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GeoTime as an Adjunct Analysis Tool for Social Media Threat Analysis and Investigations for the Boston Police Department

Offeror:	Uncharted Software Inc. 2 Berkeley St, Suite 600 Toronto ON M5A 4J5 Canada
Business Type:	Canadian Small Business
Jurisdiction:	Federally incorporated in Canada
Date of Incorporation:	October 8, 2001
Federal Tax Identification Number:	98-0691013

ATTN: Jenny Prosser, Contract Manager, jenny.prosser@pd.boston.gov
Subject: Acquiring Technology and Services of Social Media Threats for the Boston Police Department

Uncharted Software Inc. (formerly Oculus Info Inc.) respectfully submits the following response to the Technology and Services of Social Media Threats RFP. Uncharted accepts all conditions and requirements contained in the RFP.

Uncharted designs, develops and deploys innovative visual analytics systems and products for analysis and decision-making in complex information environments.

Please direct any questions about this response to our point of contact for this response, Adeel Khamisa at 416-203-3003 x250 or akhamisa@uncharted.software.

Sincerely,

Adeel Khamisa
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1. Executive Summary

This is an adjunct proposal to the main social media threat solution for the Boston Police Department ("Department"). This adjunct proposal presents a unique and complimentary geotemporal analysis capability for consideration by the Department.

GeoTime is proposed as an additional tool for the geotemporal analysis of social media data. GeoTime, a commercial, off-the-shelf mapping and analysis tool, is the industry's only tool to map a variety of data sources in 3D time and space. As an adjunct analysis tool for social media threat analysis, GeoTime's patented 3D viewer can connect to, analyze and present any data that contains time and location information including -- but not limited to -- social media, call detail records, GPS tracker / device data, automatic license plate reader (ALPR), gunshot detection and location data and mobile forensics data.

GeoTime is currently used worldwide by over 250 organizations, including high-intensity drug trafficking areas (HIDTAs), fusion centers, national defense organizations and law enforcement agencies for criminal investigations, intelligence analysis, surveillance operations, and the Massachusetts State Police and for courtroom presentations. GeoTime's data source agnostic capabilities can be used with publicly available social media and other online open source data accessible to the Boston Police Department and Boston Regional Intelligence Center for public safety purposes spanning a broad set of missions and threats.

2. System Proposal

As an adjunct geo-temporal social media analysis capability, we are proposing supporting three specialized analysts and twenty-five general analysts. Additional analysts can be supported with an expansion of the system should that be required.

The system shall include:

- One (1) **GeoTime® Server License** - Perpetual license which can support up to 25 users.
- One (1) **Annual maintenance for GeoTime® Server** - Provides all major & minor releases for 12 months.
- One (1) **GeoTime® Server Training** session - Three days of onsite training.
- Three (3) **GeoTime® Standalone User Licenses** - User licenses for loading, mapping and analyzing data.
- Three (3) **Annual maintenance for GeoTime® Standalone User Licenses** - Provides all major & minor releases for 12 months.
- Ten (10) hours of **Telephone Support**
- Twenty-five (25) **GeoTime® Server - Reviewer User Licenses + Maintenance** - User license to publish and review data within GeoTime Server, with optional annual maintenance at an additional cost.
- One (1) **GeoTime® Offline Map Pack - 2016 Server Edition** - For 25 users.

3. Technical Description

3.1 GeoTime

GeoTime is visual data analysis software that provides insight into events and behaviors based on location and time. This type of analysis usually requires multiple tools, including maps, graphs, and spreadsheets with statistical functions. However, each of these tools can only display a slice of the complete story. GeoTime's patented, award-winning analysis capability combines these tools to allow analysts to quickly see patterns in events and behaviors. This dramatically improves the perception of movements, relationships, and interactions over time and space. This unique capability can be easily integrated with the main social media threat analysis system.

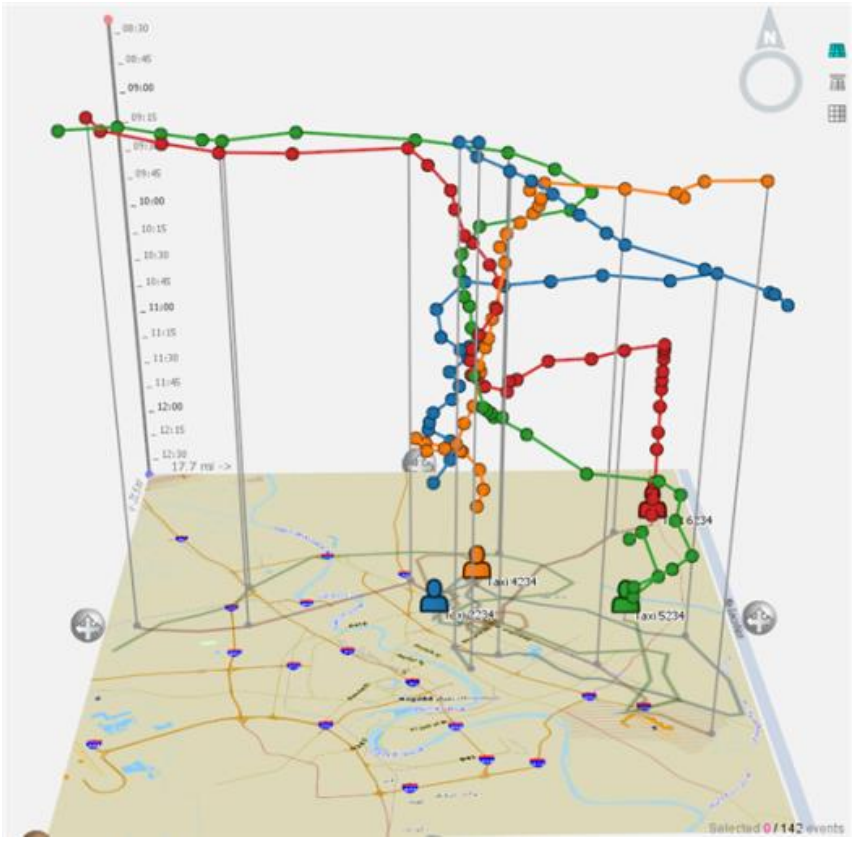

Figure 1: GeoTime 3D Viewer

GeoTime represents events within a three-dimensional X,Y,T coordinate space, in which the ground (X,Y) plane displays geographic space, and the vertical axis (T) represents time. GeoTime provides intuitive features for exploring time and space, including analysis tools for finding and

visualizing event patterns. For analysts, GeoTime's combined representation of time and space helps analysts determine who and what in the where and when.

