Perancangan model representasi pengetahuan berbasis ontologi pada aplikasi sipelantik: studi kasus Pusintek Kementerian Keuangan = designing of ontology - based knowledge representation models on the application sipelantik: a case study of Pusintek Ministry of Finance / Andrianto Susilo

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Abstrak

[Pusintek sebagai penyedia jasa layanan Teknologi Informasi dan Komunikasi (TIK) Kementerian Keuangan telah menyediakan 20 (dua puluh) jenis layanan TIK. Salah satu upaya yang dilakukan oleh Pusintek guna meningkatkan efektivitas dan efisiensi pelayanan TIK kepada pengguna adalah dengan menerapkan kerangka kerja Information Technology Infrastructure Library (ITIL) sebagai salah satu praktik terbaik manajemen layanan teknologi informasi (Cartlidge, 2007). Dalam mendukung pelaksanaan manajemen layanan TIK, Pusintek telah memiliki aplikasi Sistem Pengelolaan Layanan Teknologi Informasi dan Komunikasi (Sipelantik). Aplikasi Sipelantik merupakan otomatisasi dari proses bisnis manajemen layanan TIK khususnya pada area Service Support. Aplikasi Sipelantik mencakup beberapa proses bisnis penting seperti pencatatan laporan gangguan, permintaan layanan, dan pengelolaan Configuration Management Database. Dalam prakteknya, pengetahuan yang dapat dihasilkan pada proses bisnis ini memiliki cakupan yang cukup luas seperti komponen konfigurasi yang terdampak oleh adanya gangguan, solusi terkait penyelesaian penanganan gangguan, komponen konfigurasi apa saja yang saling berhubungan, dan sebagainya. Pengetahuan-pengetahuan tersebut tidak mudah untuk dicari atau dipelajari dari aplikasi Sipelantik, sehingga dibutuhkan sebuah model yang dapat menggambarkan dan menghubungkan pengetahuan-pengetahuan tersebut.
Penelitian ini mengusulkan model representasi pengetahuan layanan TIK berbasis ontologi berdasarkan pengetahuan pada aplikasi Sipelantik. Model ontologi yang dibangun menggunakan perangkat lunak Protege dalam bentuk Web Ontology Language (OWL). OWL merupakan bahasa ontologi yang direkomendasikan oleh World Wide Web Consortium (W3C). Simple Protocol And RDF Query Language (SPARQL) dan Description Logic (DL) Query digunakan untuk mendapatkan informasi dan pengetahuan dari model OWL serta untuk memastikan hubungan antar konsep didefinisikan dengan benar. Reasoner plugin yaitu Pellet digunakan untuk memastikan konsistensi model ontologi yang dibangun. Hasil penelitian ini menghasilkan enam kelas pengetahuan (basis pengetahuan, pengelola layanan, permintaan layanan, penanganan gangguan, komponen konfigurasi, dan katalog layanan) beserta subkelasnya dan model ontologi yang dapat digunakan untuk berbagi dan penggunaan kembali pengetahuan terkait layanan TIK.;Pusintek as a provider of ICT services of the Ministry of Finance has provided 20 (twenty) types of ICT services. One of the efforts made by Pusintek in order to improve the effectiveness and efficiency of ICT services to users is to implement framework of Information Technology Infrastructure Library (ITIL) as one of the best pratices for information technology service management (Cartlidge, 2007). In supporting the implementation of ICT service management, Pusintek already have the application Sistem Pengelolaan Layanan Teknologi Informasi dan Komunikasi (Sipelantik). Application of Sipelantik is the automation of business process of ICT service management, especially in the area of Service Support. Application of Sipelantik covers several

critical business processes such as recording the incident report, services request, and management of the Configuration Management Database. In practice, the knowledge that can be generated on this business process has broad enough coverage such as a component configurations affected by the incident, incident handling solutions related to the solution, whatever the configuration of the components used, and so on. They are not easy to find or learn the knowledges of the Sipelantik application, so it need a model that can describe and connect the knowledges.

This study proposes a model of knowledge representation ontology-based ICT services based on existing knowledge on the Sipelantik application. The Ontology models are developed by software Protege in the form of Web Ontology Language (OWL). OWL is ontology language that is recommended by the World Wide Web Consortium (W3C). Simple Protocol And RDF Query Language (SPARQL) and Description Logic (DL) Query is used to obtain information and knowledge from OWL models and to ensure that the relationships between concepts properly defined. Reasoner Pellet plugin is used to ensure consistency of ontology models are built. The results of this research resulted in the six classes of knowledge (knowledge base, role, service request, incident handling, component configuration and service catalog) with their subclasses and a model of ontology that can be used to share dan reuse knowledge of ICT services.;Pusintek as a provider of ICT services of the Ministry of Finance has provided 20 (twenty) types of ICT services. One of the efforts made by Pusintek in order to improve the effectiveness and efficiency of ICT services to users is to implement framework of Information Technology Infrastructure Library (ITIL) as one of the best pratices for information technology service management (Cartlidge, 2007). In supporting the implementation of ICT service management, Pusintek already have the application Sistem Pengelolaan Layanan Teknologi Informasi dan Komunikasi (Sipelantik). Application of Sipelantik is the automation of business process of ICT service management, especially in the area of Service Support. Application of Sipelantik covers several critical business processes such as recording the incident report, services request, and management of the Configuration Management Database. In practice, the knowledge that can be generated on this business process has broad enough coverage such as a component configurations affected by the incident, incident handling solutions related to the solution, whatever the configuration of the components used, and so on. They are not easy to find or learn the knowledges of the Sipelantik application, so it need a model that can describe and connect the knowledges.

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