

**CPET 565/499**  
**Mobile Computing Systems**  
**Lecture 4**  
**Mobile Enterprise Strategies and Solutions**

Fall 2014

A Specialty Course for Purdue University's M.S. in Technology  
Graduate Program

**Paul I-Hai Lin, Professor**

**Dept. of Computer, Electrical and Information Technology**  
**Purdue University Fort Wayne Campus**

Prof. Paul Lin

1

**Mobile Strategies and Solutions**

- Enterprise Mobility Solutions
  - Mobile Workspace
  - BYOD
  - Connected Mobile Experiences
  - Services for Enterprise
  - Mobile Marketing
  - Mobile-Optimized Content
  - M-Commerce
  - Cloud Services, Connectivity, Storage, etc

Prof. Paul Lin

2

## Mobile Strategies and Solutions

- Mobile Strategies
  - Mobile Devices and Information Appliances
  - Mobile Infrastructure
  - Mobile Applications
    - Vertical: Vehicle dispatching, tracking, point of sale
    - Horizontal: Mail enabled applications, collaborative computing
    - Sales Force Automation
    - Insurance and Claiming Processing
    - Real Estate/Property Management
    - Mobile E-Commerce
  - Mobile Data Management
    - Location, Services, Dynamic Data Replication, Security and Authentication
    - DBMS

Prof. Paul Lin

3

## Mobile Strategies and Solutions

- Supporting Technologies and Software
  - SAP Mobile Software,  
<http://www.sap.com/pc/tech/mobile.html>
  - Oracle Mobile Platform,  
<http://www.oracle.com/us/technologies/mobile/overview/index.html>
  - Cisco, Business Trends | Mobility,  
<http://www.youtube.com/playlist?list=PLFT-9JpKjRTDxuGEPWhpzr0IkDyCBBXZ>
    - Video
  - Mobile Device Management (MDM) Software,  
<http://www.bmc.com/it-solutions/products/mobile-device-management.html>
    - Video

Prof. Paul Lin

4

## Mobile Strategies and Solutions

- Supporting Technologies and Software
  - HP Enterprise Mobility Solutions, [http://h71028.www7.hp.com/enterprise/us/en/psg/mobility-home.html?jumpid=ex\\_r2548\\_go/workmobile](http://h71028.www7.hp.com/enterprise/us/en/psg/mobility-home.html?jumpid=ex_r2548_go/workmobile)
  - Dell Enterprise Mobility Management, <http://software.dell.com/solutions/enterprise-mobility-management/>

## Mobile Strategies and Solutions

- Mobile Data Management (MDM), International Conference on (2009-2013), <http://ieeexplore.ieee.org/xpl/conhome.jsp?punumber=1000468>
  - 2012 IEEE (MDM) July 23-26, 2012, <http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=6341238>
  - 2013 IEEE Conference on June 3-6, 2013, <http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=6568397>
  - 16<sup>th</sup> IEEE International Conference on Mobile Data Management, June 15-18, 2015, Pittsburgh, PA, USA, <http://mdmconferences.org/mdm2015/>

## Mobile Enterprise Strategies Summit

- **Mobile Enterprise Strategies Summit, Sept. 12-13, 2012, Toronto**, <http://mobileenterprisecanada.com/conference/detailed-agenda.html>
- **The 3<sup>rd</sup> Annual Mobile Enterprise, Oct. 1-2, 2014, Agenda**, <http://www.mobileenterprisecanada.com/>: Agenda, <http://www.mobileenterprisecanada.com/detailed-agenda/>
  - Decode the Convergence of Enterprise Mobile and Commercialization of IT
  - How to Design a Cohesive Mobile Driven Enterprise Architecture
  - Mobility as an Innovation Platform to Boost Performance, Increase Revenue and Gain Market Share
  - Strengthen Data Governance through Security and Privacy Safeguards
  - Develop a Mobile Workforce System to Increase Productivity and improve Profit Margins

Prof. Paul Lin

7

## Mobile Enterprise Strategies Summit

- **Mobile Enterprise Strategies Summit, Sept. 12-13, 2012, Toronto**, <http://mobileenterprisecanada.com/conference/detailed-agenda.html>
- **The 3<sup>rd</sup> Annual Mobile Enterprise, Oct. 1-2, 2014, Agenda**, <http://www.mobileenterprisecanada.com/detailed-agenda/>
  - ....
  - Create a Seamless, Optimized User Experience Across Mobile Devices
  - Bring Your Own Device: Is Your Organization Ready?
  - Foster a Mobile-ready Culture to Achieve Alignment for Large Scale Transformation
  - Cost Effective Framework for Enterprise Mobile Application Development
  - Navigate the Mobile Landscape – Analyze Trends, Remove Organizational Barriers, and Capture Market Opportunities

