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/*   */
/***/
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/*   */
/*   ODYSSEUS/EduCOSMOS Educational Purpose Object Storage System   */
/*   (Version 1.0)   */
/*   */
/*   Developed by Professor Kyu-Young Whang et al.   */
/*   */
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/*   Korea Advanced Institute of Science and Technology (KAIST)   */
/*   */
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+----------------------------------+
| Introduction - ODYSSEUS/EduCOSMOS |
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ODYSSEUS/EduCOSMOS is a project for educational purposes to implement a part of the storage system of ODYSSEUS(*) named ODYSSEUS/COSMOS. 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 ODYSSEUS Buffer Manager (BfM) functionality.
- 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, 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.

(*)ODYSSEUS

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. Some useful references are as listed below.

[1] Whang, K., Lee, J., Lee, M., Han, W., Kim, M., and Kim, J., "DB-IR Integration Using Tight-Coupling in the Odysseus DBMS," World Wide Web, Vol. 18, No. 3, pp. 491-520, May 2015.

[2] Whang, K., Lee, M., Lee, J., Kim, M., and Han, W., "Odysseus: a High-Performance ORDBMS Tightly-Coupled with IR Features," In Proc. IEEE 21st Int'l Conf. on Data Engineering (ICDE), pp. 1104-1105 (demo), Tokyo, Japan, April 5-8, 2005. This paper received the Best Demonstration Award.

[3] Whang, K., Park, B., Han, W., and Lee, Y., "An Inverted Index Storage Structure Using Subindexes and Large Objects for Tight Coupling of Information Retrieval with Database Management Systems," U.S. Patent No. 6,349,308 (2002) (Appl. No. 09/250,487 (1999)).

[4] Whang, K., Lee, J., Kim, M., Lee, M., Lee, K., Han, W., and Kim, J., "Tightly-Coupled Spatial Database Features in the Odysseus/OpenGIS DBMS for High-Performance," GeoInformatica, Vol. 14, No. 4, pp. 425-446, Oct. 2010.

[5] Whang, K., Lee, J., Kim, M., Lee, M., and Lee, K., "Odysseus: a High-Performance ORDBMS Tightly-Coupled with Spatial Database Features," In Proc. 23rd IEEE Int'l Conf. on Data Engineering (ICDE), pp. 1493-1494 (demo), Istanbul, Turkey, Apr. 16-20, 2007.

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| Compilation and Execution |
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ODYSSEUS/EduCOSMOS is to be compiled and run on Linux (Red Hat).
The recommended environment for compiling and running ODYSSEUS/EduCOSMOS 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

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| Directory Structure |
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./Doc
       /ProjectManagementManuals: (for TA) project management manuals for TA's
       /ProjectManuals: (for student) project manuals for students
./Projects
       /EduBfM: (for student) project files for the EduBfM project
       /EduBtM: (for student) project files for the EduBtM project
       /EduOM: (for student) project files for the EduOM project
./QnA: (for student) a collection of Q&A's
./Tools: (for TA) tools to manage the projects
```