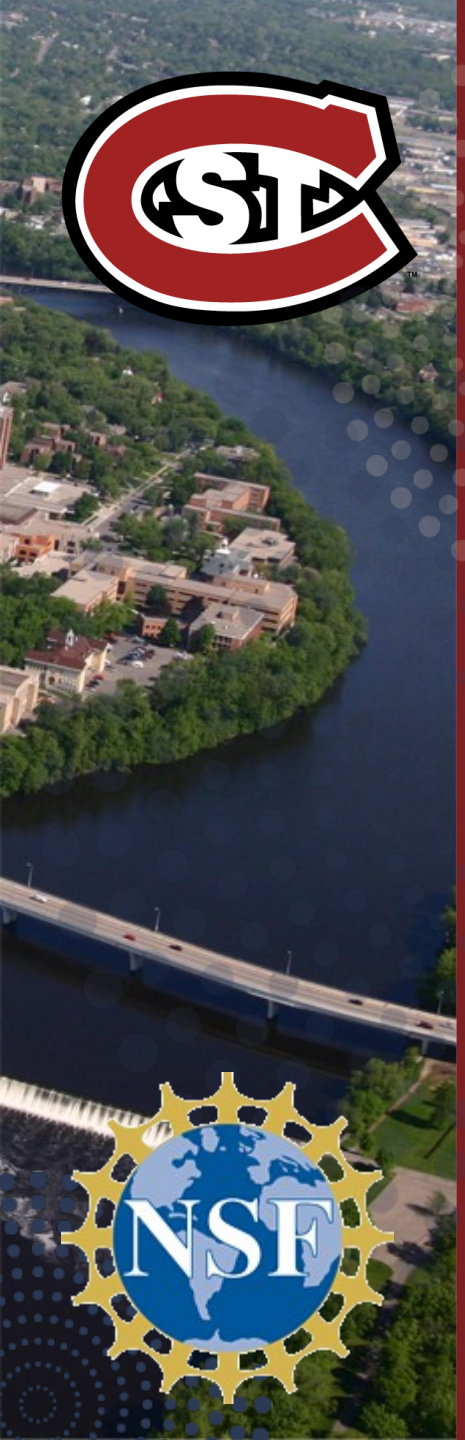


National Science Foundation
Student Research Colloquium Presentation

The Progression of 9-1-1

Brikken Jensen

April is National 9-1-1 Education Month

How did a telephone emergency system come to be?

Steady Progression Since Beginning of Phones

- First telephone call - 1876
  - Alexander Graham Bell
- Early emergency systems
  - Call boxes

Know what this is?

Know what this is?

How did a telephone emergency system come to be?

