

exceptional
outcomes

collaboration | expertise

Applications and Big Data Converge

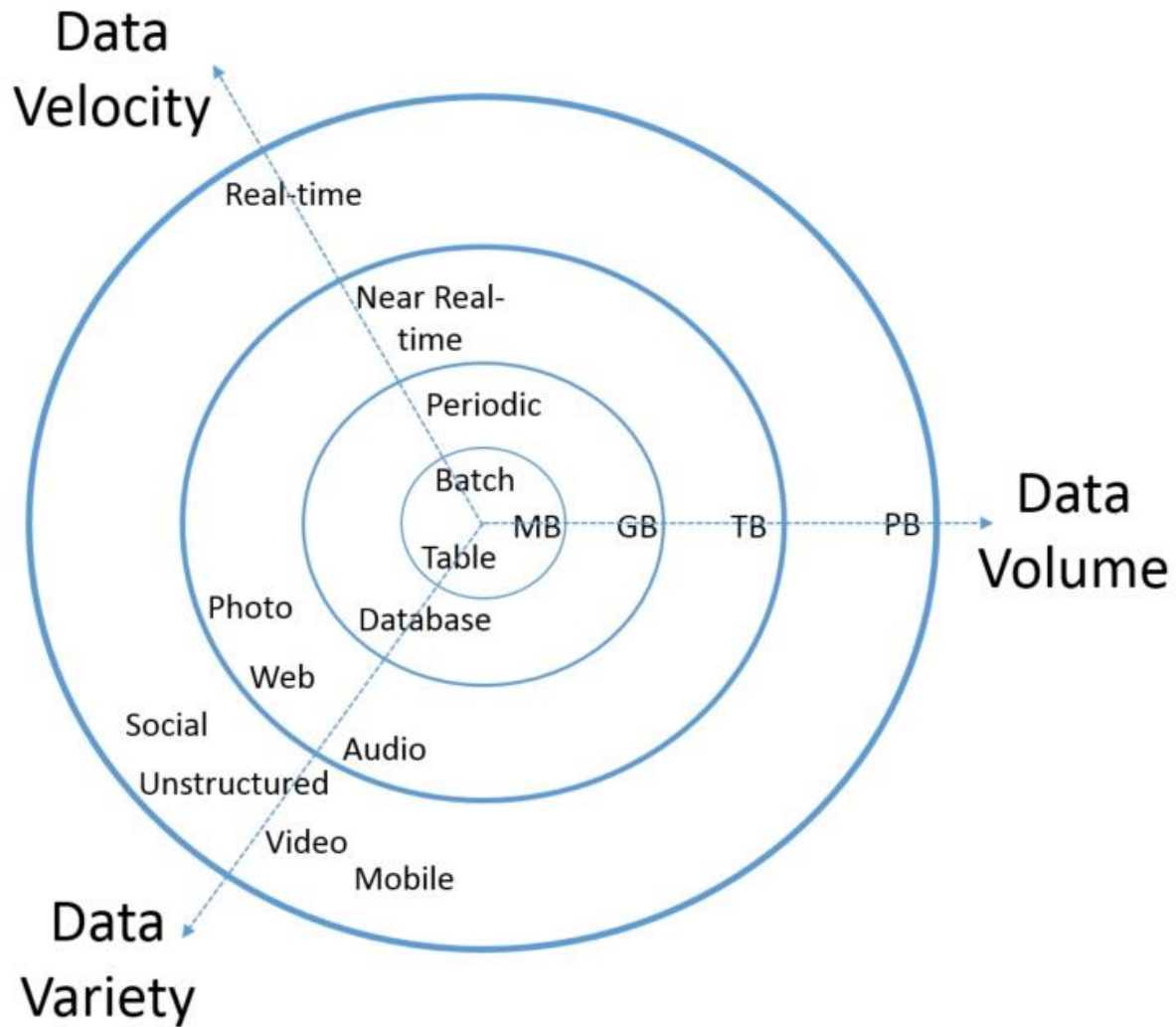
A map of North America, including parts of Canada, the United States, and Mexico. The map is overlaid with several blue location pins indicating office locations. The pins are distributed across the United States, Canada, and the United Kingdom. The company logo 'MOBIA TECHNOLOGY INNOVATIONS' is positioned at the top center of the map.

