

# Storytelling Using EventWeb

**Ramesh Jain**

Department of Computer Science

# Today's Story

- **Changing Paradigms in computing**
- **What drives the latest computing paradigm**
- **Events and Objects**
- **EventWeb**
- **Storytelling using EventWeb**
- **EMME**
- **Going forward**

# Disruptive Stages in Computing

# Disruptive Stages in Computing

**Data  
(Computation)**

**Data:  
Numbers, Text,  
Statistics, Sensors (Video)**



# Disruptive Stages in Computing

**Information  
(Communication)**

**Data  
(Computation)**

**Information:**  
Search, Specialized sources



**Data:**  
Numbers, Text,  
Statistics, Sensors (Video)



# Disruptive Stages in Computing

What Next?

**Information  
(Communication)**

**Data  
(Computation)**

**Information:  
Search, Specialized sources**



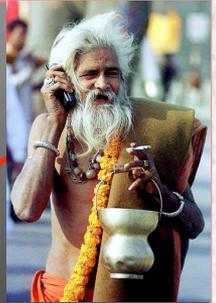
**Data:  
Numbers, Text,  
Statistics, Sensors (Video)**



# Disruptive Stages in Computing

**Experience  
(Insights)**

**Experience:  
Direct observation or  
participation**



**Information  
(Communication)**

**Information:  
Search, Specialized sources**



**Data  
(Computation)**

**Data:  
Numbers, Text,  
Statistics, Sensors (Video)**



# Three Stages in Computing

<b>FEATURE</b>	<b>Stage 1</b>	<b>Stage 2</b>	<b>Stage 3</b>
<b>Input</b>	<b>Sci Bus Data</b>	<b>Documents</b>	<b>Multimodal</b>
<b>Output</b>	<b>Math results</b>	<b>Information</b>	<b>Experiences</b>
<b>Processing</b>	<b>Procedural</b>	<b>OO</b>	<b>Event &amp; Obj</b>
<b>Driving Device</b>	<b>Mainframe, WkStations</b>	<b>PCs, Internet</b>	<b>Mobile phones</b>
<b>Applications</b>	<b>Computing</b>	<b>Info &amp; Comm</b>	<b>Insights and Experiences</b>
<b>User level</b>	<b>Trained Prof</b>	<b>Dev. World</b>	<b>All Humans</b>
<b>Interaction</b>	<b>Cmd lang</b>	<b>GUI</b>	<b>Experiences</b>

**Name 3 most popular Internet companies that emerged in the last 3 years.**

**Name 3 most popular Internet companies that emerged in the last 3 years.**

■ **Flickr**

**Name 3 most popular Internet companies that emerged in the last 3 years.**

- **Flickr**
- **YouTube**

# **Name 3 most popular Internet companies that emerged in the last 3 years.**

- **Flickr**
- **YouTube**
- **Facebook/Myspace**

**Name 3 most popular Internet concepts in the last 3 years.**

# Name 3 most popular Internet concepts in the last 3 years.

- Blogs

# Name 3 most popular Internet concepts in the last 3 years.

- Blogs
- Tags

# **Name 3 most popular Internet concepts in the last 3 years.**

- **Blogs**
- **Tags**
- **Groups/Social Networks**

# Interesting!!!

- Flickr
- YouTube
- Facebook/Myspace
- Blogs
- Tags
- Groups/SNtwks

# Interesting!!!

- Flickr
- YouTube
- Facebook/Myspace
- Blogs
- Tags
- Groups/SNtwks

**What message does this give us?**

# Message: People want

# Message: People want

- **New media: Text based media is not enough.**

# Message: People want

- **New media: Text based media is not enough.**
- **Story Telling: People want to express themselves using easy tools.**

# Message: People want

- **New media: Text based media is not enough.**
- **Story Telling: People want to express themselves using easy tools.**
- **Socialize: Family and friends remain a strong influence in all facets of life – people want to share stories with them.**

# Continuing the Evolution of the Web

- **DocumentWeb**

- Each node is a 'Page' or a document.
- Pages are linked through *referential links*

# Continuing the Evolution of the Web

- **DocumentWeb**

- Each node is a 'Page' or a document.
- Pages are linked through *referential links*

- **Consider a Web in which each node**

# Continuing the Evolution of the Web

- **DocumentWeb**

- Each node is a 'Page' or a document.
- Pages are linked through *referential links*

- **Consider a Web in which each node**

- Is an **event**

# Continuing the Evolution of the Web

- **DocumentWeb**
  - Each node is a 'Page' or a document.
  - Pages are linked through *referential links*
- **Consider a Web in which each node**
  - Is an **event**
  - Has informational as well as **experiential** data

# Continuing the Evolution of the Web

- **DocumentWeb**
  - Each node is a 'Page' or a document.
  - Pages are linked through *referential links*
- **Consider a Web in which each node**
  - Is an **event**
  - Has informational as well as **experiential** data
  - Is connected to other nodes using

# Continuing the Evolution of the Web

- **DocumentWeb**
  - Each node is a 'Page' or a document.
  - Pages are linked through *referential links*
- **Consider a Web in which each node**
  - Is an **event**
  - Has informational as well as **experiential** data
  - Is connected to other nodes using
    - **Referential links**

# Continuing the Evolution of the Web

- **DocumentWeb**
  - Each node is a 'Page' or a document.
  - Pages are linked through *referential links*
- **Consider a Web in which each node**
  - Is an **event**
  - Has informational as well as **experiential** data
  - Is connected to other nodes using
    - **Referential links**
    - **Structural links**

# Continuing the Evolution of the Web

- **DocumentWeb**
  - Each node is a 'Page' or a document.
  - Pages are linked through *referential links*
- **Consider a Web in which each node**
  - Is an **event**
  - Has informational as well as **experiential** data
  - Is connected to other nodes using
    - **Referential links**
    - **Structural links**
    - **Relational links**