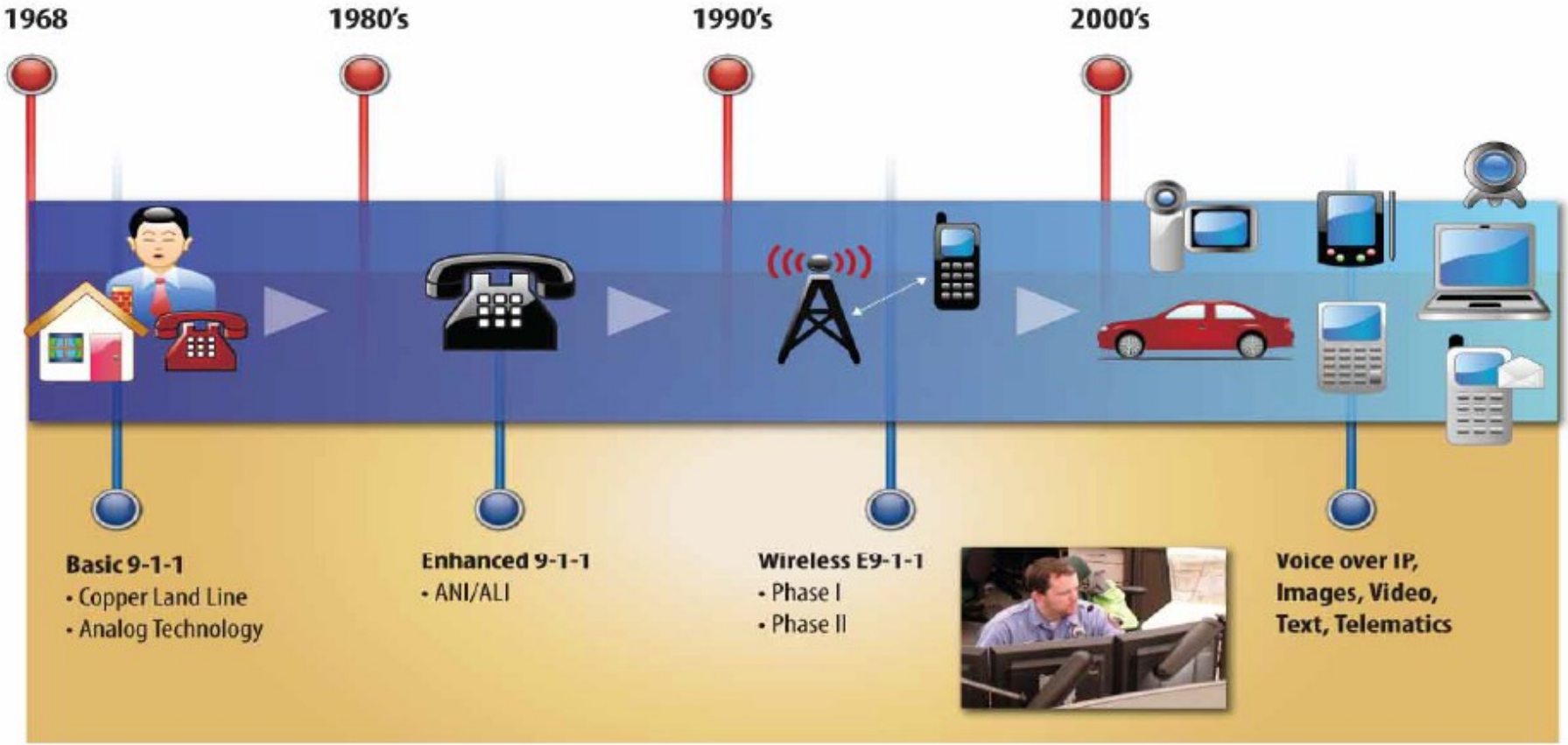
Steady Progression Since Beginning of Phones

- Emergency telephone system
  - First in UK in 1937

Legislation Behind US 9-1-1

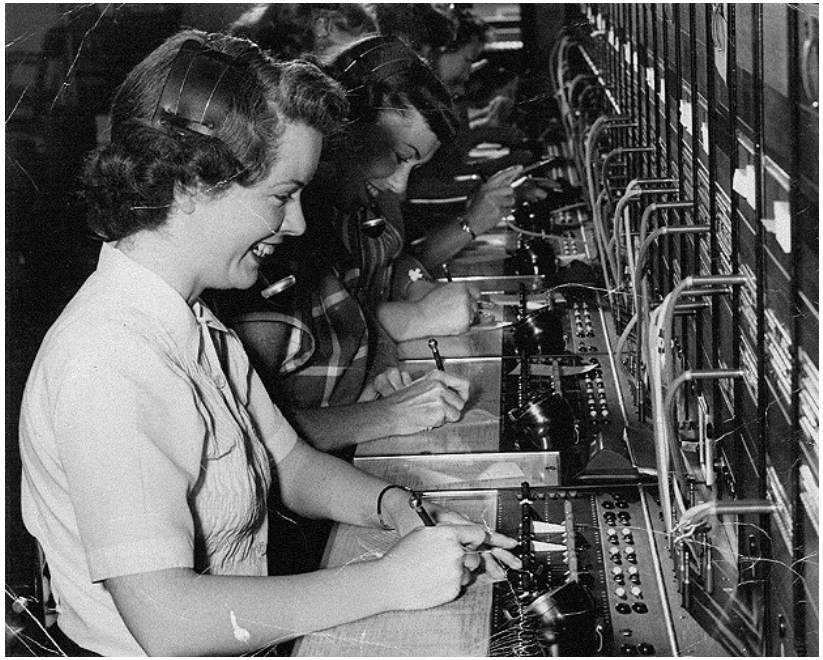
- Federal Communication Commission and AT&T
- LBJ Task Force
- First call in Haleyville, Alabama

Evolution Since 1968



Operator Assisted

“In the earliest days of telephone technology...all telephone calls were operator-assisted...Until dial service came into use, one could not place calls without operator assistance.”