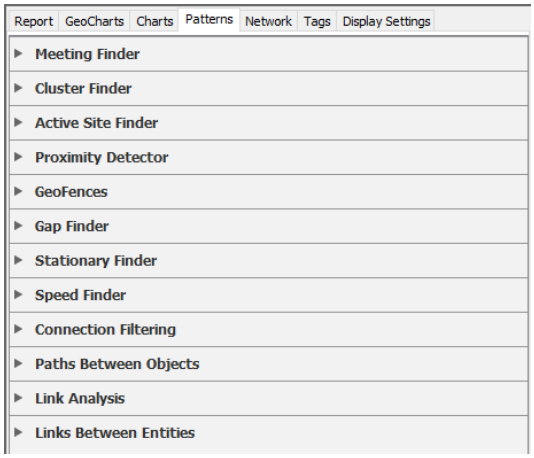

Figure 2: List of GeoTime Event Pattern Tools

With GeoTime, many observations such as events, tracks, travel, networks, communications, transactions, and relationships can be imported, displayed, and examined together. A rich set of tools, including animation, link analysis, charting, filters, and report authoring, work together to support a complete analysis workflow.

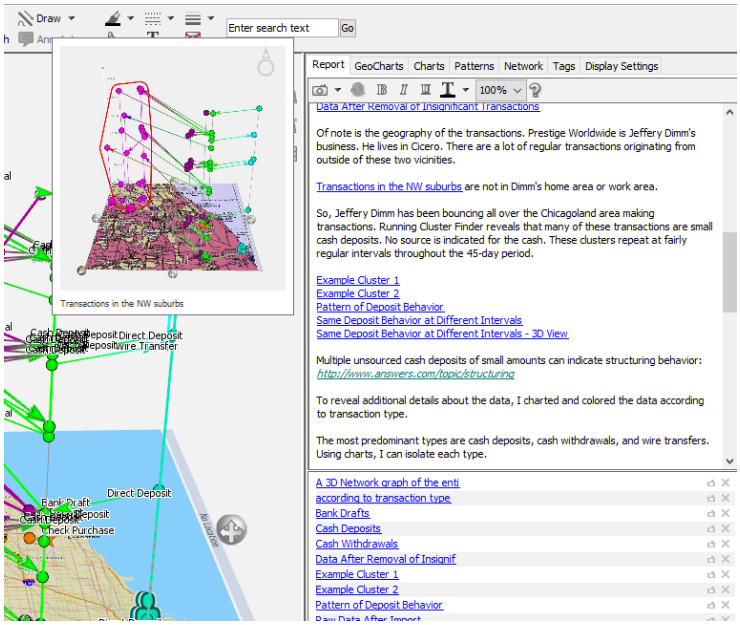

Figure 3. GeoTime Reports Tab

GeoTime can help answer the following questions about your data:

- What significant events happened in this area in the last X time frame?
- When and where did they happen? Is there a trend or pattern?
- Are the patterns related?
- Who or what was involved?
- For entity analysis, what is the history of this entity?
- How are they connected with other entities?
- Where are the activity hot spots?
- Has this type of event occurred here or elsewhere in the last Y period of time?

GeoTime can be used to analyze:

- historical movements of objects and people
- GPS tracking and Call Detail Records for law enforcement or intelligence
- other GPS and location-based services (e.g., emergency services, asset tracking for fleets)
- manufacturing processes using RFID
- epidemiology analysis
- supply chain and logistics analysis
- environmental and urban analysis and planning
- financial services (e.g. retail branch complaints, credit analysis, fraud analysis)
- computer network alerts
- users of geo-tagged EXIF images and KML features.

GeoTime can import data from a variety of data sources. In all cases, GeoTime expects a delimited format in which each row (or XML element) corresponds to a single geotemporal event or geographic location. GeoTime uses a user-defined data template to translate each row of data into a single GeoTime event, entity, and/or location.

GeoTime can also accept compatible data through an available API for a seamless workflow in an integrated solution.

Import Options

GeoTime supports import of data in the following formats:

- **Excel** (.xls,.xlsx) – can be opened from within GeoTime directly, or sent from Excel using the available GeoTime add-in.
- **CSV** (.csv)
- **ArcGIS Shapefiles** (.shp) – can include map feature, boundary, and event data.
- **KML/KMZ** (.kml, .kmz)
- **Live GeoRSS feeds** (.xml)
- **Live Text Email feeds** (Ping Emails)
- **GPX** (1.0 and 1.1)
- **Exif images** (.jpg or .tif)
- **OGT, OGB**: GeoTime proprietary save file formats.

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Export Options

GeoTime provides the capability to export data to a number of different formats, depending on the desired workflow. The following list describes these options.

- **Microsoft PowerPoint**: Users can export reports and visual snapshots as a PowerPoint file for easier preparation of presentation materials. The PowerPoint version contains both the report text and thumbnail images of all included snapshots. GeoTime also has the capability to apply a template to the exported presentation.
- **HTML Reports**: Users can also export their reports as HTML documents The HTML version contains both the report text and thumbnail images of all snapshots. The thumbnail images link to full size version of the images.
- **CSV**: GeoTime can export all of the loaded data, or a selected subset of the data, to a CSV file.
- **KML/KMZ**: GeoTime can produce a KML/KMZ file for use in supporting applications such as Google Earth.
- **Screenshots**: GeoTime can export individual screenshots as image files.
- **Video Capturing**: GeoTime can animate the active data set, then record a video of it for easier sharing and collaboration.

For additional information about GeoTime, including examples and case studies, please refer to the product page at http://www.GeoTime.com.