# Why Events?

- In many applications most data and information is related to events.
- Event based (Temporal and Spatial) organization is a fundamental mechanism used by people.
- People organize information and experiential data around events.
- Events are natural in storytelling

# Objects and Event

- **Object oriented approaches are good for dealing with STATIC situations.**
- **Emerging applications must deal with**
  - **DYNAMIC situations**
  - **Experiential data**
  - **Relationship and transitions**
- **Objects and Events are strongly related and must be used to support each other.**
- **Events offer a strong model to develop insights in many applications.**

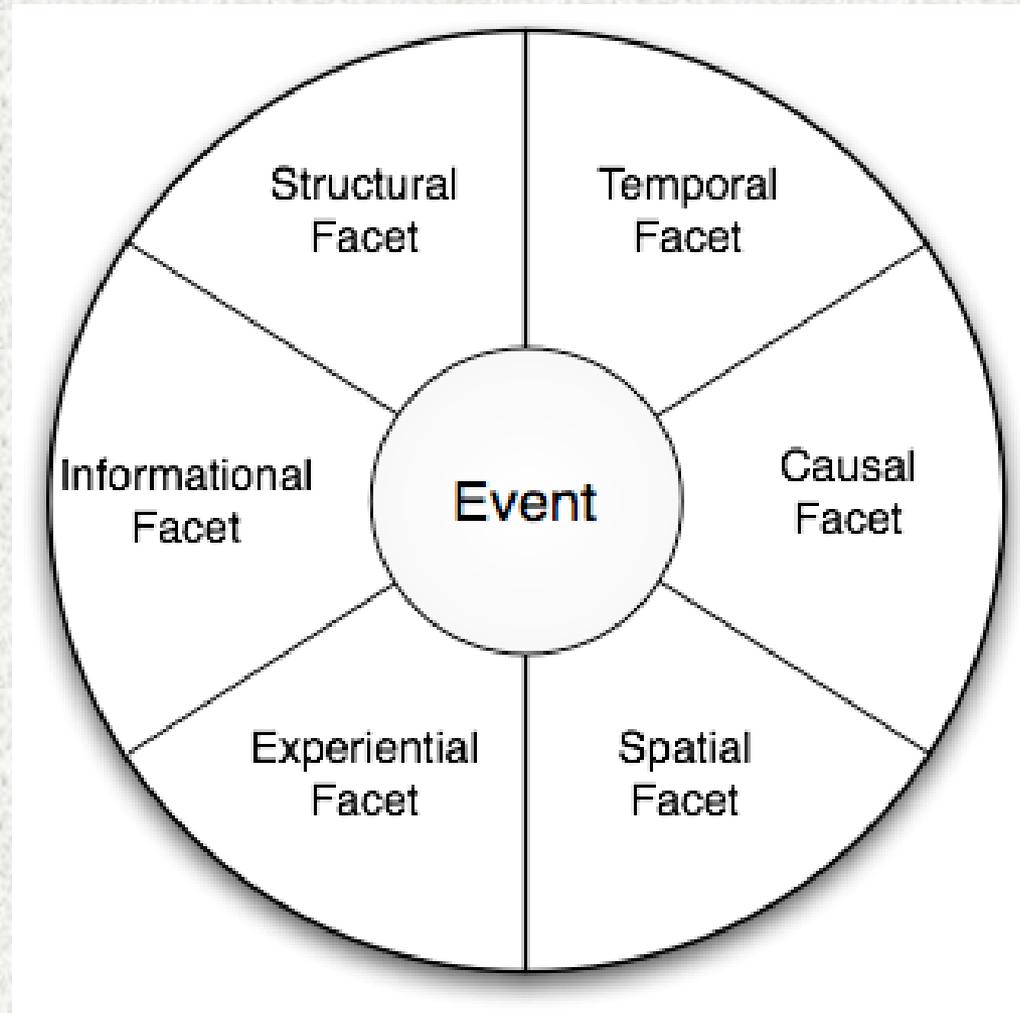
# Data, Information, and Insight

- **What:** Which thing or which particular one
- **Who:** What or which person or persons
- **Where:** At or in what place
- **When:** At what time
  
- **How:** In what manner or way; by what means
- **Why:** For what purpose, reason, or cause; with what intention, justification, or motive

# Insights require understanding Relationships

	<b>Object</b>	<b>Location</b>	<b>Time</b>	<b>Relationships</b>
<b>What</b>	X	X	X	
<b>Who</b>	X			
<b>Where</b>		X		
<b>When</b>			X	
<b>How</b>				X
<b>Why</b>				X