Enhanced 911

- Implemented in 1980s
- Gives caller's location, if available
- Beginning of caller data collection
- Orange County, FL in 1980

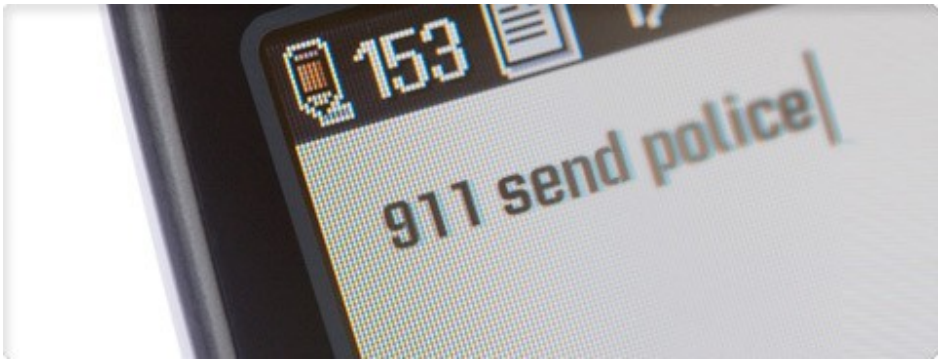
Wireless E911

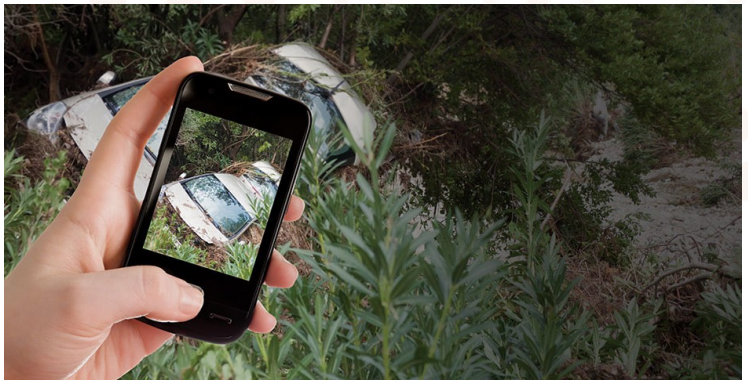
- Wireless Phase One (WPH1)
  - Radiolocation
  - Which is the tower location and a direction the call came from
- Wireless Phase Two (WPH2)
  - Which provides an estimated GP
  - Global Positioning System
- 1990 up until now

Next Generation 911

Advances in technology provide:

- Quicker and more accurate information
- Better and more useful forms of information (real-time text messages, images, video, etc)
- More flexible, secure and robust Public Safety Answering Points (PSAP)
- Increased sharing of data, resources, procedures and standards





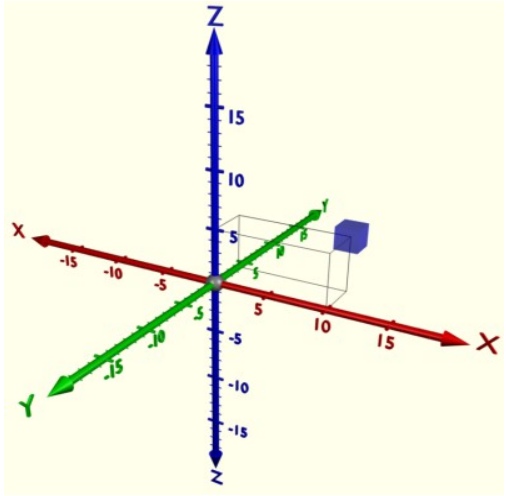
Laurie Flaherty, National 9-1-1 Office

Today's 9-1-1	Next Generation 9-1-1
Primarily voice calls via telephones	Voice, text, or video information, from many types of communication devices
Minimal data available	Advanced data sharing is automatically performed
PSAP services – access, transfer, backup – are local only	Enhanced "long distance" capabilities; physical location of PSAP becomes immaterial
Limited capability for emergency notification	Location-specific emergency alerts possible for any networked device

Laurie Flaherty, *National 9-1-1 Office*

Federal Communications Commission Mandate

"...Carriers provide vertical location information—***the Z coordinate***—that is accurate within three meters. This data would help first responders determine the floor and room where the emergency caller can be found to improve response times"



Donny Jackson *Urgent Communications*

GeoComm

When seconds matter, we help save lives and protect property by providing essential, innovative, location-based solutions to public safety professionals.

