Implementasi Improvement Modul Role Management dan Donasi pada Sistem AMANAH untuk Charitable Organization = Implementation of Improvement on Role Management and Donation Module of AMANAH for Charitable Organization

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Abstrak

Sistem AMANAH adalah sebuah software product line (SPL) yang menghasilkan website bagi charitable organization secara otomatis. Sistem AMANAH memiliki modul role management yang di dalamnya mencakup role dan allowed permission dasar. Modul role management AMANAH belum diuji coba ke charitable organization sehingga terdapat kemungkinan adanya ketidaksesuaian antara role dan allowed permission dasar dengan peran yang umum pada charitable organization. Di sisi lain, kesesuaian fitur sistem AMANAH dengan proses yang umum pada charitable organization dapat meningkatkan relative advantage dan tingkat adopsi AMANAH oleh charitable organization. Penelitian ini bertujuan untuk mendapatkan role dan allowed permission dasar yang sesuai dengan proses yang umum pada charitable organization, serta mengidentifikasi dan mengimplementasikan fitur sebagai improvement pada sistem AMANAH. Penelitian ini melakukan requirements analysis dengan melakukan wawancara dengan beberapa charitable organization. Dari hasil requirements analysis, berhasil didapatkan role dan allowed permission dasar untuk sistem AMANAH. Role dan allowed permission diimplementasikan sebagai data seeding SQL yang dijalankan setiap kali suatu produk pada SPL AMANAH dibuat. Pada penelitian ini, telah dilakukan identifikasi dan implementasi empat fitur, yaitu history donasi dari donatur, kalkulasi donasi terkumpul, donasi barang, dan integrasi antara SPL AMANAH dan Payment Gateway. Implementasi fitur dilakukan dengan framework PRICES-IDE dan terdiri dari beberapa langkah, yaitu pemodelan diagram unified modeling language for delta-oriented programming (UML-DOP), pemodelan feature diagram, transformasi UML-DOP menjadi source code WinVMJ, dan modifikasi pada WinVMJ. Setelah implementasi fitur selesai, dihasilkan dua variasi produk AMANAH yang memiliki fitur yang telah diimplementasikan. Dilakukan functional testing pada kedua produk tersebut untuk memastikan fitur-fitur yang dikembangkan telah berjalan dengan baik.

.....AMANAH is a software product line (SPL) capable of generating websites for charitable organizations. AMANAH has a role management module which provides default roles and allowed permissions. The role management module has not been tested to charitable organizations, which may present discrepancies between the default roles and allowed permissions and roles commonly found in charitable organizations. On another note, alignment between features of AMANAH and processes commonly found in charitable organizations enhances relative advantage and adoption rate of AMANAH. This study aimed to identify default roles and allowed permissions suitable for AMANAH and also to identify and implement features as a form of improvement to AMANAH. This study conducted requirements analysis to several charitable organizations using the interview method. This study succeeded in capturing the default roles and allowed permissions. These roles and allowed permissions were implemented as SQL data seeding that is executed every time a product of AMANAH is generated. This study also identified and implemented four features, consisting of donation history, calculation of successful donations for a program, goods donation, and

integration of AMANAH and Payment Gateway SPL. Implementation of features in AMANAH was conducted using the Prices Requirement Integrated Changes-IDE (PRICES-IDE) framework. Feature implementation involved four processes: modeling the requirements using unified modeling language for delta-oriented programming (UML-DOP) diagram, modeling the features of AMANAH SPL using feature diagram, transforming UML-DOP diagram to WinVMJ source code using UML to WinVMJ tool, and completing the WinVMJ source code. Once feature implementation was done, two websites with the implemented features were generated. Lastly, functional testing was done to ensure that the features have been implemented properly.