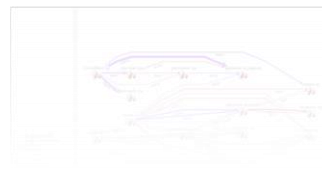
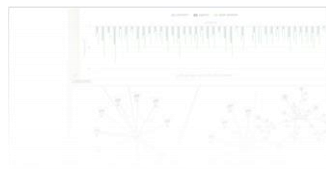
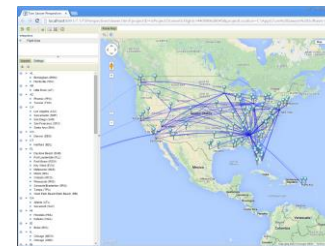
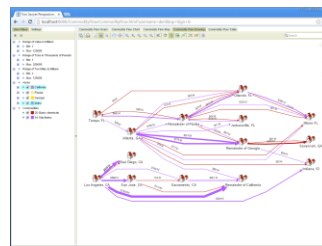
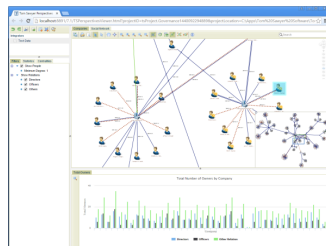




Tom Sawyer Software

Dismantling Criminal Networks with Graph and Spatial Visualization and Analysis

Kevin Madden
Senior Technical Design Director



Agenda

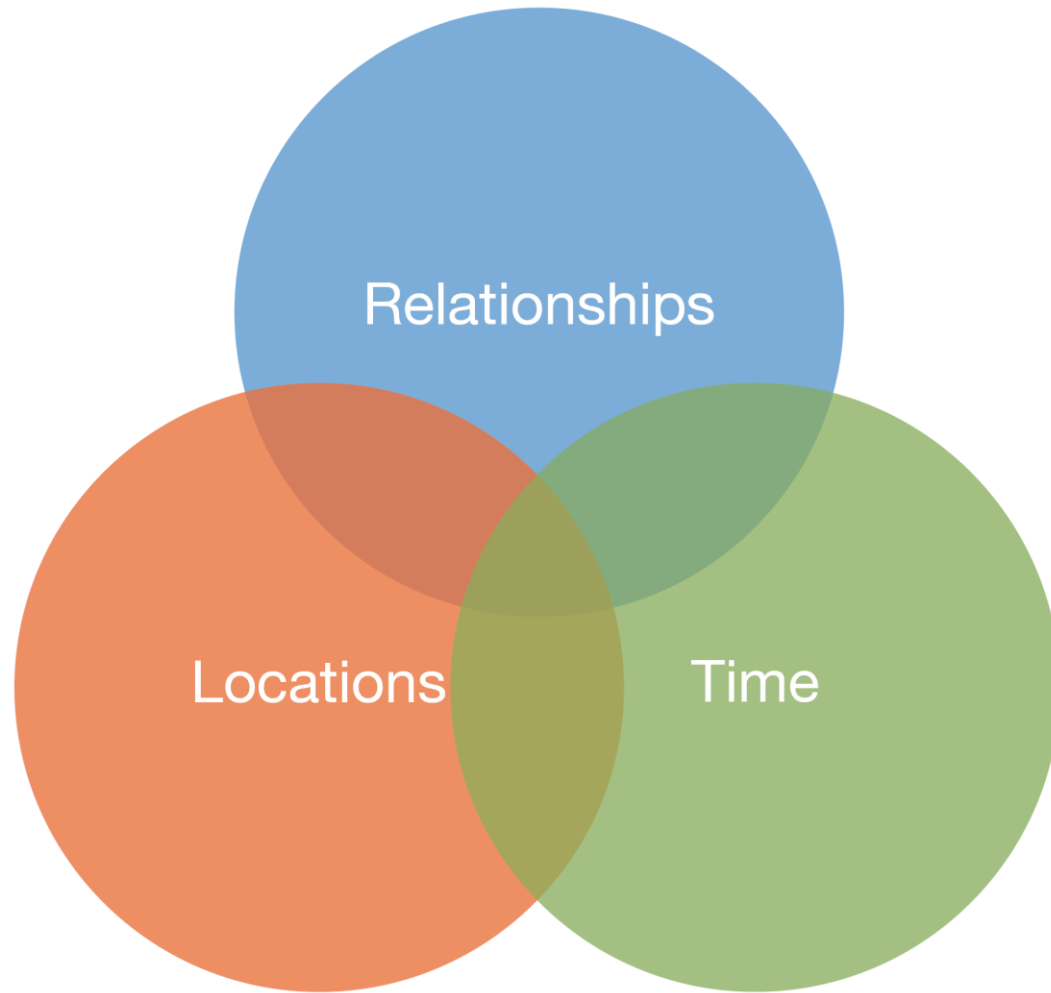
- Introduction
- Products and Technology
 - Tom Sawyer Perspectives
- Demonstration
- Questions and Answers