# Different Facets of an Event



# Events Happen

1- dimensional Space

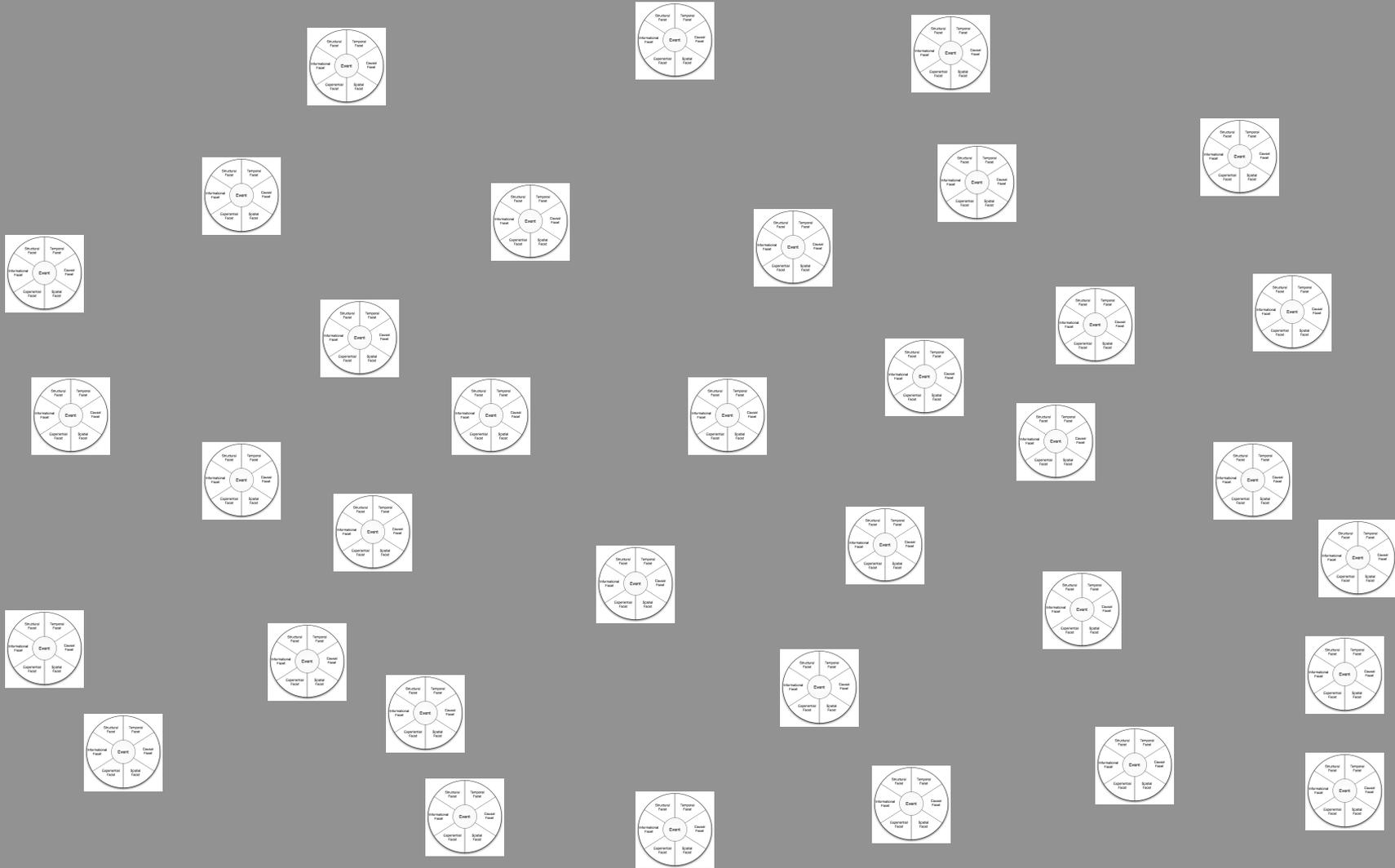
Time



# Events Happen

## 1- dimensional Space

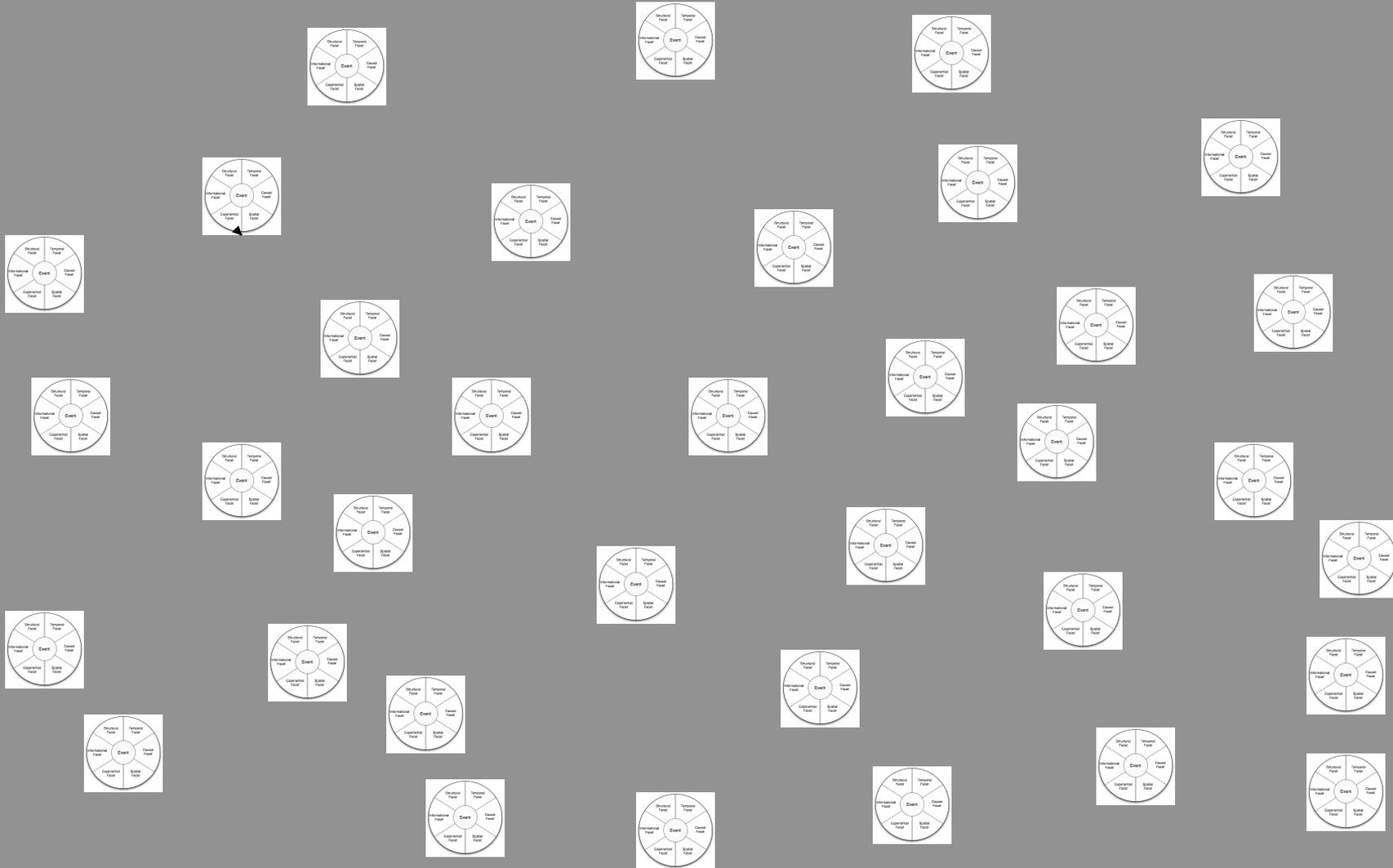
Time



# EventWeb

## 1- dimensional Space

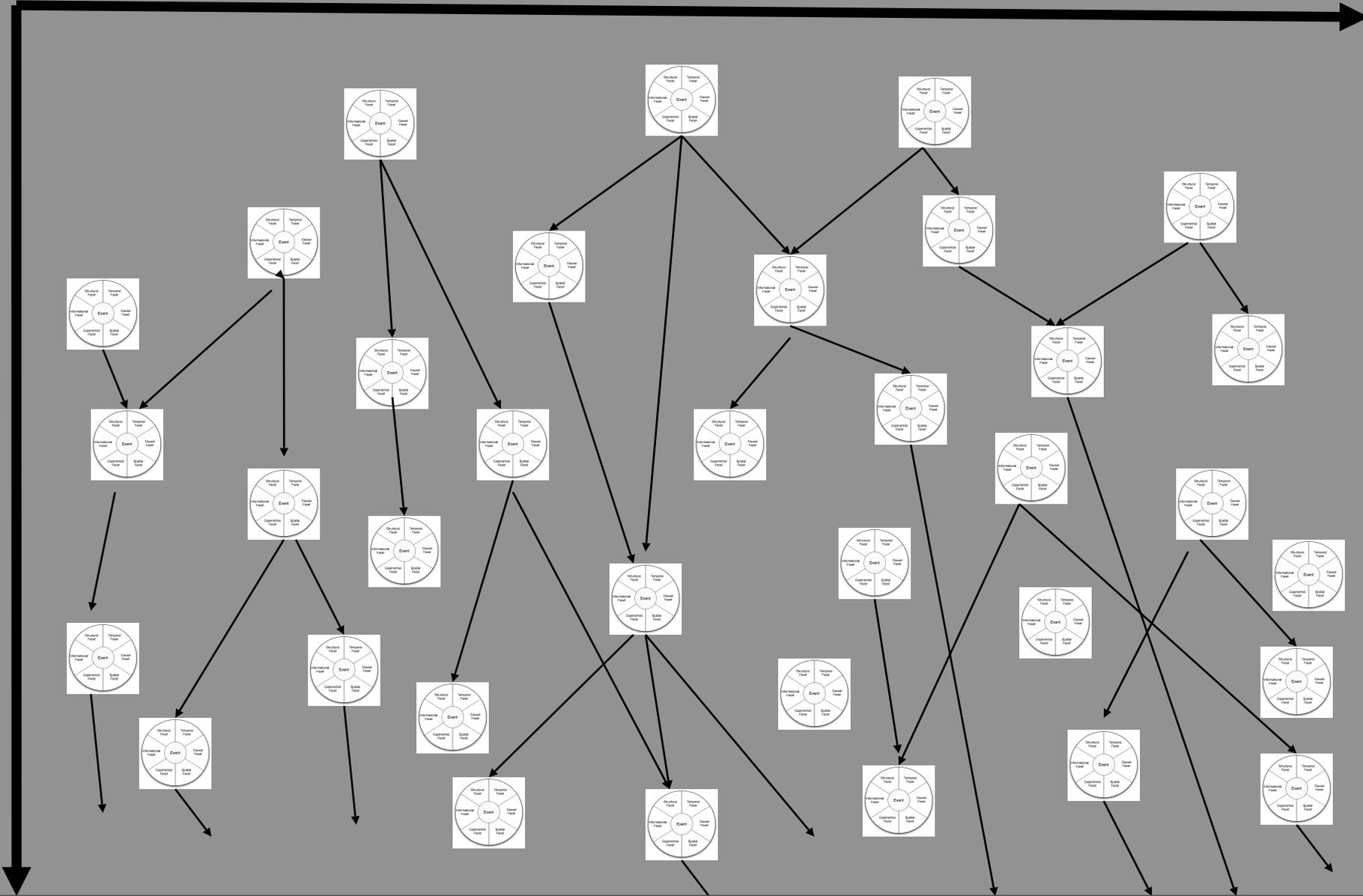
Time



# EventWeb

## 1- dimensional Space

Time



# Story Telling

# Story Telling

**Present right event information using right media  
in right order.**

# Story Telling

- **Stories are sequence of events.**
