

A Perspective on Open Sources and Open Standards for Next-generation Course Management Systems Under Ubiquitous Environment

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Japan

Focusing on

- Higher Education
 - Not K12
- Course Management System (CMS)
 - WebCT, Blackboard
 - Sakai, Moodle
- CMS under Ubiquitous Computing Environment
 - uClassroom by ULAN Project
- Strategic Use of CMS as an IT infrastructure in each institution
 - Enterprise applications for teaching and learning

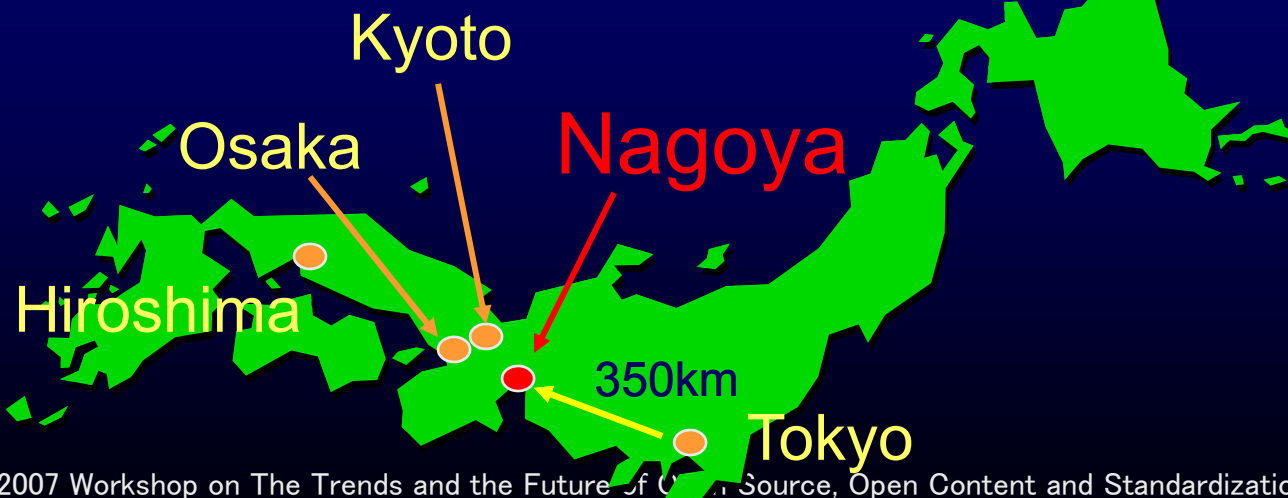
Agenda

- Background
 - Current Status of Japan
 - My personal experiences in terms of WebCT
- ULAN Project and uClassroom
- Required Standards for uClassroom
- Concluding Remarks

Background

Nagoya University

- One of the key national universities in Japan
- One of Top 10 research universities
- About 3,500 faculty & admin. staff
- About 16,000 under-graduate & graduate students



Self-Introduction

- 2002-Present
 - Division for Information Architecture, Information Technology Center, Nagoya University
 - Planning and Implementing Nagoya Univ.'s IT Strategy
 - How to Use Computer Network for Teaching, Learning and Research Activities
 - Constructing Nagoya University Portal (<http://mynu.jp>)
- 1998-2001
 - Center for Information Media Studies
 - Creation of Courseware Supporting System and Its Effective Use
 - WebCT Localization (1998-2001)
 - A WebCT Evangelist To Advance The Use of IT in Teaching and Learning (2000-...)

Special Lecture at NIME

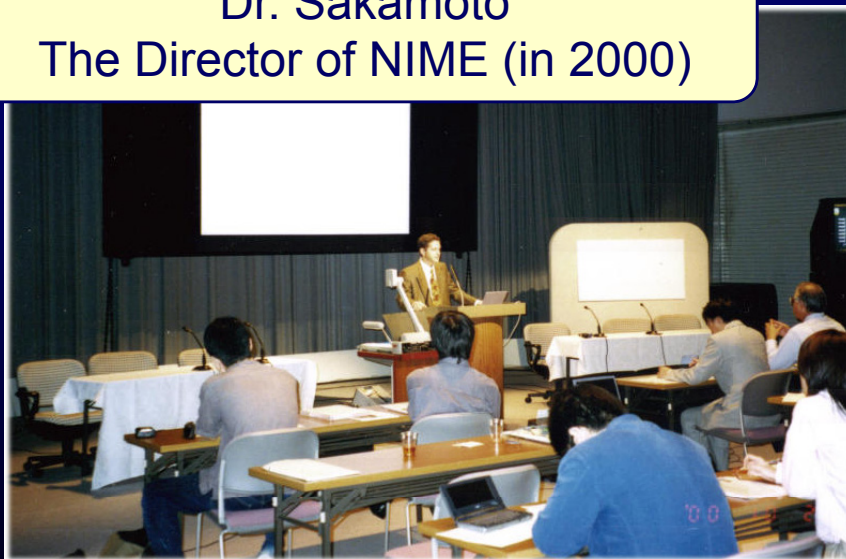
26th October, 2000



Dr. Sakamoto
The Director of NIME (in 2000)



