IISi:
An idea became a business (without a lot of investment $)

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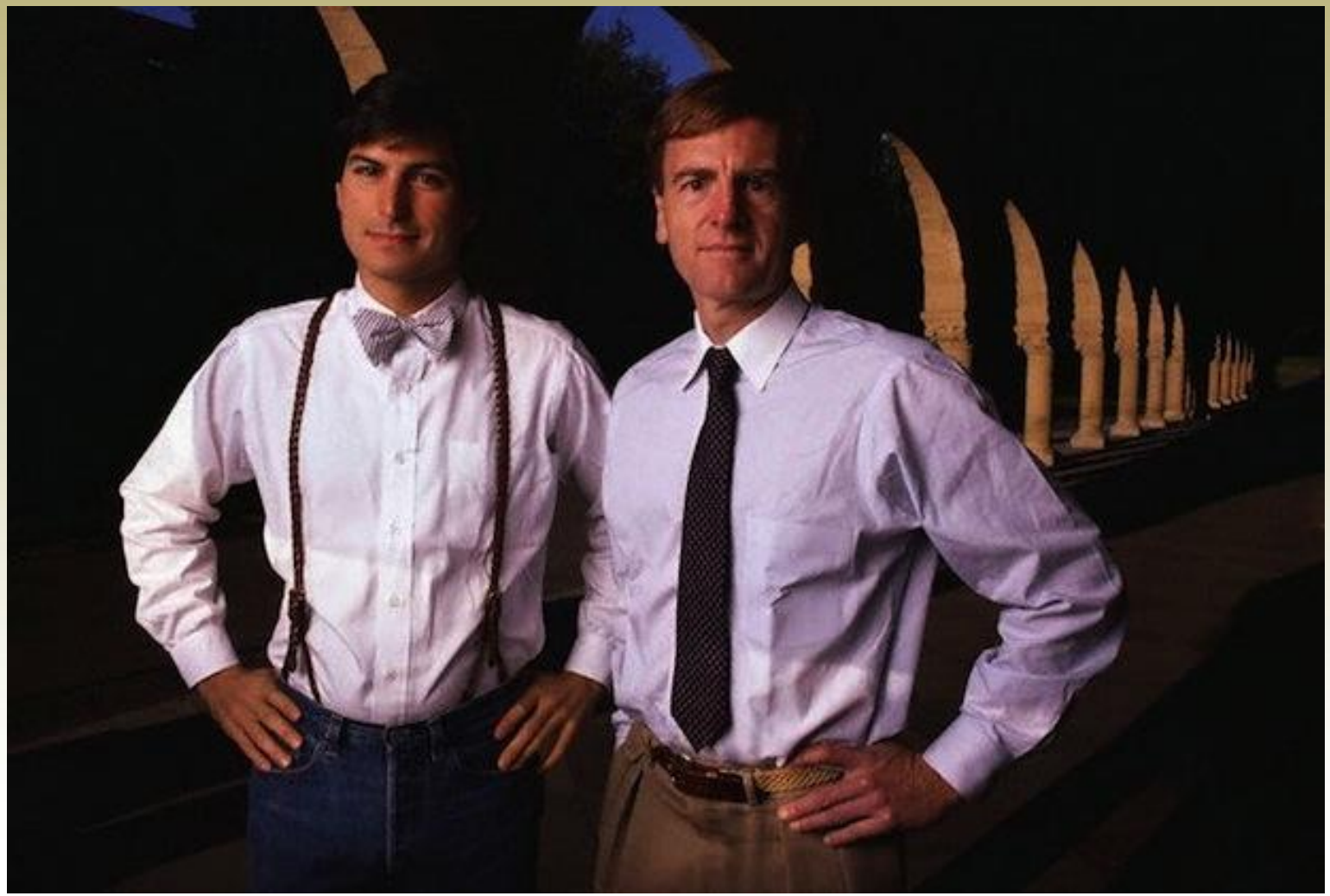
Model for modern venture industry



In Silicon Valley, the Night Is Still Young

NY Times, 8/20/20XX

"LET the rest of the country worry about a double-dip recession. Tech land, stretching from San Jose to San Francisco, is in a time warp, and times here are still flush.

Even now, technology types in their 20s and 30s are dropping a million-plus each…

- *Palo Alto RE up 50%*
- *Six figure jobs with free haircuts*
- *$100k for start-ups on every corner*

IISi story: Friend has an idea in 2005

- Marshall Peterson designed and built the IT infrastructure at Celera.
- I had run a venture-backed company that built robotic assembly systems. Later was partner in a tiny fund that invested in a few companies that included Zipcar.

- Marshall's idea: Fix a problem for a really hot hardware company called Netezza.

