

Engineering Excellence and the Agile Approach to Managing Critical Incidents in IT Systems

Kiril Dzolev

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Mentor: Prof. Dr. Leonid Djinevski

The thesis explores the challenges faced by Agile teams during critical IT incidents and the ways in which Engineering Excellence practices can provide a more stable and sustainable engineering response. The methodology combines an analysis of relevant literature, real cases from the development of healthcare IT systems, and structured qualitative research through questionnaires with engineers, QA professionals, and team leaders working in Agile environments. Practices such as automated testing, CI/CD, monitoring, code reviews, metrics, and risk management are analysed. The thesis concludes that Agile flexibility is more effective when supported by strong engineering standards and preventive mechanisms, enabling teams not only to respond more quickly to incidents but also to build greater resilience to future defects.

Keywords: Agile approach · Engineering Excellence · Incident management