

# **‘Discover Krakow’: Presenting the UNESCO World Heritage Site in Poland using 360° film**

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Immersive Education 2011

Boston, USA

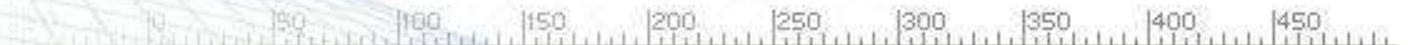
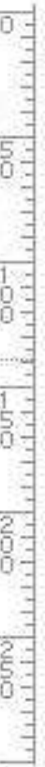
14<sup>th</sup> May 2011



# Overview

1. Introduction
2. 360° video
3. Immersive environments
4. 'Discover Krakow' - 360° film
5. 360° interactive narrative for education
6. Conclusion

# 1. Introduction



# Krakow in Poland

- **Krakow** (Cracow) in Poland:

- The second biggest city in Poland

- Population: 750 000

- "The city of 100 churches"

- The capital of Poland till 1596

(Warsaw is the capital now)

- **UNESCO World Heritage Site** from 1978





# UNESCO World Heritage List

The World Heritage List includes **911 properties** forming part of the cultural and natural heritage which the World Heritage Committee considers as having outstanding universal value.



United Nations  
Educational, Scientific and  
Cultural Organization

## Examples:

- Statue of Liberty
- Historic Sanctuary of Machu Picchu
- The Great Wall of China
- Historic Centre of Krakow



# 'Discover Krakow' – 360° film

Panoramic film recorded with 360° video camera



One frame of 360° film



360° film presented in a panoramic viewer

# 'Discover Krakow' and immersive environments

360° screens



Full dome



Immersive Vision Theatre

Hemispherical screen



iDome

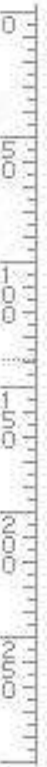


Arena360, ICCI360, Cyclorama





## 2. 360° video





# 360° video cameras



Cineorama (1900s)



Sony Bloogie



Ladybug2



Ladybug3



Dodeca



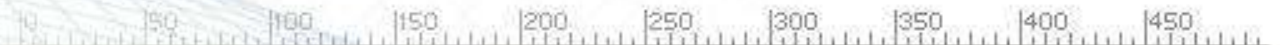
SA9



Sensocto



Totavision



# Ladybug 2

## spherical video camera



- Max. framerate: 29.97fps
- 1.19 kg
- max. resolution: 3500x1750 pixels

Approx.  
2GB/min

LADYBUG 2  
Spherical video camera

<http://www.ptgrey.com/products/ladybug2/index.asp>

# Ladybug 3

## spherical video camera



- Max. framerate: 16 fps
- 2.41 kg
- max. resolution: 5400x2700 pixels

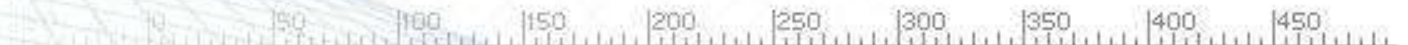
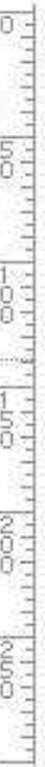
Approx.  
3GB/min

LADYBUG 3  
Spherical video camera

<http://www.ptgrey.com/products/ladybug3/index.asp>



# **3. Immersive environments**





# Traditional film for education

■ spectators are hypnotized by:

■ a rectangular screen

■ a chair

from  
1895



Immersive  
film?