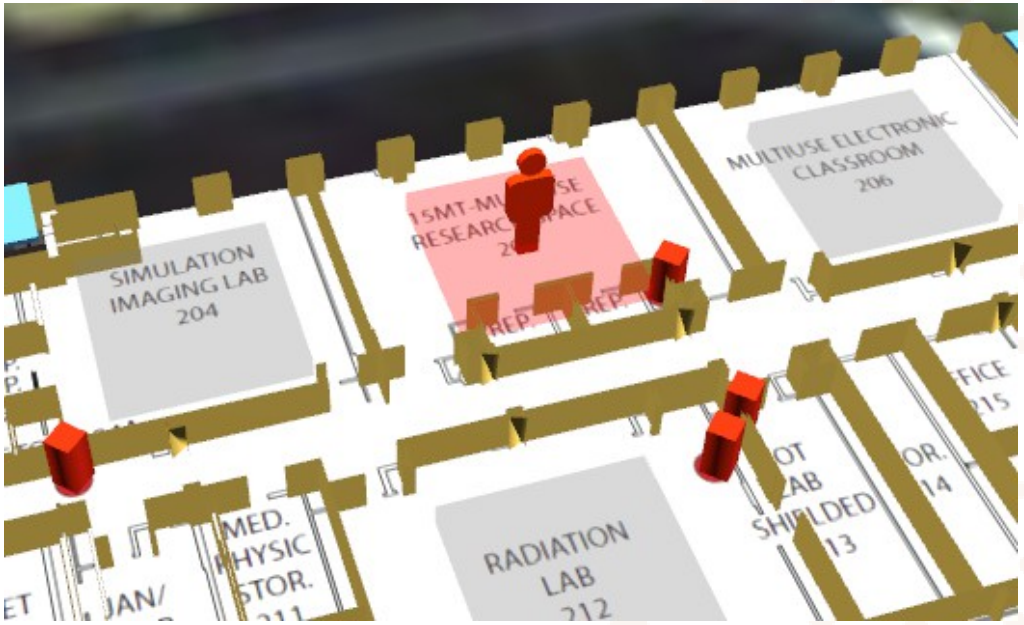
National reputation as a leading provider of geographic information and communication systems.