Murray Goldberg (UBC)
The WebCT Founder



About 50 attendees

“Today would be a memorial day
in our history”

WebCT Users' Activities

- Objectives
 - Sharing experiences and know-how among WebCT Users in Japan
- Annual Nippon WebCT User Conferences
 - Since 2003
 - About 150-200 participants
 - About 20-30 presentations (oral and poster)
- Annual Nippon WebCT Technical Meetings
 - Since 2003
 - About 50-60 participants
 - Deep discussions

日本WebCTユーザ会主催

「第2回日本 WebCT ユーザカンファレンス」終了！

日本WebCTユーザ会(会長:名古屋大学情報メディア教育センター山里助教授)では、「第2回日本 WebCT カンファレンス」を3月16日～17日に長良川国際会議場で開催致しました。

WebCT のような高等教育機関向け e-Learning プラットフォームは「コース管理システム (Course Management System, CMS)」と呼ばれます。これは、WebCT 等が、「高等教育機関における一学期分の講義等のひとまとまりの教育プロセス (=コース) において、教育・学習活動をトータルに支援することにより、学生の学習成果を最大にするための支援システム」として使用されているからです。

北米では、何らかの CMS を全学的に標準化して使っている大学が8割を越えるところまで普及しています。しかしながら、我が国では CMS の概念自体はっきりとしておらず、活用自体進んでいないのが現状です。

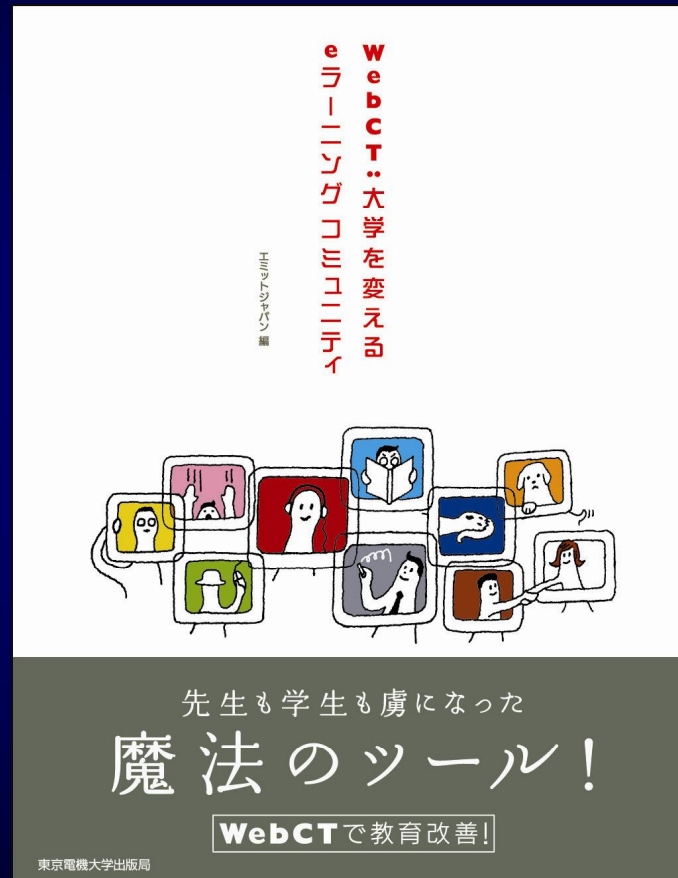
そこで、今回は WebCT に限らず、様々なプラットフォームを使って Web を教育・学習活動に役立てられている皆さんの実践を、広く共有することを目的とし、カンファレンスのテーマは「Web for Teaching and Learning」としました。



第2回WebCTユーザカンファレンスの記録

- 日時: 平成16年3月16日(火)13時～3月17日(水)16時35分
- 主催: 日本WebCTユーザ会
- 後援: 名古屋大学情報メディア教育センター・高等教育研究センター・情報連携基盤センター
- 協賛: WebCT Inc., 株式会社CSK, 株式会社エミットジャパン

“A e-Learning Community Changing University”



A Collection of
14 Faculty's Activities
In Each Institution

Very Successful as Community-based Activity

After Seven Years...