# Immersive environments for education

## ■ features of immersive environments

■ point of view is not fixed



every learner can watch and interact from different perspective

■ not for individual, but for significant audience



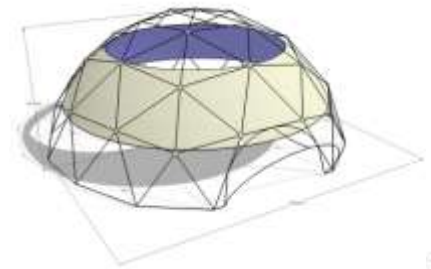
a class

■ look not in front, but surround



new form of exploring the topic

# Arena360 & ICCI360



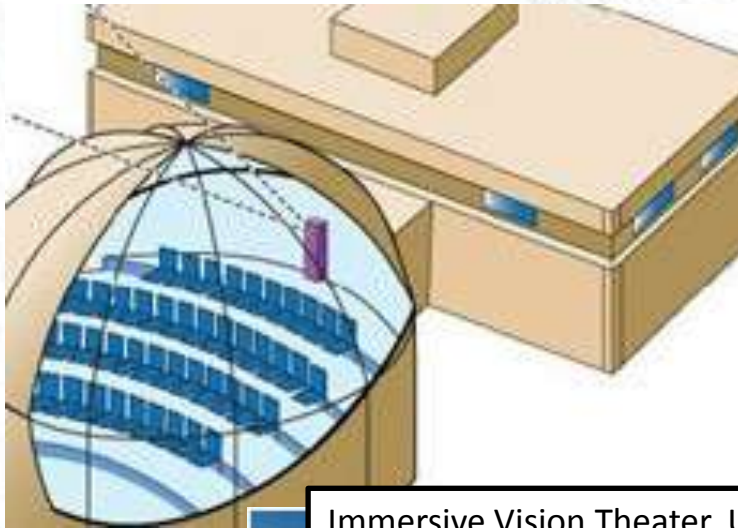
**Arena360**  
Plymouth (UK)  
February 2010



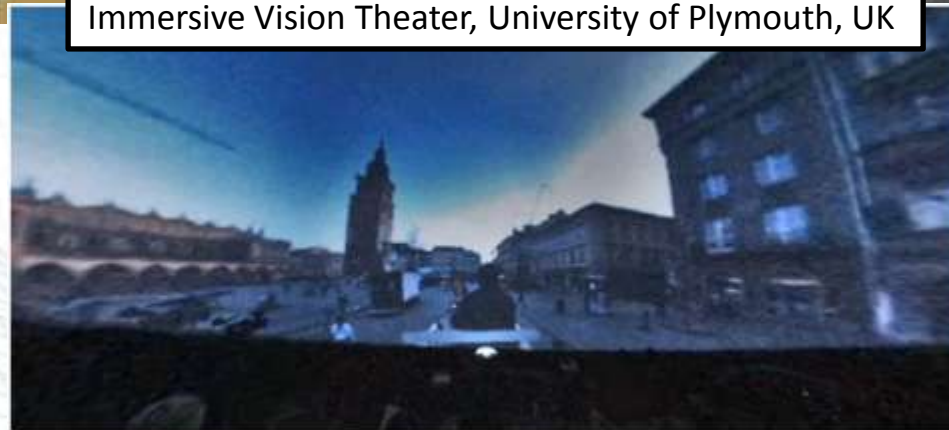
**ICCI360**  
Plymouth (UK)  
September 2010



# Immersive Vision Theater



Immersive Vision Theater, University of Plymouth, UK



KRAKOW (POLAND) - IMMERSIVE VISION THEATER  more life



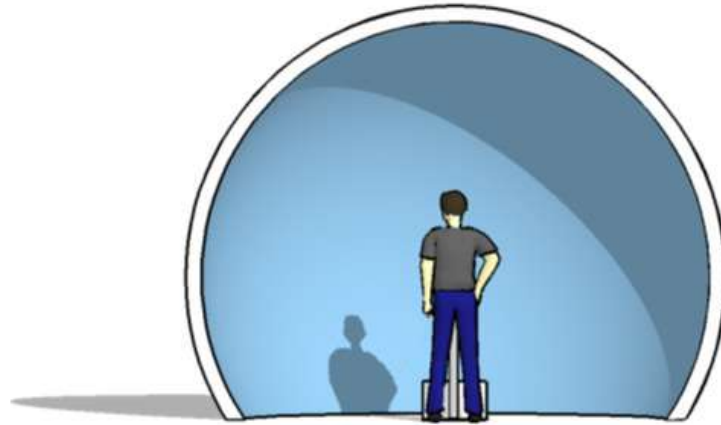


# Cyclorama



Cyclorama in Vision3D lab at the University of Montreal

# iDome



'Discover Krakow' presented on iDome in ALiVE lab at the City University of Hong Kong