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3.2 GeoTime Server

GeoTime Server allows users to communicate and collaborate case analyses across their team and devices. These collaboration capabilities allow users to present the story of their case and:

- Work more closely together in the context of the case.
- Look at the same report, putting everyone on the same page.
- Consolidate case information and data in one single workspace.
- Collaborate confidently and securely on your organization's existing IT infrastructure.

By maximizing expert capabilities, GeoTime Server enables seamless transition of case reports between analysts and investigators. This means more moving forward and less redoing. Experts can focus on analysis work of asking the questions and solving the case. With the ability to avoid technical restrictions, the whole team can view what the analysts see.

Finally, GeoTime Server's sharing capabilities enable case data to be freely distributed within the organization. This eliminates silos and allows general usage of the tool's mapping capabilities across departments. All the data related to a case can be view and played back.

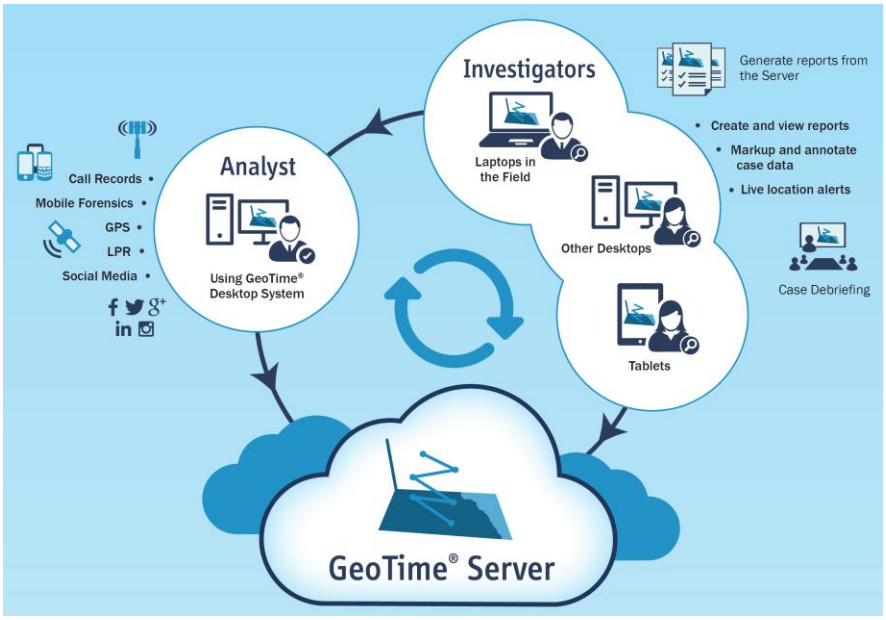

Figure 4: GeoTime Server Architecture

3.3 GeoTime for Social Media Analysis

As an adjunct analysis tool for social media threat analysis, GeoTime's advanced capabilities help users to infer the activities of a target based on their phone details and social media posts. Within the tool, location records corresponding to call details or social media posts (e.g., Twitter, Instagram, Facebook, etc.) can be geospatially mapped based on their location metadata. The same data can also be plotted temporally on a vertical axis rising above the map. Following the trail of geotemporal markers as they ascend up this timeline can reveal both the location and the movements of the target.

Understanding a target's movements over time can also highlight patterns of life, including where they sleep, work, or other locations they frequent. Being able to see these details helps users identify common movements, know where a target is at a given time, and capture breaks in expected patterns that might indicate unusual activity.

In addition to serving as a 3D viewer to understand target movements in time and space, GeoTime also offers comprehensive search capabilities that enable users to find keywords in any record. Whether searching across call detail records, texts, or a large body of publicly available social media data, GeoTime isolates the geographic or temporal frequency of keywords and refreshes the map to show only results that are associated with them. Rapid search results can quickly identify previously unknown activity of interest near a crime scene.

3.4 Layering Social Media Data in GeoTime

The power of using GeoTime to examine social media activity comes in layering the information with other data types. Because social media posts are often devoid of location information, details extracted from mobile phone records can help users determine and corroborate the location of social media posts based on when they were authored. Layering social media data sources gives a complete picture of a situation:

- **Social Media Analysis**: Accurately places suspects at key locations.
- **Call Detail Records**: Fill in gaps in missing location data.
- **Mobile Forensics**: Add SMS text message content.
- **Witness Statements**: Add information not captured on devices.

3.5 Social Media Use Cases

The following section describes several use cases for GeoTime as an adjunct analysis tool for social media threat analysis.

Determining Movements of Social Media Users

GeoTime's unique 3D timespace allows users to quickly identify patterns of a target's life. Correlating daily patterns between two distinct locations may reveal the target's home and work addresses. Identifying breaks in these patterns can add location context to non-geolocated data and reveal breaks in routines. For example, when investigating a suspected drug dealer, GeoTime users can plot SMS and tweets to find out where the target spends most of their time.

