

# **ODYSSEUS/EduCOSMOS Project Management Manual**

Version 1.0

Copyright © 2013-2015 by Kyu-Young Whang

Advanced Information Technology Research Center (AITrc)  
KAIST

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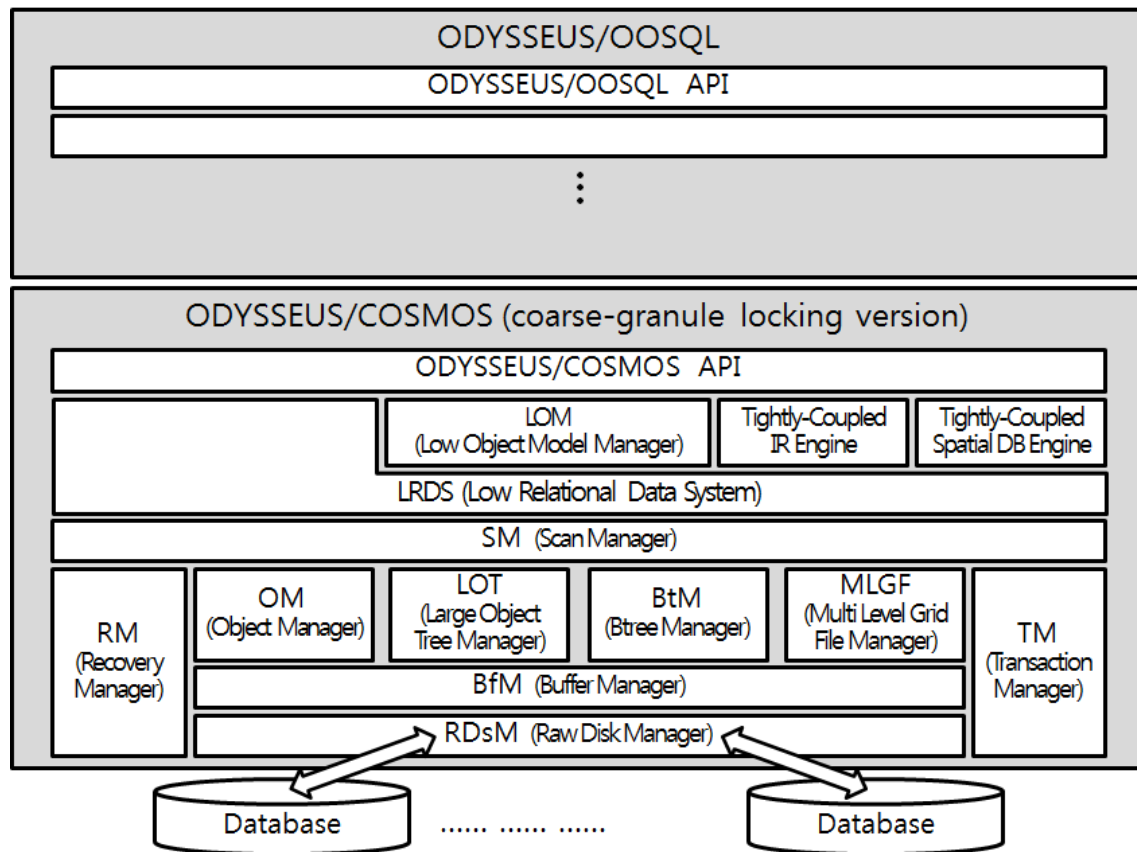
## Index

<b>1. ODYSSEUS/EDUCOSMOS PROJECT .....</b>	<b>4</b>
<b>2. COMPILATION AND EXECUTION.....</b>	<b>6</b>
<b>3. DIRECTORY STRUCTURE OF PROJECT MANAGEMENT .....</b>	<b>6</b>
<b>4. SCENARIO OF PROJECT MANAGEMENT .....</b>	<b>7</b>
4.1. Teaching Assistant (TA).....	7
4.2. Student .....	7

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## 1. ODYSSEUS/EduCOSMOS Project

ODYSSEUS is an object-relational DBMS developed by Kyu-Young Whang et al. at Advanced Information Technology Research Center (AITrc) / Computer Science Department of KAIST. ODYSSEUS has been being developed since 1990. ODYSSEUS/COSMOS is the storage system of ODYSSEUS. The overall architecture of ODYSSEUS is as follows :



ODYSSEUS/EduCOSMOS is a project for educational purposes to implement a part of the ODYSSEUS/COSMOS storage system. It consists of the following three projects :

- **EduBfM project** : We implement the operations of the buffer manager consisting of only a very limited subset of the Odyssey Buffer Manager (BfM) functionality.

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- EduOM project : We implement the operations of page-related structures consisting of only a very limited subset of the Odysseus Object Manager (OM) functionality.
  - EduBtM project : We implement the operations of the B+tree index manager consisting of only a very limited subset of the Odysseus B+tree Manager (BtM) functionality.

To help implement each module, students are provided with the project manual (“EduXXX Project Manual.ppt” files), which contains the base information of the project, the procedure to follow, and the header/object files containing data structures and useful APIs. Students are also provided with the test module to test the functions that they implement and the executable solution file showing the correct test result.

Students can learn about the structures and functionality of major modules of a DBMS through each project manual provided and can learn the DBMS system programming skill by implementing and testing these modules.

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## 2. Compilation and Execution

ODYSSEUS/EduCOSMOS is to be compiled and run on the Red Hat Linux OS. The recommended environment is as follows.

- Platform:
  - 32bit: Linux version 2.6.18-308.el5PAE
  - 64bit: Linux version 2.6.32-431.el6.x86\_64
- Compiler:
  - 32bit: gcc version 4.1.2
  - 64bit: gcc version 4.4.7
- Optional software (for ease of performing the project):
  - Debugging tool (gdb)
  - Version control software (e.g., git)

## 3. Directory Structure of Project Management

Directory/File			Description
Tools	initProject.sh		Shell script file to generate the student accounts and their submission directories using student numbers listed in studentNumberList.txt
	finalProject.sh		Shell script file to delete the student accounts and their submission directories using student numbers listed in studentNumberList.txt
	studentNumberList.txt		Text file where student numbers are written with one student number in one line.
Submit	EduBfM	Account name 1	Directory where the result of the EduBfM project for each student account is submitted.
		Account name 2	
		...	
	EduOM	Account name 1	Directory where the result of the EduOM project for each student account is submitted.
		Account name 2	
		...	

	EduBtM	Account name 1	Directory where the result of the EduBtM project for each student account is submitted.
		Account name 2	
		...	
Projects	EduBfM		Directory containing project files (skeleton files(.c files), object files(.o files), header files(.h files), source code files of the test module, and executable solution file)
	EduOM		
	EduBtM		
Doc	ProjectManagementManuals		Manual containing the instructions for TA to manage the project
	Project Manuals		Manual containing the base information of the project and the procedures to follow.
QnA	EduCOSMOS_QnA.txt		Collection of QnA's

## 4. Scenario of Project Management

### 4.1. Teaching Assistant (TA)

- ① Distribute to students the manual for constructing the project environments.
- ② Provide the project environments to students who are not able to construct them by whatever reason.

### 4.2. Student

- ① Construct the project environments according to the manual provided.
- ② Students who are not able to construct the project environment, ask TA to provide it.
- ③ Install and update the required utilities (GCC, git, nss curl)