  - **Text**
  - **Movies**
  - **Drama**

**Present right event information using right media  
in right order.**

# Story Telling

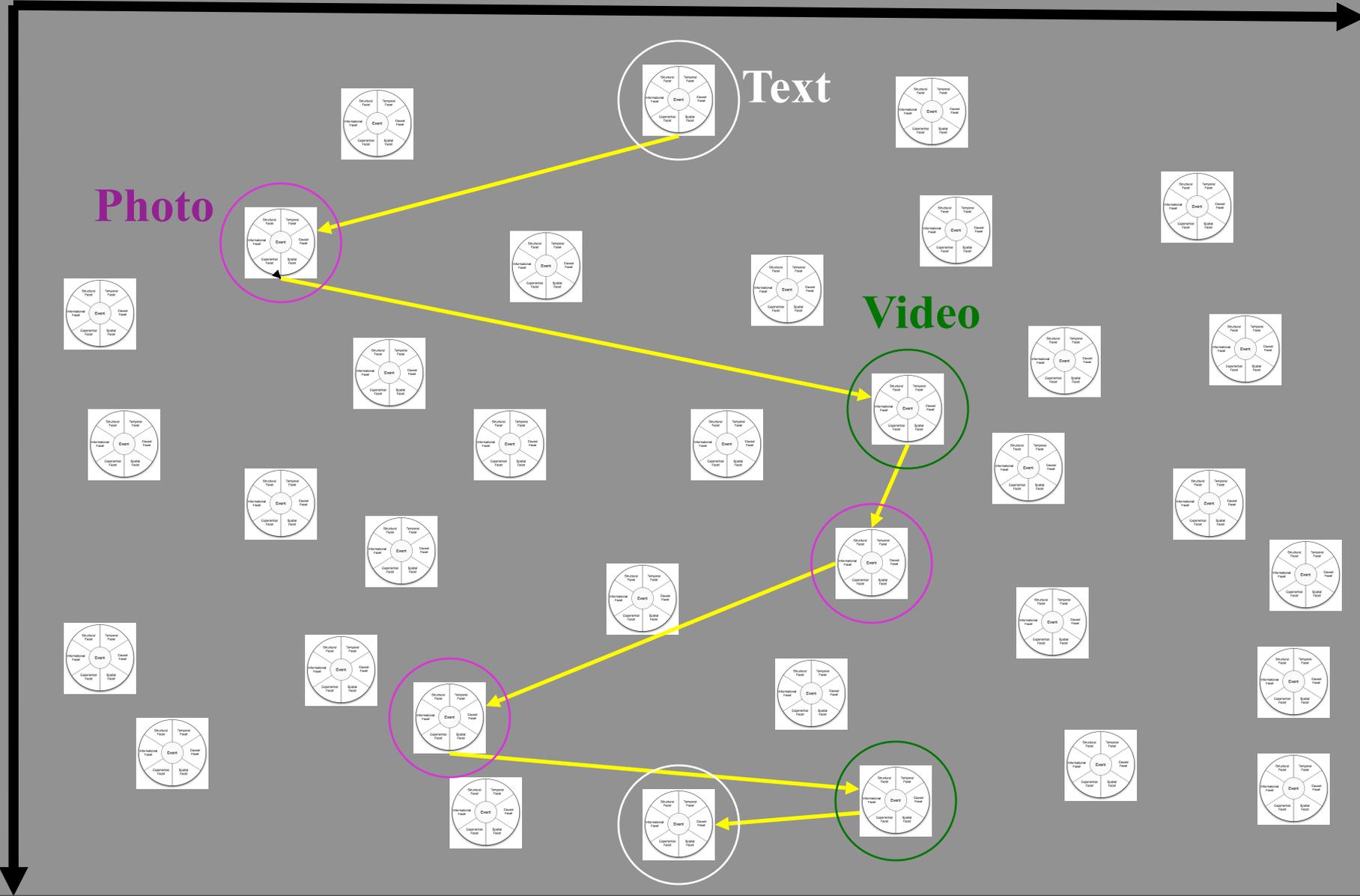
- **Stories are sequence of events.**
  - Text
  - Movies
  - Drama
- **Must have information about events**
  - You know all relevant events
  - Have appropriate information
  - In right media

**Present right event information using right media in right order.**

# Story Telling

## 1- dimensional Space

Time



# Experiential Media Management Environment

- Photos
- Videos
- Audio
- Text
- Others

Initially we start with Visual media – first photos then video – and then we will bring in other types.

# EMME: Experiential Media Management Environment

- Will deal with complete Media-ecosystem
  - And the design is to include other media very soon.
- Will ingest Media from all sources – cameras to web.
- Will digest Media for you
- You decide how you want to share
- Browse and search
- Presentations

