

United States Army Corps of Engineers, Engineer Research and Development Center, Information Technology Lab (USACE-ERDC-ITL)

REQUEST FOR PROPOSALS

ITL RFP in Support of Fall 2009/Spring 2010 MS State Software Engineering Capstone
Course: Software Engineering Senior Project

ODBC2KML – KML generation tool from generic ODBC Data Sources

DISCLAIMER

This document was produced for the support of the fall 2009/spring 2010 MS State course: CSE 3213/3223 Software Engineering Senior Project. Though this document appears as a legitimate proposal solicitation, this document is intended to serve as a simulation of a real proposal solicitation in a real working environment. This document is not a real proposal solicitation, and it is not intended for bidding by groups other than the students in the fall 2009/spring 2010 software engineering senior design course.

Introduction

The United States Army Corps of Engineers, Engineer Research and Development Center, Information Technology Lab (USACE-ERDC-ITL) requests proposals for the following purpose according to terms and conditions attached. In the preparation of this Request for Proposals (RFP) the words "Proposer," "Contractor," "Consultant," and "Proponent", are used interchangeably, and the phrase "Project Participants" refers to ITL personnel and activities.

Purpose

ITL has an established Google Earth Enterprise server system that is intended to be a data share point for multiple agencies across multiple domains. Each agency has its own database services that require a KML conversion process in order to be consumed by the Google Earth Enterprise system. The purpose of this RFP is to solicit proposals for the development of an automated tool for this requirement.

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SECTION I(a): PROBLEM STATEMENT

Consider a situation where there are several disparate applications that maintain data about various USACE assets utilizing relational databases. It currently takes a specialized software package for each unique data source to consume the data from the database, apply legend information to that data source and convert it to a KML format for user in the Google Earth Enterprise system. It is desirable to provide a general application that will consume a relational database data source and present the data to the user through a user-friendly interface, allow them to build legend information about each field (min value, max value, color, icon), and then using these inputs generate the KML.

Further problem constraints:

- Assume that the data sources contain between 100 and 100000 data rows.
- The system must provide a means by which a variety of ODBC data sources can be consumed without altering code. The system architecture must be implemented using Java or team recommended development system.
- According to firewall constraints data may only be exchanged over ports 80 and 443 (Web and DB ports).
- Particular attention will be given to the User Friendliness of the application. This tool will be widely used among people with a variety of skill sets.

Figure 1 provides an illustration of the demonstration system that proposers will implement.

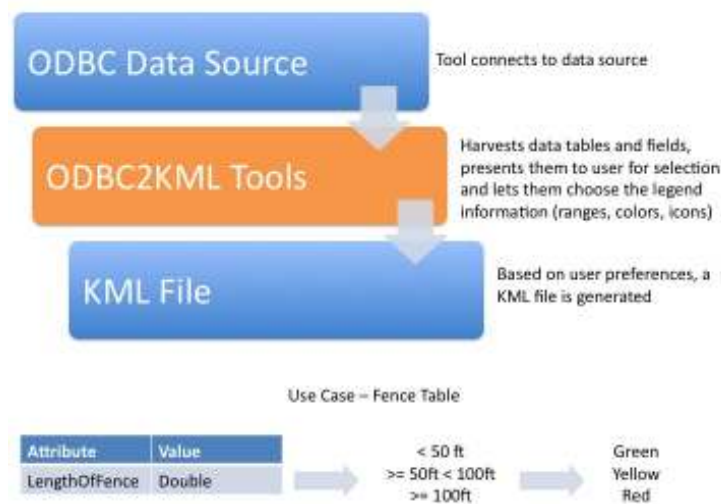


Figure 1: Proposer Prototype Problem

SECTION I(b): CONTACT PERSONS:

Questions regarding the content or intent of this RFP, or any procedural matters should be addressed to:

Mr. Robert Walker
Software Engineer
USACE-ERDC-ITL
Vicksburg, MS
Tel: (601) 634-3307
Email: robert.s.walker@usace.army.mil

Questions involving procedural matters, delivery dates, or programmatics are to be addressed to:

Dr. Thomas Philip
Department of Computer Science
Butler Hall, Room 328
Mississippi State, MS 39762
Tel: (662) 325-8437
Philip@cse.msstate.edu