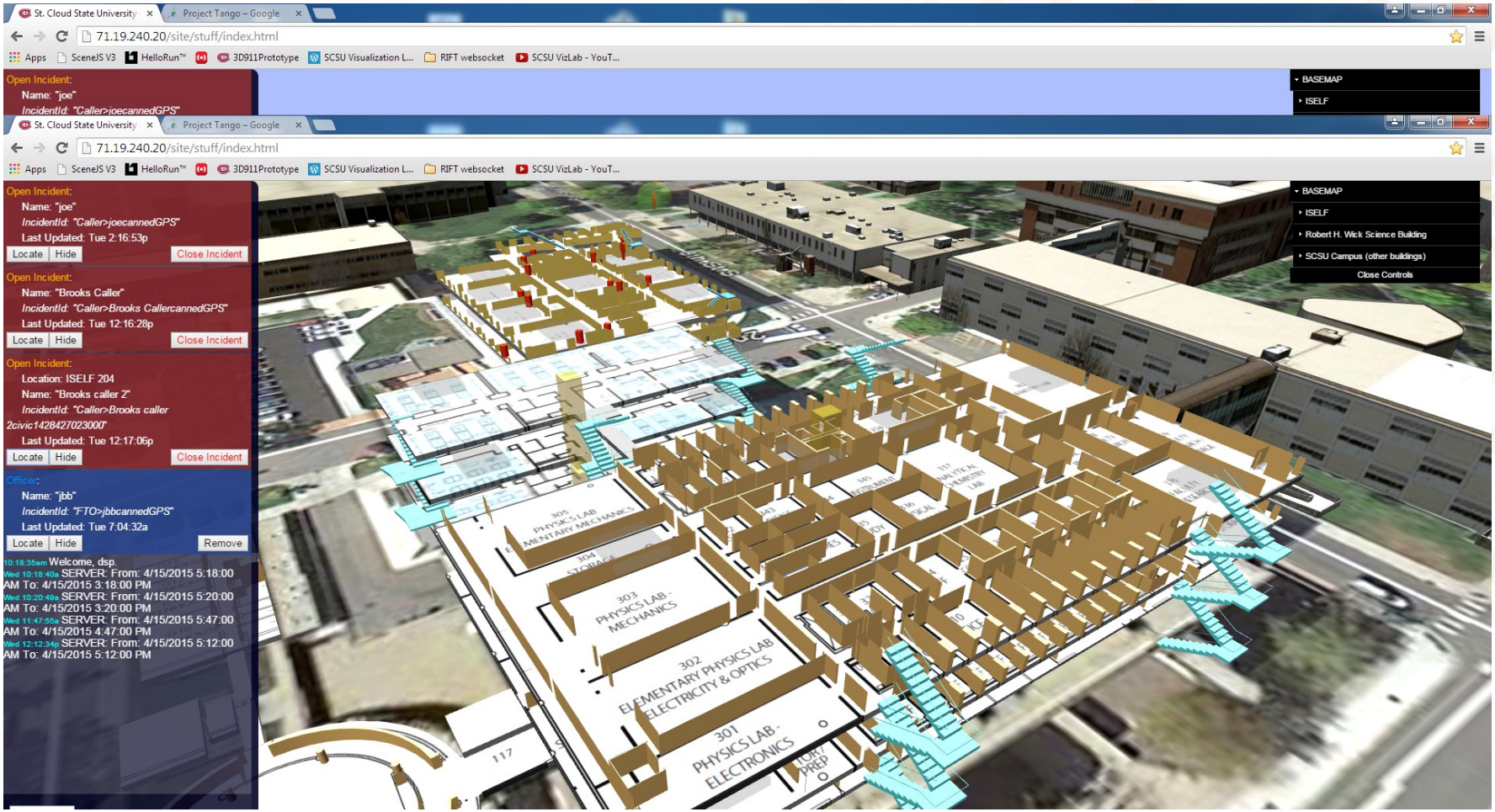
"The company's systems route emergency calls to the appropriate Public Safety Answering Point (PSAP), plot the caller's location on a dispatcher's map, and guide emergency responders to the accident on mobile displays within police, fire, and EMS vehicles"