MOBIA TECHNOLOGY INNOVATIONS

ME: Nevin Pick
Big Data Practice Lead

MOBIA: Founded 1986
220+ employees
Dartmouth (HQ), Montreal,
Toronto
Windsor, Calgary, Cincinnati

Big Data Defined



What Big Data Can Achieve

- Create Efficiency
 - Process Improvement
 - Increase Output
 - Reduce Costs
- Improve Outcomes
 - Better Products / Services
 - Better Service Delivery
- Reveal Insight
 - New Lens
 - New Metrics

Big Data + Apps: New Possibilities

Hardware

More Capacity
Lighter Weight
Cheaper
Greater Coverage
More Accessible
On Demand (Cloud)

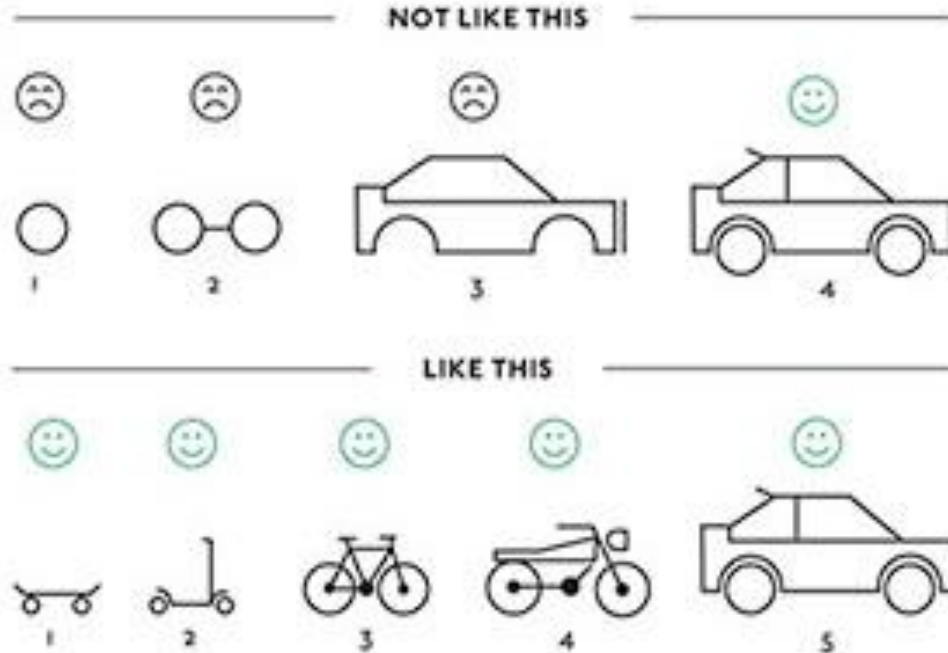
Software

Open Source
APIs and Platforms
New Databases
Analytics
Artificial Intelligence
More Accessible

