Modularity as an object oriented principle helps to develop appropriate large-scale and complex software. But modularity has some deficits [14] such as modular decomposition etc. , which is not allowed widely using modularity in software development in current years. In this paper some principles have been provided for increase modularity of software systems and help for turn an existing system to a modular system. These principles distribute functionalities of each module to them and decrease dependency of modules. To obtain this aim, object oriented principles and heuristics has been analyzed then by considering a module as an object, new modular principles have been provided. In the reminder to evaluate new principles, a new modular architecture has been provided. The strength of new principles has been shown with two complete case studies. New principles can be used in any large-scale software architectures, modular architectures and any service oriented platforms.

References

- B. Boiko, Content Management Bible, 2nd Edition, Wiley Publishing, Inc. , Indianapolis,
Decentralized Principles: New Modular Software Development Principles, a Robust Object Oriented Approach
Indiana, 2005.

- Drupal, Open Source CMS, available at http://Drupal.org/Project/Modules


- Java Persistence Layer Source Codes, available online at: http://Java-source.
Decentralized Principles: New Modular Software Development Principles, a Robust Object Oriented Approach

- C# Persistence Layer Source Codes, available online at: http://Csharp-source.net/persistence.
- M. Mammarella, S. Hovsepian, E. Kohler, Modular Data Storage with Anvil, SOSP’09, October 11–14, 2009, Big Sky, Montana, USA.

Index Terms

Computer Science

Keywords

Modular Software Architecture  Quality Attributes  Object Oriented Analysis And Design