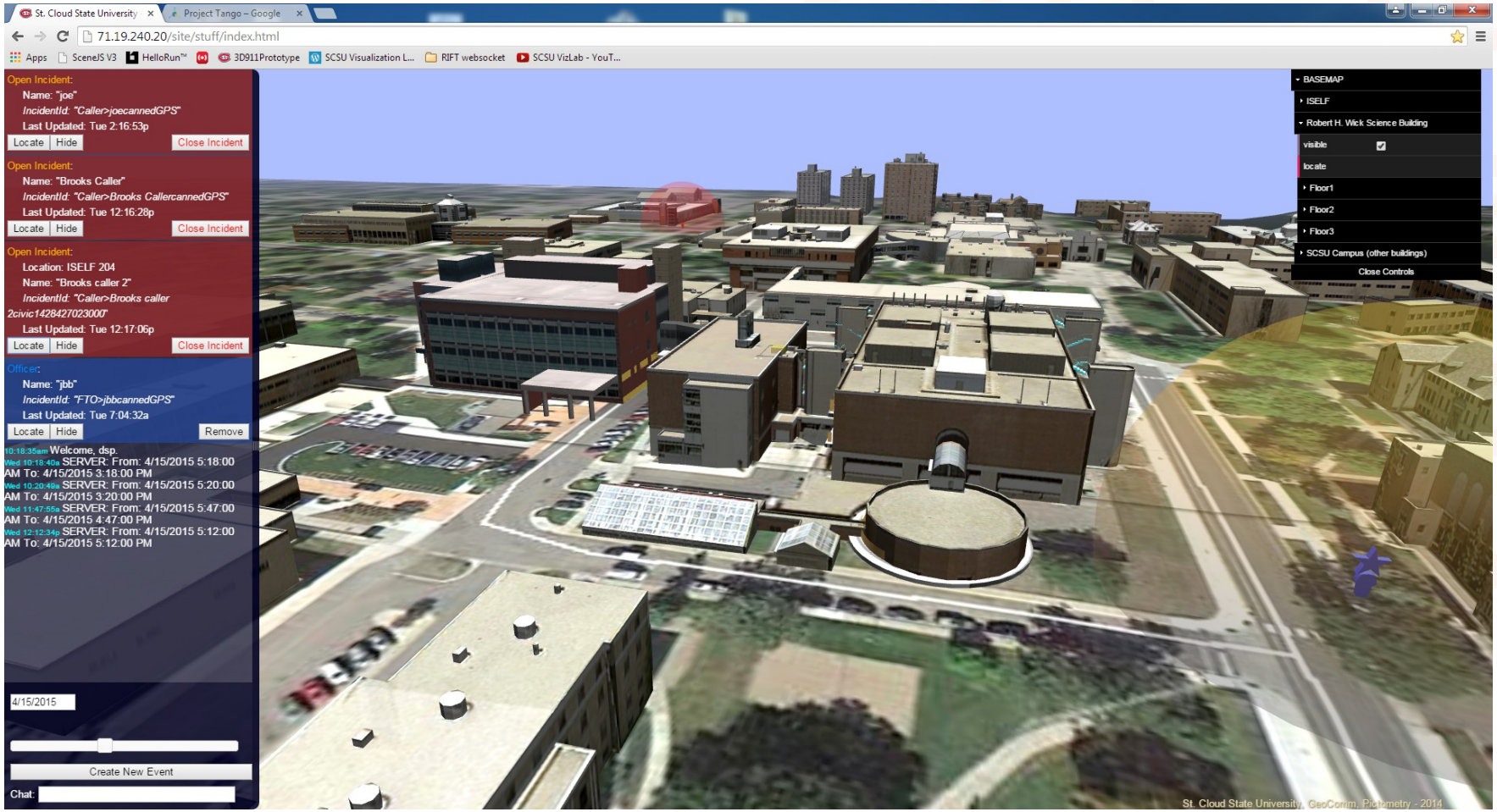
SCSU Visualization Lab

“The Visualization Lab's goal is to integrate Virtual Reality with the classroom environment in order to improve the experience for students and faculty.”

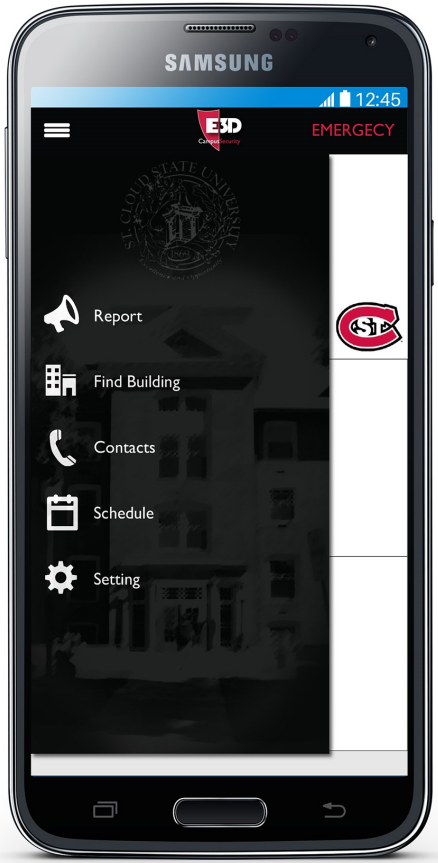
They work on a number of projects, including one with GeoComm.