- The Use of CMS is Still Limited!!
 - 10 years behind compared with North American institutions
 - WebCT: About 50 inst., Blackboard: ? inst.
 - Not standardized in the whole campus
 - “Faculty don’t want to change their teaching style”
 - Still one way in education
 - Some younger faculty started to transform educational experiences by using CMS

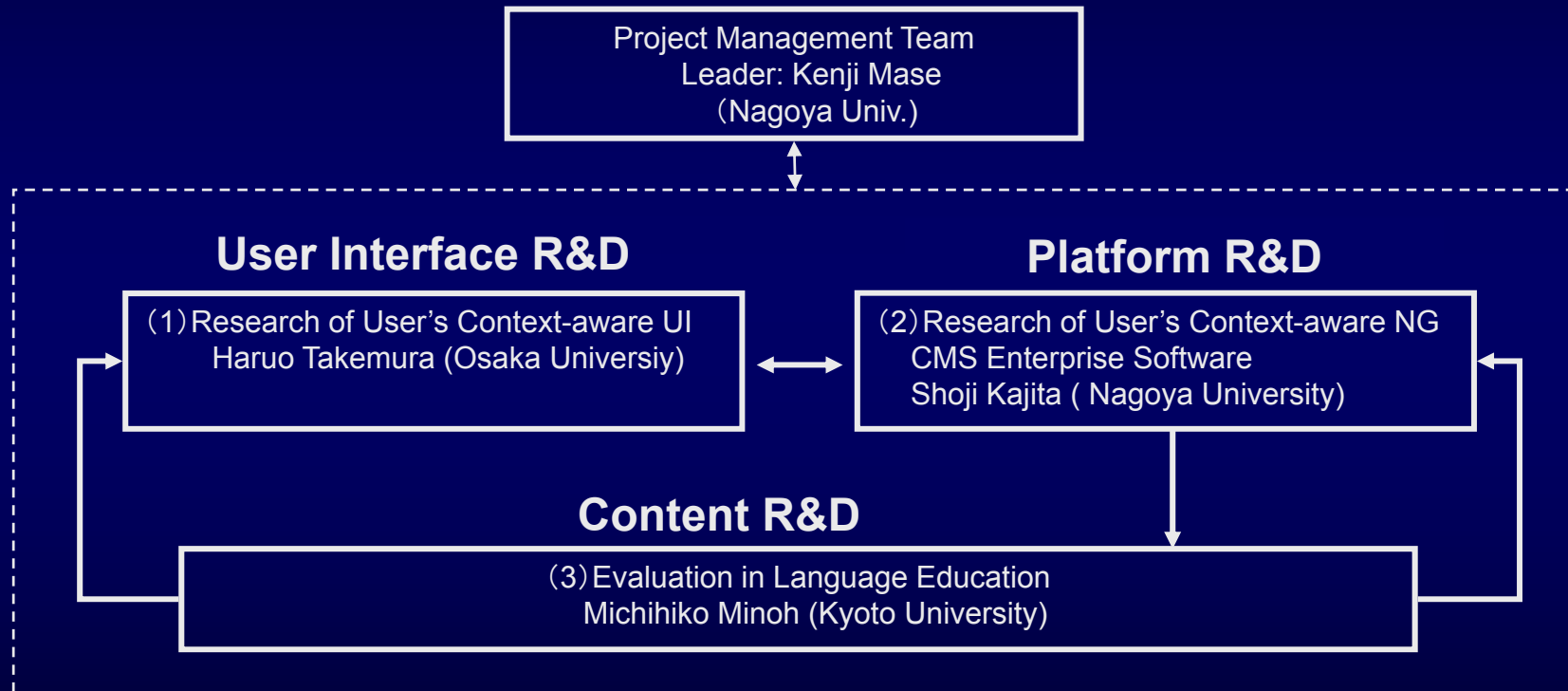
ULAN Project

To React Diverse Institutional Information Services
Under Ubiquitous Computing Environment