A company with promise and a problem

- 2005. Netezza, then a private company, had powerful data warehouse technology and lots of venture financing (Matrix, Battery, Sequoia).
- The Netezza appliance failed as a solution for a genomic sequencing application at the J. Craig Venter Institute where Marshall served as CTO.
- The appliance lacked application flexibility.

Should we pursue the idea?

- Can we solve the problem?

Solution required differentiating talent.

- Can we make money?
- Can we finance the company?
- Can we protect our IP legally?

Netezza needed the solution to access a broader market. Dollar value was high enough to finance development and generate profit. We needed an enforceable agreement.

Differentiating talent

- Rich Zimmerman developed an architecture and efficient methods for parallelizing many different SQL queries on an early (custom and klugy) massively parallel processing data warehouse.

- Experience positioned him to develop more powerful solutions on the more evolved Netezza platform.

Core convictions and a clear goal

- Rich and I had learned some lessons at two prior companies together – Vanguard Automation and Predictive Networks. Marshall's experience at Celera Genomics led to similar conclusions.
- Aim carefully… lots of powerful tools don't solve problems.
- Experience means something. Our robot integration experience was analogous to the analytics integration

Spend carefully

(and it is possible to take too much money)

- Software development does not necessarily require an extensive infrastructure.
- VCs often have different goals (LP returns)
- Thrift saves time, preserves ownership and control, keeps you close to the customer.
- Redeemable equity can be like burdensome debt.

Virtual company traits

- Outsource CFO
- Outsource HR
- Shared corporate suites (Carr workplaces)
- Co-location facility for data warehouse
- Partners licenses to market and distribute IISi products
- Key contractors for software support

But don't cheat on IP/legal

- Develop a plan with an IP savvy counsel.
- Patents only work if you can afford to enforce them… which means that sometimes you need to maintain secrets … or focus on a different project.
- Patent attorney who understands the application.
- Carefully researching prior art for freedom to operate.

Telltale signs of founder risk: Good faith and fair dealing with early investors; conflicts for firms that represent VCs on multiple deals; and adherence to corporate formalities. "Respect for ownership" versus "respect for money."

Key strategy

- We built up a store of cash through systems/integration work and fleshed out product ideas, which never would have come without the consulting phase.
- Learned by designing and building “purpose-built” systems (e.g. DNC, Foxwoods Casino).
- Created proprietary IISi technology.
- We became a products company and developed something that IBM had spent $100M to develop for the DB2 platform. The right kind of focused talent can outperform a huge capital play.

The result

- Founded IISi in 2005.
- Closed first $6m deal in 2007.
- # 50 on the INC 500 list of fastest growing private companies in America in 2011. #3 in revenue per employee. #4 in software sector.
- Founders paid-in $300; substantial returns.
- Focus on IP investment.
- Minimal general and admin cost – except for legal and accounting support.
- Distribution through 3rd party deals.
- Still own the IP and the company.

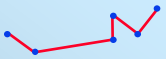
The company

- On path to creating the next generation data warehouse.
- IISi develops “purpose-built” data warehouses and software application packages.
- Own core IP that generates royalties from over 200 installations in the analytics industry.

GPU Spatial Toolkit

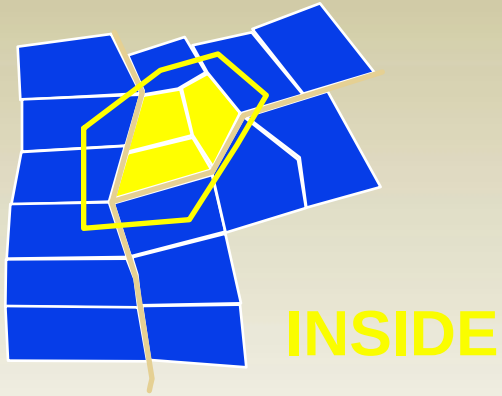
- Leverages the GPU capability.
- Leading database application package w[illegible] native understanding of location and shape.
- Enables users to manage and analyze geogra[illegible] data within the database.
- Open, standards-based data model for univers[illegible]cess.

