Making Wearables and Sensors Work in the Enterprise
Biographies

Global Product Data Interoperability Summit | 2015

• Dave Gibson

Jonathan David (Dave) Gibson is a Distinguished Technologist at Hewlett Packard and the global Digital Context Aware (DCA) Chief Technologist in the Mobility and Workplace Practice. He is the co-leader of the HP ES Wearables and Digital Context Aware worldwide team with Cliff Wilke. Dave brings more than 30 years of technology expertise and business experience. He holds a Master of Science in Science and Technology Commercialization from The University of Texas at Austin and a Bachelor of Science in Mechanical Engineering from The University of Texas at Austin. Dave holds a Professional Engineering License with the Discipline in Software Engineering from the Texas Board of Professional Engineers.

• Cliff Wilke

Cliff Wilke is Chief Technologist focusing on Emerging Technologies for the Americas and the US Public Sector. He is the co-leader of the HP ES Wearables and Digital Context Aware worldwide team with Dave Gibson. Mr. Wilke brings more than 35 years of technical leadership experience. He is the Assistant Administrator, CIO, CTO, VP, Director, and Principal levels for US Treasury, OCC, TSA, Homeland Security, IBM and Mobil Oil. Mr. Wilke is currently finishing his PhD in Science and Technology at Virginia Tech and has two Masters Degrees from Boston University and is currently the HP ES Co-Chair for Tech Con ‘16.
Overview

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HP Digital Context Aware (DCA) Solutions

“ok glass”

Wearables and the Internet of Things
Disruptive Innovation is Accelerating, What is Next?
Device Agnostic/Fit for Use

- Wearable technology include technology devices that can be worn. Some wearable devices include user screens GPS, cameras, video, audio, voice capability sensors and more…
Digital Context Aware (DCA) Solutions

Interconnectivity of wearable devices – right information, to the right device, at the right time

**Digital Context Aware Platform**
Innovative patent-pending modular platform of context aware service packages and event triggers driven by situational awareness and context changes

- **10** Patents pending
- **400+** Use cases identified
- **$1.2 Trillion** Gartner estimated market size by 2020

**Service packages**
- Recognition
- Remote Viewing
- Video streaming
- Schedule
- Checklist
- Navigation
- Location
- Biometrics

**Wearables and the Internet of Things**
- Smart glass
- Wifi hotspot
- Body camera
- Smart watch
- Tablet
- Smart phone

**Interconnectivity of devices**

- Increases productivity and efficiency of enterprise resources
- Enriches our client’s interaction with their customer
- Improves the overall end user’s digital experience
- Increases health and safety in the enterprise
Digital Context Aware (DCA) Component View

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How DCA Works?

**DCA**
- provides a secure context-aware ecosystem that delivers a truly seamless experience

**Experiences**
- Interconnect devices and their functions (Packages)
- Provides the right information at the right time to the right device
- Provides a seamless holistic experience for the user

**Packages**
- Consumes functions related to devices
- Interconnects with services and systems

**DCA Platform**
- **DCA engine**
- **Device rating engine**
- **Service rating engine**
- **Learning engine**
- **Preferences / policies**
- **Facial recognition**
- **Visual remote guidance**
- **Video streaming**
- **Schedule**
- **Checklist**
- **Navigation**
- **Location**
- **Biometrics**

**DCA Engine**
- **Wearables / Sensors**
- **Smart phone / Wifi hotspot**
- **Communication Network**

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Digital Context Aware (DCA) Solutions

Solving Real Business Problems

Fashionable frontend
Wearable devices are just the tip of the iceberg
Needs strength and depth of HP to deliver meaningful outcomes - New Style of IT
• Cloud
• Applications
• Security
• Analytics
• Compute
• Storage
• Networking

Plus an ecosystem of DCA solutions - New Style of Business
• Checklist
• Schedule
• Indoor navigation
• Outdoor navigation
• Geo boundary
• Location reporting
• Remote viewing
• Recognition
• Collaboration
• Partner ecosystem
HP Patent Pending Technologies for Seamless Context Aware Experiences that Deliver Valuable Business Outcomes

- **Business focused**
  Solves real business problems, it is not an IT system/commodity sell

- **Device agnostic**
  Interconnects devices from other ecosystem such as Google Android and Apple iOS environments

- **Device fit for use**
  Enables using the right device for the right function

- **Best of HP**
  Utilizes HP cloud, security, network, compute, software, analytics & data management, R&D

- **Rich partner ecosystem**
  Rich partners that enable DCA from both a hardware & software perspective

- **Extensible**
  Enables the Internet of Things (IoT) experiences

DCA works with real-time context aware information flows as well as with aggregated & trending context aware information flows
Digital Context Aware (DCA) Ecosystem