# EMME: Experiential Media Management Environment

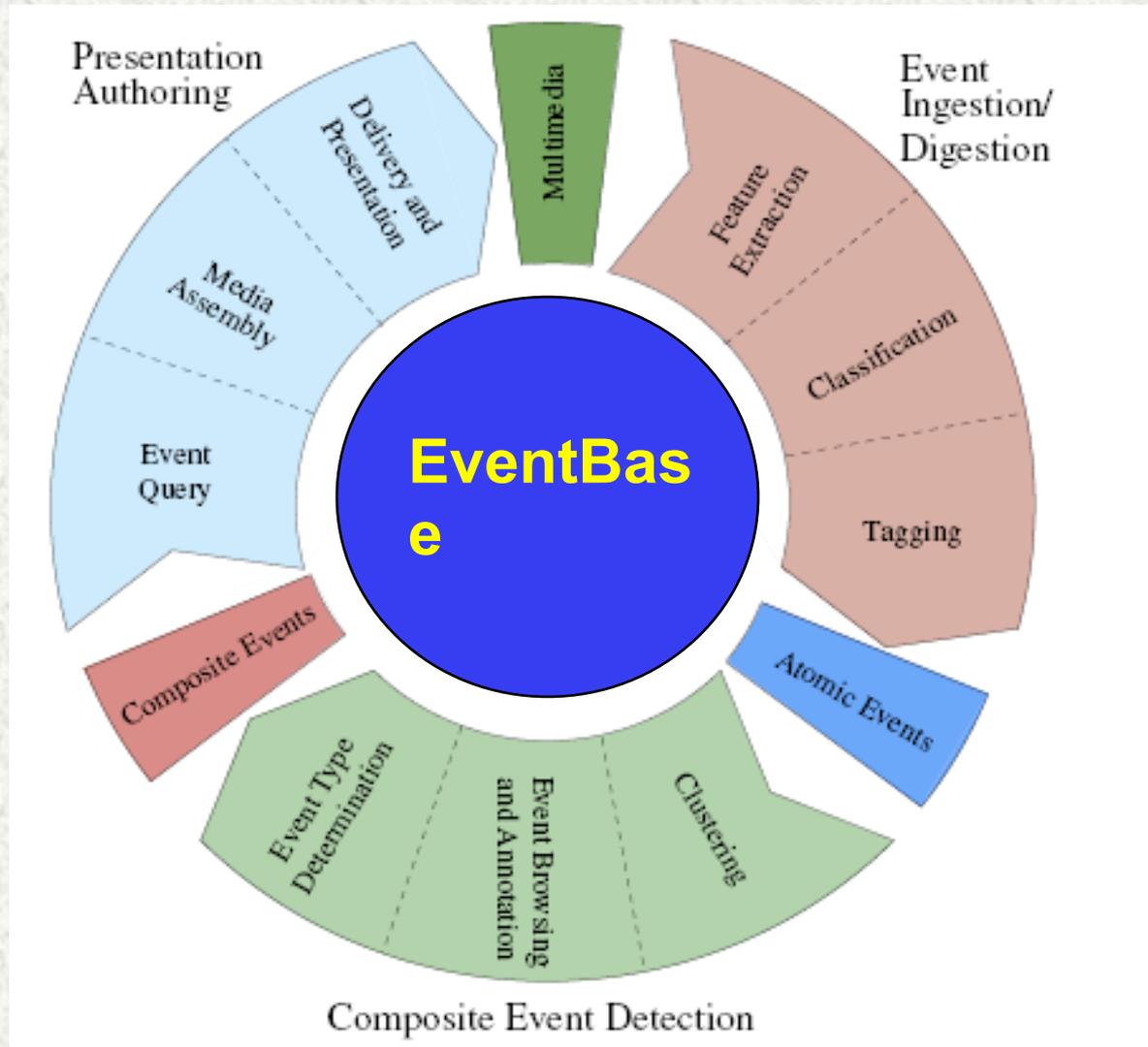
- Will deal with complete Media-ecosystem
  - And the design is to include other media very soon.
- Will ingest Media from all sources – cameras to web.
- Will digest Media for you
- You decide how you want to share
- Browse and search
- Presentations

**Initial Implementation using Photos.**

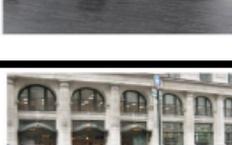
# Novel Approach

- **Event-based**
- **Photo-taking is an event**
- **Photos are taken of an event**
- **Albums represents events and objects**
- **Presentations are to share and communicate experiences**