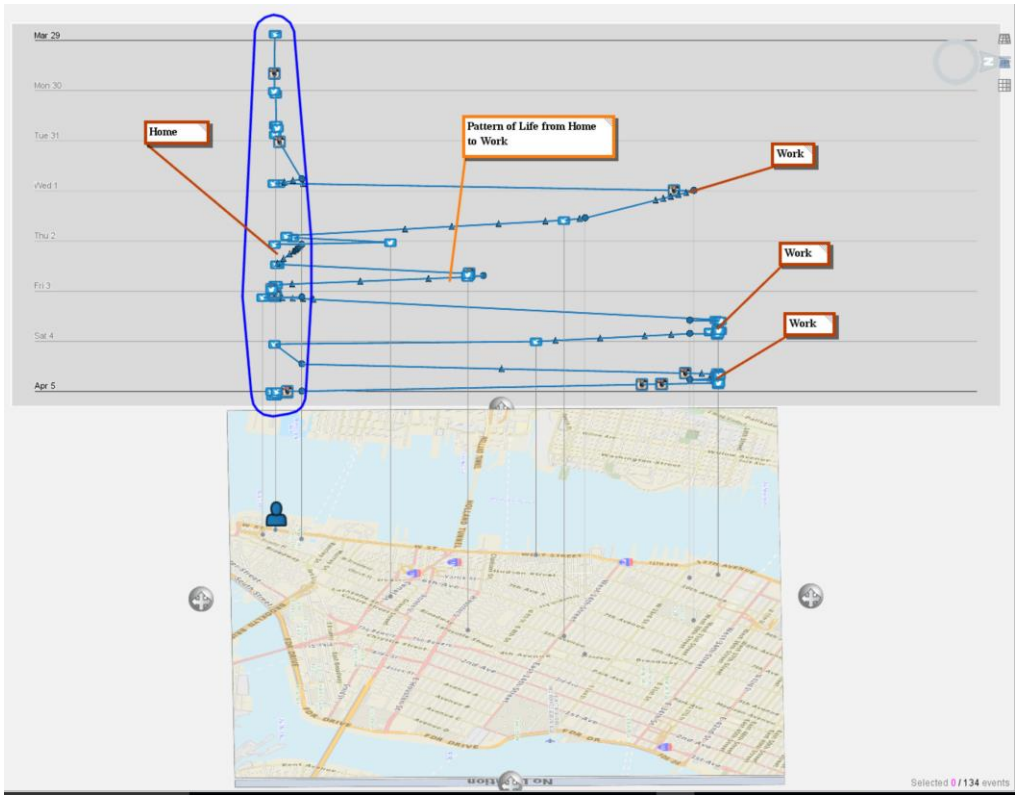

Figure 5. Recurrent movement patterns over time reveal a target's home and work addresses.

Layering Social Media Data with Call Records

Merging multiple additional data types with social media data helps users make correlations between online activity and accurate geolocated information. Phone records have location information while social media posts may not. Correlating posts with phone records that occurred at the same time gives users the ability to assert that the posts originated from the same location where the phone was found at that time. Data types supported by GeoTime include:

- Call Detail Records (CDRs)
- Mobile Forensics Data
- GPS Data (Trackers/Parole)
- License Plate Readers (ALPRs)
- Credit Card Statements
- Transit Pass
- Crime Incident Data
- Witness/Informant Statements

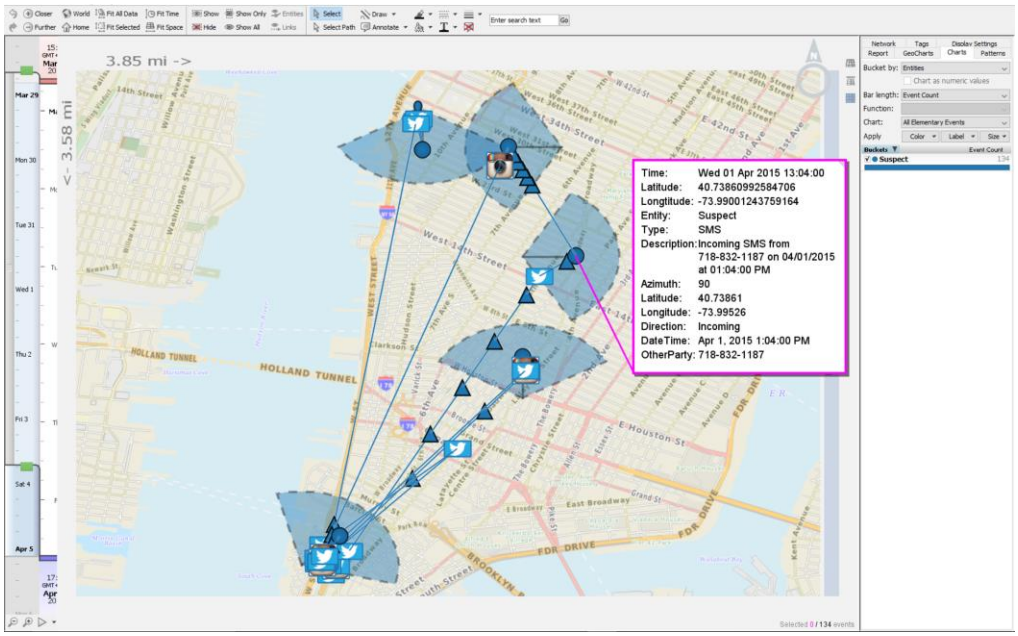

Figure 6. Layering of social media data with phone records reveals place of origin for non-geolocated posts.

Using Social Media to Place Targets Near a Crime

In addition to enabling users to layer multiple data sources and make visual correlations, GeoTime features sophisticated automated pattern analysis tools. For example, if given location information from both a target's social media and a series of crime reports, GeoTime can identify when the target was near the crime based on the overlap between the two.

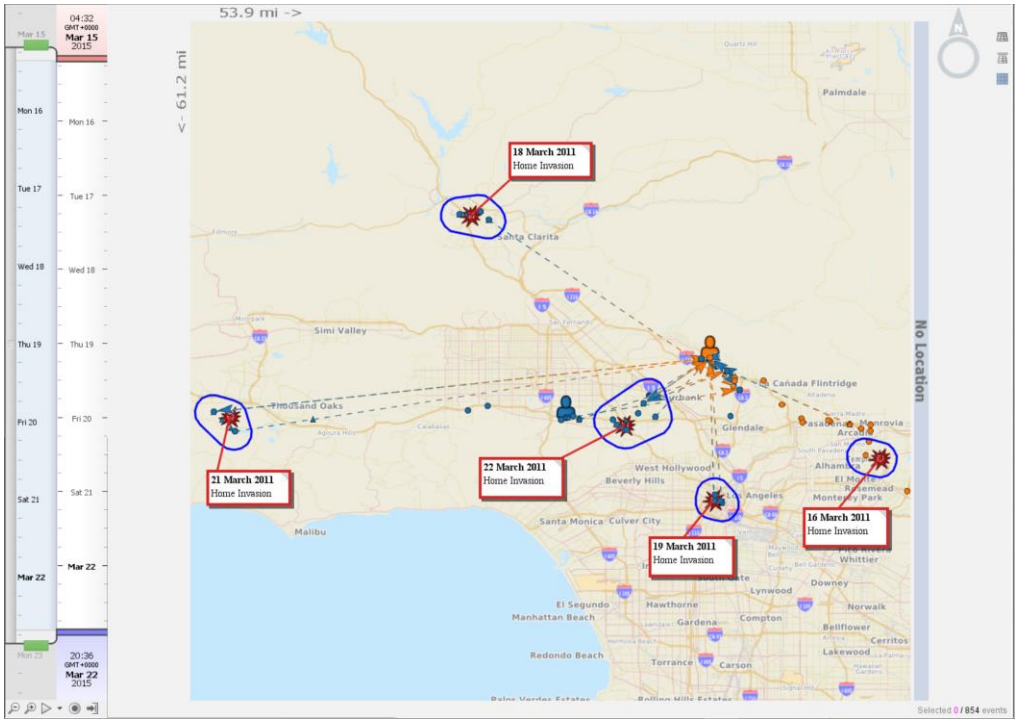

Figure 7. Plotting tweets with known home invasion sites places a target near the scene of several crimes.