SECTION I(c): SCHEDULE OF EVENTS (Dates are approximate)

RFP Released	TBA
*Bidders Conference	One to Two weeks after RFP Release
Proposals Due by 5 p.m.	Three weeks after RFP Release
Proposal Evaluations	Four weeks after RFP Release
Interviews, if required	Four weeks after RFP Release
Recommendation to Board	Five to Six weeks after RFP Release
Anticipated Contract Start	Five to Six weeks after RFP Release
Concept of Operations Due	2 weeks after Contract Start
System Requirement Review	5 weeks after Contract Start
System Test Plan Due	6 weeks after Contract Start
System Design Review	8 weeks after Contract Start
Implementation Code Completed	21 weeks after Contract Start
Unit Testing Completed	23 weeks after Contract Start
Integration Testing Completed	26 weeks after Contract Start
Demonstration	28 weeks after Contract Start
Final Report Due	30 weeks after Contract Start

*Participation in bidder's conference is mandatory. Such participation would assist in notifying potential bidders of any updates or amendments. Any questions from prospective bidders or interested parties should be directed, with reference to this RFP,

to Mr. Robert Walker, via email, Robert.s.walker@usace.army.mil one week prior to conference. The Bidders Conference will be held either in Butler Hall at Mississippi State University or at ITL, Vicksburg, Mississippi.

SECTION II: PARTICIPATION IN THE PROCUREMENT PROCESS

This RFP is only distributed in support of the Software Engineering Capstone Course starting in August 2009 at Mississippi State University. It is not a real proposal solicitation and is not intended for distribution outside of the Fall2009/Spring2010 SE Senior Project course.

SECTION III: SUGGESTED TASKS/ SCHEDULE OF DELIVERABLES

A. Suggested Tasks

The project shall accomplish the following tasks at a minimum. Subtasks shall be itemized in the Proposal.

Task 1 — Plan the project

Task 2 — Specify software requirements

Task 3 — Plan the Acceptance Test.

Task 4 — Design the software architecture.

Task 5 — Implement the system, including integration of off-the-shelf components.

Task 6 — Conduct acceptance test and report results to the Client.

Task 7 — demonstrate the system

Task 8 — Train a project participant how to use the system

Task 9 — Report progress to Client

B. Schedule of Deliverables

Deliverable	Due
1. Initial Project Plan	1 week from BOC
2. Software Requirements Specification	5 weeks from BOC
3. Draft Acceptance Test Plan	6 weeks from BOC
4. Software Architecture Description	8 weeks from BOC
5. Interim Report	November 29, 2009
6. Revised Project Plan	January 24, 2010
7. Acceptance Test Plan	January 31, 2010
8. Acceptance Test Report	March 26, 2010
9. Version 1 of complete system	April 2, 2010
10. Version 2 of complete system	April 16, 2010
11. Status presentations	Monthly
12. Activity reports	Weekly
13. Final Report	April 16, 2010

The following describes each deliverable.

1. Initial Project Plan. This plan shall cover the Fall 2009 semester in detail and the Spring 2010 semester at a higher level. This plan shall also include the following.
 - Guiding principles and assumptions
 - Project team organization, roles, and assignments
 - Tasks/subtasks, dependencies among them, amount of effort, and planned start and completion dates
 - Table of off-the-shelf components, costs, if any, and associated deliveries
 - GANTT chart of the project schedule to include task dependencies, milestone/deliverable dates, and personnel resource allocations for each task.
2. Software Requirements Specification (SRS). This shall specify all functional and non-functional requirements based on requirements elicitation activities. It shall include security analysis and requirements. Integrity of data is especially important. The SRS shall be continuously updated as the project progresses to accurately reflect the as-built system.
3. Draft Acceptance Test Plan. This shall be based on the current version of the Software Requirements Specification.
4. Software Architecture Description (SAD). This shall specify the software architecture from several viewpoints, including navigation, database, logical, process, and deployment viewpoints.
5. Interim Report. This report will consist of the following.
 - A short report describing the current documentation and the current status of the project.
 - Current version of the Software Requirements Specification
 - Current version of the Software Architecture Description
 - Current version of the Acceptance Test Plan