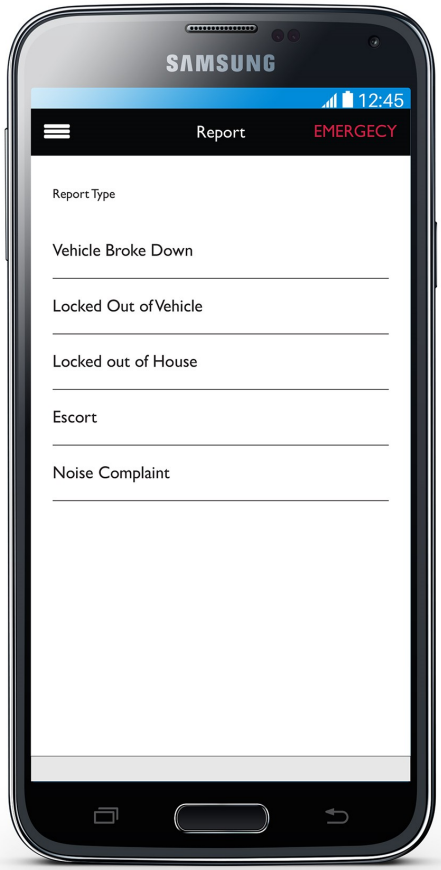

SIMULATION
IMAGING LAB
204
MULTIUSE ELECTRONIC
CLASSROOM
206
RADIATION
LAB
212


St. Cloud State University
Project Tango – Google
71.19.240.20/site/stuff/index.html
Apps
SceneJS V3
HelloRun™
3D911Prototype
SCSU Visualization L...
RIFT websocket
SCSU VizLab - YouT...
Open Incident:
Name: "joe"
IncidentId: "Caller>joecannedGPS"
Last Updated: Tue 2:16:53p
Locate
Hide
Close Incident
Open Incident:
Name: "Brooks Caller"
IncidentId: "Caller>Brooks CallercannedGPS"
Last Updated: Tue 12:16:28p
Locate
Hide
Close Incident
Open Incident:
Location: ISELF 204
Name: "Brooks caller 2"
IncidentId: "Caller>Brooks caller 2civic1428427023000"
Last Updated: Tue 12:17:06p
Locate
Hide
Close Incident
Officer:
Name: "jbb"
IncidentId: "FTO>jbbcannedGPS"
Last Updated: Tue 7:04:32a
Locate
Hide
Remove
10:18:35am Welcome, dsp.
Wed 10:18:40a SERVER: From: 4/15/2015 5:18:00 AM To: 4/15/2015 3:18:00 PM
Wed 10:20:40a SERVER: From: 4/15/2015 5:20:00 AM To: 4/15/2015 3:20:00 PM
Wed 11:47:55a SERVER: From: 4/15/2015 5:47:00 AM To: 4/15/2015 4:47:00 PM
Wed 12:12:34p SERVER: From: 4/15/2015 5:12:00 AM To: 4/15/2015 5:12:00 PM
BASEMAP
ISELF
Robert H. Wick Science Building
SCSU Campus (other buildings)
Close Controls
305 PHYSICS LAB ELEMENTARY MECHANICS
304 STORAGE
303 PHYSICS LAB - MECHANICS
302 ELEMENTARY PHYSICS LAB ELECTRICITY & OPTICS
301 PHYSICS LAB - ELECTRONICS
117


St. Cloud State University
Project Tango – Google
71.19.240.20/site/stuff/index.html
Apps
SceneJS V3
HelloRun™
3D911Prototype
SCSU Visualization L...
RIFT websocket
SCSU VizLab - YouT...
Open Incident:
Name: "joe"
IncidentId: "Caller>joecannedGPS"
Last Updated: Tue 2:16:53p
Locate
Hide
Close Incident
Open Incident:
Name: "Brooks Caller"
IncidentId: "Caller>Brooks CallercannedGPS"
Last Updated: Tue 12:16:28p
Locate
Hide
Close Incident
Open Incident:
Location: ISELF 204
Name: "Brooks caller 2"
IncidentId: "Caller>Brooks caller 2civic1428427023000"
Last Updated: Tue 12:17:06p
Locate
Hide
Close Incident
Officer:
Name: "jbb"
IncidentId: "FTO>jbbcannedGPS"
Last Updated: Tue 7:04:32a
Locate
Hide
Remove
10:18:35am Welcome, dsp.
Wed 10:18:40a SERVER: From: 4/15/2015 5:18:00 AM To: 4/15/2015 3:18:00 PM
Wed 10:20:49a SERVER: From: 4/15/2015 5:20:00 AM To: 4/15/2015 3:20:00 PM
Wed 11:47:55a SERVER: From: 4/15/2015 5:47:00 AM To: 4/15/2015 4:47:00 PM
Wed 12:12:34p SERVER: From: 4/15/2015 5:12:00 AM To: 4/15/2015 5:12:00 PM
4/15/2015
Create New Event
Chat:
BASEMAP
ISELF
Robert H. Wick Science Building
visible
locate
Floor1
Floor2
Floor3
SCSU Campus (other buildings)
Close Controls
St. Cloud State University, GeoComm, Pictometry - 2014

http://71.19.240.20/site/stuff/index.html





Questions?

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