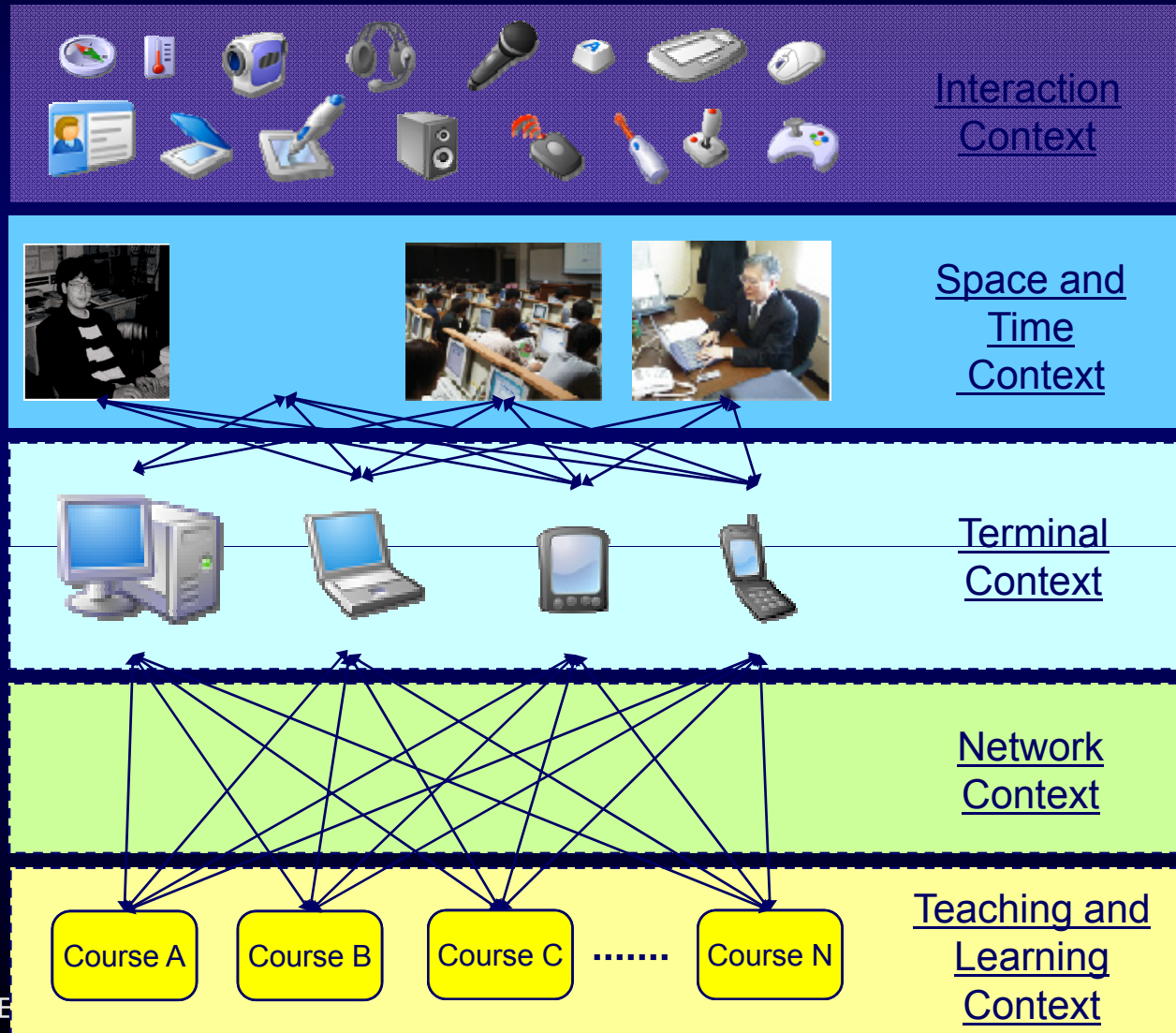
ULAN Project

- Objectives
 - Develop a user's context-aware CMS under ubiquitous computing environment
 - Release and maintain a production-level open source CMS that can be used in Japanese higher educational institutions
- Four Years Research Project
 - Supported by Ministry of Education
- Main Groups
 - Nagoya University, Kyoto University, Osaka University, CSK Systems Corporation

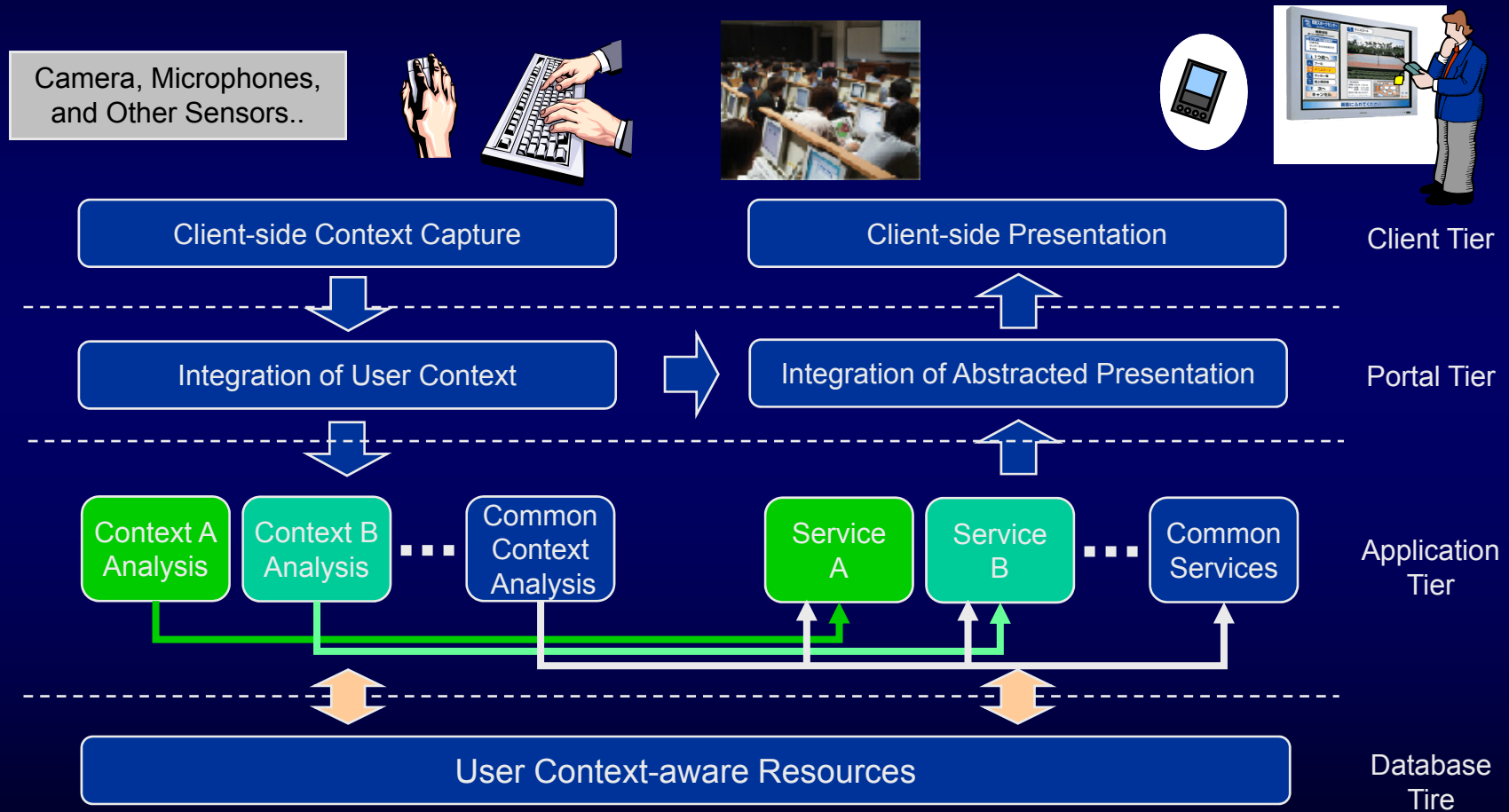
Research Group Organization in ULAN Project