- Company
 - Leading provider of software for building graph visualization and analysis applications
 - Full-service data visualization vendor
 - American company from Berkeley, California
 - Offices in Australia, France, Latvia, Mexico, and Turkey
 - Since 1992

The Problem



The Solution



Schema



Entities



Person

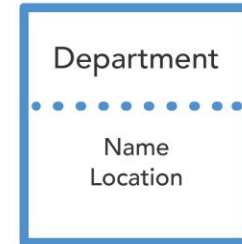


Department

Relationships

Person	Person
Person	Department

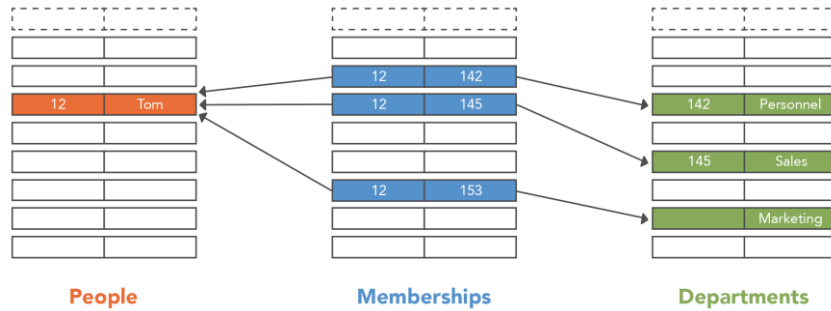
Attributes



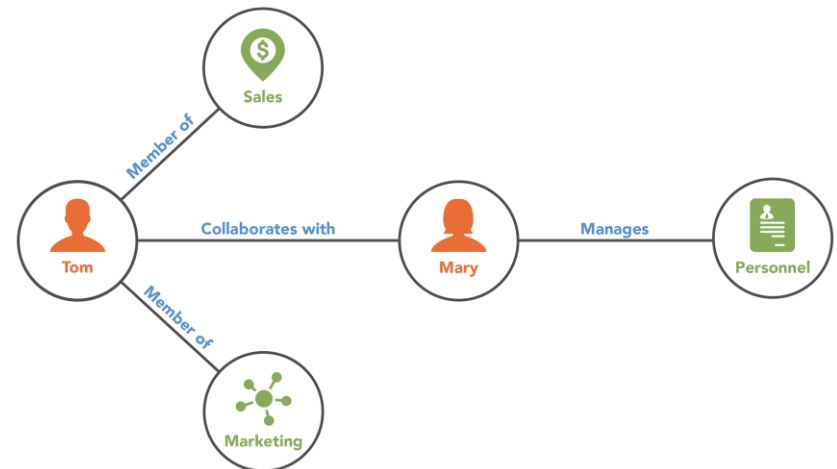
Data Models



Table Model



Graph Model



Data Sources



Product
Integrators



ORACLE®
DATABASE

12^c



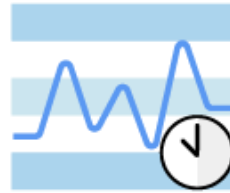
Generic
Integrators



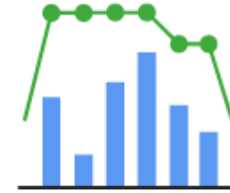
Data Views



Drawings



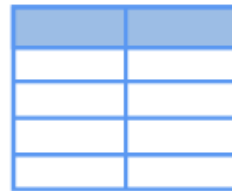
Timelines