- A signed intellectual property Assignment form from each team member will accompany the delivery.
- 6. Revised Project Plan. This plan shall cover the Spring 2010 semester in detail and review the Fall 2009 accomplishments at a higher level.
- 7. Acceptance Test Plan. This will be the basis for acceptance of the final system. It will be based on the as-built version of the Software Requirements Specification.
- 8. Acceptance Test Report. This report will document the results of the Acceptance Test on a test by test basis.
- 9. and 12. Final System. The complete system will be delivered in two versions. Upon demonstration of Version 1 at the proposer site, a project participant(s) will exercise the system to uncover any problems that must be fixed in Version 2, before the end of the project. During the version 1 demonstration the project participants will use the proposers installation disc to install the architecture. Then the project participant(s) will provide a new data source and the developers must demonstrate successful integration of the new data source. Each delivery of the final system will consist of the following.
 - Source code and scripts on a CD
 - Installation instructions on the same CD
- 13. Status Presentations. The Contractor will present the project's status monthly to the Client representative at an agreed place and time.
- 14. Activity Reports. Each person on the Contractor team will submit to the contracting officer's technical representative each week an activity report that correlates to tasks in the Project Plan.
- 15. Final Report. The final report will consist of the following.
 - A short report describing the final system, and each document
 - As-built version of Software Requirements Specification
 - As-built version of Software Architecture Description
 - As-conducted version of Acceptance Test Plan
 - All training materials
 - A signed intellectual property Assignment form from each team member will accompany the delivery.

SECTION IV: REQUIRED QUALIFICATIONS

A. Persons or groups proposing to bid on this proposal must demonstrate a thorough knowledge of software engineering principles, methodologies and tools.

B. Proposer must submit the following:

1. Resumes or similar statement of qualifications of the lead person and key personnel assigned to the project. Substitution of project manager or lead person will not be permitted without prior written approval by ITL.

2. List all key personnel assigned to the project by level and name, and include resumes. Specify the estimated time to be spent by the lead person and key persons assigned to the project.

3. Summary of major similar projects handled during the last five years demonstrating experience in federal, and state projects of this type.

SECTION V: PROPOSAL SUBMITTAL REQUIREMENTS

Submitted proposals must follow the format outlined below and all requested information must be supplied. Failure to submit proposals in the required format will result in elimination from proposal evaluation. Each proposal must be submitted in two separate volumes: Volume I - Technical Proposal and Volume II - Cost Proposal. A separate cover letter including the name, address, and telephone number of the contractor, and signed by the person or persons authorized to represent the group should accompany the proposal submission. Firm contact information as follows should also be included in the cover letter:

1. Address and telephone number of office in, or nearest to ITL, Vicksburg, Mississippi.
2. Name and title of group's representative designated as contact.

A separate Table of Contents should be provided for Volumes I and II.

VOLUME I - TECHNICAL PROPOSAL

(The total page count for this volume must not exceed 40 typewritten pages.)

Summary (Section A) - State overall approach to meeting the objectives and satisfying the scope of work to be performed, the sequence of activities, and a description of methodology or techniques - including quality assurance methods - to be used.

Program Schedule (Section B) – This section shall identify anticipated dates of completion of all tasks and subtasks specified in the Statement of Work, including a list of milestones. Specifically, this section should include:

An overall time schedule, in Gantt chart form;

A list of significant milestones, project deliverables, and the projected calendar delivery dates of each. Milestones include project kickoff meetings, task start and completion dates, start and completion of testing, availability of test data, progress reports, interim reports, draft and final reports, and project review meetings.

Provide projected milestones or benchmarks for submitting reports within the total time allowed.

Project Organization (Section C) - Describe the proposed management structure, program monitoring procedures, and organization of the proposed team, to include consultants and subcontractors if applicable.

Qualifications (Section D) - Describe the technical capabilities of the group. Provide references of other similar studies performed during the last five years demonstrating ability to successfully complete the project. Include contact name, title, and telephone number for any references listed. Provide a statement of the offeror's background and experience in performing similar projects for other governmental organizations. (Refer to Section IV).

Assigned Personnel (Section E) - Provide the following information on the staff to be assigned to this project:

List all key personnel assigned to the project by level and name. Provide a resume or similar statement of the qualifications of the lead person and all persons assigned to the project. Substitution of project manager or lead personnel will not be permitted without prior written approval of ITL.