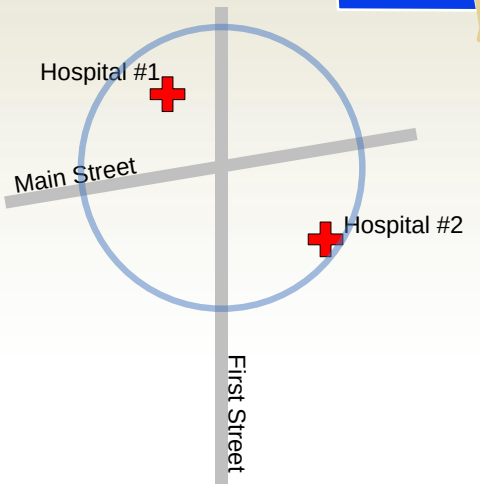
Table

FEAT_ID	NAME	SURFACE	LANES	LOCATION
1	Fisher Cir.	Asphalt	4	
2	Lot 1A	Asphalt	0	
3	85Th St.	Asphalt	2	

Spatial Operators

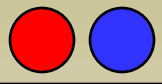
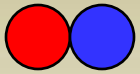
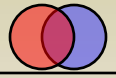
- Full range of spatial operators
  - Implemented as functional extensions in nzSQL
  - Topological Operators
    - Inside
    - Contains
    - Touches
    - Disjoint
    - Contains
    - Equal
    - Overlap
    - Boundary
  - Distance Operators
    - Within Distance
    - Nearest Neighbor





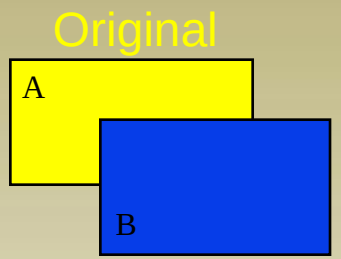
Spatial Relations in GPU Spatial

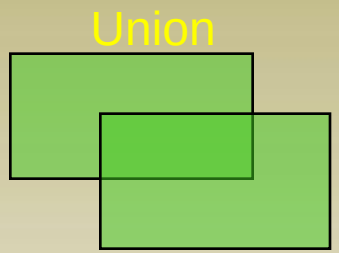
Topological relation

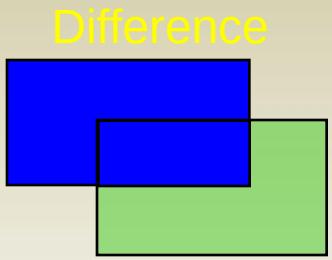
A disjoint B, B disjoint A	
A touches B, B touches A	
A overlaps B, B overlaps A	
A equals B, B equals A	
A covers B, B covered-by A	
A covered-by B, B covers A	
A contains B, B contained-by A	
A contained-by B, B contains A	

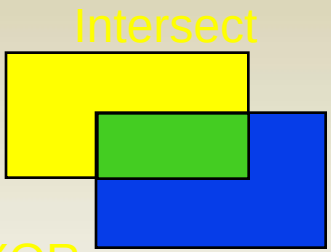
Spatial Functions

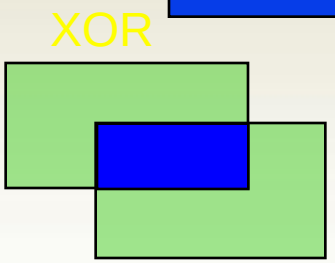
- Returns a geometry
  - Union
  - Difference
  - Intersect
  - XOR
  - Buffer
  - Centroid
  - ConvexHull
- Returns a number
  - Length
  - Area
  - Distance
  - Perimeter
  - Measure

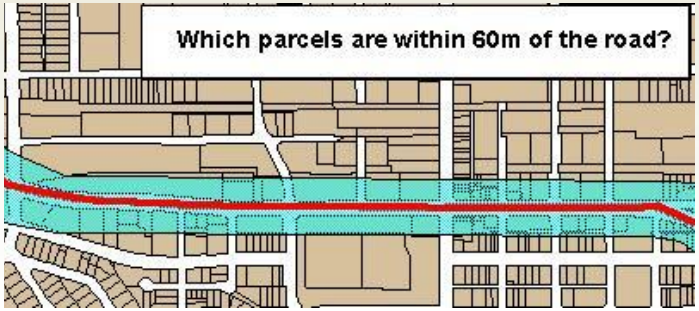












Example Queries

- Find all properties within 10 miles of Hurricane Irene's eye path:

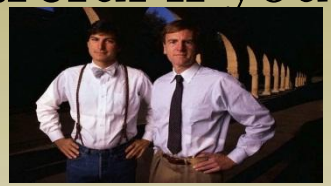
```
SELECT a.property_id FROM properties a,
hurricanes b WHERE b.name = 'KATRINA' AND
ST_DISTANCE(a.location, b.eye_path) < 10;
```

- Find the largest property in Suffolk County:

```
SELECT a.property_id FROM properties a
WHERE a.countyname = 'SUFFOLK' AND
ST_AREA(a.location) = (SELECT
MAX(ST_AREA(b.location)) FROM person b);
```

Lessons learned: Be bold and careful

- Be careful if you're a Founder



- Be careful if you're older. (Kaufman Foundation)
- Be careful if you're a woman. (VentureOne/Nobel)