Charts



Maps



Tables

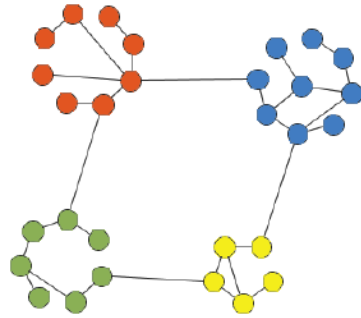


Trees

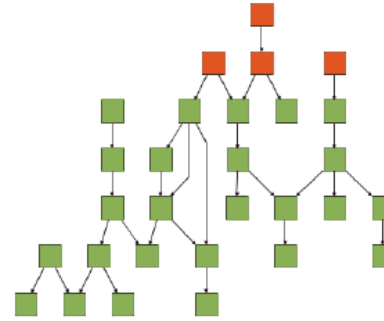


Inspectors

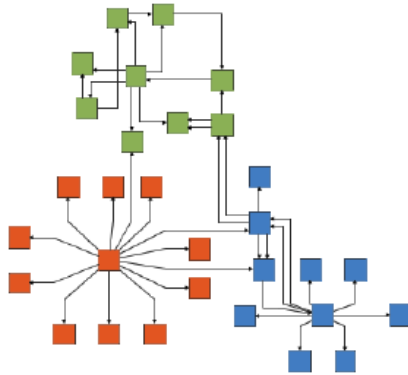
Graph Layout



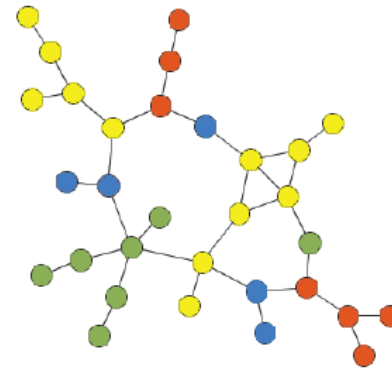
Circular



Hierarchical

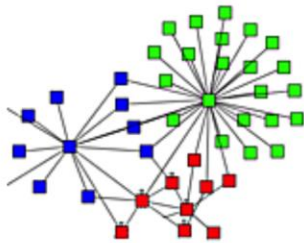


Orthogonal

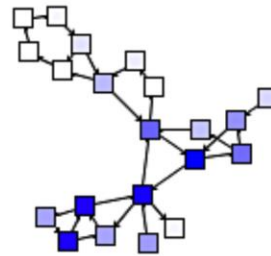


Symmetric

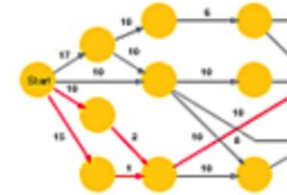
Graph Analysis



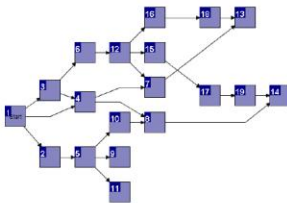
Groups



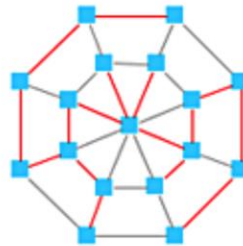
Social Networks



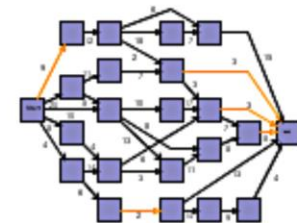
Paths



Traversals



Reachability



Flows

Additional Features



Search



Filters



Rules

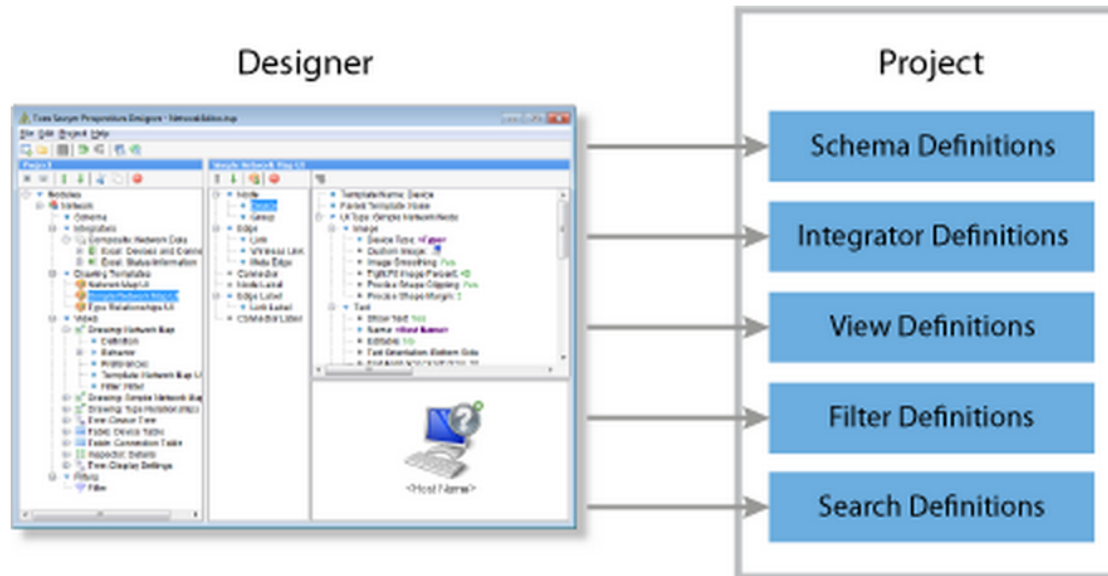


Expressions



Synchronization

Graphical Designer



Use the Designer to create project definitions.

Application Development



Design

Preview

Deploy



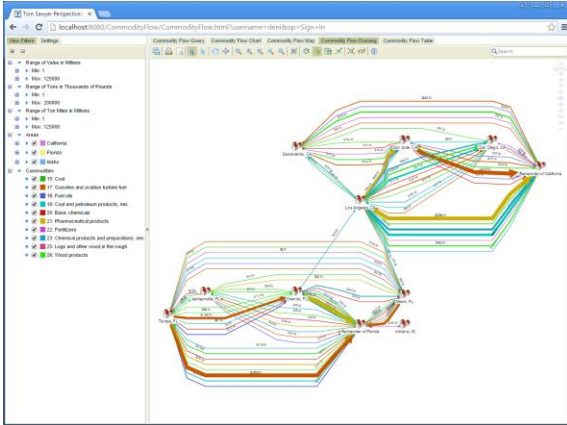
Product Technology



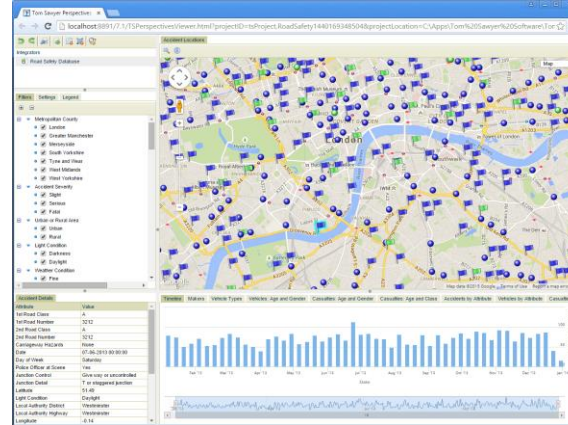
Solutions



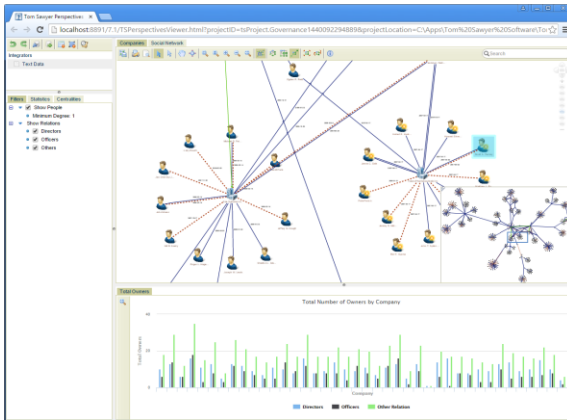
Processes, Flows, and Dependencies



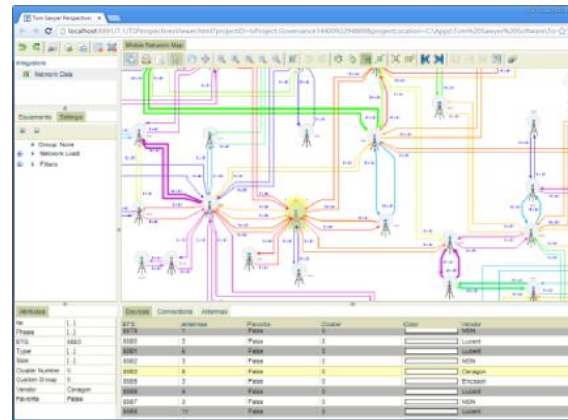
Schematics and Maps



Link Analysis



Network Topology



Customers



ORACLE



TIBCO™

NORTHROP GRUMMAN

FUJITSU



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accenture



IBM®



CISCO™

Demonstration



Tom Sawyer Software Corporation
🔍 Search

People and Incidents | People Network | Incident Map

Integrators
Police Report Incidents

Filters | Settings | Incident Involvement | K-Core Analysis

- VEHICLE THEFT (60 Incidents, 65 Pers)
 - AARON ONEAL
 - ALBERT MORALES
 - ANTHONY PHELPS
 - BRANDEN HUNT
 - BRUCE MCNEIL
 - CARLTON BATES
 - CAROL DORSEY
 - CHAD SCHROEDER
 - CHADWICK EMERSON
 - CHANDRA SEARS
 - CLAY BAKER
 - DANTE MARSHALL
 - DARIO HORTON
 - DION WHITEHEAD
 - DONNIE HOLDER
 - DOUG PARKER
 - EARL GUTIERREZ
 - EARNEST DAVENPORT
 - ELTON KELLEY
 - ELVIS MALONE

Attribute	Value
Name	CHANDRA SEARS
Age	19
Ethnicity	White
Gender	Female
Photo	

Map

Timeline | Incidents By Type | Offense Type Detail | People By Age | People | Incidents | Incidents By Precinct | Social Network Analysis