Prof. Paul Lin

8

## Mobile Enterprise Strategies Summit

- **Mobile Enterprise Strategies Summit, Sept. 12-13, 2012, Toronto**, <http://mobileenterprisecanada.com/conference/detailed-agenda.html>
- **2<sup>nd</sup> Annual Mobile Enterprise Strategies Summit, Oct. 23-24, 2013, Toronto**
- **The 3<sup>rd</sup> Annual Mobile Enterprise Strategies Summit, Oct. 1-2, 2014, Agenda**, <http://www.mobileenterprisecanada.com/detailed-agenda/>
  - ....
  - **Enable Operational Mobility to Extract Business Value and Build Efficiencies**
  - **Access Mobile Clouds to Support Business Growth and Reduce Infrastructure Demand**
  - **Deploy Mobile Solutions to Enhance Field Logistics and Facilitate Emergency Response**
  - **Enhance Employee Engagement and Customer Differentiation through Collaboration in a Mobile Enterprise**

Prof. Paul Lin

9

## Mobile Enterprise Strategies Summit Sept. 12-13, 2012, Toronto

Web site: <http://mobileenterprisecanada.com/conference/detailed-agenda.html>

### DAY 1 - Opening

**Mobile Strategies** (top challenges, new opportunities, examples of implementation), Sara Diamond, Mobile Experience Innovation Centre (MEIC), President and Vice-Chancellor, OCAD University

Prof. Paul Lin

10

## Mobile Enterprise Strategies Summit Sept. 12-13, 2012, Toronto

### Mobile Strategies

#### Top Challenges, New Opportunities, and What other Companies are Implementing in Mobile Enterprise

- The current state of enterprise mobility and mobile technologies
- The top 10 challenges in mobile deployment
- What are the new opportunities for efficiencies and productivities?
- Who are the leaders? What are they doing? How are they managing mobile? How are they benefiting from mobilizing their enterprise?
- What will mobile be in the next 2-5 years and what does it mean to future deployment?

## Mobile Enterprise Strategies Summit Sept. 12-13, 2012, Toronto

**D1-1- Case Study:** AstraZeneca ; Aligning Your Mobility Strategy with Your Overall Strategic Plan, David Del Giudice

#### Build a clear roadmap and bring your strategies out of the boardroom.

- Setting a framework to rethink and change your business processes and operations
- Understanding the risks, value, and level of commitment for enterprise mobility
- Orchestrating different applications, roles, and responsibilities of mobile technology

## Mobile Enterprise Strategies Summit Sept. 12-13, 2012, Toronto

**D1-2- Case Study:** State of Michigan; Integrating Mobility into your Existing IT Infrastructure, David Behen, CIO, State of Michigan

**Enable a seamless integration of mobile into your overall IT operations and infrastructure.**

- Optimizing existing technologies for mobile deployment
- Making existing business processes mobile-compatible
- Aligning mobile with your IT strategies and business models

## Mobile Enterprise Strategies Summit Sept. 12-13, 2012, Toronto

**D1-3-Case Study:** Canada Post; Attaining the Highest ROI for your Mobile Enterprise, Peter Duncan, Director of Engineering, Product Packaging Processes and Systems, Canada Post

**Give key insights on how to maximize business value and generate new revenue.**

- Measure the ROI of mobile deployments with real-time data
- Demonstrate efficiencies, productivities, and quality improvements
- Deliver the business value of enterprise mobility
- Capitalize on the additional opportunities mobile presents

## Mobile Enterprise Strategies Summit Sept. 12-13, 2012, Toronto

### Devices Trends and Predictions

#### D1-4-The Future of Mobile Devices in the Enterprise, Mike Abramsky, RBC Dominion Securities

As the adoption of mobile devices in the enterprise expands, so does the breadth of complexity of decisions companies face in deploying and managing them – and in keeping up with device trends.