Link Analysis of Social Media Users

Using link analysis tools in GeoTime, users can easily discover the social network to which a target belongs. If there are multiple suspects, GeoTime can determine whether there is any overlap between the networks. And because GeoTime focuses on the temporal aspect of link analysis, it can also reveal whether any of the relationships change over time.

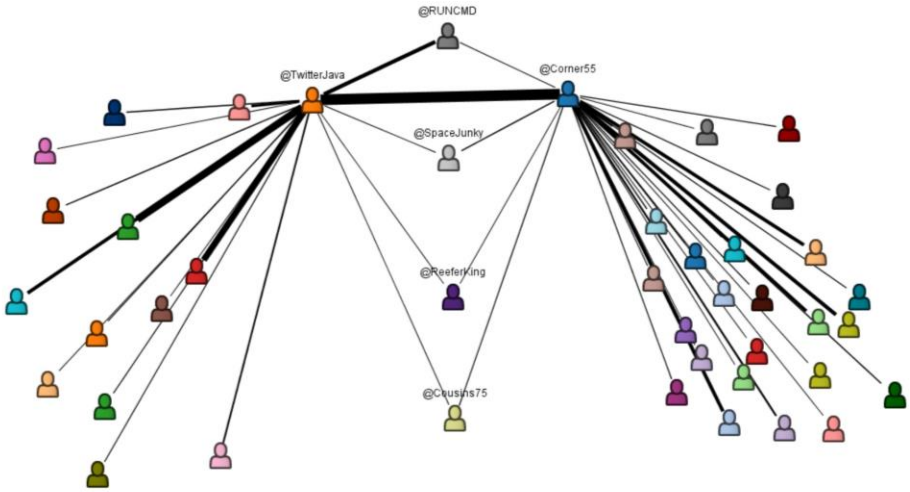

Figure 8. Link analysis of a target's social media activity reveals the network to which they belong.

Investigative Storytelling with Social Media and Call Detail Records

Crime investigators and intelligence analysts use GeoTime to capture and communicate their analysis and results. GeoTime detects geotemporal patterns and integrates story narration to increase analytic sense-making. A story is powerful abstraction used by investigators and analysts to conceptualize threats and understand patterns as part of the analytical process. GeoTime uses narratives, hypertext linked visualizations, visual annotations and pattern detection to create an environment for analytic exploration and communication, thereby assisting the investigator and analyst in identifying, extracting, arranging and presenting stories within the call data, social media posts, etc. The storytelling capability lets analysts and investigators operate at the story level with higher-level abstractions of data, such as behaviors and events, while staying connected to the evidence and stimulating faster recognition of larger behaviours or plots.

Three sets of features allow analysis at a higher level of abstraction. First, a space-time pattern finding system relieves the analyst from the need to search for common behaviors and relationships among events and moving entities. Found patterns are passed to an annotation system that visually highlights pattern events with an expressive graphic. The annotation system also tags the internal data model with information about the annotation. Finally, a specialized text-editing panel allows analysts to author narratives and explanations (reports) containing links to bookmarked views of events in time and space. The text system also provides a means to categorize content to support collaboration or multiple story threads. The storyboard window is designed to address a top-down story-based workflow by allowing the analyst to capture their insights, thoughts, explanations, and conclusions about events visualized in GeoTime. Ultimately, this capability provides an effective means of communication

Comment [TK1]: Assuming GeoTime Server includes this feature, I'd highly recommend including appropriate narrative and a figure depicting the tool's user friendly story telling capabilities and export function for presentation purposes. This text is adapted from Stories in GeoTime (2007).

and collaboration, and is used by investigators and analysts for reporting complex events to other analysts, investigators, and decision-makers.

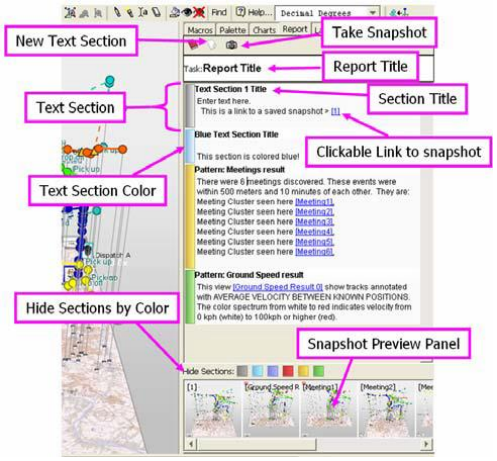

Figure 9. Story window to the right of the GeoTime scene. Text sections titled "Pattern: ..." are generated by pattern functions.

4. Implementation Plan

Uncharted will roll out GeoTime to the Boston Police Department over the course of five weeks.

4.1 Project Schedule

- Week 1: Uncharted will share a setup and installation package to deploy GeoTime Server and GeoTime workstations.
- Week 2: Once all the systems have been installed, testing and validation of the map servers will be performed in week two.
- Week 3: Uncharted will perform a three-day on-site training course for users.
- Week 4: Ongoing user training and testing.
- Week 5: After all users have received training and tested the system, GeoTime will be deployed for active use cases.

Ongoing maintenance will includes updates to all major and minor releases of GeoTime and GeoTime Server for a period of twelve (12) months.

4.2 Milestones

The following image highlights important milestones in the GeoTime implementation plan.