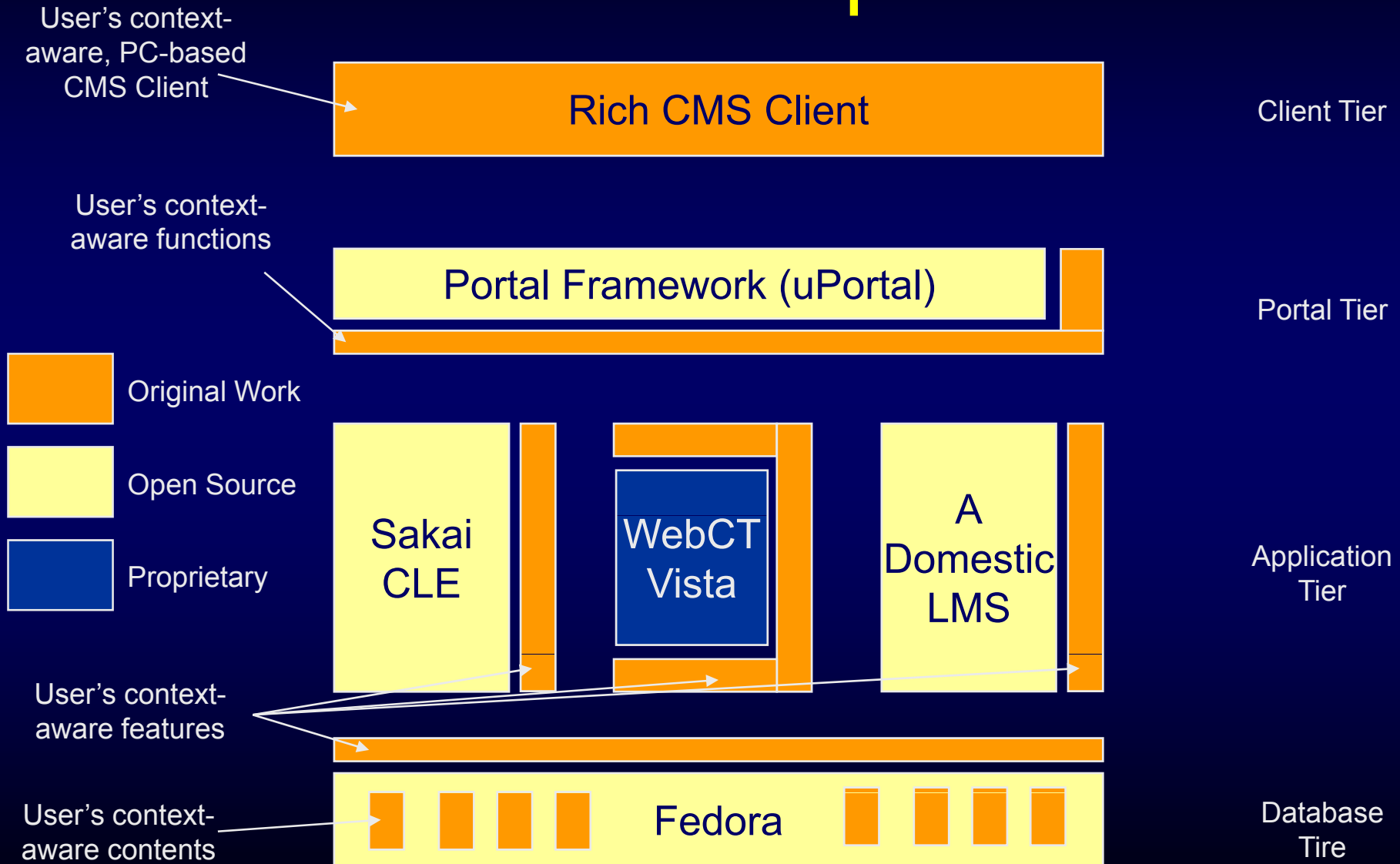
User Environment Is Becoming Diverse in Terms of ...