## Mobile Enterprise Strategies Summit Sept. 12-13, 2012, Toronto

### Devices Trends and Predictions

#### D1-4-The Future of Mobile Devices in the Enterprise, Mike Abramsky, RBC Dominion Securities

This session will answer your most pressing questions:

- What are the current enterprise mobile device trends?
- Explore the dominant vendor and mobile platform ecosystems
- Examine the enterprise deployment and adoption strategies, including BYOD (Bring Your Own Device)
- What are the costs and ROI?
- What is next

**Explore and assess ways to choose the best device and platform strategy to your organization.**



## Mobile Enterprise Strategies Summit Sept. 12-13, 2012, Toronto

**D1-5- Mobility – How Do you Control the Chaos?** Larry Kimczyk, Former VP Global Solutions, Intermec; Community Board Members, Enterprise Mobility Network

The speed of change in enterprise mobility is continuously increasing. Device choices, hidden costs, security issues ... one would agree that it can be quite chaotic out there. In this session, Larry will draw on his decade of experience in enterprise mobility and address the following key questions:

- What is keeping CIOs up at night?
- Has the O/S gone out the Windows?
- Security like insurance – how much is enough?
- How do we simplify vast choices?
- How do we manage the total cost of solution?
- Take away critical insights to sort through the chaos in enterprise mobility.

Prof. Paul Lin

17

## Mobile Enterprise Strategies Summit Sept. 12-13, 2012, Toronto

**D1-6-Case Study: How to Create and Support the Evolving Culture for a Mobile Enterprise: Best Buy Canada**, by Jeff Newton, Head of Infrastructure, Best Buy

All organizations are becoming mobile, and mobile workers are the enterprise of every mobile enterprise. How do you create a culture of mobility from the top and ultimately benefits from increased productivity? Take away strategies on:

- Creating the policies for seamless transition into mobile
- Engaging employees in mobile technology
- Strategizing your mobile worker program to ensure employees' roles are fully supported
- Providing the technologies to allow maximum mobility for your employees

Gain critical insights to support your workforce's mobile work.

Prof. Paul Lin

18

## Mobile Enterprise Strategies Summit Sept. 12-13, 2012, Toronto

**D1-7-Building an Optimized Mobile Management Strategy for Drive Enterprise Success**, James Quin, Director of Research, Info-Tech Research Group

- Mobile devices have become nearly ubiquitous and to this point enterprises have been forced into a reactionary position of trying to respond to their presence. It is time for organizations to take a more proactive stance in regards to mobility. In this session source strategies to:
- Ensure that people, processes and technologies are positioned for accommodating mobile devices
- Leverage the unique capabilities of mobile devices to drive enterprise success

**Take away with key tools on how better optimized your mobile management strategy.**

Prof. Paul Lin

19

## Mobile Enterprise Strategies Summit Sept. 12-13, 2012, Toronto

**DAY 2**

**D2-8-How to Achieve Operational Efficiency and Excellence**, by Julian Niblett, Community Advisory Board Member, Enterprise Mobility Network (Former), Head of Retail Operations Development, Boots (United Kingdom)

- **Operational best practices for mobile workers are much more than simply connecting them to the enterprise. In the transformation of mobile consumers into mobile workers, how can organizations drive operational excellence with various mobile applications?**
- **Understand the role and value of mobile applications in operations**
- **Explore the pitfalls in mobile deployment**
- **Identify existing system capabilities and improvements to maximize efficiency and accuracy**

**Reduce operational costs and increase efficiency with enterprise mobility.**

Prof. Paul Lin

20

## Mobile Enterprise Strategies Summit Sept. 12-13, 2012, Toronto

**D2-9-Case Study: Mobile Office Initiative – Government of Alberta:**  
“Assessment of Mobile Applications in the Field and How They Transformed the Organization,” Dennis Marycz, Forest Officer, Alberta Environment, Sustainable Resource Development, Government of Alberta; Stuart

- The Mobile Office Initiative carried out by the Sustainable Resource Development (SRD) at the Government of Alberta is an award-winning project that combines hardware, technology, and data to fully enable and support their mobile workers out in the field. Follow their leading example on:
    - Enabling real-time information and immediate communications for decision making in the field
    - Overcoming challenges in aggregating digital information
    - Demonstrating the business outcomes of field applications
- Emulate the success of SRD’s Mobile Office Initiative and benefits from greater efficiencies in the field.**

Prof. Paul Lin

21

## Mobile Enterprise Strategies Summit Sept. 12-13, 2012, Toronto

**D2-10- Mobility: More Than Just the Mobile Device,** by Paminder Sohal, Managing Director – Mobility and Cloud, Hewlett-Packard Company

- Customers need a partner that can align their mobility needs with their business goals. How are Mobile Application Service designed to help customers align their mobile environment with their business and It strategies? In this session, take away key insights on:
  - Creating new revenue streams through context-ware applications that build new connections to consumers that were never possible before

Prof. Paul Lin

22

## Mobile Enterprise Strategies Summit

Sept. 12-13, 2012, Toronto

**D2-10- Mobility: More Than Just the Mobile Device**, by Paminder Sohal, Managing Director – Mobility and Cloud, Hewlett-Packard Company

- ....
- Increasing productivity through information-sharing across the enterprise and decentralizing decision making
- Reducing operating costs through improved efficiency
- Enabling employees to react more quickly to consumers' concerns

Explore the endless possibilities that mobile devices offer for your business and capitalize on this mobile opportunity.

