

# Visualization VIS14 Lecture 1

Mario Romero  
2014/03/25



Christer Fuglesang demonstrating the place on the International Space Station where he worked

# Outline

- What is VIS14 about?
- Who am I?
- What is the Visualization Studio?
- Uniview

The art of helping people paint ideas from data.

# **VISUALIZATION**

# VIS14

1. Create and use fully-functioning visualization systems that facilitate actionable insight through interactive data transformations, visual mappings, and view transformations.
2. Defend your design choices.
3. Constructively criticize other visualization systems.
4. Explain and demonstrate your visualization systems to wide audiences, from novices to experts.
5. Elicit constructive criticism from users of your visualization systems.

# Your Grades

- Project 1 individual due: **Tue 1 apr 08:00** 15%
- Project 2 individual **Tue 8 apr 08:00** 15%
- Project 3 individual **Tue 15 apr 08:00** 15%
- Project 4 group **In parts** 40%
  - Proposal **Tue 22 apr 08:00** 5%
  - Hello World Demo **Tue 29 apr 15:00** 5%
  - Update **Tue 6 may 08:00** 5%
  - Final Demo **Thu 15 may 15:00** 15%
  - Webpage report, code, executable, video **Thu 22 may 23:59** 10%
- Readings individual weekly 15%

# Questions?

- Will there be written exams?
  - **NO**. Your projects and the demonstrations of your projects will be your evaluations.
- What will the readings include?
  - Reading, thinking, synthesizing, and discussing in class.
  - I will give the links to the readings.

# Project 1

1. Visit [VisIt](#)
2. Read what it is.
3. Download executable.
4. Read the manuals.
5. Explore a data set of your choice.
6. Create an Analytic Trail with up to 5 images and 100 words.
7. Deliver PDF with the trail to [marior@kth.se](mailto:marior@kth.se) next Tuesday, April 1, 2014. Put “**VIS14 – P1**” on the subject line of the email.

# Questions?

- What is an Analytic Trail?
  - Tell the story
  - Start with the raw data
  - How did it look at first?
  - How did you modify it through the visualization?
  - How did you understand something new?
  - Conclusions?



# Readings for Next Thursday

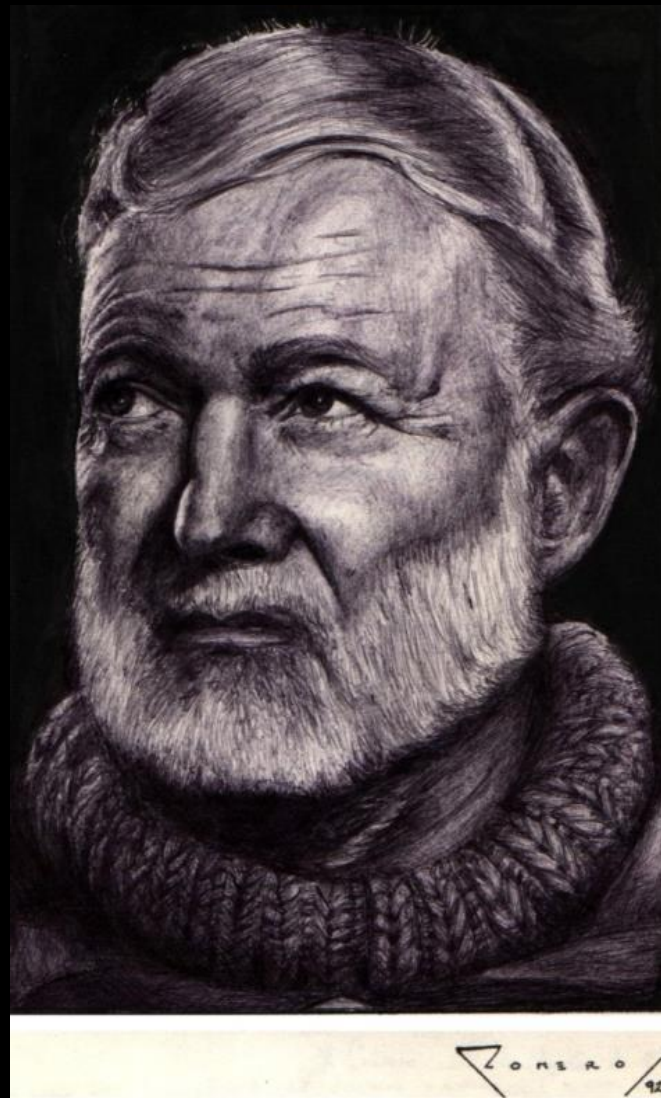
- **Introduction to Scientific Visualization, Chapter 1**
  - Helen Wright
  - [LINK](#)
  - Write 100-word summary and bring it to next class.
- **Scientific Visualization: From Data to Insight**
  - Vijay Natarajan
  - [LINK](#)
  - Write 100-word summary and bring it to next class.