Provide a spreadsheet of the labor hours proposed for each labor category at the task level.

Specify the estimated time to be spent by the lead person and key persons assigned to the project.

DO NOT INCLUDE ANY COST INFORMATION IN THE TECHNICAL VOLUME.

Provide a summary of your group's general qualifications to meet required qualifications and fulfill statement of work, including additional firm personnel and resources beyond those who may be assigned to the project.

Additional Data (Section F) - Provide other essential data that may assist in the evaluation of this proposal.

VOLUME II - COST PROPOSAL

There is no maximum page count associated with Volume II.

Name and Address - The Cost Proposal must list the name and complete address of the proposer in the upper, left-hand corner.

Cost Proposal – The work contemplated by this RFP will be performed on a Firm Fixed Price basis. Cost information as identified below must be provided for each task along with a cost summary for the overall project.

Detail must be provided by the following categories:

Labor - List the total number of hours and the hourly billing rate for each level of professional staff. A breakdown of the proposed billing rates must identify, at a minimum, the direct labor rate, overhead rate and amount, fringe benefit rate and amount, General and Administrative rate and amount, and proposed profit or fee. Provide a basis of estimate justifying the proposed labor hours and proposed labor mix.

Supplies, Hardware, Equipment - Provide an itemized list of supplies, hardware, and equipment to be used or purchased (the name, number, and cost of each) in excess of \$200. ITL reserves the right to retain ownership of any equipment purchased with USACE funds.

Travel Costs - Indicate amount of travel cost and basis of estimate to include trip destination, purpose of trip, length of trip, airline fare or mileage expense, per diem costs, lodging and car rental.

Other Direct Costs - This category may include such items as postage and mailing expense, printing and reproduction costs, etc. Provide a basis of estimate for these costs.

SECTION VI: PROPOSAL SUBMISSION

All proposals must be submitted according to specifications set forth in the section above. Failure to adhere to these specifications may be cause for rejection of proposal.

Signature - All proposals should be signed by an authorized representative of the proposer.

Due Date - The proposer shall submit electronic copies of the proposal with a coversheet that is marked in the upper left-hand corner with the name and address of the proposer and the words "ERDC-ITL Request for Proposals." All proposals are due no later than 5:00 p.m., 3 weeks after RFP release, and should be directed to:

Dr. Thomas Philip
Department of Computer Science
Mississippi State University, MS 39762

Late bids/proposals will not be accepted. Any correction or resubmission done by the proposer will not extend the submittal due date.

Grounds for Rejection - A proposal may be immediately rejected if:

It is received at any time after the exact date and time set for receipt of proposals.

It is not prepared in the format described, or

It is signed by an individual not authorized to represent the firm.

Disposition of Proposals - ITL reserves the right to reject any or all proposals. All responses become the property of ITL. One copy of the proposal shall be retained for ITL files. Additional copies and materials will be returned only if requested and at the proposer's expense.

Modification or Withdrawal - Once submitted, proposals cannot be altered without the prior written consent of ITL. All proposals shall constitute firm offers and may not be withdrawn for a period of ninety (90) days following the proposal submission date.

SECTION VII: PROPOSAL EVALUATION/CONTRACTOR SELECTION CRITERIA

A panel selected by the ITL and MSU will evaluate all submitted proposals. The panel will make a recommendation to the Technical Directors Office of ITL for final selection of a contractor and negotiation of a contract.

Each member of the evaluation panel shall be accorded equal weight in his or her rating of proposals. The evaluation panel members shall evaluate the proposals according to the specified criteria and numerical weightings set forth below.

1. <u>Proposal Evaluation Criteria</u>	<u>Weight</u>
Understanding of Proposed Demonstration	.2
Technical Approach	.3
Management Experience on Similar Project	.2
Technical Qualification of Contracting Team	.05
Previous Experience on Similar Projects	.05
Cost	<u>.2</u>
TOTAL	1.0

Proposals will be rated on a Blue/Green/Yellow/Red scale. If the proposal meets the requirements, it will be given a rating of Green. If the determination cannot be made whether or not the proposal satisfies the requirements, a rating of Yellow will be given and supporting information may be sought. If the proposal fails to satisfy the

requirements, it will be given a rating of Red and rejected outright. A proposal that exceeds the requirements will be given a Blue rating.