NARCOTICS Incidents

Category	Color
NARC-EQUIPMENT/PARAPHENALIA	Blue
NARC-POSSESS-COCAINE	Black
NARC-POSSESS-HEROIN	Green
NARC-POSSESS-MARIJU	Orange
NARC-POSSESS-METH	Purple
NARC-SELL-COCAINE	Pink

Demonstration



Tom Sawyer Software Corporation
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People and Incidents
People Network
Incident Map

Integrators

Police Report Incidents

Filters Settings Incident Involvement K-Core Analysis

TRESPASS (7 Incidents, 6 Persons)

VEHICLE THEFT (60 Incidents, 65 Persons)

- AARON ONEAL
- ALBERT MORALES
- ANTHONY PHELPS
- BRANDEN HUNT
- BRUCE MCNEIL
- CARLTON BATES
- CAROL DORSEY
- CHAD SCHROEDER
- CHADWICK EMERSON
- CHANDRA SEARS
- CLAY BAKER
- DANTE MARSHALL
- DARIO HORTON
- DION WHITEHEAD
- DONNIE HOLDER
- DOUG PARKER
- EARL GUTIERREZ
- EARNEST DAVENPORT
- ELTON KELLEY
- ELVIS MALONE

BRADY BUCHANAN

CHANDRA SEARS

CONNIE CHANG

EUGENE CHANEY

LAMAR CHANEY

Timeline Incidents By Type Offense Type Detail People By Age People Incidents Incidents By Precinct Social Network Analysis

Percentage of Incidents By Precinct

Date Occurred

■ East Precinct
 ■ North Precinct
 ■ South Precinct
 ■ Southwest Precinct
 ■ West Precinct