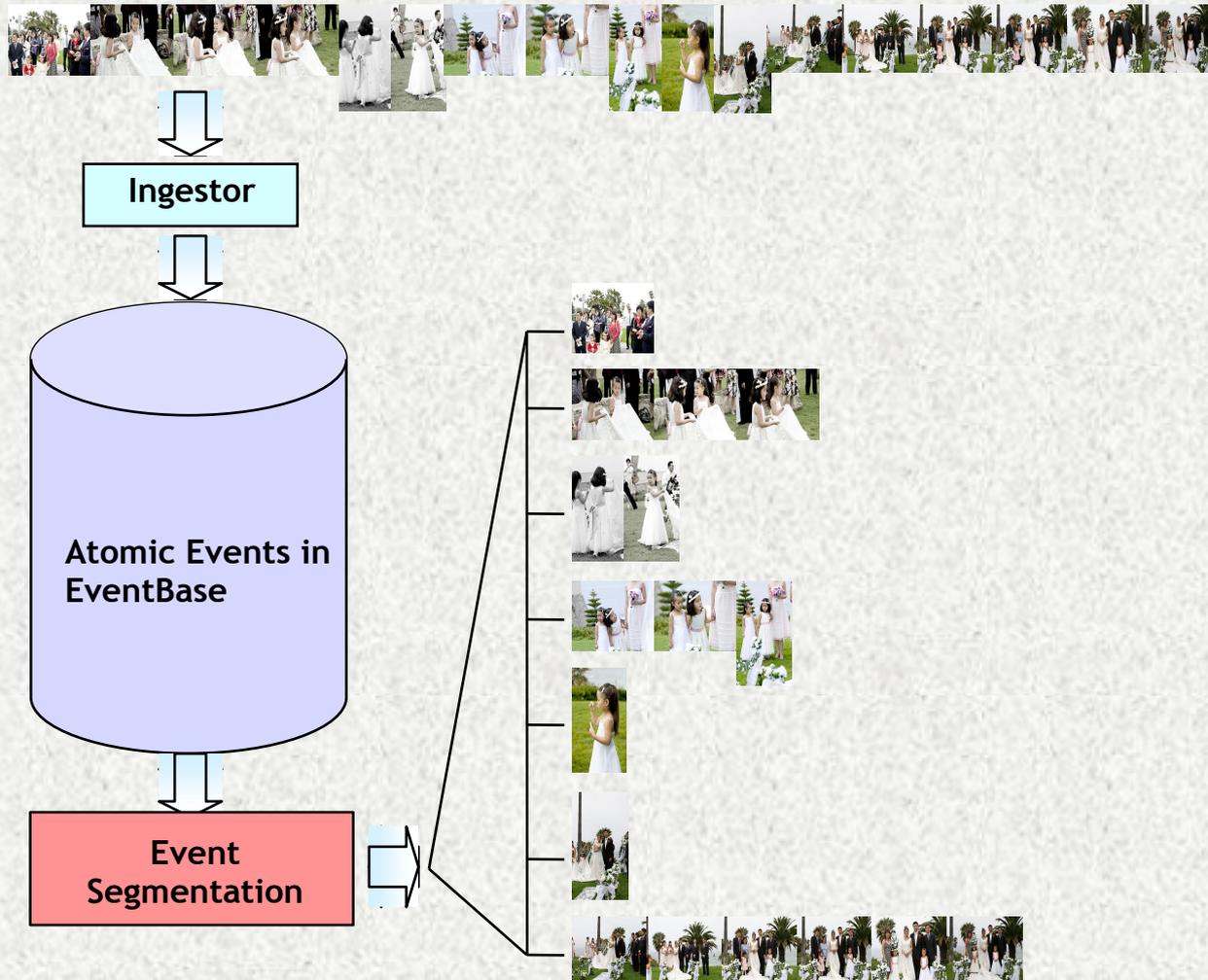
# EMME Cycle



# Examples: Photos are Assigned tags only based on EXIF

Images	Classes Predicted
	Outdoor Night, People in Restaurants, Theater, Stage Show, Talk By Speaker, Portrait at Night, Public Indoor Places
	Daily Life Indoors, Furniture, Party at Day, View of Rooms, Group Photo, People in front of Building
	Landscape/ Nature, Single person Outdoors, Daily Life Outdoors, Sky, Poster/Whiteboard, Bird's Eye View, Sunset, Ocean/Lake, Silhouette.
	fireworks, moonlit scene, night illumination, Group of People Outdoor Night, Sports, Scenery
	Daily Life Outdoors, Poster/Whiteboard, Sunset, Street in City, Public Places Outdoors, Outdoor Parties, Outdoor Decorations/Sculpture, Architecture, People in front of Buildings
	Street, Public Places Outdoors, Sky, outdoor decorations, Architecture, Theater, People in Public Places
	Daily Life Indoors, Signboard, View of Rooms, Slides/displays, Group of People, People in Public Outdoor Places

# Photo Stream to Events



# Event Annotation

- **After automatic event segmentation, a user may refine it or annotate it in many different ways**
  - **Name**
  - **People in it**
  - **Sub events**
  - **Related events.**

