The Nature Conservancy (TNC)
Illinois Natural Areas Inventory Update
Custom ArcGIS Programming
IDNR CONTRACT NUMBER: #RC06L11W
Project Summary – Phase I

Introduction

The Nature Conservancy proposed this project to assist the Illinois Department of Natural Resources in planning and implementing an update of the Illinois Natural Areas Inventory (INAI). The original INAI was produced before the age of personal computers, GPS and GIS technologies. The purpose of this project was to facilitate the proposed update of the INAI using these new technologies; specifically, by designing an automated data collection system for INAI field staff to use. TNC was awarded a contract from IDNR under the WPF Program. TNC subcontracted with Aaron Addison.

Materials and Methods

Materials for the project were supplied by TNC, including the Toughbook computer with external cd-rw drive, GPS camera, GPS Unit and Camcorder. Aaron Addison was tasked with customizing an ArcGIS user interface to be used with a field ready Tablet PC (Toughbook) laptop computer and a GPS receiver. Communications between the computer and GPS uses Bluetooth technology. Customization of the ArcGIS user interface was completed using ArcObjects and MXD files. Establishment of a link between the GIS application and the existing NATS database was achieved by leveraging Microsoft's ADO connection in VBA.

Results

The programmed ToughBook Tablet PC and the interfacing software was delivered to IDNR. A custom MXD map document environment was produced to run on ArcGIS version 9.x. Two training sessions on the use of the system were held at IDNR headquarters in Springfield.

Discussion and Summary

The majority of the time required to accomplish this project was in developing the interfacing software. Five trips to Springfield were made by the subcontractor, Aaron Addison, to meet with IDNR and TNC. The project was scaled back during initial scoping due to budgetary constraints. As a result, the final product from the project will require additional programming to make it optimal for field data collection. In addition, the GIS application should be tested with the final version of the NATS database to verify compatibility. The final version of the database was not available before the conclusion of this contract, but all functions were tested with a beta version of the NATS database.

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Project Job Summary of Hours for subcontractor, Aaron Addison

<u>2006</u>

Month	Hours	Amount
January	20 hours @ $45/hr →	$900
February	30 hours @ $45/hr →	$1350
March	10 hours @ $45/hr →	$450
August	5 hours @ $45/hr →	$225
September	5 hours @ $45/hr →	$225
October	10 hours @ $45/hr →	$450
November	10 hours @ $45/hr →	$450
	90 hours Sub Total:	$4050

Month	Hours	Amount
February	30 hours @ $50/hr →	$1500
March	40 hours @ $50/hr →	$2000
April	60 hours @ $50/hr →	$3000
May	15 hours @ $50/hr →	$750
June	5 hours @ $50/hr →	$250
October	60 hours @ $50/hr →	$3000
November	60 hours @ $50/hr →	$3000
December	80 hours @ $50/hr →	$4000
	350 hours Sub Total:	$17,500

<u>2007</u>

Month	Hours	Amount
January	10 hours @ $45/hr →	$450
January	40 hours @ $50/hr →	$2000
February	10 hours @ $50/hr →	$500
	50 hours Sub Total:	$2500

SUMMARY

400 hours of programming @ $50/hr →		$20,000
100 hours of professional services including training @ $45/hr →		$ 4,500

Direct Costs: 5 trips to Springfield, 250 miles per trip @ .40/mile =   <u>$500</u>
Project Total: $25,000

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