# 360stories.net



ABOUT CONTACT



KRAKOW (POLAND)  100% 142

## 360 TRIPS



## KRAKOW - IMMERSIVE ENVIRONMENTS



## 4. 'Discover Krakow' - 360° film

- A Interactive narrative
- B Process of recording 360° film
- C Further developments of the film



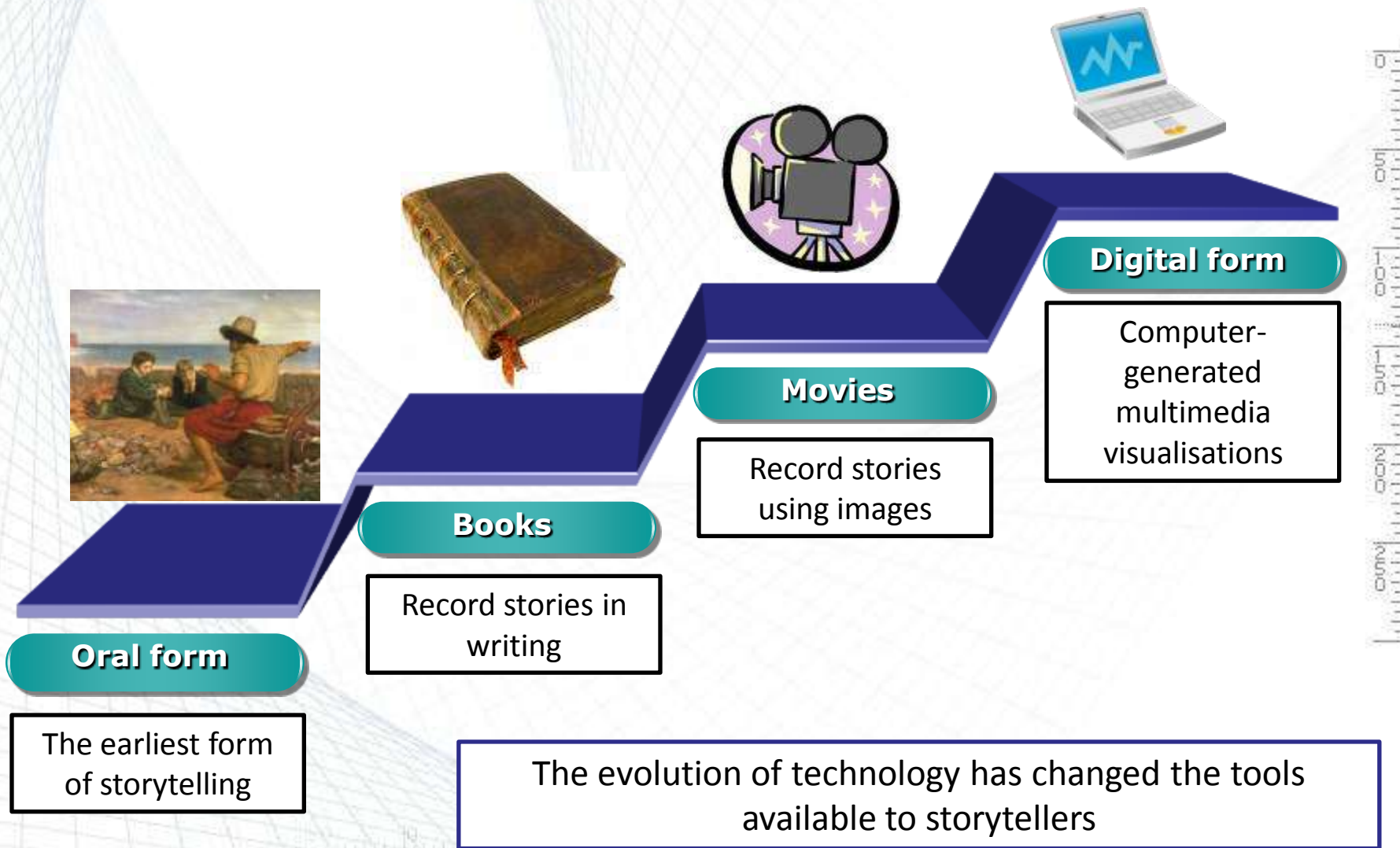
# 'Discover Krakow'

- explored the potential of the 360° video cameras
- no screenplay
- no actors
- lack of production team
- no dialogues
- low budget
- exploration of vehicles that enable moving the camera
- silent movie (cameras do not record audio)
- recording of the 'making of the film'



# Narrative

“a chain of events that are situated in time and space” (Lothe, 2000)



# Interactive narrative

Computers moved **beyond a linear form** of telling stories and offered narratives that started to **interact** with the 'reader', who by making choices, shapes the overall result of the narrative.



