

APSEC 2013 Tutorial Proposal

Title:

Requirements Engineering Based on REBOK (Requirements Engineering Body Of Knowledge) and its Practice

Discussion Leader (Contacting Person)

Mikio Aoyama, Dr. of Engineering

Professor, Dep. of Software Engineering, Nanzan University

Seto, Japan

mikio.aoyama@nifty.com

Tutorial Purpose: (objective of a tutorial)

The objective of the tutorial is to introduce core concepts and techniques of requirements engineering with practical examples.

The overall goal of the tutorial: Participants can understand the whole picture of requirements engineering based on REBOK.

- Practitioners can understand the current state of the practice of requirements engineering, and get ready to practice requirements engineering.

- Researchers can understand the whole view of requirements engineering, and get ideas and hints of the research topics.

- Educators can understand the whole view of requirements engineering, and guidelines of teaching it.

Tutorial description: (provide a clear description of the topic including background information & audience participation)**(1) Background and Motivation**

Requirements engineering is a key to success to software development. However, it is still difficult to practice full knowledge of requirements engineering due to the diversity of the knowledge. In Asia-Pacific area and the world, software professional and researchers in many countries are now facing challenges of introducing requirements engineering, and make the development success.

On the other hand, the requirements engineering has been maturing with a large number of publications, and an international standard of requirements engineering process [5]. To guide practitioners and researchers on the requirements engineering, REBOK (Requirements Engineering Body Of Knowledge) was published in 2011 [1, 2, 3]. Since then, REBOK has been well received, and several companies developed methodologies and education programs for professional engineers based on REBOK. At Requirements engineering conferences, we organized special session on REBOK at RE 2010 [1], and a panel session at RE 2013 [4]. This year English version of REBOK is going to publish.

(2) Intended Audience

Level: Basic to intermediate

Prerequisites: None

(3) Duration of Tutorial

Half-day (Three to four hours)

(4) Structure of Tutorial

Session 1 (1hr 30 min)

(1) Introduction

(2) Foundation of Requirements Engineering based on REBOK

Foundation of Requirements Engineering, Requirements Process, Requirements Analysis, Requirements Verification and Validation

Session 2 (1hr 30 min)

(3) Requirements Engineering Techniques

Requirements Elicitation, Requirements Analysis, Requirements Verification and Validation

(4) Requirements Engineering Practice

A Case Study of Requirements Engineering Practice and Practical Hints

(5) Discussions

(5) Previous experiences

At APSEC 2011, we organized a half-day tutorial on requirements engineering based on REBOK, which drew more than 50 participations, followed by another half-day tutorial at APSEC 2012.

Speakers: (short biographies of potential speakers)

Mikio Aoyama is a professor at the Department of Software Engineering, Nanzan University, Japan. He received MS and Dr. of Engineering from Okayama University and Tokyo Institute of Technology, respectively. For 15 years, he worked for Fujitsu Limited, where he involved in the development of large-scale communications software, and the development and practice of advanced software engineering. From 1986 to 1988, he was visiting scholar at the University of Illinois, USA. In 1995, he joined Niigata Institute of Technology as a professor, then moved to Nanzan University in 2001. He served many program/organizing committees of international conferences, including general co-chair of IEEE RE 2004, general co-chair of APSEC 2007 and co-chair of Experience Track on Automotive Systems of ICSE 2008. He is also served for editorial boards of several international journals including requirements engineering journal and IEEE Transactions on Services Computing.

References

- [1] M. Aoyama, et al., REBOK Manifest: Towards a Requirements Engineering Body Of Knowledge, Proc. IEEE RE 2010, IEEE CS, Sep.-Oct. 2010, pp. 383-384.
- [2] M. Aoyama, et al., A Model and Architecture of REBOK(Requirements Engineering Body Of Knowledge) and Its Evaluation, Proc. APSEC 2010, IEEE CS, Nov.-Dec. 2010, pp. 50-59.
- [3] M. Aoyama, et al., Requirements Engineering Body Of Knowledge, V. 1.0, Kindaikagakusha, 2011 [In Japanese] (English Version will be Available).
- [4] B. Penzenstadler, et al., The Requirements Engineering Body of Knowledge (REBoK), Proc. IEEE RE 2013, IEEE CS, Jul. 2013, pp. 377-379.
- [5] ISO/IEC/IEEE 29148:2011 Software and Systems Engineering – Life Cycle Processes – Requirements Engineering