2. During the selection process the evaluation panel may wish to interview some proposers for clarification purposes only. No new material will be permitted at this time.
3. The (Chief Information Officer, Technical Director or Commander of ITL) may award the contract to a proposer other than the proposer receiving the highest rating in the event it is determined that another proposer from among those technically qualified would provide the best value to ITL considering cost and technical factors. The determination shall be based solely on the Evaluation Criteria contained in the Request for Proposal (RFP), on evidence provided in the proposal and on any other evidence provided during the bid review process. Evidence provided during the bid review process is limited to clarification by the proposer of information presented in his/her proposal.
4. Selection will be made based on the above-described criteria and rating factors.

SECTION VII: GOVERNMENT FURNISHED INFORMATION

SECTION VII: CERTIFICATIONS REGARDING DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS; RESTRICTIONS ON LOBBYING; AND DRUG-FREE WORKPLACE REQUIREMENTS

Proposal Title _____

Date _____

The above referenced proposal was submitted in response to the Department of Defense , United States Army Corps of Engineers, Engineer Research and Development Center, Information Technology Lab Proposal Solicitation.

Applicants should refer to the regulations cited below to determine the certifications to which they are required to attest. Applicants should also review the instructions for certification requirement under 32 CFR Part 25, "Government-wide Debarment and Suspension (Nonprocurement)"; and 32 CFR Part 28, "New Restrictions on Lobbying"; 32 CFR Part 25, "Government-wide Requirements for Drug-Free Workplace (Grants)". The certifications shall be treated as a material representation of fact upon which reliance will be placed when the USACE-ERDC Information Technology Lab determines to award the covered transaction, grant, or cooperative agreement.

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS--PRIMARY COVERED TRANSACTIONS

(1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any Federal department or agency;
 - (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
 - (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- (2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

CERTIFICATION REGARDING LOBBYING ACTIVITIES

The following certification applies only to actions exceeding \$100,000:

Section 1352, Title 31, U.S.C. (PL 101-121, Section 319) entitled "Limitation on use of appropriated funds to influence certain Federal contracting and financial transactions".

(1) No Federal appropriated funds have been paid or will be paid by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S.C. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

CERTIFICATION REGARDING DRUG-FREE WORKPLACE REQUIREMENTS

Alternate I. (Grantees Other Than Individuals)

(1) The grantee certifies that it will or will continue to provide a drug-free workplace by:

- (a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;
 - (b) Establishing an ongoing drug-free awareness program to inform employees about--
 - (1) The dangers of drug abuse in the workplace;
 - (2) The grantee's policy of maintaining a drug-free workplace;
 - (3) Any available drug counseling, rehabilitation, and employee assistance programs; and
 - (4) the penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;
 - (c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);
 - (d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will--
 - (1) Abide by the terms of the statement; and
 - (2) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;
 - (e) Notifying the agency in writing, within ten calendar days after receiving notice under paragraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title, to every grant officer or other designee on whose grant activity the convicted employee was working, unless the Federal agency has designated a central point for the receipt of such notices. Notice shall include the identification number(s) of each affected grant;
 - (f) Taking one of the following actions, within 30 calendar days of receiving notice under paragraph (d)(2), with respect to any employee who is so convicted--
 - (1) Taking appropriate personnel action against such employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or
 - (2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;
 - (g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e) and (f).
- (2) The grantee may insert in the space provided below the site(s) for the performance of work done in connection with the specific grant:
Place of Performance (Street address, city, county, state, ZIP code)
-

Check ☐ if there are workplaces on file that are not identified here.

Alternate II. (Grantees Who Are Individuals)

(1) The grantee certifies that:

- (a) As a condition of the grant, he or she will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance in conducting any

activity with the grant;

(b) If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant activity, he or she will report the conviction in writing, within 10 calendar days of the conviction, to every grant office or other designee, unless the Federal agency designates a central point for the receipt of such notices. When notice is made to such a central point, it shall include the identification number(s) of each affected grant.

As the duly authorized representative of the applicant, I hereby make the above certifications on behalf of the applicant.

Applicant Institution:

Taxpayer Identification Number (TIN):

Printed Name and Title of Authorized Representative:

Signature of Authorized Representative

Date: