Email Social Network Search



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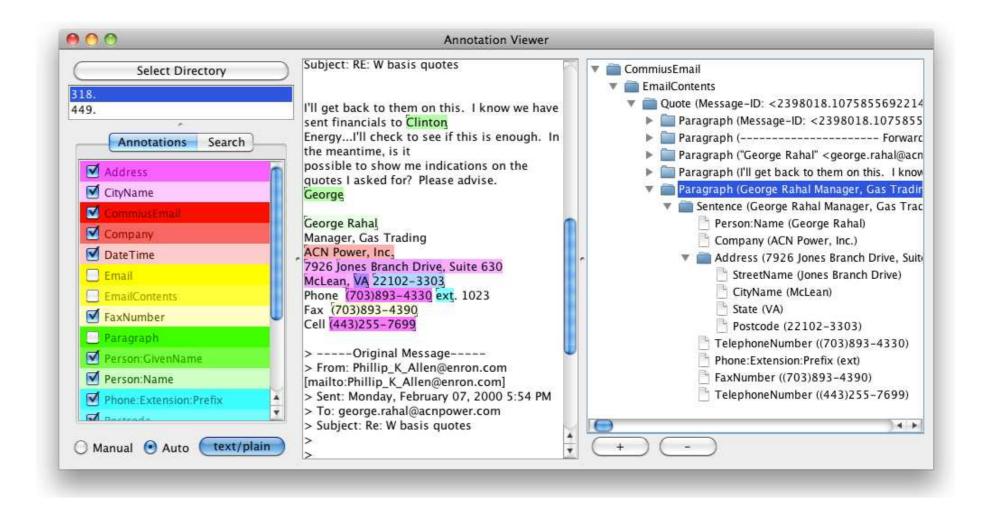
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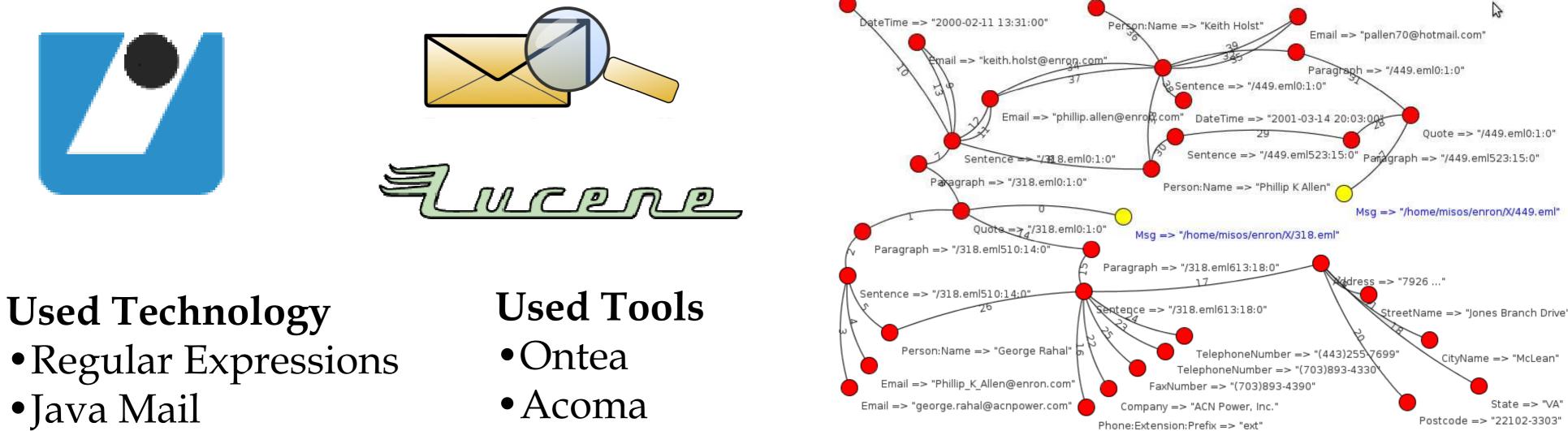
Motivation

To exploit information and knowledge included in email communication

Approach

- Social Network Extraction
- Entities extraction like People, Organizations, Locations, Contact data
- Forming semantic trees and graphs
- User interaction with graph data





• Lucene

Email Social Network Search Person:Name=>Mike Grig Search									
Address	Phillip K Allen	(Person:Name)	9119	Msg					
<u>CityName</u>	Frank Ermis	(Person:Name)	6208	Msg					
Email	Keith Holst	(Person:Name)	6163	Msg					
Person:Name	Janie Tholt	(Person:Name)	4728	Msg					
TelephoneNumber	Steve South	(Person:Name)	4728	Msg					
	ina.rangel@enron.com	(Email)	3954	Msg					
	information.management@enron.com	(Email)	3954	Msg					
	phillip.allen@enron.com	(Email)	3676	Msg					
	Matthew Lenhart	(Person:Name)	2971	Msg					
	John Arnold	(Person:Name)	2418	Msg					

Features

- Social network of communicating people with relation to other entities
- Discovering relation in the Graph (network) using spread of activation algorithm
- Showing relations of concrete type, e.g. telephone numbers related to a person
- Navigation over related entities
- Full-text search of the entities
- User interface for search

Made March Mag Mag Mag Mag Mag Mag Mag Person:Name=>Mike Grig Search Address 713 780-1022 (TelephoneNumber) 2306 Mag CityName 713-408-6256 (TelephoneNumber) 2306 Mag Email 713-780-1022 (TelephoneNumber) 2306 Mag Person:Name 713-780-1022 (TelephoneNumber) 2306 Mag Person:Name 713-780-1022 (TelephoneNumber) 2306 Mag Person:Name From: mike.grigsby@enron.com EnvelopE-START	•	Matt Smith (Person:	Name) 2306 Msg
Address Person:Name=>Mike Grig Search Address 713 780-1022 (TelephoneNumber) 2306 Msg CityName 713-780-1022 (TelephoneNumber) 2306 Msg Email 713-780-1022 (TelephoneNumber) 2306 Msg Person:Name 713-780-1022 (TelephoneNumber) 2306 Msg TelephoneNumber From: mike.grigsby@enron.com Reply-To: mike.grigsby@enron.com Envelope-START		Monday March //Dereen:	Name) 2206 Msg
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Person:Name	CityName	<u>713-408-6256</u> (TelephoneNumber) 2306 <u>Msg</u>	
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Your badge will be waiting for you at the front desk in the Michael D. Grigsby, Executive Director UBS Warburg Energy, LLC Work: 713-853-7031		Recipient: robert.badeer@enron.com Message-ID: <30984408.1075861029177.JavaMail.ev	-
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		UBS Warburg Energy, LLC Work: 713-853-7031	

User interaction with data (merging, deleting entities) with immediate impact on discovered relations



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	Grig	gsby	Sear	ch		
Person:Name=>Mike Grigsby Person:Name=>Grigsby, Mike Person:Name=>Michael D. Grigsby Merge Delete Cancel		<u>Mike Grigsby</u> <u>Grigsby, Mike</u> <u>Jon McKay Mike Grigs</u> <u>Michael D. Grigsby</u> <u>Grigsby, Frank Ermis</u> <u>Mike Grigsby Director</u>	sby	(Person:Name) (Person:Name) (Person:Name) (Person:Name) (Person:Name) (Person:Name)	6416 5133 5133 5133 5133	<u>Msg</u> <u>Msg</u> <u>Msg</u> <u>Msg</u>
		Grigsby, Keith Holst		(Person:Name)	5133	Msg

Acknowledgment: This work is partially supported by projects ITMS: 26240220029, EUSAS A-0938-RT-GC, VEGA 2/0184/10.