## Mobile Enterprise Strategies Summit

Sept. 12-13, 2012, Toronto

**D2-11-Going Mobile without Stress – Lessons from the Real World**, by Terry Cairns, VP, Healthcare Solutions, Empowered Networks

In this session, Terry Cairns, former CIO for Canadian Blood Services, now VP Healthcare Solutions for Empowered Ca, will share the lessons learned when this very conservative 4800 person Canadian organization decided to go mobile in a big way. He will share his candid views on the key challenges they encountered and will offer his advice to make your mobile project easier.

Learn possible pitfalls when rolling out large scale enterprise mobility and gain insights into how you can make your mobile project stress-free.

## Mobile Enterprise Strategies Summit Sept. 12-13, 2012, Toronto

**D2-11-Going Mobile without Stress – Lessons from the Real World**, by Terry Cairns, VP, Healthcare Solutions, Empowered Networks

- Getting over the 'duh' factor
- The currency of technology and how wireless exposes your weaknesses
- How wireless really is different (and very visible)
- You don't know what you don't know
- How fast is fast
- Learn possible pitfalls when rolling out large scale enterprise mobility and gain insights into how you can make your mobile project stress-free.

Prof. Paul Lin

25

## Mobile Enterprise Strategies Summit Sept. 12-13, 2012, Toronto

**D2-12-Case Study: Pacific Gas & Electric Company; "Best Practices in Mobile Device Management and the Latest Development in BYOD,"** George McQuillister III, Principal IT Architect, Pacific Gas and Electric Company

**The proliferation and consumerization of mobile devices in the enterprise undoubtedly creates a big challenge in device management. Mobile is happening. How are organizations dealing with it? What are the best BYOD policies? Get the latest information on:**

- Embracing the impact of consumer-type hardware in the enterprise
- Examining the pros and cons of different BYOD policies

**Come away with insight on best practices and strategies in Mobile Device Management.**

Prof. Paul Lin

26

## Mobile Enterprise Strategies Summit

Sept. 12-13, 2012, Toronto

**D2-13-Case Study: City of Detroit; “Leveraging Mobile Applications to Enhance Information Sharing and Engagement,”**  
by Karla Henderson, Planning and Facilities Group Executive, Office of Mayor, City of Detroit

Mobile applications are numerous and new ones are developed every day, inside and outside the enterprise. Amidst the noise and confusion in the apps market, opportunities are significant if mobile apps are done right. This session will give you a clear overview of the City of Detroit’s implementation and utilization of mobile apps:

- Strategic plan and goal to be achieved by mobile applications
- Challenges in the design and development of mobile applications
- How mobile applications changed the way the city operates
- How mobile technologies improved information and service delivery

**Emulate the success of the City of Detroit and improve your service delivery through mobile apps.**

Prof. Paul Lin

27

## Mobile Enterprise Strategies Summit

Sept. 12-13, 2012, Toronto

**D2-14-The Future of Wireless: Expectations & Implications,** Steve Van Bingsbergen, VP Business Marketing, Rogers Communications

Wireless technology is evolving from an employee-centric productivity tool to more a strategic asset used to support business growth. Rich content like video, music and MMS's are creating a magnitude of data. Are you effectively using the Big Data for strategic advantage? Join Rogers in this discussion on the proliferation of wireless solutions:

- Benefit from opportunities in reaching new demographics and recreating the customer experience
- Align your business strategies to maximize value from wireless solutions

**Take ways critical insights to better plan for the future of wireless.**

Prof. Paul Lin

28

## Mobile Enterprise Strategies Summit

Sept. 12-13, 2012, Toronto

D2-15-Understanding the Challenges and Barriers to Achieving User Productivity across Different Roles and Segments, by Jim Degliumberto, CIO, Southeastrans (Atlanta)

It is impossible to ignore what the worker wants in mobile technology and if the enterprise does not change or meet the needs of their workers, the proliferation of consumer-based devices will create additional problems, Hear all about