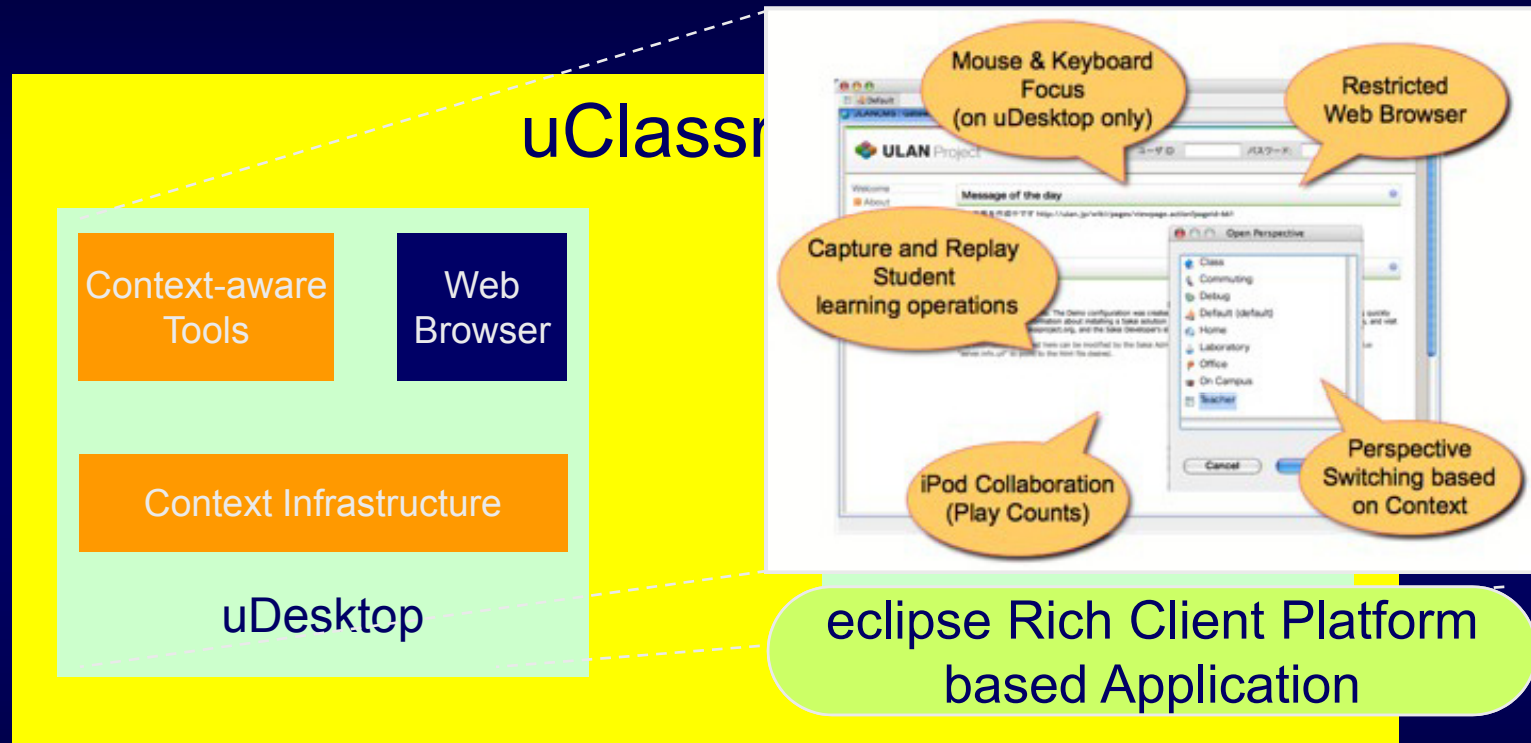
User Context-aware Next Generation CMS Architecture



Software Components



uClassroom: User Context-aware Next Generation CMS Architecture



By the end of 2007, we will contribute our activities
to an international OSS community, Sakai!