Interaction with  
the 'reader'



INTERACTIVE  
NARRATIVE

# Interactive narrative

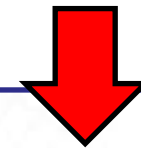
Form of art, research and entertainment which links interactivity, visual art and traditional narratives.

## Traditional storytelling

- preconstructed
- linear plot
- author/writer is sole creator
- experienced passively
- usually one unchangeable ending

## Interactive storytelling

- not fixed in advance
- non-linear
- the user creates the story
- experienced actively
- different outcomes are possible



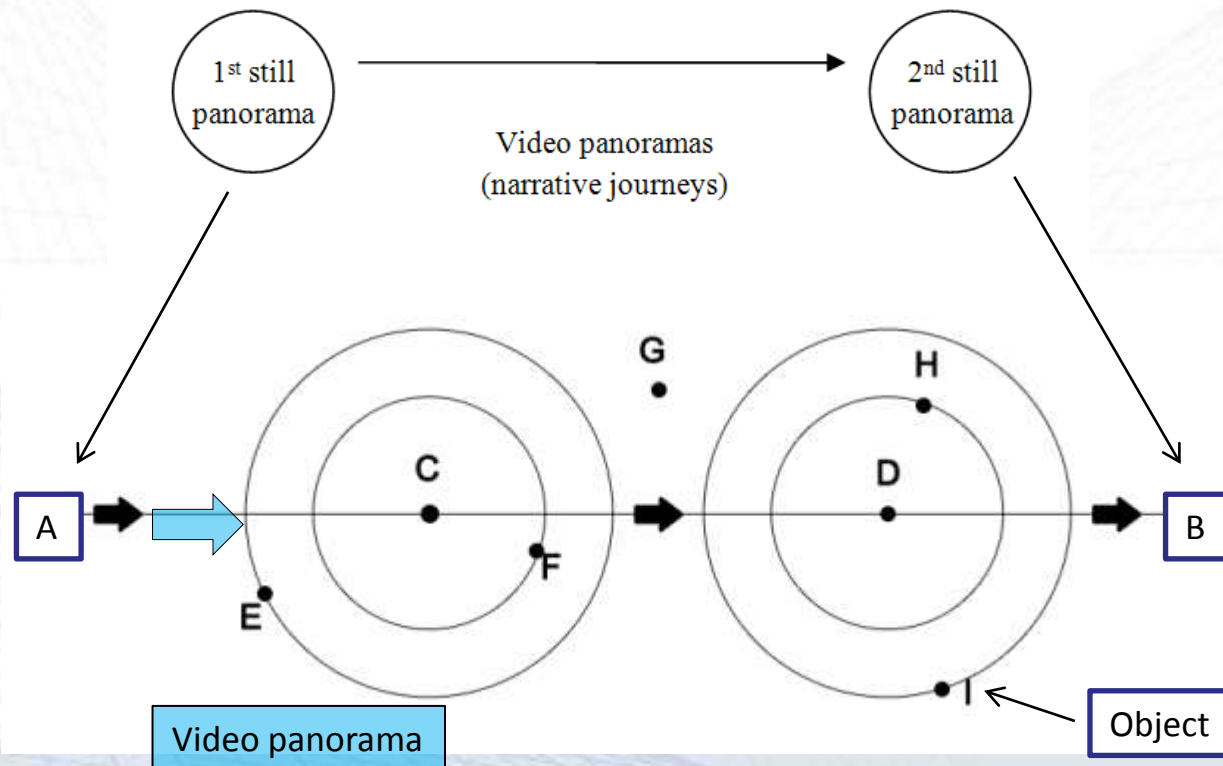
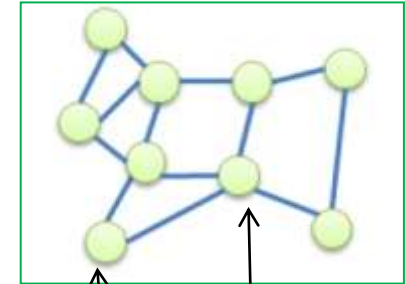
**Still and video panoramas**