Details

Attribute	Value
Name	CHANDRA SEARS
Age	19
Ethnicity	White
Gender	Female
Photo	

Demonstration



Tom Sawyer Software Corporation


People and Incidents | People Network | Incident Map

Integrators
Police Report Incidents

Filters | Settings | Incident Involvement | K-Core Analysis

- BRENTON RUSSELL
- CALVIN PALMER
- CASEY HOUSTON
- EDGARDO FINCH
- EVERETTE CONWAY
- HAROLD KENNEDY
- IRVIN PADILLA
- JAMAL POOLE
- JEFFREY RAMOS
- JONAS HARRISON
- KAREEM SULLIVAN
- LANE HORN
- LELAND REYNOLDS
- MARLIN FINLEY
- MORTON GROSS
- OMAR BOOTH
- ROCKY KNAPP
- RODRIGO GREGORY
- ROSS SHORT
- SASHA SHERMAN
- SIMON WALTERS
- WALKER HUBER

Details

Attribute	Value
Name	LANE HORN
Age	19
Ethnicity	Black
Gender	Male
Photo	

Search: Lane

FLOYD DELANEY
LANE HORN

Timeline | Incidents By Type | Offense Type Detail | People By Age | People | Incidents | Incidents By Precinct | Social Network Analysis

Number of Incidents

Date Occurred

Incidents

Demonstration



Tom Sawyer Software Corporation

People and Incidents | People Network | Incident Map

Integrators
Police Report Incidents

Filters | Settings | Incident Involvement | K-Core Analysis

- PICKPOCKET (0 Incidents, 0 Persons)
- PROPERTY DAMAGE (18 Incidents, 24 Persons)
 - ALLAN WATTS
 - ANDY WINTERS
 - ARTURO MOSLEY
 - BENJAMIN MANN
 - CAROLINA CARVER
 - DALE SHERMAN
 - DEWEY ESTRADA
 - DWIGHT STRICKLAND
 - ERIK POLLARD
 - ERIN GOMEZ**
 - GORDON VALENZUELA
 - GRANT HUNTER
 - ISIAH DRAKE
 - JULIO ROJAS
 - LANE HORN
 - LEE WARREN
 - LES MCLAUGHLIN
 - LOWELL REID
 - MARVIN DAVID

Details

Attribute	Value
Name	ERIN GOMEZ
Age	26
Ethnicity	Hispanic
Gender	Male
Photo	

Search: eri

- CHERIE REYES
- DERICK INGRAM
- ERIK POLLARD
- ERIN GOMEZ**

Timeline | Incidents By Type | Offense Type Detail | People By Age | People | Incidents | Incidents By Precinct | Social Network Analysis

Social Network Analysis

Person	Score
GORDON VALENZUELA	100
BENJAMIN MANN	100
LEE WARREN	88
DALE SHERMAN	88
ISIAH DRAKE	86
ERIN GOMEZ	79
GRANT HUNTER	69
ANDY WINTERS	63
ERIK POLLARD	54

Demonstration



localhost

People and Incidents People Network Incident Map

Integrators

- Police Report Incidents

Filters Settings Incident Involvement K-Core Analysis

Minimum Coreness: 1

Cores

- MATHEW COPELAND: 7 (9 persons)
- COURTNEY GREER: 7 (9 persons)
- GENE SUAREZ: 7 (9 persons)
- PEARLIE BURT: 7 (9 persons)
 - CURT FREDERICK
 - DANTE BUCK**
 - HEATH HOLT
 - MARTIN KNAPP
 - NOE MORIN
 - PEARLIE BURT
 - PETE FINLEY
 - RANDOLPH SANDOVAL
 - SHIRLEY ROGERS
- JOSH MARTINEZ: 6 (7 persons)
- KENNY MORSE: 6 (7 persons)
- COURTNEY GREER: 6 (10 persons)
- JACK KOCH: 6 (7 persons)
- MERLE NEAL: 6 (8 persons)

Search:

DANTE BUCK
 DANTE MARSHALL
 DANTE MERCADO

Timeline Incidents By Type Offense Type Detail People By Age People Incidents Incidents By Precinct Social Network Analysis

Percentage of Incidents By Precinct

Details

Attribute	Value
Name	DANTE BUCK
Age	19
Ethnicity	White
Gender	Male
Photo	



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SOFTWARE

Kevin Madden

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