Figure 10. GeoTime Implementation Plan Milestones

5. Qualifications and Experience

Uncharted Software Inc. (formerly Oculus Info Inc.) designs, develops and deploys innovative visual analytics systems for analysis and decision-making in fast-paced, complex information environments. Uncharted™ solutions range from massive "big data" aggregation, analysis, and visualization systems to mobile real-time collaboration. These visual analytic solutions help clients rapidly gain situation awareness, analyze difficult problems, and make critical choices in uncertain situations. Our pioneering software platforms and applications are easy to use, cost-effective to integrate, and interoperable with client enterprise and mission solutions.

Founded in 2001, Uncharted brings creative, technical, and user-centric innovation and a rare resume of deployed accomplishments in visual analytics for defense, including cyber operations, intelligence analysis, law enforcement and financial analysis. Hundreds of thousands of people use Uncharted products every day. Among these products are: **GeoTime** for the analysis of thousands of events in time, space and networks; **nSpace** for OSINT triaging massive data, sense-making, and threat analysis; **Salt** for interactive, dynamic analytics of massive, billion-point datasets including cyber data analysis; **Influent** for counter-threat financial forensics and analysis of complex source-destination transaction flows; **Mobile Terrain** an Android, 4D multi-touch, C2 system; the U.S. Army's **TAIS** tactical airspace 4D visualization subsystem (best in industry real-time update rate for thousands of air tracks) and **Bloomberg** Financial Visual Analytics for trading analytics and business intelligence.

Uncharted is a Canadian corporation based in Toronto. As per U.S. DoD DFAR 225.870, Canadian industry is considered part of the U.S. industrial base.

5.1 Technical Accomplishments

Deployed Mission Critical Systems

Uncharted's proven accomplishments include: 4D visualization and geospatial subsystems for the U.S. Army's Command Post of the Future (CPOF) C2 system (>10,000 users); GeoTime, used

by major intelligence agencies, law enforcement, and deployed military forces (>3,000 users); Bloomberg Financial Visual Analytics, used around the world in all financial markets (>300,000 users); and the U.S. Army's TAIS tactical airspace 4D visualization subsystem, best in industry real-time update rate for thousands of air tracks. Uncharted has built and deployed >50 mission critical government and Fortune 500 systems in the last fourteen years. (Examples shown in Figure 11~~Figure 5~~ - Figure 21~~Figure 15~~).

Figure 11. **GeoTime** for tracking movements in time and geography. With link analysis and automatic pattern detection. On baseline at DoD.

Figure 12. **Mobile Terrain** best-in-class for ease of use in a handheld SA and C2 systems with 4D terrain.

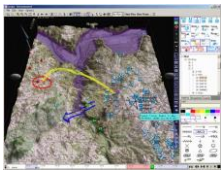

Figure 13. **CPOF** 4D real-time collaborative C2 system deployed to U.S. Army and USMC.

Figure 14. **XDATA Influent** financial forensics for "following the money." Deployed to JWICS in 2014.

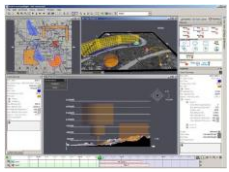

Figure 15. Uncharted 4D viewer used in the U.S. Army's **TAIS** for airspace control.

Figure 16. **nSpace2** TRIST + Sandbox for web-based triage and sense-making for OSINT. Deployed for intel analysis.

Figure 17. **Nasdaq** MarketSite. Thousands of equities displayed in real time on 5' × 20' data wall.

Figure 18. **XDATA Tile-Based Visual Analytics** interactive web visualization of hundreds of millions of tweets to discover and alert on social unrest in South America, Africa, and Middle East.

Uncharted Innovation. We are a proven unique innovator on numerous DARPA and IARPA programs with a record of successful transitions. Currently a performer on the DARPA XDATA, Memex, and Insight programs, Uncharted continues to pioneer and support transition of new products and applications that provide clients with the ability to rapidly discover information and provide enhanced strategic, anticipatory, and current intelligence.

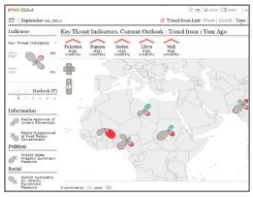

Figure 19. **PRISM** lightweight,

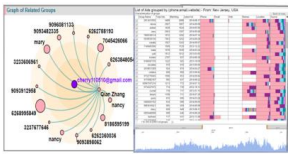

Figure 20. DARPA **Memex**

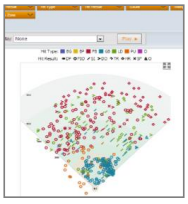

Figure 21. **MLB Pitch Analysis**

web-based Human Social Cultural Behavior (HSCB) modeling and visualization showing multivariate threat indicators.	**Counter Human Trafficking** performs entity resolution and visualization to find victims at risk and to track transnational criminal organizations.	analyzes 1 TB of data per season to help improve player performance. More than 80% of MLB teams use the system.

Uncharted original research in visual analytics science and technology includes more than 50 peer-reviewed papers and 10 patents. We are a five-time winner of the IEEE Visual Analytics Science Technology (VAST) contest.

6. Financial Statements

See Appendix A for a copy of Uncharted's Dun & Bradstreet report.

7. Training Plan

Uncharted will provide a three-day on-site training course designed for analysts, detectives, other investigative support, and command-level. Training will include full the operation of GeoTime and GeoTime Server, including loading, analyzing, mapping, and presenting data. Specifically, we will address:

- Animating movements
- Capturing the story
- Analysis
- Top locations
- Top contacts
- Pattern of life
- Proximity to locations of interest Reporting
- Marking up your data
- Video animations
- PowerPoint reports
- Automated analysis
- Producing rapid reports from call records
- Easy-to-read summaries for detectives

Further on-site training will be available at an additional daily cost.

Uncharted will also provide access to an online user community with subject matter experts and ten (10) hours of phone support.

8. Specification Sheet

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See Appendix B for a GeoTime brochure describing the major components of the system.