On the Edge
On the Edge

The Edge

Tier 1
Sensor/
Wearables/
Actuators

Tier 2
Gateway

Tier 3
Edge IT

Tier 4
Enterprise
Systems
Connecting and Acting on Information

Real-time Model

Aggregated/Trending Model

Autonomous Model

Biometric data
Location
Noise level

Motion
Temperature

Apps
Sensors
Social feed
Hands Free Inspector & Quality Control Resource

Functionality

• Automatically navigate inspector/quality control resource to the location where the inspection or quality control check is going to be performed
• Once inspector/quality control resource arrives automatically:
  − Notify inspector/quality control resource when they arrive
  − Identify the machine to be inspected or the quality control check to be performed on the machine
  − Determine whether operating temperature of machine is within normal operating limits
  − Provides secure step by step checklist on smart glass:
    • Navigate through checklist via voice command/gesture
    • Video snippets for each checklist step activated with a single voice command/gesture
    • Schematics/diagrams for each checklist step activated with a single voice command/gesture
    • Remote expert using real-time remote viewing to assist with each checklist step activated with a single voice command/gesture
    • Full video for the checklist

Business Value

• Increase productivity
• Improve job efficiency
• Increase uptime
• Enables less experienced resources to perform more complex procedures or inspections
• Enriches the digital experience
• Improved quality through receipt of in-process instructions

Service

- Schedule
- Navigation
- Checklist
- Remote Viewing
- Location
Plant Maintenance & Repair

Functionality

- Automatically navigate technician to the location of the maintenance/repair to be performed, update work order when maintenance/repair is complete
- Once technician arrives automatically:
  - Identify the part/system to be maintained and repaired
  - Show part/system specs to help determine if it is out of tolerance
  - Start the maintenance/repair checklist for the part/system
- Provide step by step maintenance and repair instructions including:
  - Full video for maintenance/repair instructions activated with a single voice command/gesture
  - Video snippets for each step activated w/single voice command/ gesture
  - Schematics/diagram for each step activated with a single voice command/ gesture
  - Remote expert using real-time remote viewing to assist with each step activated with a single voice command/gesture
- Capturing information such as video, pictures, and notations related to key aspects of maintenance/repair for compliance, safety monitoring and training
- Log time spent on maintenance/repair order

Business Value

- Cost saving due to:
  - Increase in productivity
  - Improved job efficiency
- Reduced plant downtime, resulting in improved customer satisfaction
- Enables less experienced resources to perform more complex procedures or inspections
- Improved auditing, compliance, and training through capturing the right information for key maintenance and repair tasks
- Enriches the digital experience
- Improved quality through receipt of in-process instructions
- Improved financial reporting through better logging of time spent on maintenance and repair steps
- Providing safer work environments

Service

- Schedule
- Checklist
- Remote Viewing
New Employee Orientation and Training

New Employee Assistance

**Functionality**
- Provides secure step by step completion checklist for new employees:
  - For employee onboarding
  - Video snippets for each onboarding step
  - Schematics/diagram for each step
  - Remote expert using real-time remote viewing to assist with each step activated
  - Mark completion of onboarding steps/training for position
- Video Display of Training Processes
- Log time spent on employee onboarding and training
- Capturing information in the HP Helion Cloud such as video, pictures, and notations related to key aspects of employee onboarding and training used for post inspections, compliance with regulations, and for training purposes

**Business Value**
- Increase productivity
- Improve employee onboarding process by reducing the time to onboard a new employee
- Improve quality control and consistent compliance with training and bringing new employees into the organization
- Enriched auditing and compliance process by capturing information such as videos, pictures, and notations related to a specific signoff step or series of steps – safety processes and form compliance
- Improved financial reporting through better logging of time spent on:
  - Steps during the employee onboarding process

**Service Packages**
- Checklist
- Remote Viewing
System View

Systems of record

- IT driven
- Host business processes
- Inflexible
- Need to be re-engineered to work with Systems of Engagement

Systems of engagement

- Enrich User Experience
- End user driven
- Just in time information
- Contacts and connections
- Hands free access
- Cloud & analytics required for added value

End-to-end solution needs both components
Next Steps – Business Solutions and Outcomes

DCA Workshop
Gain entry
$15K to $30K

- 1 day vantage point workshop
- "Hands on" workshop, touch the technology
- Facilitated ideation sessions
- Uncover enterprise use cases
- Identify real business value

DCA Pilot
Proof of concept (30 days)
$65K to $200K

- Small experience consisting of 1 to 2 service packages ($65K + travel)
- Medium experience consisting of 3 to 5 service packages ($80K + travel)
- Large experience consisting of 5+ service packages ($150K + travel)
- XL experience with high governance, large custom engagement ($200K + travel)

DCA Transformation
Business transformation projects
$1M plus

- Business transformational projects
- Time and materials or fixed price, fixed scope
- Production implementation of DCA platform
- Configuration and development of service packages
Questions

Seamless enablement of context aware mobile experiences leveraging wearables and the internet of things