

THE 20 STORY SNOW CASTLE

A “Snowpocalypse” story or:

Why we need a new foundation for the
Internet of Things

SOME BACKGROUND

Boston's "Snowpocalypse" – the snowiest winter EVAH!

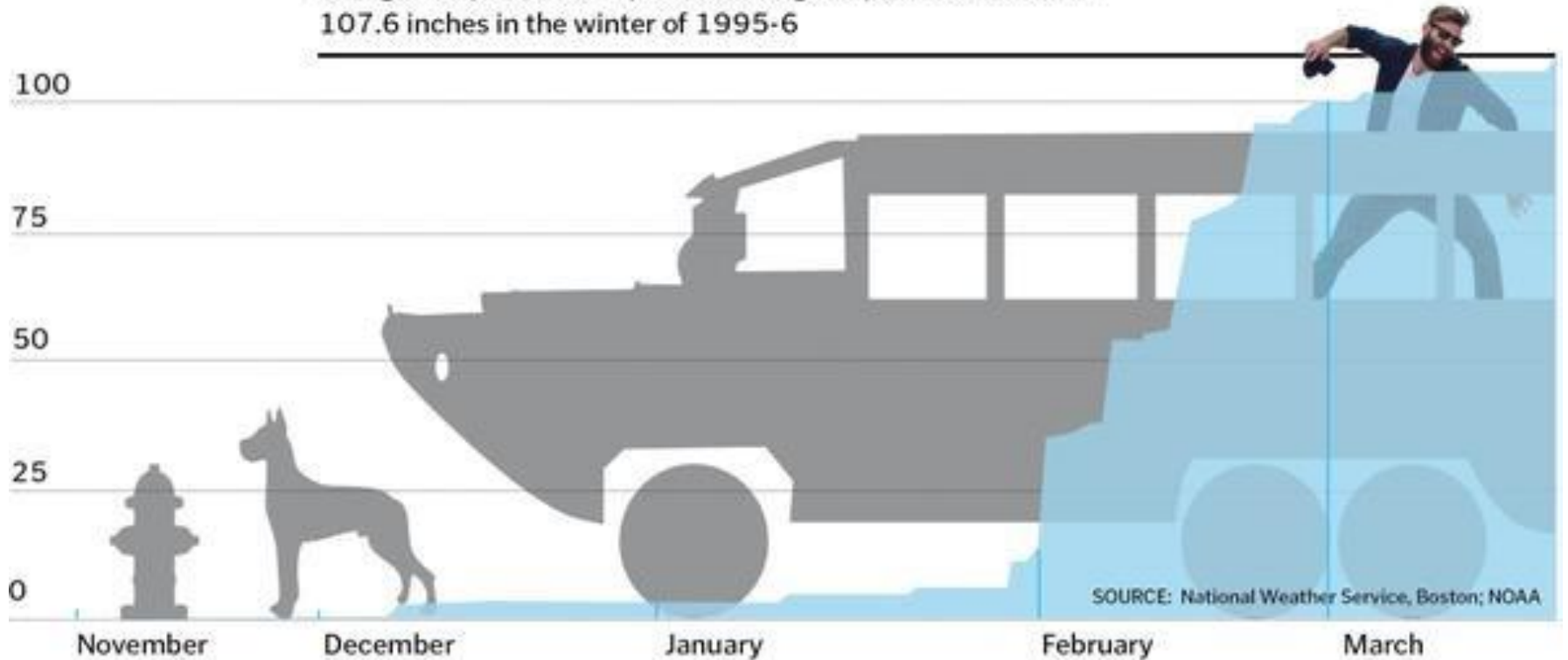
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How much snow?

108.6 inches

at Logan Airport, as of 7 p.m., breaking the previous record of 107.6 inches in the winter of 1995-6



Problem #1: Parking (there is none)





Solution: Get Creative!

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THE CRAZIEST THING I SAW

Where: Harvard Stadium, Boston, Massachusetts

When: February, 21 2015

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The Setting: A Dark, Wintry Evening



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70 N Harvard St
Boston, Massachusetts

Street View

The Setting: North Harvard St.

90 N Harvard St
Boston, Massachusetts

Street View



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Boston, Massachusetts

Street View

The Setting: North Harvard Street

78 N Harvard St

Boston, Massachusetts

Street View



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Boston, Massachusetts

Street View

Lots of Snow, Not Much Parking

78 N Harvard St

Boston, Massachusetts

Street View



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Boston, Massachusetts

Street View

On The Way In

78 N Harvard St

Boston, Massachusetts

Street View



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Boston, Massachusetts

Street View

On the Way Out

78 N Harvard St
Boston, Massachusetts

Street View



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Don't Judge!!



