Welcome to
Distributed Systems Laboratory
at
UW1-302: Center for Integrated Teaching, Learning, and Scholarship

1. Project Overview
The Distributed Systems Laboratory (DSL) has been devoted to research, development, and practical use of mobile agents that are programs carrying their live data with them and autonomously migrating over network. Funded by NSF Middleware Initiative, we are currently developing the AgentTeamwork system, a mobile-agent-based grid-computing middleware that benefits remote computer users who hope to mutually offer their desktop computing resource to Internet group members while their computer is left unattended. Each mobile agent represents a client user, carries his/her job request, searches for resources available for the request, executes the job at suitable computers, and migrates it to others when the current one has become unavailable for use.

2. Project Members and Collaborators:

<table>
<thead>
<tr>
<th>Name</th>
<th>Period</th>
<th>Task</th>
<th>Name</th>
<th>Period</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Koichi Kashiwagi</td>
<td>1/03 ~ 6/03</td>
<td>All tasks</td>
<td>Ryan Liu</td>
<td>6/03 ~ 3/04</td>
<td>Database</td>
</tr>
<tr>
<td>Eric Nelson</td>
<td>4/03 ~ 6/03</td>
<td>Agent engine</td>
<td>Vivian Chan</td>
<td>4/04 ~ 6/04</td>
<td>Application</td>
</tr>
<tr>
<td>Hyon Kim</td>
<td>6/03 ~ 8/04</td>
<td>Database</td>
<td>Tae Suzuki</td>
<td>4/04 ~ 6/04</td>
<td>Documentation</td>
</tr>
<tr>
<td>Jon Hagen</td>
<td>6/03 ~ 8/04</td>
<td>Job launcher</td>
<td>Donya Shirzad</td>
<td>6/04 ~ 8/04 (6/05 ~ 12/05)</td>
<td>Application</td>
</tr>
<tr>
<td>Doug Kim</td>
<td>6/03 ~ 8/04</td>
<td></td>
<td>Duncan Smith</td>
<td>6/04 ~ 8/04</td>
<td>Agent engine</td>
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(1) User: I’d like to run this program
(2) Agent: I’m searching for idle computers.
(3) Agent: I’ll run your program here.
(4) Agent: I’m bookkeeping your intermediate results.
Two Available Positions for Undergraduate Research Assistants  
(Jan. 2005 ~ Dec. 2007)

1. **Position**
The DSL will hire two undergraduate research assistants for the next three years starting from January 2005. Prospective assistants will be involved in our NSF-funded research project, where we develop the AgentTeamwork grid-computing middleware system that dispatches mobile agents over Internet to orchestrate the remote execution of user programs over a collection of idle computers. The jobs include the enhancement of mobile-agent execution engine, the development of database interface code, language-preprocessor design, applications development, and user-interface design. Frequent interaction with other project members and collaborators from Ehime Univ. will be expected.

2. **Salary**
$14.00/hour, 15 hours/week

3. **Merits**
   (1) You can earn money: $2100/quarter.
   (2) This work can fulfill 10-credit CSS497/499 courses.
   (3) The position will contribute to furnishing your resume.
   (4) If you ask me to write a reference letter, I can include your project activity in real details.
       Among those I wrote a reference letter for, three students were admitted to a graduate school at
       UW Tacoma, UC Irvine, and Ehime Univ. Japan.
   (5) You can learn various Java/Linux programming techniques.
       Java applets, sockets, RMI, JDBC, Servlets, MPJ, eXist/Xindice XML databases, 
       JavaCC/ANTR compiler tools, etc.
   (6) You may have some conference presentation opportunities.
       We are planning to present our work at IEEE PacRim05 and PacRim07 at Victoria.
   (7) If you are interested, you could visit Ehime Univ. Japan in accordance with UWB/Ehime
       student exchange agreement, work with my collaborators, and get some credits.

4. **Eligibility**
You must be a CSS undergraduate student and complete at least one of the following three courses

**Prof. Fukuda is teaching,** and receive grade **3.5** or better:
- CSS430: Operating Systems
- CSS432: Network Design
- CSS434: Parallel and Distributed Computing

Although I am not teaching, CSS475: Database Systems will be useful to work on a portion of
AgentTeamwork. The shortest milestones to get this position are:

<table>
<thead>
<tr>
<th>Quarters</th>
<th>Courses to take</th>
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<tbody>
<tr>
<td>Fall 04</td>
<td>CSS342</td>
</tr>
<tr>
<td>Winter 05</td>
<td>CSS343 (and CSS475 if you like)</td>
</tr>
<tr>
<td>Sprint 05</td>
<td>CSS430 (Prof. Sung) and <strong>CSS434 (Prof. Fukuda)</strong></td>
</tr>
<tr>
<td>Summer 05</td>
<td>You can work as an undergraduate research assistant</td>
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5. **Contact Point**
Prof. Munehiro Fukuda  
Office: UW1-331  
Email: mfukuda@u.washington.edu Ph: 425-352-3459  