8.1 GeoTime Desktop System Requirements

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Workstation Component	Minimum (< 10K rows)	Better (up to 75K rows)	Best (over 75K rows)

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Workstation Component	Minimum (< 10K rows)	Better (up to 75K rows)	Best (over 75K rows)
Operating System	Microsoft Windows 7, Windows 8/8.1, or Windows 10 (32 or 64 bit).	Microsoft Windows 7, Windows 8/8.1, or Windows 10 (32 or 64 bit).	Microsoft Windows 7, Windows 8/8.1, or Windows 10 (64 bit).
Processor/CPU	1.6 GHz Intel Core i3 processor or equivalent (2 cores)	2.7 GHz Intel Core i5 processor or equivalent (4 cores)	2.9 GHz Intel Core i7 processor or equivalent (4 or 8 cores)
System RAM	2 GB	4 GB	8 GB minimum, 16 GB recommended.
Graphics Processor (GPU)	OpenGL graphics card, with latest driver. Integrated Intel HD or Iris 4000/5000 series chipsets (or newer) are supported. Older Intel chipsets are not supported.	512 MB NVIDIA- or AMD-based OpenGL graphics card, with latest driver.	1+ GB NVIDIA-based, high-performance OpenGL graphics card, with latest driver.
GRAPHICS NOTES: There are many manufacturers of graphics cards that use these chipsets. While GeoTime supports most cards that use these chipsets, it is impossible to test every possible hardware and driver combination. **Due to inherent graphics processing limitations with Remote Desktop Connection (RDC) in Windows, Uncharted Software, Inc. does NOT support use of GeoTime via RDC, and some features may work improperly or be disabled if GeoTime is used over RDC.**			
Hard Disk	1 GB of uncompressed hard disk space. An additional 22.5 GB is required for the GeoTime Offline Map Pack™ (if applicable).		
Web Browser (for Documentation)	A recent version of Microsoft Internet Explorer, Mozilla Firefox, or Google Chrome, installed as the default browser.		
Monitor Resolution	1280 x 720 or better (1920 x 1200 or comparable widescreen resolution is recommended.)		
Microsoft .NET Framework (if using Excel or ArcGIS plug-ins)	Microsoft .NET Framework v3.5 SP1 or newer.		
Map Provider	GeoTime does not include map data, but relies on an additional map provider to supply that data. The map provider must be one of the following sources: • Esri ArcGIS (Using the ArcMap add-in) • Esri TOC (functions in **32-bit GeoTime only,** compatible with ArcGIS Desktop 10.0, 10.1, 10.2, and 10.3 **only**.) • Web Map Service (requires Internet connectivity) • GeoTime Offline Map Pack™ (available as a separate purchase) For tasks such as large data analysis, animation, and video capture, Uncharted recommends ArcGIS or the GeoTime Offline Map Pack for best performance.		

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Workstation Component	Minimum (< 10K rows)	Better (up to 75K rows)	Best (over 75K rows)
To use GeoTime Plug-Ins or Extensions:	• **For the Excel plug-in:** Microsoft Excel 2007, 2010, 2013, or 2016 • **For the ArcMap add-in:** Esri ArcGIS Desktop 9.3, 10.x. The ArcMap plugin is compatible with any ArcGIS 10 point release. Be sure to install the correct file for your version of ArcGIS (refer to the GeoTime Installation Guide PDF). • **For the Toolbox add-in :** Esri ArcGIS Desktop 10.0, 10.1, 10.2, 10.3, and 10.4. The Toolbox is NOT compatible if the release is not listed here.		

Desktop Network License Server Systems

GeoTime desktop network license servers must have a Windows-based operating system, and may be virtual machines. They must have a unique host name and MAC address for licensing.

Due to potential port conflicts, we do not recommend installing the GeoTime license server software on a server that is currently handling Autodesk licensing.

8.2 GeoTime Server System Requirements

Client Workstation Requirements

Specification	Recommended	Minimum
Web Browser	Microsoft Internet Explorer Microsoft Edge Mozilla Firefox Google Chrome	Microsoft Internet Explorer Microsoft Edge Mozilla Firefox Google Chrome
Video	Resolution of 1280x1024 or higher	Resolution of 1280x1024 or higher
Processor	64-bit, 4-core	Any x86 or x64 multi-core processor
RAM	8 GB	4 GB

Server Requirements

Concurrent Users	Processor(s)	RAM	Storage
1-5	64-bit, 4 core	4 GB	500 MB for system installation 20 GB for the optional GeoTime Offline Map Pack Data files require additional space, depending on their size.
5-10	64-bit, 8 core	8 GB	
10-15	64-bit, 8 core	16 GB	
20-25	64-bit, 4-core	32 GB	

9. References

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New York City Police Department
Intelligence Division
Analytical Programs Unit

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10. Insurance Requirements

Uncharted holds insurance coverage of the types and the amounts more than sufficient to meet the Department' specifications. Proof of insurance can be provided upon request.

11. City of Boston Procurement Forms

See forms in Appendix C.

12. Evaluation Criteria

We wish to reiterate, this is an adjunct proposal to the main social media threat solution for the Boston Police Department ("Department"). This adjunct proposal presents a unique and complimentary geotemporal social media threat analysis capability for consideration by the Department. This unique capability can be easily integrated with the main social media threat analysis system. This is not a proposal for the complete solution.

12.1 Minimum Criteria

1. Meet all five (5) summary requirements of Section 7?	No. An adjunct tool is proposed.
2. Submitted in accordance with instructions?	Yes
3. Separate sealed Price and Non-Price Proposals?	Yes
4. Standard contract forms completed and signed?	Yes
5. Responsive and responsible proposal?	No. An adjunct tool is proposed.

6.	All forms and questionnaires completed?	Yes
7.	Three or more references provided?	Yes
8.	Is our company Uncharted Software financially solvent?	Yes
9.	Are copies exact duplicates?	Yes
10.	Complete description of equipment, materials and services provided?	Yes

Signed: _____

Title: _____

Date: 28 Oct 2016

12.2 Comparative Evaluation Criteria

1.	Proposed Solution	Not Advantageous. An adjunct tool is proposed.
2.	Plan of Services	Advantageous
3.	Implementation Plan and Services	Advantageous
4.	Demonstration of Solution	Not Advantageous. An adjunct tool is proposed.
5.	References	Advantageous
6.	Experience	Highly Advantageous
7.	Clarity and Completeness of Proposal	Advantageous

Appendix A. Financial Statements

dun & bradstreet ENGLISH | SUPPORT | (800) 463-6362 | WARREN 0 Items

D&B EXPRESS BUSINESS CREDIT REPORTS ANNUAL MEMBERSHIP GET A D-U-N-S NUMBER

Order Completed

Thank you for your purchase. Here is your receipt.