Expanding Sakai Community In the World

QuickTimeý Ç²
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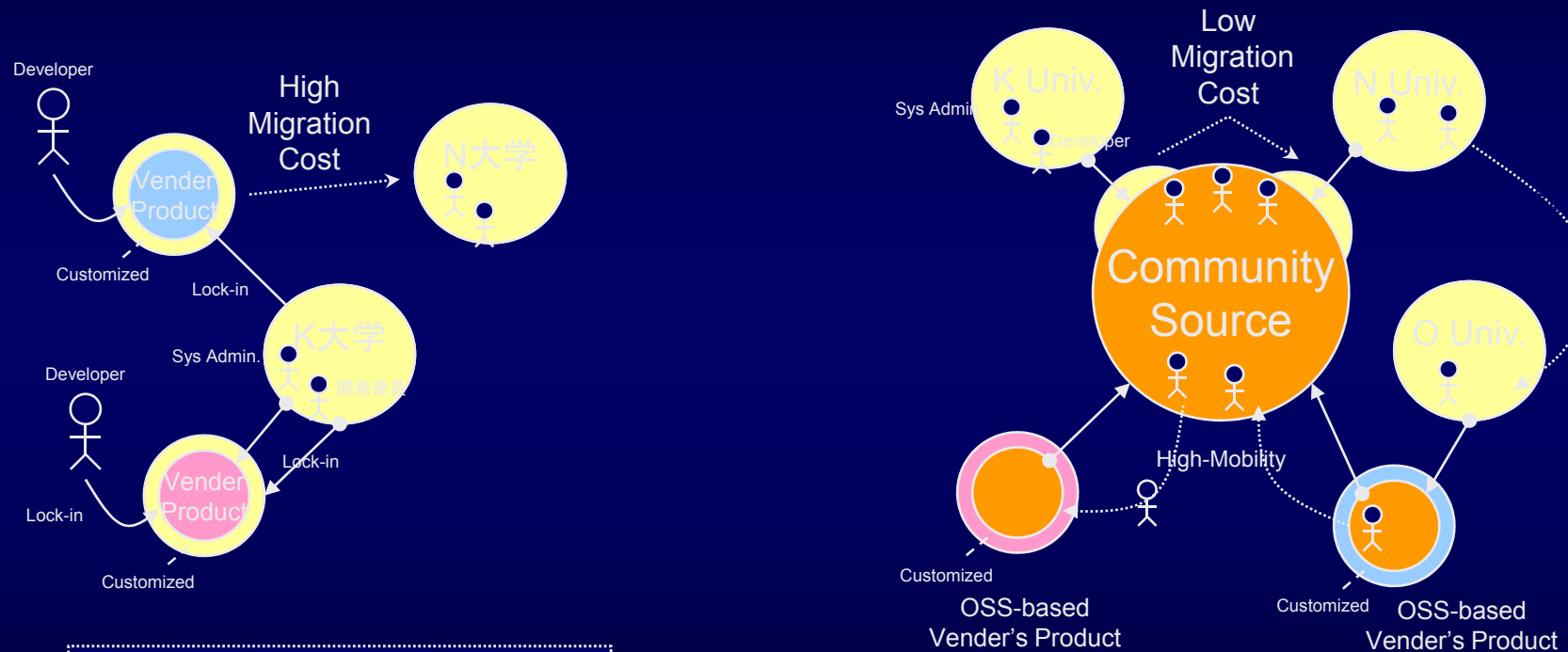
What is



Sakai is an **Innovation Platform** for Teaching, Learning, and Research Activities in Higher Education

Everything is For Community!

From Out-Sourcing To Community Sourcing

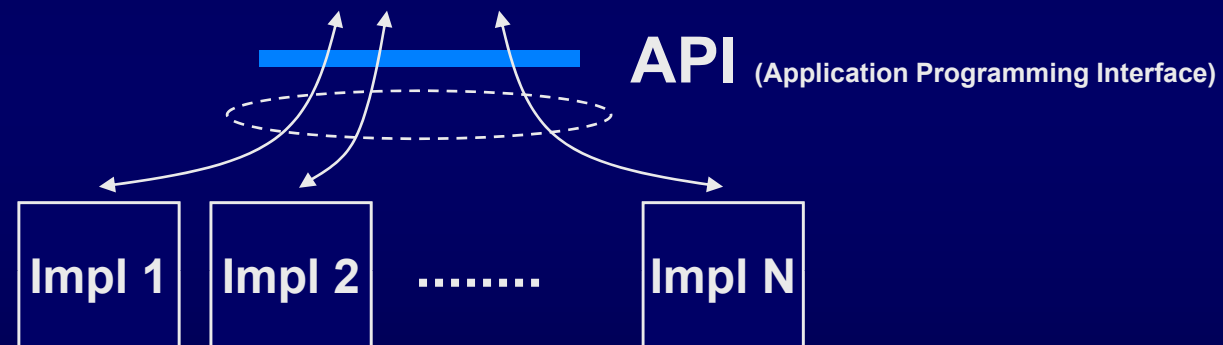


[大学] ベンダーロックインにより基幹システムのコントロールを失いかねない
 [ベンダ・Sler] 開発コストを回収するために拡大戦略しかありえない(独占化)
 [要員] 特定のベンダ製品に依存した仕事しかできない

[大学] OSSコミュニティに貢献することで保守コストを削減, 他大学との共有化を促進
 [ベンダ・Sler] OSSコミュニティに貢献することで開発・保守コストを削減
 [要員] 貢献内容・レベルがオープン