# Who Am I?



VIS14 - L1

Budapest 1992



# ¡Hice lo que quise!



Nicholas Hogan - [Space Bar](#) ©2012



B.S. Industrial Engineering

B.S. Construction Engineering

Minors:

Art History

Graphic Design

English



Promote curricular advancement through interactive computing technologies







I L L I N O I S

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

# Master in Computer Science Artificial Intelligence

# Georgia Tech



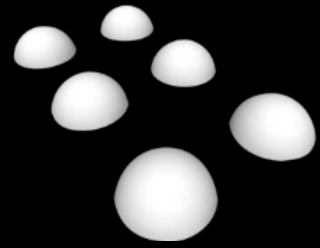
PhD Computer Science  
Human-Computer Interaction  
Information Visualization  
Digital Media

# Evaluating Video Visualizations of Human Behavior

Mario Romero  
Alice Vialard  
John Peponis  
John Stasko  
Gregory Abowd



Link to video in [YouTube](#).



**BrailleTouch**



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## Georgia Tech-developed app allows eyes-free mobile texting

Urvaksh Karkaria  
Staff Writer  
Atlanta Business Chronicle  
Email | Twitter | Google | LinkedIn

A two-century-old code for reading and writing sight-free could soon allow the sighted to type without looking at the screen of their smart phone. A team of Georgia Tech researchers has developed a technology that uses Braille to make eyes-free mobile texting possible.

Researchers have built an application, called BrailleTouch, for smart phones and tablets, that is vying to be a solution for texting without the need to look at the screen. Consider if an eyes-free mobile app that replaces virtual keyboards and



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ADVERTISE

## Fria samtal till hela Norden.

20 February 2012 Last updated at 19:57 GMT 2.4K Share

### App helps blind to send text messages



GEORGIA TECH

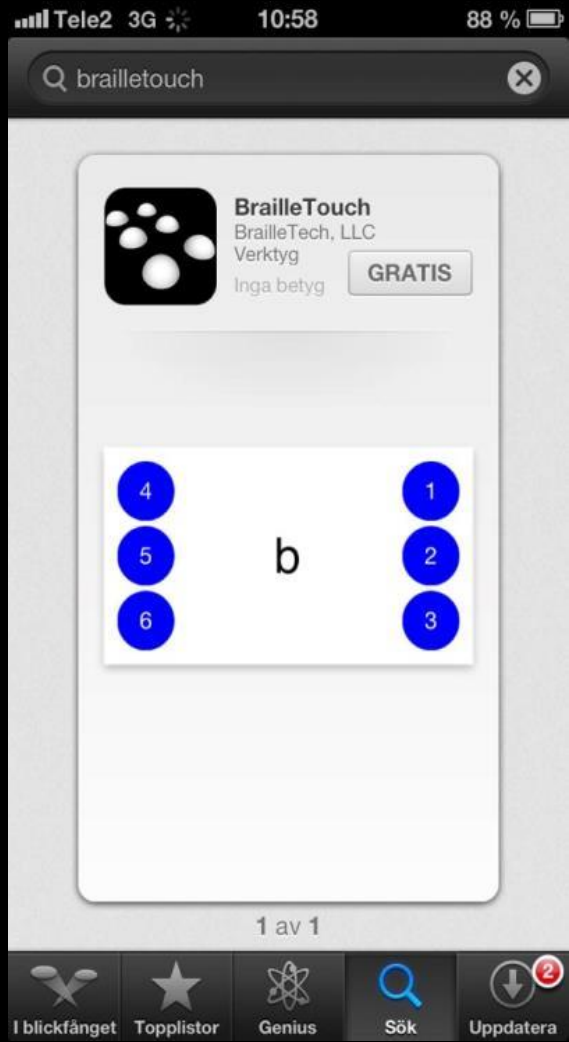
The system will be open source and free to download on iOS and Android

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Features & Analy

- Avoiding
- How North
- get away f
- Demolit





UPPSALA  
UNIVERSITET

Postdoc  
Human Collaborative Behavior



Associate Professor  
HCI Visualization Graphics



# Contact Mario

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- [twitter.com/MarioRomero73](https://twitter.com/MarioRomero73)
- [www.linkedin.com/in/marioromero](http://www.linkedin.com/in/marioromero)

# What is the Visualization Studio

# VICSTHLM

VISUALISATION INTERACTION COLLABORATION



*Knut och Alice  
Wallenbergs  
Stiftelse*

# VIC Personnel



Björn Thuresson  
VIC director  
[thure@csc.kth.se](mailto:thure@csc.kth.se)

Coordinate  
Projects  
Events



Henrik Edlund  
VIC Engineer  
[henedl@kth.se](mailto:henedl@kth.se)

Technical Support  
Ideation  
Critical Feedback

# Visualization Studio

- **Research**
  - Visualization Supported Collaborative Work
  - Foundational Technology
  - User Evaluations
- **Showcase and classroom environment**
- **Outreach**



# Designing the Visualization Studio



- High-resolution projectors (4K) with stereoscopy
- Oculus Rift
- Cinema quality audio system
- High definition video communications with eye contact
- Holographic display
- Multi-touch interactive surfaces
- Eye tracking
- GPU-based computing cluster
- Diverse interaction and sensor systems (haptic, mocap, etc.)

# Installing the 4K Wall





# Uniview Demo





Thank you!

marior@kth.se