- Broadening the role of the mobile and remote work for workers of all levels
- Identifying and analyzing the actual needs of your workforce in every segment
- Pros and cons of developing in-house employee-oriented mobile applications

**Benefit from increase user productivity through accurate analysis of workforce needs.**

Prof. Paul Lin

29

## DoD Mobile Device Strategy

- DoD Mobile Device Strategy, June 8, 2012, <http://www.defense.gov/news/dodmobilitystrategy.pdf>
- DoD Commercial Mobile Device Implementation Plan, Feb. 15, 2013; <http://www.defense.gov/releases/release.aspx?releaseid=15833> , <http://www.defense.gov/news/dodcmimplementationplan.pdf>
- U.S. Army Guidance on the Use of Commercial Mobile Device Implementation, Sept. 11, 2013, [http://ciog6.army.mil/Portals/1/Policy/2013/UseofCommercialMobileDevices\\_11Sep13.pdf](http://ciog6.army.mil/Portals/1/Policy/2013/UseofCommercialMobileDevices_11Sep13.pdf)
- Mobile Device Management, Defense Information Systems Agency (DISA), Dept. of Defense, <http://www.disa.mil/Services/Enterprise-Services/Mobility/Mobile-Device-Management>

Prof. Paul Lin

30

## DoD Mobile Device Strategy

- Marine Corps Commercial Mobile Device Strategy, April 2013, [http://www.hqmc.marines.mil/Portals/156/Newsfeeds/SV%20Documents/20130411\\_Marine\\_Corps\\_Commercial\\_mobile\\_device\\_strategy\\_Final.pdf](http://www.hqmc.marines.mil/Portals/156/Newsfeeds/SV%20Documents/20130411_Marine_Corps_Commercial_mobile_device_strategy_Final.pdf)
- A Guide to Implementing the DoD Mobility Strategy – White Paper, [http://www.arubanetworks.com/pdf/technology/whitepapers/wp\\_DoDMobility.pdf](http://www.arubanetworks.com/pdf/technology/whitepapers/wp_DoDMobility.pdf)

Prof. Paul Lin

31

## DoD Mobile Device Strategy, June 8, 2012

<http://www.defense.gov/news/dodmobilitystrategy.pdf>

- Mobility Vision
  - A highly mobile workforce equipped with secure access to information and computing power anywhere at anytime for greater mission effectiveness
- Goals
  1. Advance and Evolve the DoD Information Enterprise to Support Mobile Devices
  2. Institute Mobile Device Policies and Standards
  3. Promote the Development and Use of DoD Mobile and Web-Enabled Applications
- Implementation Considerations Based on Type of User
- Next Steps

Prof. Paul Lin

32



## DoD Mobile Device Strategy - Goals

- **Goal 1.**
  - Advance and Evolve the DoD Information Enterprise to Support Mobile Devices
- **Description**
  - Improves wireless infrastructure to support the secure access and sharing of information via voice, video, or data by mobile devices.
- **Objective 1:** Evolve spectrum management.
- **Objective 2:** Expand infrastructure to support wireless capabilities.
- **Objective 3:** Establish a mobile device security architecture

Prof. Paul Lin

33

## DoD Mobile Device Strategy - Goals

- **Goal 2.**
  - Institute Mobile Device Policies and Standards
- **Description**
  - Establishes policies , processes, and standards to support secure mobile device usage, device-to-device interoperability, and consistent device lifecycle management.
- **Objective 1:**
  - Develop mobile device policy and standards.
- **Objective 2:**
  - Establish a mobile device management service.
- **Objective 3:**
  - Educate and train mobile device users.

Prof. Paul Lin

34

## DoD Mobile Device Strategy - Goals

- **Goal 3.**
  - Promote the Development and Use of DoD Mobile and Web-Enabled Applications
- **Description**
  - Provides the processes and tools to enable consistent development, testing, and distribution of DoD-approved mobile applications for faster development to the user.
  - Establishes policy, processes, and mechanisms for appropriately web-enabling critical DoD IT systems and functions for mobile devices.

## DoD Mobile Device Strategy - Goals

- **Goal 3.**
  - Promote the Development and Use of DoD Mobile and Web-Enabled Applications
- **Objective 1:** Establish a common mobile application development framework.
- **Objective 2:** Institute a mobile application certification process.
- **Objective 3:** Provide an enterprise mobile application environment.
- **Objective 4:** “Web-enable” IT capabilities for mobile device support.

# Summary

Prof. Paul Lin

37