NOTE: Do **NOT** close this window before you print & save the reports below.
Once you close this window you will not be able to view the reports again.

Report Name	Company	Price	Qty
D&B CreditCheck	**Legal Name:** Uncharted Software Inc	$36.48	1

All prices are quoted in Canadian dollars.

dun & bradstreet
D&B CreditCheck

Back to Top

BUSINESS SUMMARY

Uncharted Software Inc
2 Berkeley St Suite 600
Toronto ON M5A 4J5

Tel: (416) 203-3003

Fax: (416) 203-0646

DUNS: 20-108-7876

SIC: 7372
Provides systems analysis and design, computer software

Total Payment Experiences: 5
Litigation
Suit(s): 1
Lien(s): 0
Judgement(s): 0

PAYMENT DETAILS

Payment Reported	Paying Record	High Credit	Now Owes	Past Due	Selling Terms	Last Sale Within
2016 Oct		400	0	0		6-12 MOS
2016 Sep	PPT	1500	1500	0		1 MO
2016 Sep		400	0	0		6-12 MOS
2016 Aug	PPT	1000	400	0		1 MO
2016 Aug		400	0	0		4-5 MOS
2016 Jul	PPT	1000	700	0		1 MO
2016 Jul		500	0	0		4-5 MOS
2016 Jun	PPT	1000	400	0		1 MO
2016 Jun	PPT	0	0	0		6-12 MOS
2016 Jun		500	0	0		2-3 MOS

PAYMENT SUMMARY

In File:	Number of Exp	Amount ($000)	% Total High Credit Amount Disct Prompt	1-30	31-60	61-90	91+
				--- Days Slow ---			
12 months ending Oct 2016	5	5	100%	0%	0%	0%	0%
3 months ending Oct 2016	2	2	100	0	0	0	0

Credit Extended:	$100.+	0	0	0	0	0	0	0
($000)	50-99.9	0	0	0	0	0	0	0
	15-49.9	0	0	0	0	0	0	0
	5-14.9	0	0	0	0	0	0	0
	1-4.9	5	5	100	0	0	0	0
	less than 1.	0	0	0	0	0	0	0
	Trade at net terms	0	0	0	0	0	0	0
	Trade at discount	0	0	0	0	0	0	0
	Cash Experiences	0	0					
	Placed for Collection	0	0					
	Unfavourable Comments	0	0					

* In some instances, payments beyond terms can be the result of overlooked invoices or disputed accounts. Remember that accounts are sometimes placed for collection even though the existence of debt, or the amount, is disputed.

PUBLIC RECORD

03-07-2012 suit was registered against OCULUS INFO INC. by BERNADETTE ESPE in connection with employment termination. Amount: 100,000. (TORSU448311-12)

01-29-2009 OCULUS INFO INC. registered financing statement in favour of CANADIAN IMPERIAL BANK OF COMMERCE. Assets covered: book debts. Amount: 250,000. (651275559)

12-15-2008 OCULUS INFO INC. registered financing statement in favour of CANADIAN IMPERIAL BANK OF COMMERCE. Assets covered: book debts. Amount: n/a. (650537361)

12-15-2008 OCULUS INFO INC. registered financing statement in favour of CANADIAN IMPERIAL BANK OF COMMERCE. Assets covered: book debts. Amount: n/a. (650537379)

10-16-2006 OCULUS INFO INC. registered financing statement in favour of DELL FINANCIAL SERVICES CANADA LIMITED. Assets covered: equipment. Amount: n/a. (629766621)

08-10-2006 OCULUS INFO INC registered financing statement in favour of DELL FINANCIAL SERVICES CANADA LIMITED. Assets covered: equipment. Amount: n/a. (627865281)

Appendix B: GeoTime Brochure


GeoTime
GeoTime® for Law Enforcement
Key Features & Benefits
Import
Cleans and formats CDR data
Transform raw call detail records data into readable content that is easy to understand
Import data from a variety of sources: CDRs, GPS, Cellebrite, XRY, Twitter, Facebook, Snapchat, Instagram and more
Live email pings
Connect email accounts to automatically map location alerts in real time
Analysis
See better in 3D
GeoTime's 3D timeline shows the stories hidden by traditional mapping and GIS tools.
Chart Analysis
Easily identify top callers, top locations, time of day and relationships between entities.
Automated Analysis Tools
Automatically find meetings, important locations, gaps in your data, place targets at the crime
Reporting
One Click Report Publishing
Outputs visuals as Powerpoint, animated videos & images; high impact courtroom presentations
Animated Videos
Present target movement over time by sharing animated videos with investigators, analysts and courtroom presenters
Annotating & Map Graphics
Mark up maps with notes and annotations to help tell your story
Santa Clarita
Simi Valley
Thousand Oaks
Burbank
The GeoTime Advantage
Utilities & Resources
➡ GeoTime Carrier Formats Guide (CFG) A step by step guide to manually formatting and importing Call Detail Records (CDR)
➡ GeoTime CRT Utility
A standalone utility that automatically cleans up raw call detail records (CDR)
Technical Support & User Communities
➡ Dedicated technical support
Your initial purchase of GeoTime software includes ongoing telephone and online support
➡ GeoTime User Group
Ask questions and share best practices with thousands of domain experts from around the world
Training & Certification
➡ Online training
Access ongoing opportunities to improve skills with complimentary online training and webinars
➡ Training & Certification
Offered all over the world, GeoTime training classes provide users with hands on experience and certification
esri Partner Network Silver
IALEIA Partner Award Winner
GeoTime Standalone Starter Pack - SRP* US$3975 in United States of America Only
GeoTime is also available in Concurrent Network Licenses (CNL). For details, contact info@geotime.com
*SRP = Suggested Retail Price. © 2016 Uncharted Software Inc. All Rights Reserved.
GeoTime™ Software developed by: uncharted

Appendix C. City of Boston Procurement Forms