

# Penyusunan metodologi pengembangan perangkat lunak menggunakan the essence framework: studi kasus perusahaan pengembang perangkat lunak XYZ = Developing software engineering methodology using the essence framework: a case study of XYZ software development company

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## Abstrak

Proyek pengembangan perangkat lunak dikatakan sukses apabila pelaksanaan sesuai dengan jangka waktu yang ditetapkan, penggunaan anggaran yang sesuai dan ruang lingkup yang disepakati. Penelitian ini mengambil studi kasus implementasi pengembangan perangkat lunak yang dilakukan oleh sebuah perusahaan pengembang perangkat lunak XYZ yang banyak menangani proyek pengembangan aplikasi di berbagai pemerintah daerah. Rata-rata pertahun dalam penyelesaian proyek pengembangan aplikasi di studi kasus ini tidak tercapai 100% sesuai dengan jadwal yang ditentukan karena terdapat beberapa kendala yang akhirnya terjadi peningkatan sumber daya dan adanya denda atas keterlambatan proyek. Penelitian ini bertujuan untuk menyusun metodologi pengembangan perangkat lunak dan serta membuat panduan implementasi berdasarkan prinsip-prinsip Essence Framework. Pelaksanaan penelitian ini menggunakan pendekatan Design Science Research (DSR). Perencanaan dan pengembangan metodologi implementasi dilakukan menggunakan Focus Group Discussion terhadap tim yang terlibat dalam pengembangan aplikasi. Proses validasi hasil didalam penelitian ini menggunakan kombinasi antara umpan balik dari internal studi kasus dan eksternal studi kasus yang terdiri dari empat para ahli. Analisis hasil penelitian ini menghasilkan daftar tiga belas praktik yaitu (1) Identify Value (2) Visualize (3) Stories (4) Acceptance Criteria (5) Sprint Planning (6) Sprint (7) Sprint Review (8) System Demo (9) Limit Work in Progress (10) Pair Programming (11) Daily Scrum (12) Weekly Cycle (13) Whole Team. Praktik-praktik ini dihasilkan dari FGD dengan tim pengembang berdasarakan metode terpilih dari hasil studi literatur. Metode Agile untuk pengembangan perangkat lunak di pemerintahan berdasarakan studi literatur adalah Scrum, Lean, XP, Kanban. SAFe yang merupakan metode scaling yang paling populer berdasarakan survei Version One tahun 2020.

.....A software development project is regarded to be successful if it is completed within the allotted schedule, on budget, and with the agreed-upon scope. This research takes a case study of the implementation of software development carried out by a Software Development Company named XYZ which handles many applications development projects in various local governments. The annual average for the completion of the application development project in this case study failed to achieve its 100% target implementation timeline because there were several obstacles which eventually resulted in an increase in resources and a fine for project delays. This study aims to develop a software development methodology and to create an implementation guide in the case study organization based on the principles of the Essence Framework. This study adopted the Design Science Research (DSR) methodology. Focus Group Discussions (FGD) with the development team in the case study were used to plan and build the implementation methodology. Expert judgment was also conducted by interviewing four experts to obtain input from a different perspective. The analysis of this research resulted in list of thirteen practices that can

be selected implementation methodology to be used as reference in the case study organization, namely (1) Identify Value (2) Visualize (3) Stories (4) Acceptance Criteria (5) Sprint Planning (6) Sprint (7) Sprint Review (8) System Demo (9) Limit Work in Progress (10) Pair Programming (11) Daily Scrum (12) Weekly Cycle (13) Whole Team. These practices are chosen through FGD with development team based on Agile methods defined from the literature review for government software development, namely Scrum, Lean, XP and Kanban. The SAFe approach is also mentioned since, according to a VersionOne survey conducted in 2020, it is the most often used scaling strategy.