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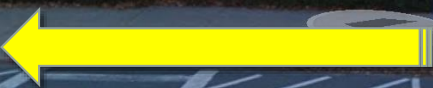
Boston, Massachusetts

Street View

The "Plan"

78 N Harvard St
Boston, Massachusetts

Street View



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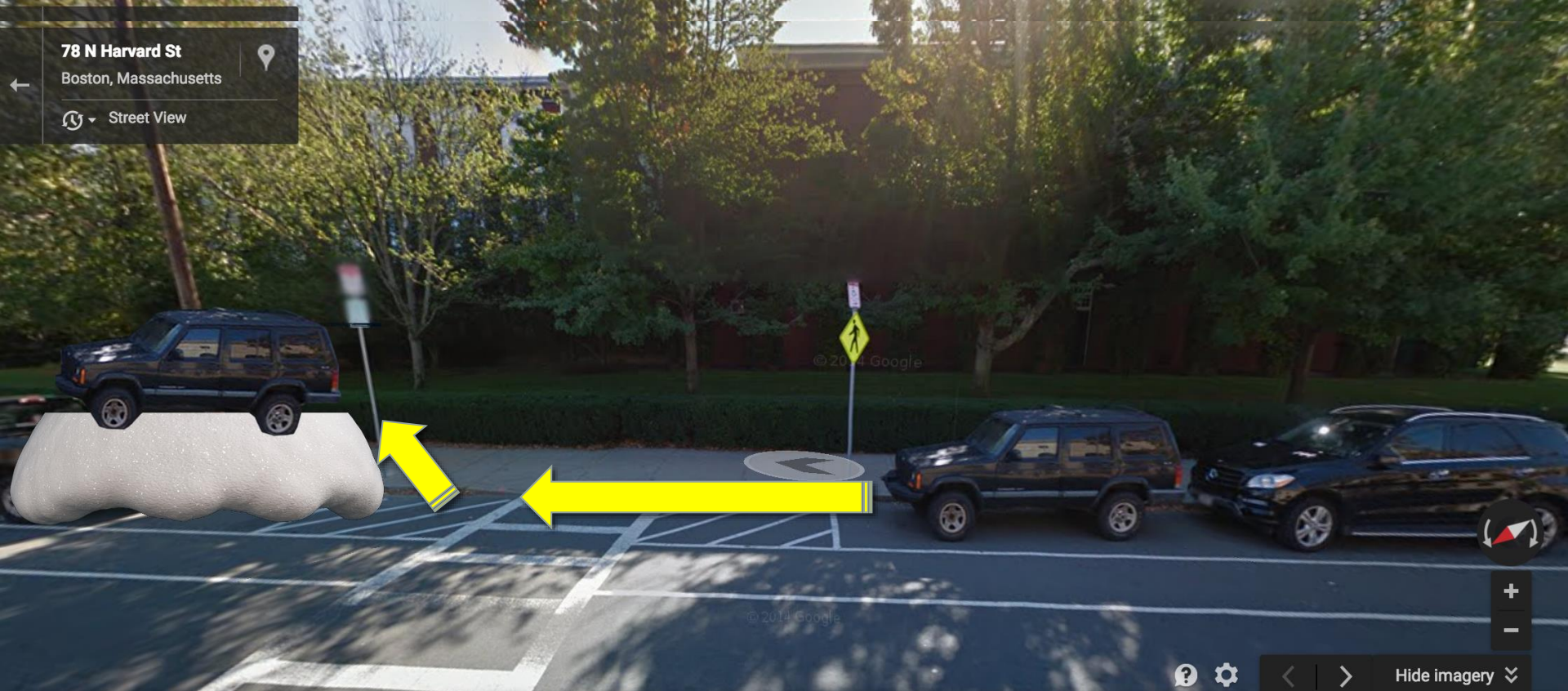
Boston, Massachusetts

Street View

The "Vision" – Ta Da!

78 N Harvard St
Boston, Massachusetts

Street View



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LESSONS LEARNED

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You can't really park on Snowbanks



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Snow as a Building Material

- You can build things out of snow!
- ...but only some things.
- Snow is frozen water
- Snow isn't suited for many things:
 - Load bearing
 - Stability
 - Heat/friction
- You see lots of snow forts
 - You don't see 20 story snow forts

YOUR POINT....?

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Navigating the Internet of Things

- Internet of Things disrupting existing paradigm
- Among the challenges:
 - Scale – estimates between 25 billion and 50 billion connected devices by the end of the decade
 - Diversity – no longer a Windows/WinTel monoculture: huge diversity of hardware (COTS) and software (OSS)
 - Deployment – home and business, borderless environment, indoor/outdoor
 - Stakes: critical infrastructure - life and limb

Navigating the Internet of Things

- IoT will require creative (but not magical) thinking about how to solve these problems
- Existing platforms, technologies, tools, relationships and business models will be re-examined
- Some areas to consider...

Authentication

“You don’t want someone to have to punch in a 15-digit password when they try to turn on an infusion pump. That would be not useful.”

– *Bakul Patel, FDA Center for Devices & Radiological Health, July 2014*

Security by Design

"Even though are increasingly CPU and software driven, (industrial control systems) are still treated like machines -- meaning that security has been focused on physical security, not information security, and there has been an overdependence on security through obscurity."

- *John Pescatore, The SANS Institute*

Online “Trust” and Reputation

“I don’t want the whole world to trust my watch. I just want to make sure the front door trusts my watch.”

-- *Chris Edwards, CTO Intercede*

Humans in the Loop

The Internet of Things...will enable all devices to share data with each other seamlessly without the intervention of human beings.”

--*TechBitzz*

THANK YOU!

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