Open Source & Open Interfaces

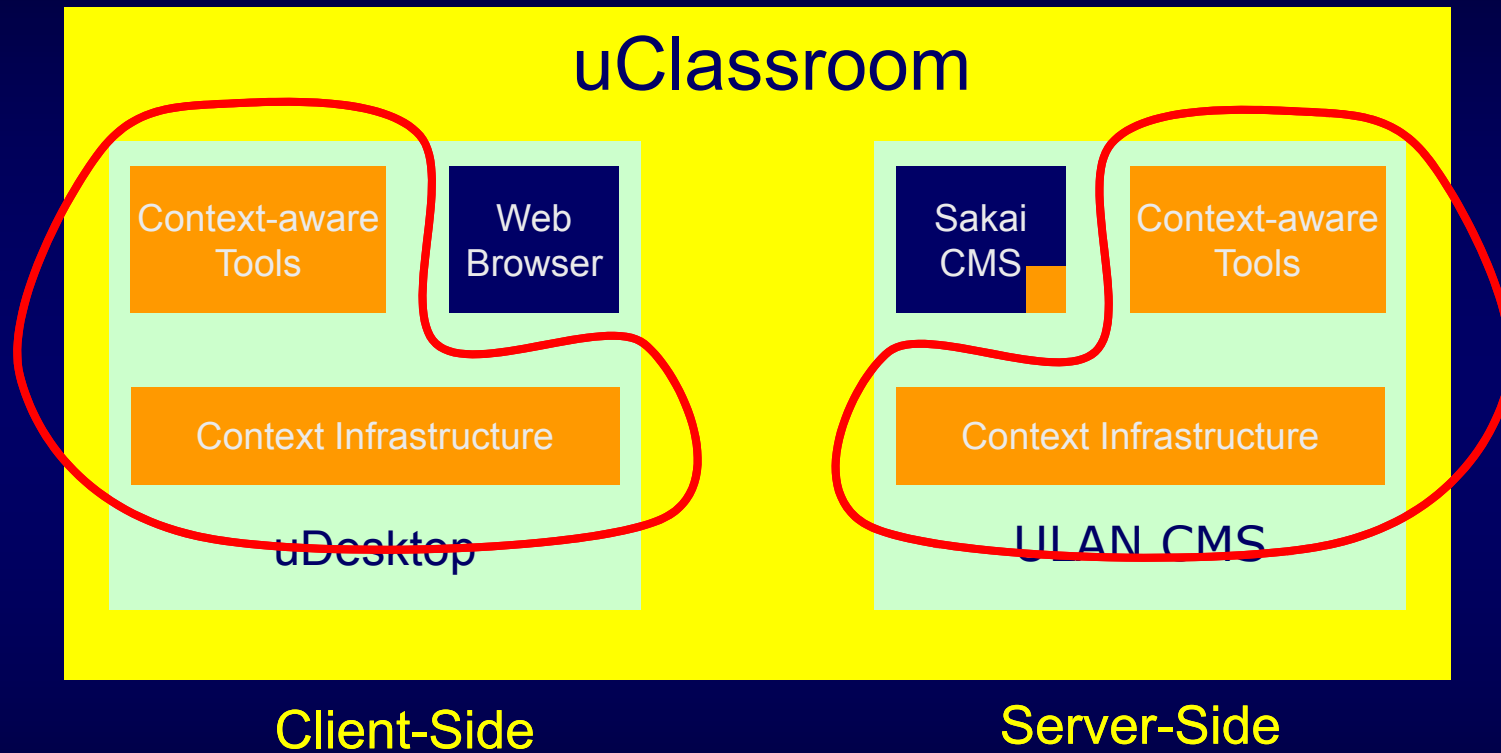
- Modularity to enable us to customize highly-complex CMS/LMS based on local needs using OSS, Vender' Software and/or home-grown software



Japan

Issues on Development of Open Standards for uClassroom

Required Open Standards



Some different issues need to be addressed either server-side or client-side, because of invading user's private space on user's desktop

Server-Side Issues

- Standardized Context Infrastructure
 - Context repository
 - to receive, perciste, and search context information from client-side
 - Context information format
 - Context information exchange protocol
- Standardized Context-aware Tool Development Framework
 - MIT OSID, Sakai Framework could be the basis

Client-side Issues

- Standardized Context Infrastructure
 - Context repository
 - To take offline situation into account
 - Caching and synchronization schemes are required
 - Context acquisition scheme
 - To get context information on client-side
 - Standardized Context-aware Tool Development Framework
 - There is no basis
 - Privacy Filter

Concluding Remarks

- We describe a perspective on open sources and open standards for “uClassroom” as a next-generation CMS
 - There are issues to be considered in creating Open Standards
 - Community-based approach required to realize sustainable development
- CMS is an IT infrastructure in each institution
 - In Standardizing process, both of institutional needs and end-users needs must be taken into account