# Integration of panoramas and narratives

A

■ object-based panoramic interactive narrative



# Preparation for the journey



## 1. Negotiations

# Preparation for the journey



2. Camera operator + 5 friends (to hold the tripod)



# Preparation for the journey

Ladybug2



Tripod  
for Ladybug2



## 3. Setting up the equipment

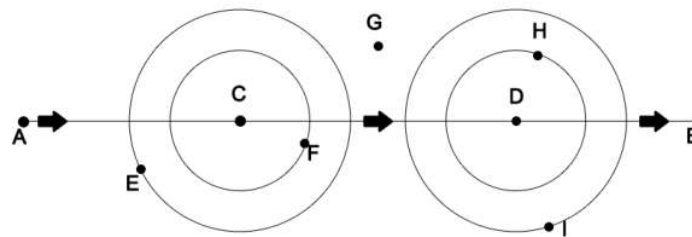


# Preparation for the journey



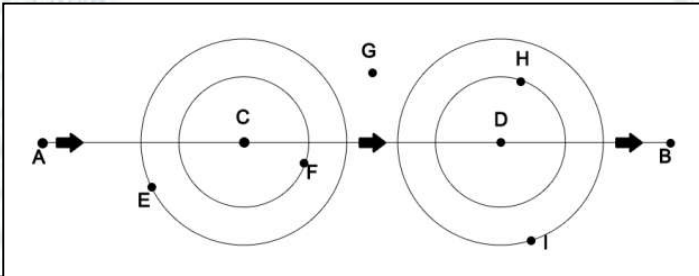
4. The last connections...and go...

