

## The Great Mind Challenge – Water Management Portal

<b>1.</b>	<b>Name of the Project</b>	<b>Water Management Portal</b>
<b>2.</b>	<b>Objective/ Vision</b>	<p>Provide an application which allows residents and visitors of a city to find out more about water management-related aspects about the city. Aspects include information about water supply and waste water management for the city. The site might also provide real-time information about flooding, water supply handling (boil-water alert), water-related work projects (water supply repair, waste water treatment, etc.).</p> <p>The application could also provide information about water management-related studies and/or projects that the city is working on. Anything from measured bacteria and contaminant levels in rivers and streams, water supply, and waste water egress to new water management projects and their status, to water management analysis and reports. The site could also provide safe water use instructions, what to look for, what to avoid, and so on.</p> <p>Support resident and visitor feedback for a variety of items: water supply pressure issues, water quality concerns, water pollution incidents, or submit a suggestion for improvement. (Note – there are existing examples of subsets of this, for example – <a href="http://creekwatch.researchlabs.ibm.com/">http://creekwatch.researchlabs.ibm.com/</a>)</p>
<b>3.</b>	<b>Users of the System</b>	<p>A. city residents            B. visitors            C. city employees            D.</p>
<b>4.</b>	<b>Functional Requirements (Atleast Eight)</b>	<ul style="list-style-type: none"> <li>• Web accessible information base</li> <li>• Provide templates for information entry – e.g. education, water supply pressure report, water quality concern report, etc.</li> <li>• Allow for easy update of information by city employees</li> <li>• Allow for easy retrieval of feedback collected to facilitate acting on feedback received</li> <li>• Extensible to allow each city to update with their own specific information</li> <li>• Allow report of water management-related issue (dirty water, bad odor, pollution, etc.)</li> <li>• Allow submission of suggestions for improvement</li> <li>• Enable a map view of the city which shows information about water management-related events, projects, and reports.</li> </ul>
<b>5.</b>	<b>Non-functional requirements (Atleast Four)</b>	<ul style="list-style-type: none"> <li>• Support at least 200 concurrently connected users</li> <li>• Robust database design to handle expected users of up to 1,000,000 residents</li> <li>• Response time for website should be sub-second</li> <li>• Easy backup and recovery of user supplied information</li> </ul>

6.	<b>Optional features</b>	<p>a.</p> <p>b.</p> <p>c.</p>
7.	<b>User interface priorities</b>	<p>A. Professional look and feel</p> <p>B. Browser testing and support for IE, Safari, Chrome, and Firefox.</p> <p>C. Reports exportable in .XLS, .PDF or any other desirable format</p> <p>D. Allow input of national language characters (e.g. Vietnamese, Chinese, Spanish, etc.)</p>
8.	<b>Reports</b>	<p>A. Report of water pressure levels at selected locations</p> <p>B. Report of water flow rates at selected locations</p> <p>C. Report of flooding events across the city by date, season, etc.</p> <p>D. Report of water management work projects underway and current status.</p> <p>E. Usage report of website (hit rates, popular pages)</p> <p>F. Report of user suggestions</p>
9.	<b>Other important issues</b>	<p>A.</p> <p>B.</p>
10.	<b>Team Size</b>	2 – 4 students
11.	<b>Technologies to be used</b>	UML, J2EE, XML, e-Forms, AJAX, Web 2.0, Web-services, SOA
12.	<b>Tools to be Used</b>	<ul style="list-style-type: none"> <li>• Rational Team Concert, Requirements Composer, Design Manager</li> <li>• Eclipse / RAD</li> <li>• WebSphere Portal/ WAS/ WAS CE / WPS</li> <li>• DB2 Express – ‘C’ or DB2 UDB</li> <li>• Linux will be the preferred OS.</li> </ul>
13.	<b>Final Deliverable must include</b>	<p>A. Online or offline help to above said users, Application deployment executive and developer</p> <p>B. Instructions on what and how to update the web application data (static pages) with city-specific information.</p> <p>C. Application archive ( .war/.ear ) with source code</p> <p>D. Database backup and DDL Script</p> <p>E. Complete Source code</p>