second, we can see that the complexity has decreased in certain areas, but in a way it just migrated to others.

In conclusion, although technological advances and the tools it has brought have undoubtedly facilitated some areas of the software development process and generally help developers make fewer mistakes, there is not and (I firmly believe) there will never be a "silver bullet" that completely eliminates the root cause of errors, the great complexity of these systems. This complexity is necessary to tackle real world problems through computers, there are simply too many variables to consider in solving a real problem and correctly implementing it in software, which in turn requires a development team with extensive knowledge and experience with technologies, platforms, and practices for a good architecture, each part prone to its own implementation errors.

References:

- Dennis Mandl, Steven D. Fraser, and William F. Opdyke. 2007. No silver bullet: a retrospective on the essence and accidents of software engineering. In Companion to the 22nd ACM SIGPLAN conference on Object-oriented programming systems and applications companion. Retrieved from <http://dx.doi.org/10.1145/1297846.1297873>
- Carey Scott (November 1, 2021). Complexity is killing software developers. InfoWorld. Retrieved from <https://www.infoworld.com/article/3639050/complexity-is-killing-software-developers.html>