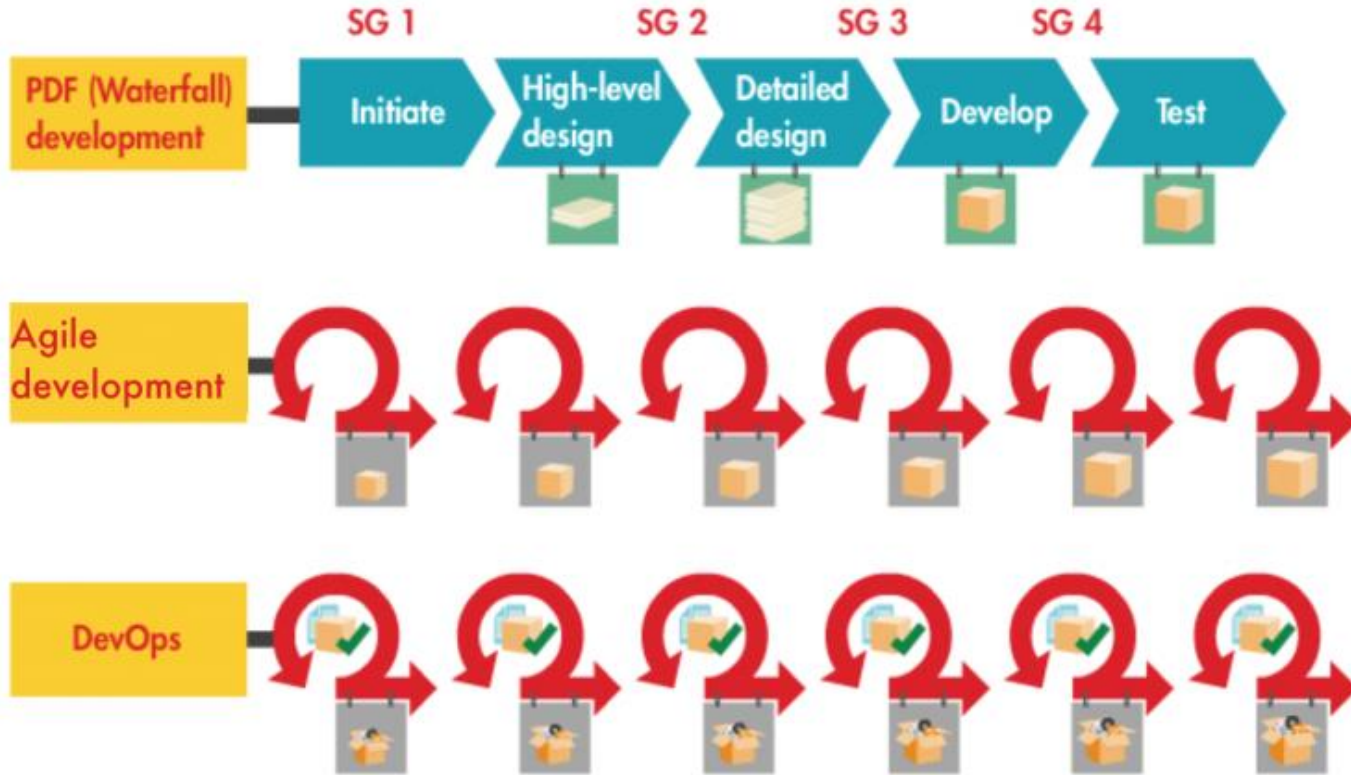
Approach

Collaboration
Agile
DevOps
MVP

Change in Approach

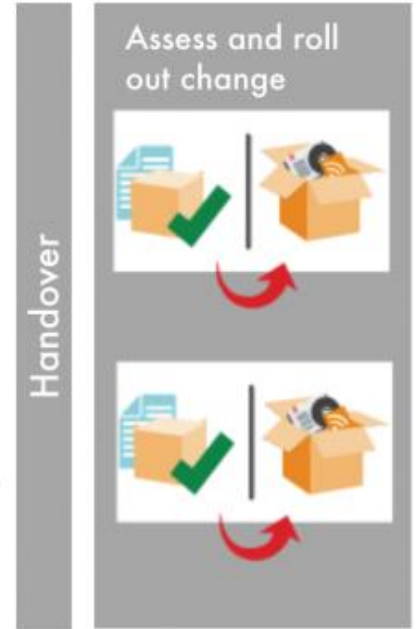


Agile and DevOps



SG 5

SG 6



Summary:

How to Start Small



- Leverage Technology
 - Platforms
 - Open Source
 - Cloud
- Agile – Minimum Viable Product (MVP)
 - Collaboration
 - Deliver early
 - Deliver Often
 - Don't be afraid to change

From Theory to Practice

Creating Efficiency
Improving Outcomes
Revealing Insights

Telecom component assembly

Create Efficiency

Problem:

- Difficulty in tracking supply chain, product status, and delivered components.
- Disconnected data with paper/spreadsheet tracking.
- Difficulty measuring performance.

New Possibilities:

- Hardware: Private Cloud, Web/iPad, Internet connected.
- Software: MEAN.js (MongoDB, Express, Angular, Node), Red Hat OpenShift, Ansible.
- Approach: Collaboration, Agile, DevOps, MVP

Outcome:

- Reduction in non-productive time of 95%.
- Component output doubled with reduced resources.
- Analytics on everything allows continuous improvements.

Smart Grid Analytics

Create Efficiency

Problem:

- Legacy Smart Grid Analytics app performance impacted by added meters.
- Need to grow from 130,000 meters to 1,000,000 meters
- Overnight data processing already maxed out.

New Possibilities:

- Hardware: Public Cloud, Hybrid Cloud, Commodity Hardware.
- Software: Cloudera Hadoop, Scala
- Approach: Agile, MVP

Outcome:

- Replicated the Extract Transform Load (ETL) functions in Scala.
- Used Public Cloud to test performance of 1,000,000 Meters on Hadoop – **30 sec!**
- Build architecture to provide phased adoption and vertically scaled solution.

Cardiology Lab Wait-times

Improve Outcomes

Problem:

- Impacts to patient outcome because of inefficient communication.
- Cardiology Lab referrals communication is managed by fax/phone
- Patient data is contained in multiple siloed systems.

New Possibilities:

- Hardware: Private Cloud (Bell)
- Software: MongoDB, Java Spring, Polymer, Red Hat containers
- Approach: Collaboration, MVP, Agile, DevOps

Outcome:

- Tight collaboration with Clinicians delivered a digital solution starting to automate information flow.
- Digitized processes and integrated data silos ready for Analytics and Machine Learning to continuously improve patient Outcomes and measure PKIs.
- Cost savings from: Reduced testing, patient transportation, scheduling conflicts, earlier, less costly procedures, shorter stay in hospital.

Snow Plow IOT Tracking

Reveal Insights

Problem:

- Difficulty tracking vehicle routing and salt deployment.
- Expensive Vehicle Tracking system not providing enough data.

New Possibilities:

- Hardware: Raspberry PI, Private Cloud (Predix), Wifi/Cell network
- Software: GE Digital Predix (Cloud IOT Platform), Java
- Approach: Agile, MVP

Outcome:

- Change approach to how trucks are deployed based on analytics
- Add video data and other sensors to capture more data

Wrap Up

- Focus on Benefits
- Leverage Technology
- Be Collaborative
- Use Agile and DevOps
- Minimum Viable Product (MVP)

Thanks!

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