

Implementasi Payment Gateway dengan Multiple Software Product Line Engineering = Implementation of Payment Gateway with Multiple Software Product Line Engineering

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Abstrak

Payment gateway adalah sistem perantara pembayaran secara online. Software Product Line Engineering (SPLE) telah digunakan dalam pengembangan sebuah payment gateway product line yang menyediakan akses ke berbagai layanan dari berbagai vendor payment gateway. Pengembangan dengan SPLE memanfaatkan aspek commonality dan variability yang ada dalam pasangan-pasangan layanan dan vendor tersebut. Payment gateway product line dapat digunakan oleh SPL lain, tetapi seringkali dibutuhkan penambahan atau modifikasi dari konfigurasi fitur untuk menyesuaikan kedua SPL. Untuk menghindari ini, diperlukan Multiple Software Product Line Engineering (MSPLE) agar dapat memanfaatkan fitur-fitur yang sudah tersedia dalam payment gateway product line yang sudah dikembangkan tanpa harus memodifikasi fitur-fitur payment gateway yang sudah ada. Multi Product Line (MPL) adalah sebuah sistem SPL yang terdiri dari beberapa SPL yang saling mempunyai dependensi meskipun tiap SPL dapat berbeda dari aspek teknologi ataupun fungsionalitasnya. Penelitian ini melanjutkan implementasi payment gateway product line agar dapat menjadi bagian dari MPL. Sebagai studi kasus, payment gateway product line akan diintegrasikan dengan product line Amanah sehingga membentuk sebuah MPL. Pada penelitian sebelumnya mengenai payment gateway product line, telah dilakukan generalisasi pemanggilan API vendor agar pengguna dapat memilih vendor secara dinamis. Dalam penelitian ini, dilakukan refactoring untuk proses konfigurasi pemanggilan API vendor tersebut agar memudahkan penambahan fitur dan vendor di masa depan. Dilakukan juga penambahan vendor untuk beberapa layanan serta sedikit refactoring untuk WinVMJ Framework yang digunakan oleh payment gateway product line. Penelitian ini diharapkan dapat digunakan sebagai acuan pengembangan payment gateway product line dan MPL selanjutnya.

.....Payment gateway is an electronic system that acts as an intermediary in financial transactions. Software Product Line Engineering (SPLE) has been used in the development of a payment gateway product line that provides access to a variety of features from multiple payment gateway vendors. SPLE is used in the development by taking advantage of the commonality and variability among the variety of features from different payment gateway vendors. Payment gateway product line, when used by other product lines, often requires extension or modification of the system. Multiple Software Product Line Engineering (MSPLE) can be used as a solution to avoid that problem by making it possible to reuse existing features without the need to modify them. A SPL such as the payment gateway product line can be integrated with or used by another SPL which will form a Multi Product Line (MPL). MPL is a SPL that consists of several self-contained but interdependent SPLs. This research continues the development of payment gateway product line to be able to be a part of a MPL by integrating the payment gateway product line into Amanah product line as a study case. In previous research, generalization of vendor API call configuration is done so that users can choose different vendors dynamically. In this research, some refactoring is done to the vendor API call configuration to simplify the process of adding features or vendors. An additional vendor is also added for some features. Some refactoring is also done for WinVMJ Framework which is used by payment gateway

product line. This research is expected to serve as a reference for future payment gateway product line and MPL developments.