# Spatial Browsing

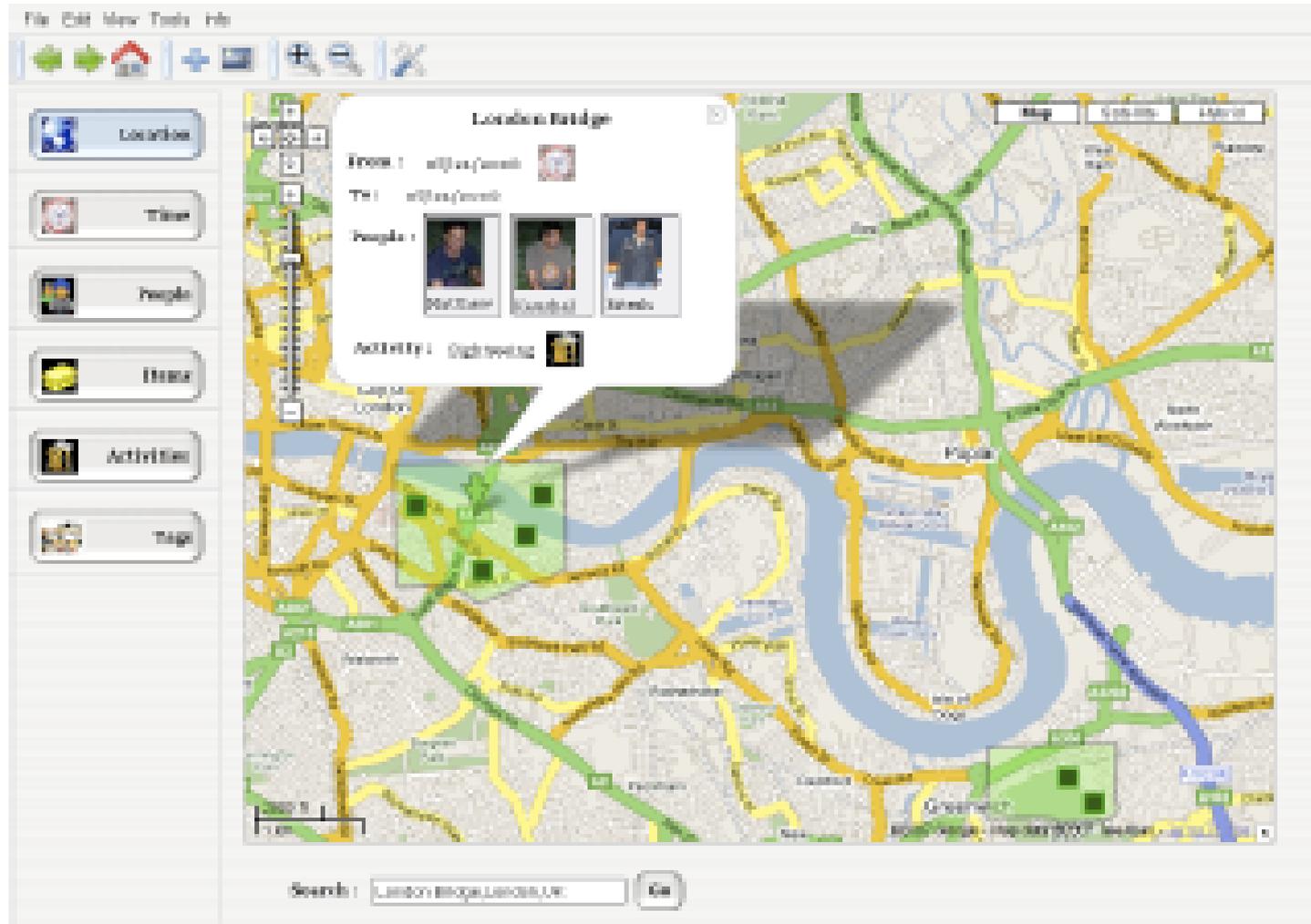


Figure 9: The location view of events

# Temporal Browsing

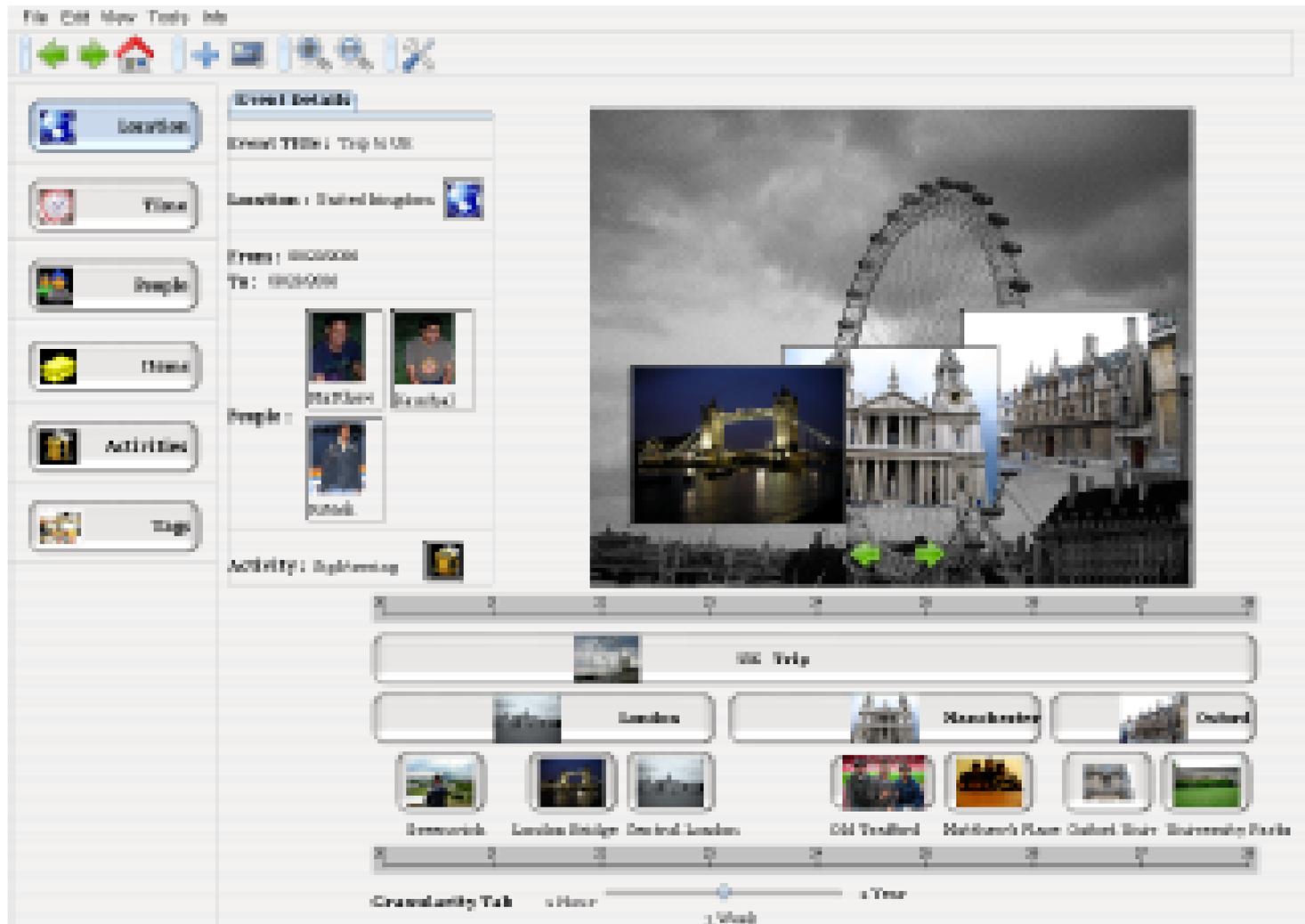


Figure 10: The timeline view of events

# Presentations



Figure 11: Authoring of multimedia presentations

# Going Forward

# Going Forward

- **Events have played important role in history**
  - **Now they can play important role in computer representation of history.**

# Going Forward

- **Events have played important role in history – Now they can play important role in computer representation of history.**
- **We have an early version of EventWeb – event representation, linking, and all Web 2.0 tools.**

# Going Forward

- **Events have played important role in history – Now they can play important role in computer representation of history.**
- **We have an early version of EventWeb – event representation, linking, and all Web 2.0 tools.**
- **EMME is one example.**

# Going Forward

- **Events have played important role in history – Now they can play important role in computer representation of history.**
- **We have an early version of EventWeb – event representation, linking, and all Web 2.0 tools.**
- **EMME is one example.**
- **We are applying this to other examples:**
  - **Deep History**
  - **Environmental**

**Thanks for your time and  
attention.**

[jain@ics.uci.edu](mailto:jain@ics.uci.edu)