# Interactive narrative

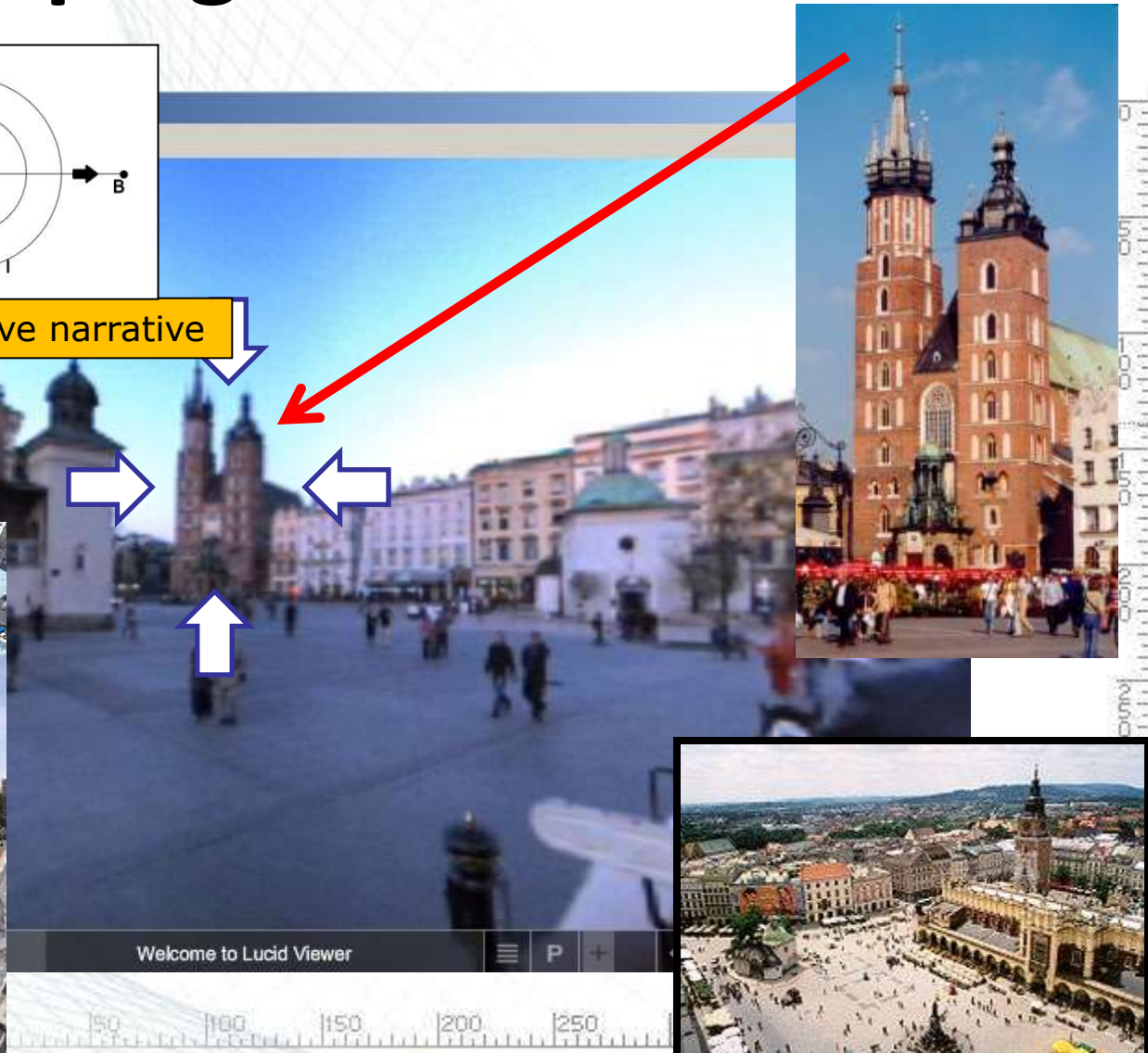
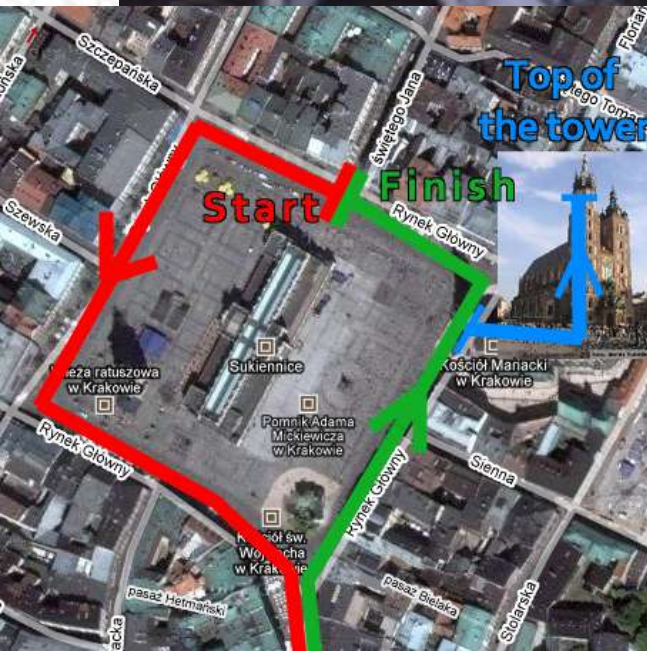




# Developing the narrative



Object-based panoramic interactive narrative



View from the tower

# Developing the narrative

Trumpeter – plays every  
one hour from the tower  
of the church



A legend about the trumpeter (360° video from the top of the tower)





## **5. 360° interactive narrative for education**

# 360° interactive narrative for education

- **Collaborative** group-based learning environment
- **Motivate learners** to collect more information about the topic, rather than memorize information
- **Inspire students** to explore additional information that are available only at specific times during the narrative journeys

## 6. Conclusions

# Conclusions

- 360° film:
  - new method of presenting **world heritage sites**
  - merged with **interactive storytelling** should **motivate learners** for further explorations about the presented topic
- 360° screens provides new forms of creative teaching (games, interactive narratives)
- Immersive environments with a journey through a heritage site can prepare learners for a real visit



# Thank you

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